Courses Offered at Modesto Junior College

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How to read course descriptions

PHYSO 101—INTRODUCTORY HUMAN PHYSIOLOGY
5 Units
Prerequisite: Satisfactory completion of MATH 50 or eligibility for MATH 101 or higher as determined by the Assessment Process.

Study of human body functions, system integration, communication, and homeostasis at the biochemical, cellular, and tissue level. Includes control of respiration, neuron function, and cellular metabolism; cellular communication; neural information processing; blood movement and homeostasis; fluid balance, digestion, and excretion; sensory perception and control of movement. Emphasis on students entering health professions. (A-F or P/NP) Transfer: CSU, UC (CC BIOL 60) General Education: (MJC-GE:B1, B3) (CSU-GE: B1, B2) (IGETC: 5A)

PHYSO 105—INTRODUCTION TO NEUROSCIENCE
3 Units(s)
Prerequisite: Satisfactory completion of PHYS 101
Also offered as PHYS 103

Introduction to the biological basis of behavior. Emphasis on divisions of the nervous system, neurogenesis, neurophysiology, psychopharmacology as applied to the understanding of perceptual anatomy, neurophysiology, psychopharmacology as applied to the understanding of perceptual, and behavioral sciences. Appropriate for all students interested in the behavioral and biological sciences. (A-F or P/NP) Transfer: CSU, UC General Education: (MJC-GE:B1, B3) (CSU-GE: B1, B2) (IGETC: 5B)

PLSC 205—FIELD CROPS
3 Units
Economic importance, adaptation, cultural practices, irrigation, integrated pest management, crop analysis, calendar of operations, and marketing of the production of field crops (including barley, oats, wheat, corn, sunflower, alfalfa, Stock, dry beans, sugar beets, cotton, and sorghum).

Transfer: CSU

PLSC 215—VEGETABLE CROPS
3 Units
Vegetable crops commonly used in the home environment, importance, cultural practices, irrigation, cultivation, integrated pest control, harvest and marketing factors, marketing, cost analysis, risks, environmental relationships for current, temperature, soil and weather in the production of vegetable crops. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU, UC

PLSC 230—FRUIT SCIENCE
3 Units
Introduction to the biological basis of behavior. Emphasis on divisions of the nervous system, neurogenesis, neurophysiology, psychopharmacology as applied to the understanding of perceptual anatomy, neurophysiology, psychopharmacology as applied to the understanding of perceptual, and behavioral sciences. Appropriate for all students interested in the behavioral and biological sciences. (A-F or P/NP) Transfer: CSU, UC (CC BIOL 60) General Education: (MJC-GE:B1, B3) (CSU-GE: B1, B2) (IGETC: 5A)

PLSC 235—PLANT PROPAGATION/PRODUCTION
3 Units
Recommended for Success: Satisfactory completion of PLSC 200 and/or CSU 205
Also offered as CSU 235

Plant propagation and production practices with emphasis on nursery operations including sexual and asexual reproduction, psychological, teratological, plant pest and disease control, structure and growth. Preparatory and use of propagating and planting mediums. Use and maintenance of common tools and equipment. Regulations pertaining to plant production. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU, UC

PLSC 241—VITICULTURE
3 Units
Recommended for Success: Satisfactory completion of PLSC 200 and/or EHS 210.

Recommended for Success: Satisfactory completion of PLSC 200 and/or EHS 210. Also offered as EHS 241

Study of common local crop diseases, their economic importance, identification, life cycles, host and habitat relationships, and methods of control. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU

PLSC 250—PLANT NUTRITION AND FERTILIZER
3 Units
Recommended for Success: Satisfactory completion of PLSC 200 and/or CSU 205
Also offered as CSU 250

Study of nutrient uptake in plants in order to understand fertilizers, amendments, their uses, value, application, and relationships to such factors in crops grown in this area. Deficiency symptoms, pH, soil and plant interaction, and micronutrient and macronutrient factors and concerns. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU, UC

PLSC 255—PLANT PEST CONTROL
3 Units
Study of insect and disease pests, their economic importance, identification, life cycles, host and habitat relationships, and methods of control. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU

PLSC 260—PLANT DISEASE CONTROL
3 Units
Study of insect and disease pests, their economic importance, identification, life cycles, host and habitat relationships, and methods of control. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU

PLSC 287—INTEGRATED PEST MANAGEMENT
Formerly listed as PLSC 287

Current topics and discussion on integrated pest management, designed to satisfy Department of Pesticide Regulations requirements for certified pesticide applicator certification. Field trips required. Limited enrollments. Lecture/Laboratory. (A-F Only) Transfer: CSU

PLSC 288—PRUNING
1 Unit
Pruning of deciduous fruits, nuts and vines. Care and maintenance of tools and equipment. Proper equipment and tools and their control also included. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU

Course Prefix and Number

Course Title

Subheadings will contain one or more of the following:

- Prerequisite (Prior course work required before you may enroll)
- "Corequisite" or "Concurrent enrollment." (Course to be taken concurrently if not prior to the listed course)
- "Formerly listed as" (Previous course prefix and/or number, or title)
- "Also offered as" (Course offered in another division)
- Recommended for Success (Course, ability, or skill level strongly advised for success)
- Non degree course (Units do not apply toward degree)

Unit Value

Course Description

Lecture and/or Laboratory.

Hours arranged (Laboratory time arranged on individual basis)

(A-F Only) Letter grade only for course completion.
(P/NP Only) Pass/No Pass only, no letter grade given
(A-F or P/NP) Option to complete course for letter grade or a Pass/No Pass basis

Parentheses will contain one or more of the following:

Transfer: indicates the transferability of a course to Columbia College, California State University (CSU) or University of California (UC), and/or whether or not the course has TSU (LDTP) Articulation, or equivalences with Columbia College.

General Education: identifies whether or not a course fulfills a General Education requirement area specified in one of the three General Education patterns.
ADJU
(Administration of Justice)

Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: mjc.edu/prospective/programs/bbss/
Instructors: Greg Hausman, Dale Hoagland

ADJU 144—COMMUNITY AGENCY SERVICE 1 UNIT
Formerly listed as ADJU 145
Prerequisite: Satisfactory completion of ADJU 201.
Corequisite: Concurrent enrollment in ADJU 145.
Analysis of field experiences of students concurrently enrolled in ADJU 145A, 145B, 145C, or 145D. Class time is devoted to sharing and evaluating problems that develop, and ways of resolving them will be sought by class members. Three maximum completions. Field trips may be required. (A-F Only) Lecture. Transfer: CSU

ADJU 145—A,B,C,D—COMMUNITY AGENCY SERVICE FIELDWORK 1-4 UNITS
Prerequisite: Satisfactory completion of ADJU 201
Concurrent enrollment: ADJU 145
Supervised field experience in a variety of community social agencies. Weekly lab: 75 hours of work experience or 60 hours of volunteerism in a community service/social agency are required for every unit earned each semester. May be repeated up to 16 units in any combination. Discussion. Transfer: CSU

ADJU 201—INTRODUCTION TO ADMINISTRATION OF JUSTICE 3 UNITS
History and philosophy of the administration of justice in America. Overview of its sub-systems, including their role expectations and interrelationships. Overview of theories to account for crime, punishment and rehabilitation. Introduction to professional education, training and ethics in the administration of justice field. Field trips may be required. Lecture. (A-F Only) Transfer: (CSU, UC) (TCSU CJ 110) General Education: (M/X: GE B)(CSU:GE D0)

ADJU 202—PRINCIPLES AND PROCEDURES OF THE JUSTICE SYSTEM 3 UNITS
Recommended for Success: Satisfactory completion of ADJU 201
Role and responsibilities of each Administration of Justice system segment; law enforcement, judicial, corrections. Past, present and future exposure to each sub-system procedure from initial entry to final disposition; relationship each segment maintains with its system members. Field trips may be required. Lecture. (A-F Only) Transfer: CSU

ADJU 203—CONCEPTS OF CRIMINAL LAW 3 UNITS
Recommended for Success: Satisfactory completion of ADJU 201 and 202.
Historical development, philosophy of law and constitutional provisions; definitions, classification of crime and their application to Administration of Justice System, legal research, case law, methodology and concepts of law as a social force. Field trips may be required. Lecture. (A-F Only) Transfer: (CSU, UC)

ADJU 204—LEGAL ASPECTS OF EVIDENCE 3 UNITS
Recommended for Success: Satisfactory completion of ADJU 202 and 203.
Origin, development, philosophy and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies. Field trips may be required. Lecture. (A-F Only) Transfer: CSU

ADJU 205—COMMUNITY RELATIONS 3 UNITS
Roles of Administration of Justice practitioners and agencies. Interrelationships and role expectations among the various agencies and the public. Principal emphasis on the professional image of Administration of Justice system and development of positive relationships between system members and the public. Lecture. (A-F Only) Transfer: (CSU, UC)

ADJU 206—MULTICULTURAL ISSUES WITHIN PUBLIC SAFETY 3 UNITS
Overview of multicultural concepts and issues; application of these concepts and issues to the four public safety disciplines: corrections, fire safety, hazardous materials, law enforcement. Identification of problems related to an increasingly diverse population. Examination of strategies to overcome these problems, particularly in relation to the maintenance of social order. Field trips required. Lecture. (A-F Only) Transfer: CSU

ADJU 210—COMMUNICATIONS IN CRIMINAL JUSTICE 3 UNITS

ADJU 212—CRIMINAL INVESTIGATION 3 UNITS
Fundamentals of investigation; crime scene search and recording; collection and preservation of physical evidence; scientific aids; modus operandi; sources of information; interviews and interrogation; follow-up and case preparation. Lecture. Field trips may be required. (A-F Only) Transfer: CSU

ADJU 213—PATROL PROCEDURES 3 UNITS
Responsibilities, techniques, and methods of police patrol. Field trips may be required. (A-F Only) Lecture. Transfer: (CSU)

ADJU 215—INTRODUCTION TO FIREARMS 1½ UNITS
Limitation on Enrollment: This course is restricted under California Penal Code Section 12021. Course requires handling and possessing of firearms. Convicted felons, persons addicted to any narcotic or convicted of any offense involving the violent use of a firearm are not allowed to enroll in the course based on Penal Code Section 12021. Prior to the use of a firearm in the course, each student must sign a declaration to the effect that he or she is not prohibited from such use by Penal Code Section 12021.

Recommended for Success: Satisfactory completion of ADJU 215 or LENF 388.

Limitation on Enrollment: This course is restricted under California Penal Code Section 12021. Course requires handling and possessing firearms. Convicted felons, persons addicted to any narcotic or convicted of any offense involving the violent use of a firearm are not allowed to enroll in the course based on Penal Code Section 12021. Prior to use of a firearm in the course, each student must sign a declaration to the effect that he or she is not prohibited from such use by Penal Code Section 12021.

A continuation of ADJU 215. In-depth review of legal aspects of firearms. Range firing of various weapons; usage of non-lethal weapons. Students must provide own ammunition, hearing protectors, and safety glasses. The instructor reserves the right to remove a student from the firing range due to a safety violation. Lecture/Laboratory. Field trips may be required. (A-F Only) Transfer: CSU

ADJU 216—ADVANCED FIREARMS AND RANGE APPLICATION 1½ UNITS
Prerequisite: Satisfactory completion of ADJU 215 or LENF 388.

Limitation on Enrollment: This course is restricted under California Penal Code Section 12021. Course requires handling and possessing firearms. Convicted felons, persons addicted to any narcotic or convicted of any offense involving the violent use of a firearm are not allowed to enroll in the course based on Penal Code Section 12021. Prior to use of a firearm in the course, each student must sign a declaration to the effect that he or she is not prohibited from such use by Penal Code Section 12021.

A continuation of ADJU 215. In-depth review of legal aspects of firearms. Range firing of various weapons; usage of non-lethal weapons. Students must provide own ammunition, hearing protectors, and safety glasses. The instructor reserves the right to remove a student from the firing range due to a safety violation. Lecture/Laboratory. Field trips may be required. Materials fee required. (A-F Only) Transfer: CSU

ADJU 217—SUBSTANCE ABUSE 3 UNITS
Recommended for Success: Satisfactory completion of ADJU 201 and 202
Basic understanding of controlled substances, including identification, physiological effects, testing, and use detection, methods of control and investigation, applicable laws controlling use, treatment processes, and patient rights to confidentiality. Lecture. (A-F Only) Transfer: CSU

ADJU 219—CORRECTIONS FIREARMS TRAINING 1½ UNITS
Prerequisite: Satisfactory completion of ADJU 215.

Limitation on Enrollment: This course is restricted under California Penal Code Section 12021. Convicted felons, persons addicted to any narcotic or convicted felons, persons added to any narcotic or convicted of any offense involving the violent use of a firearm are not allowed to enroll in the course based on Penal Code Section 12021.

Laws, policies, and ethical considerations with specialized training in weaponry used by correctional agencies. Range firing of rifles, shotguns, and handguns. Students must provide safety glasses and hearing protectors, and ammunition. Course is restricted under state and federal laws. Instructor reserves the right to remove a student from the firing range due to a safety violation. Students may repeat any combination of ADJU 215/216 or 219 for a maximum of 4 completions. Lecture/Laboratory. Field trips may be required. Materials fee required. (A-F Only) Transfer: CSU
ADJU 222—PROFILING TERRORISM 3 UNITS
Recommended for success: Satisfactory completion of ADJU 201.
Discusses the most significant theories by the best terrorist analysts in the world, while still focusing on the domestic and international threat of terrorism and the basic security issues surrounding terrorism today. Social-historical origins of terrorism, criminal, legal, and social response to terrorism, at-risk populations, prevention, and intervention strategies. Lecture. Two maximum completions. (A-F Only) Transfer: CSU

ADJU 232—JUVENILE JUSTICE PROCEDURES 3 UNITS

ADJU 234—CRIME CAUSATION 3 UNITS
Principal theories commonly utilized in accounting for many-known facts of criminality. Emphasis on implications and logic of certain theoretical positions common to much thinking and writing in the field. Lecture. (A-F Only) Transfer: CSU

ADJU 235—INTRODUCTION TO CORRECTIONS 3 UNITS
Introduction to the correctional field. Covers historical development of correctional processes, current trends, and future directions of the correctional field. Examines local, state and federal systems. Field trips may be required. Lecture. (A-F Only) Transfer: (CSU, UC). General Education: (MJC-GE-B)

ADJU 236—CORRECTIONAL LAW 3 UNITS
Overview of the Constitutional provisions and definitions of laws relating to the corrections component of the Criminal Justice System. Emphasis on the legal aspects concerning adult offenders and correctional personnel with the Department of Corrections, juvenile offenders and correctional personnel with the Youth Authority and diversion agencies. The laws will entail Federal, State, and Local jurisdictions. Field trips required. Lecture. (A-F Only) Transfer: CSU

ADJU 240—DRUG AWARENESS ½ UNIT
Basic understanding of current drugs of abuse including psychological and physical symptomology, appearance, and social implications. Lecture. (A-F Only) Transfer: CSU

ADJU 242—DOMESTIC VIOLENCE PREVENTION ½ UNIT

ADJU 243—DOMESTIC VIOLENCE CRISIS INTERVENTION 3 UNITS
Recommended for success: Satisfactory completion of ADJU 201 and 242.
Domestic violence as a pervasive and significant social issue requiring both prevention and intervention. Social-historical roots of family violence, criminal, legal, and social response to violence, at-risk populations, prevention, and intervention strategies. Lecture. (A-F Only) Transfer: CSU

ADJU 349—A,B,C,D WORK EXPERIENCE 1,2,3,4 UNITS
Designed for students who wish to combine classroom experience with an expansion of skills or knowledge acquired at a site of employment on a paid or volunteer basis. Work must directly relate to the student’s area of study. Maximum 4 units may be earned per semester. May be repeated to a maximum of 16 units Work Experience credit. (Cooperative General Work Experience is included in the maximum.) Lecture.

ADJU 351—ELEMENTS OF SUPERVISION IN PUBLIC SAFETY 3 UNITS
The nature and function of the supervisor’s role in business, industry, and government. The skills and techniques of effective management will be examined and applied in terms of attaining maximum results through the cooperative efforts of others. Lecture.

ADJU - AG

AG (Agriculture, Vocational & Technical)

AG 100A—LEADERSHIP IN AGRICULTURE 1, 2 UNITS
Lecture and supervised activities relating to student participation in agricultural competitions, judging contests, livestock exhibitions, recruitment programs, award and scholarship applications, and youth activity planning. Field trips required. Lecture/Leadership activities. Students may not exceed a total of 2 units in AG 100A only. Transfer: CSU, MJC Activities.

AG 115—INTRODUCTION TO AGRICULTURAL EDUCATION AND CAREERS 1 UNIT
Introduction to educational and agricultural employment opportunities. Includes portfolio and educational plan development and curriculum requirements that pertain to educational goals as they relate to agriculture majors. The focus is on exploring the career options in agriculture and society will be discussed. Lecture. (A-F Only)MJC Guidance. Transfer: CSU

AG 120—INTRODUCTION TO AGRICULTURE EDUCATION 2 UNITS
Overview of agricultural education and agricultural education programs from a teaching perspective including goals and purposes, kinds of classes, types of programs, and qualifications essential to successful agriculture teaching. Field trips may be required. Lecture plus participation in agricultural events, leadership activities and FFA involvement. (A-F Only) Transfer: CSU

AG 130—AGRICULTURE EDUCATION EARLY FIELD EXPERIENCE 2 UNITS
Creates awareness of opportunities for prospective agriculture teachers through observation, participation in the field and through analysis of field experiences. Students will be expected to complete 20 hours of observation/field activities. The off-campus activities shall be supervised by the course instructor and shall take place in an approved agriculture department. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU

AG 249—AGRICULTURE INTERNSHIP 4 UNITS
Designed for agriculture majors who wish to combine classroom experience with an expansion of skills or knowledge acquired at an internship site on a paid or volunteer basis. Internship experiences must directly relate to the student’s area of study. (P/NP Only) Transfer: CSU

AG 280—AGRICULTURAL COMPUTATIONS 3 UNITS
Practical problems in production agriculture, agriculture mechanics, agriculture business, and natural resources. Includes problems in algebra, geometry, money and interest, equipment calibration, metrics, and graphics. Field trips are not required. (A-F Only) Lecture. Transfer: CSU

AG 285—AGRICULTURAL COMMUNICATIONS 3 UNITS
Fundamentals of agricultural communication, including written, electronic, graphic, and oral communication methodologies. Field trips are required. (A-F Only) Lecture. Transfer: CSU

AG 305—SUPERVISION IN AGRICULTURE 2 UNITS
Training for student interns/unit managers of MJC agricultural farm facilities in the principles of supervision, demonstrating practical skill application, handling personnel problems, instructing new personnel on job performance, analyzing job efficiency and making management decisions. (Designed for West Campus Student Interns and Cooperative Association of States for Scholarships [CASS] International Students. Lec/Lab. May be completed up to four times. (A-F Only)
AG 349 A, B, C, D — WORK EXPERIENCE
AGRICULTURE — SUPERVISED PRACTICE
1, 2, 3 AND 4 UNITS
Co-requisite: Enrollment in a minimum of 7 units, which may include Cooperative Vocational Work Experience. Designed for agriculture majors who wish to combine classroom experience with an expansion of skills or knowledge acquired at a site of employment on a paid or volunteer basis. Work must directly relate to the student's area of study. Maximum of 4 units may be earned per semester. May be repeated to a maximum of 16 units. Work Experience credit (Cooperative General Work Experience is included in this maximum.) (A-F Only)

AG 376 — BASIC SCIENCE AND LABORATORY TECHNIQUES
3 UNITS
Essential laboratory techniques and basic science principles and information designed to qualify students for service in agriculture at technical levels. Field trips are required. Lecture/Laboratory. (A-F Only) General Education: (MJC-GE: A)

AG 390 A, B, C, D — AGRICULTURAL SKILLS TRAINING
1/2, 1, 2, 3, 4 UNITS
Emphasis on developing or upgrading skills of agricultural employees. Field trips are required. Four completions allowed. Total number of AG 390 A, B, C, D units not to exceed eight total units. Lecture/Laboratory. (A-F Only)

AGEC: (Agricultural Economics)

Dean: Mark A. Anglin
Division Office: Agriculture, Room 100
Phone: (209) 575-6200
Division website: www.mjc.edu/prospective/programs/agens/index.html
Instructors: Matlief Boyd, Gail Brumley, Bill Hobby, Amanda Schnoor

AGEC 50 — SURVEY OF AGRICULTURAL ECONOMICS
3 UNITS
A preparatory course designed to further agriculture business knowledge and prepare for entry level employment and further agricultural business course pursuits. Field trips required. Lecture/Laboratory/Other.

AGEC 55 — PREPARATORY AGRICULTURE COMPUTER APPLICATIONS
3 UNITS
Preparation for computer use in the workplace emphasizing agribusiness situations, use of computer applications software, including word processors, spreadsheets, and databases. Includes information accessing, telecommunications, and other software appropriate to agribusiness. Lecture/Laboratory.

AGEC 200 — AGRICULTURAL ACCOUNTING AND ANALYSIS
3 UNITS
Study of the principals of agricultural accounting systems and types of records, how to compute and use measures of earnings and costs of production to improve efficiency in agricultural operations. Field trips are not required. (A-F Only) Lecture. Transfer: CSU

AGEC 208 — INTRODUCTION TO INTERNATIONAL BUSINESS
3 UNITS
Recommended for Success: Satisfactory completion of BUSAD 248 Also offered as BUSAD 208.
A comprehensive overview of international business. Offers a global perspective of international trade, international marketing, international accounting, the operation of multinational companies, economic theories and forces, international organizations and the political and cultural impact of world trade. Lecture. Field trips required. Transfer: CSU

AGEC 209 — IMPORT/EXPORT FUNDAMENTALS
3 UNITS
Recommended for Success: Satisfactory completion of AGEC 208 Also offered as BUSAD 209.
Overview of processes and procedures involved in importing and exporting products and services. Special emphasis on finance and financial documentation. Lecture. Field trips required. Transfer: CSU

AGEC 210 — ELEMENTS OF AGRICULTURAL ECONOMICS
3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be enrolled in or have satisfactorily completed MATH 70.
The place of agriculture and agribusiness in the economic system; basic economic concepts, and problems of agriculture, supply and marketing problems, factors of production; state and federal agriculture programs affecting agriculture's economic position. Field trips might be required. (A-F Only) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D2)

AGEC 215 — AGRICULTURAL MARKETING
3 UNITS
Structure and framework of agricultural marketing, history and present trends; marketing principles, policies, channels, institutions, regulatory agencies, cooperative marketing orders, cyclical and seasonal price variations, integration, and foreign and domestic trade; consideration of specific marketing problems affecting area commodities. Field trips required. Lecture/Laboratory. (A-F Only) Spring Transfer: CSU

AGEC 220 — AGRICULTURAL BUSINESS MANAGEMENT
3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete (AGEC 200) and (AG 285 or equivalent) and (MATH 70 or equivalent), and one AG production class.
Principles of agricultural management and measures of earnings in determining production efficiency; property reports, government regulations, agricultural finance, development of a management plan for a given agribusiness with application of the above principles; term report and field laboratories required. Lecture/Laboratory. (A-F Only) Transfer: CSU

AGEC 225 — AGRICULTURE COMPUTER APPLICATIONS
3 UNITS
Computer use in the agribusiness workplace, with emphasis on using software to solve agribusiness accounting problems, record keeping, creating sales presentations, and authoring business reports. Field trips may be required. (A-F Only) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: D2)

AGEC 280 — AGRICULTURAL SALES AND SERVICE
3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete three agriculture courses (preferably two or more agriculture production courses and one or more agribusiness courses).
Introduction to the sales and service professions with emphasis on, but not limited to, the agribusiness sector. Provides both theoretical background and experiential exercises on a variety of sales and service facet including: the sales industry, identifying and understanding personalities, motivating people, sales presentations, prospecting, sales management, and advertising and promotion. Designed to prepare for employment or augment a current sales job. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU

AGGE: (Agriculture, General)

Dean: Mark A. Anglin
Division Office: Agriculture, Room 100
Phone: (209) 575-6200
Division website: www.mjc.edu/prospective/programs/agens/index.html
Instructors: Steve Amador., David Baggett, Matlief Boyd, Gail Brumley, Todd Concado, Bill Hobby, John Mendes, Mike Morales, Dale Pollard, Amanda Schnoor

AGGE 145 — PARLIAMENTARY PROCEDURE
1 UNIT
Also offered as SPOM 145
Introduction to Parliamentary Procedure. Preparing for and participating in meetings as a member, officer, and chairperson. Rank and use of motions. Two completions allowed. Lecture. (A-F or P/NP) Transfer: CSU

AGGE 146 — AGRICULTURE, ENVIRONMENT AND SOCIETY
3 UNITS
The sociology of agriculture presented through an examination of relationships between societies and their environments, economics, and agriculture. Emphasis on the analysis of agriculture's use of technology and the corresponding impact on the environment, economy and society. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D7)

AGGE 150 — SUSTAINABLE PRODUCTION SYSTEMS
3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to complete more than two agricultural laboratory courses.
Fundamental concepts and processes of sustainable agricultural systems, with emphasis on integrating agricultural activities with ecological principles. Field trips might be required. (A-F Only) Lecture. Transfer: (CSU, UC)
AGM (Agricultural Mechanics)

Dean: Mark A. Anglin
Division Office: Agriculture, Room 100
Phone: (209) 575-6200
Division website: www.mjc.edu/prospective/programs/agens/index.html
Instructors: Steve Amador, Todd Conrado

Courses with an asterisk are those in which safety glasses* are required per state law.

AGM 50—PREPARATION FOR MECHANICAL TECHNOLOGY* 3 UNITS
Preparation in woodworking, cold metal, forging, plumbing and welding as related to farm maintenance and repair. Designed for agricultural students who need development in basic mechanical skills. Field trips may be required. Lecture/Laboratory. Materials fee required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 200—INTRODUCTION TO MECHANICAL TECHNOLOGY * 3 UNITS
Also offered as INTEC 200
Basics in woodworking, cold metal, electrical wiring, plumbing, masonry and welding as related to agriculture maintenance and repair. Designed for students who seek to develop basic mechanical skills. Materials Fee Required. Field trips might be required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 210—AGRICULTURAL WELDING * 3 UNITS
Introduction and basic instruction in various welding and cutting methods to include SMAW, GMAW, DAW, GTAW. Coursework to include machine selection and setup. Materials fee required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 211—ADVANCED AGRICULTURAL WELDING * 3 UNITS
Prerequisite: Satisfactory completion of AGM 210
Advanced welding and other metallurgical techniques such as pipe fitting, hard facing, MIG (GMAW) and TIG (GTAW) welding on aluminum and stainless steel. Field trips may be required. Materials fee required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 212—MECHANICAL SYSTEMS DESIGN & EVALUATION 1 3 UNITS
Introduction to elements of agriculture mechanical system design and evaluation. Mechanical systems include fluid power and mechanical drive systems, structural design as well as development of evaluation procedures to ensure optimum performance. Introduction to computer evaluation and 3D modeling software will also be included. May be completed up to 2 times. Lecture/Laboratory. (A-F Only). Transfer: CSU

AGM 213—MECHANICAL SYSTEMS DESIGN & EVALUATION 2 3 UNITS
Advanced elements of agriculture mechanical system design and evaluation. Emphasis will be placed on mechanical and electronic data acquisition and evaluation of performance. The use of data logging equipment and computer analysis will be included. May be completed up to 2 times. Lecture/Laboratory. (A-F Only). Transfer: CSU

AGM 214—EQUIPMENT SERVICE AND SAFETY 1 UNIT
Safe tractor, forklift, and machinery operation, service and key safety practices found in shops. Safe handling of chemicals used in farming and fire safety. A job skills course for students involved in farming practices on college property. Supervised field operation and field trips required. Lecture/Laboratory. (A-F Only). Transfer: CSU

AGM 215—MACHINERY MANAGEMENT 3 UNITS
Designed for future and current equipment managers/owners to understand the selection, maintenance, and replacement of tractors and machinery used in the agriculture, on-highway truck, and heavy equipment industries. Assisting needs and developing sound management practices for modern equipment operators. A focus on practical knowledge and “hands-on” skills is a priority. Materials fee required. Field trips required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

AGM 220—INDUSTRIAL/AGRICULTURAL MACHINERY* 3 UNITS
Recommended for Success: Satisfactory completion of AG 280 or other math equivalent.
Operation, selection and care of industrial and agricultural machinery common to this area. The calibration, repair, adjustment and hitching of machinery. Principles of power and its transmission related to machinery. Semester notebook required. Field trips required. Lecture/Lab. (A-F Only) Transfer: CSU

AGM 220—INDUSTRIAL/AGRICULTURAL MACHINERY* 3 UNITS
Recommended for Success: Satisfactory completion of AG 280 or other math equivalent.
Operation, selection and care of industrial and agricultural machinery common to this area. The calibration, repair, adjustment and hitching of machinery. Principles of power and its transmission related to machinery. Semester notebook required. Field trips required. Lecture/Lab. (A-F Only) Transfer: CSU

AGM 221—EQUIPMENT DIAGNOSIS AND REPAIR 3 UNITS
Emphasis will be placed on modern diagnostic techniques and equipment repair used in the agriculture, on-highway truck, and heavy equipment industries. Designed for the diesel equipment technician who wants to become more proficient in advanced diesel engine diagnosis and repair. May be completed up to two times. Materials fee required. Lect/Lab. (A-F or P/NP). Transfer: CSU

AGM 225—PRINCIPLES OF ELECTRICAL WIRING 3 UNITS
Also offered as INTEC 225
Fundamental principles, and applications of electrical energy used on residential, industrial and agricultural situations including designing, planning and implementation of electrical circuits. Field trips required. Materials fee required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 230—FIELD SURVEYING 2 UNITS
Also offered as ENGR 230
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete AG 280 or satisfactorily complete MATH 70.
Selection, care and checking of tapes, levels, GPS and laser systems. Introduction to total station care and use. Field observations, note taking and office computations; use of surveying instruments and equipment for land measurement and mapping; practice in differential, profile and contour leveling; horizontal angles, traverses, and construction problems used in public land surveying, legal descriptions and county records. Materials Fee Required. Field trips are required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 235—IRRIGATION AND DRAINAGE 3 UNITS
Irrigation and drainage problems relating to pumps, motors, sprinkler systems, structures, pipelines, ditches and wells; computation of costs and measurement of water, water law; basic principles of plant-soil-moisture relations and water movement in soil. Field laboratories required. Lecture/Laboratory. (A-F Only) Transfer: CSU

AGM 240—TRUCK AND TRACTOR POWER TRAINS 3 UNITS
Operation and repair of truck and tractor transmissions and power train systems. Topics to include diagnostics and repair of transmissions, clutches and differentials. Field trips might be required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 241—DIESEL ENGINE PRINCIPLES 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to complete AGM/AUTEC 289.
Also offered as AUTEC 241
The operation and repair of modern diesel engines. Principles and theories are studied by running, testing, diagnosing, disassembling and reassembling components, systems, and engines. Field trips required. Materials fee required. Lect/Lab. (A-F Only) Transfer: CSU

AGM 242—DIESEL ENGINE OVERHAUL 3 UNITS
Principles of design and construction of heavy duty engines used in the agriculture, construction, and trucking industries. Principles and theories are studied by running, testing, diagnosis, disassembling, and reassembling components, systems, and engines. Lect/Lab. (A-F or P/NP). Transfer: CSU
AGM 243—HEAVY MACHINERY ELECTRICAL SYSTEMS 3 UNITS
Recommended for Success: Satisfactory completion of AGM 241 or AUTEC 241
Designed for the entry level heavy duty mechanic interested in heavy machinery and/or on-highway truck. A strong understanding of basic and advanced electrical systems of heavy machinery will be generated. Electrical system troubleshooting, diagnosis and repair with the aid of technical information and electrical test equipment will be the focus. The class will also provide necessary electrical theory and background review for more advanced electrical courses. Materials fee required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 245—DIESEL ENGINE FUEL SYSTEMS & DIAGNOSIS 3 UNITS
The study of common types of diesel fuel injection systems. Design and theory of operation of distributor type, in-line type, as well as electronically controlled systems. Testing and diagnostic procedures for various fuel systems is a major component of the course. Service and adjustments of injectors, nozzles, and governors will also be covered. Field trips are required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 251—FARM CONSTRUCTION AND MATERIALS 4 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete AGM 200 and AGM 210.
Types, costs and characteristics of construction materials; their use in farm equipment and buildings. Structural requirements, cost factors, safe-loads, animal and equipment requirements, operation and labor efficiency, adaptability to the community. Designing and building projects in the shop and group field work. Field trips required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 252—FARM CONSTRUCTION ADVANCED LAB 2 UNITS
Prerequisite: Satisfactory completion of AGM 251
Analysis of types, costs and characteristics of construction materials; their use in farm equipment and buildings. Structural requirements, cost factors, safe-loads, operation and labor efficiency and adaptability to the environment. Designing and building projects in the shop and group field trips. Field trips required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 262—HYDRAULICS/PNEUMATICS 3 UNITS
Also offered as AUTEC 262
Formerly listed as AGM 362
Principles and practices of hydraulics/pneumatics as used in the industry. Study of the different applications and management of hydraulics for the most efficient use. Basic pneumatic principles and application systems. Field trips may be required. Two maximum completions. Lecture. Transfer: CSU

AGM 280—MOBILE MACHINERY HYDRAULIC SYSTEMS 3 UNITS
Recommended for Success: Satisfactory completion of AG 280 and (AGM 215 or 220)
Fundamental principles and practices of hydraulic circuitry as applied to mobile hydraulic systems in the Agriculture, Heavy Machinery, and Off-Highway truck industries. Emphasis in system and component design and operation as applied to diagnosis and repair of hydraulic systems: Field trips may be required. Lecture/Lab. Materials Fee Required. (A-F or P/NP) Transfer: CSU

AGM 289—PRINCIPLES OF POWER MECHANICS/ SMALL ENGINES 3 UNITS
Formerly listed as AGM/AUTEC 289
Also offered as AUTEC 289
Introduction to the operation, construction, maintenance, repair and adjustments of two and four-stroke engines. Designed for persons without prior experience in engine repair. Experienced technicians will also benefit. Materials fee required. (A-F Only) Lecture/Lab. Transfer: CSU

AGM 310—AGRICULTURAL WELDING 2 UNITS
Basic welding techniques and theory instruction in oxyacetylene welding and cutting, shield metal arc welding, and flat and vertical fusion welding. Introduction to MIG welding, brazing, and heating will also be covered as well as welding safety. Field trips required. (P/NP Only) Lecture/Lab.

ANAT 125—HUMAN ANATOMY 5 UNITS
Prerequisite: Satisfactory completion of BIO 116 or BIO 111 or BIO 101.
Study of human body structures including organ, tissue and cellular interrelationships. Involves extensive use of models, specimens, histological material, and dissection. Cadaver materials and demonstrations are used. Intended for students entering the health professions. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

ANANC 200—INTRODUCTION TO ANIMAL SCIENCE 3 UNITS
A preparatory survey of the livestock industry, supply of animal products and their uses. A special emphasis on the origin, characteristics, adaptation and contributions of farm animals to the agriculture industry. Analyze the economic trends and career opportunities in animal agriculture. Field trips required. (A-F or P/NP) Lecture.

ANANC 201—BEEF CATTLE SCIENCE 3 UNITS
A scientific approach to the livestock industry encompassing aspects of animal anatomy, physiology, nutrition, genetics, and epidemiology. Emphasis on the origin, characteristics, adaptations and contributions of livestock to the modern agricultural industry. Field trips may be required. Lecture. (A-F Only) Transfer: CSU, UC General Education: [MUC-GE-A](UC-GE-B2, B3)(IGETC: 5B)

ANANC 202—SWINE SCIENCE 3 UNITS
A study of the principles and practices of purebred and commercial pork production throughout California, the U.S., and the world. Emphasis to be placed on importance of breeds, breeding principles, selection, nutrition, environmental management, health, marketing and record-keeping to ensure scientifically based management decisions and consumer product acceptance. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU, UC
ANSC 203—SHEEP SCIENCE 3 UNITS
A survey of the sheep industry including management of commercial, purebred and small farm flocks; selecting, feeding, breeding and basic care of ewes and lambs plus marketing of lambs and wool. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

ANSC 207—EQUINE SCIENCE 3 UNITS
A survey of the equine industry, selection, feeding, breeding, facilities, handling and health management will be emphasized to ensure scientifically-based management decisions. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

ANSC 208—CARE AND HANDLING OF HORSES AND TACK 3 UNITS
Basic care of the horse and equipment. Types of equipment. Horse handling skills including training and riding. Student is expected to provide own horse. Field trips required. (A-F Only) Lecture/Lab. Transfer: CSU

ANSC 209—EQUINE BREEDING AND REPRODUCTION 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ANSC 207. An advanced level course designed for students interested in learning more about equine reproduction and management. Field trips may be required. (A-F Only) Lecture. Transfer: CSU

ANSC 210—LIVESTOCK SELECTION AND EVALUATION 3 UNITS
Detailed analysis of various visual and physical methods of appraising beef, sheep, swine and horses concerning functional and economic value. Written and oral summaries of evaluation will be required. Specific reference will be made to performance data and factors determining carcass value. Lecture/Laboratory/required attendance at judging contests arranged. Two maximum completions. (A-F Only) Transfer: (CSU, UC)

ANSC 211—INTRODUCTION TO MEAT SCIENCE 3 UNITS
An introductory course to the meat industry with a special emphasis on meat products and value-added meat processing techniques. Concepts on food safety and sanitation, grading and inspection along with preservation and marketing strategies to meet current consumer demands. Field trips required. (A-F Only) Lecture/Lab. Transfer: (CSU, UC)

ANSC 212—ADVANCED LIVESTOCK SELECTION AND EVALUATION 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ANSC 210. Advanced study of animal conformation as related to its various functions. Evaluation of beef, sheep and swine species using performance and carcass data as well as live animal observation. Oral interpretation of these evaluative criteria. Formal reasoning presentations required. Field trips required. Two maximum completions. Lecture/Laboratory/Other. (A-F Only) Transfer: (CSU, UC)

ANSC 214—LIVESTOCK FEEDING AND NUTRITION 3 UNITS
The fundamentals of digestion and absorption in both ruminants and nonruminants are discussed. The nutritive value of feeds as they relate to the formulation of livestock rations will be emphasized, including by-product feeding. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

ANSC 215—ANIMAL HEALTH AND SANITATION 3 UNITS
Common livestock diseases and fundamentals of immunity. Includes coverage of the livestock worker’s role in promoting animal health and the foundation of disease control programs. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

ANSC 216—LIVESTOCK BREEDING AND SELECTION 3 UNITS
Anatomy and physiology of male and female reproductive systems, endocrine system, and problems affecting reproductive efficiency; fertilization, gestation, and parturition. Principles of herdity as applied to livestock breeding and improvement; systems of breeding, environmental factors affecting reproduction and performance. Livestock selection programs based on performance and progeny. Field laboratories including some on Saturdays required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

ANSC 217—ADVANCED BREEDING AND ARTIFICIAL INSEMINATION 4 UNITS
Recommended for Success: Satisfactory completion of ANSC 201 and 220 and (ANSC 216 or 226)
Advanced study and practical application of breeding principles and artificial insemination of farm animals; the collection, evaluation, and handling of semen, nutritional level, and sanitation practices affecting reproductive efficiency, public relations, and the responsibilities of the technician and the management. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

ANSC 220—DAIRY INDUSTRY/DAIRY SCIENCE 3 UNITS
ANSC 221—DAIRY CATTLE SELECTION AND EVALUATION 3 UNITS
Selection of dairy cattle on type conformation and the correlation between type and production. Pedigree evaluation, animal analysis, linear classification and body condition scoring. Written and oral evaluation on selection. Field trips required. Two maximum completions. Lecture/Laboratory/Other. (A-F Only) Transfer: (CSU, UC)

ANSC 222—MILK PRODUCTION AND TECHNOLOGY 3 UNITS
Milk and milk product consumption and the economics of milk production. Discusses the mammary system anatomy, the physiology of milk secretion, the composition and the properties of milk, including factors of production. Evaluation of milking parlors and equipment, systems, analysis and operation is also included. Milk testing, sanitation, quality control, udder health and treatment as well as dairy mathematics. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

ANSC 224—DAIRY FEEDS AND FEEDING 3 UNITS
Fundamentals of digestion and absorption in ruminants. The nutritive value of feeds as they relate to the formulation of dairy rations will be emphasized, including by-product feeding. Term project and field laboratories required. Lecture/Laboratory. (A-F Only) Transfer: CSU

ANSC 226—DAIRY BREEDING AND SELECTION 3 UNITS
The study of basic genetic principles with the study of the anatomical and physiological aspects of reproduction as they relate primarily to the bovine. Genetic principles to be emphasized include basic inheritance, selection techniques, mating systems, heterosis, and performance evaluation. Reproductive aspect to include endocrinology, estrous cycles, mating behaviors, gametogenesis, conception, gestation, parturition, and maternal behaviors. Artificial insemination, embryo manipulation, and current innovations in reproductive biotechnology will also be examined. Field trips are required. Lecture/Laboratory. (A-F Only) Transfer: CSU

ANSC 227—ADVANCED DAIRY CATTLE SELECTION & EVALUATION 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have completed the ANSC 220, ANSC 221 and/or completed another class in livestock evaluation. Advanced study of dairy conformation as related to the function of milk production. Evaluation of dairy cattle using production data, pedigrees and live animal evaluation. Particular emphasis will be placed on linear classification and selective mating. Oral interpretation of these evaluative criteria and formal reasoning presentations will be required. Evaluation of milk and milk products will be required as well. Two maximum completions. Field trips required. (A-F Only) Lecture/Lab. Transfer: CSU

ANSC 228—DAIRY MANAGEMENT 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ANSC 220 and 224 and AGEC 200.
Economics of dairying; milk production and marketing and their relationship to income; computing production costs; analyzing dairy enterprises; business planning; farm selection; management problems relating to feeding, labor, replacements, breeding, work simplification and record keeping. Term problem and field laboratories required. Lecture/Laboratory. (A-F Only) Transfer: CSU

ANSC 230—POULTRY SCIENCE 3 UNITS
A study of the principles and practices of commercial poultry production. Emphasis to be placed on poultry nutrition, reproduction, environmental management, health, marketing and recordkeeping to ensure scientifically-based management decisions and consumer product acceptance. Field trips are required. (A-F Only) Lecture/Lab. Transfer: (CSU, UC)

ANSC 232—AVIAN PRACTICES 3 UNITS
Practices in avian management including breeders, fryers, and layers; incubating, brooding and rearing of chicks. Processing and marketing of various avian products. Specific work with game birds, and non-commercial species of fowl. Field laboratories required. Lecture/Laboratory. (A-F Only) Transfer: CSU

ANSC 234—POULTRY FEEDING 3 UNITS
Economics of poultry feeding. Composition of feeds, nutritional requirements, feed formulation for poultry; computer-assisted feed formulation, and proper feeding techniques. Field laboratories required. Lecture/Laboratory. (A-F Only) Transfer: CSU
COURSES OFFERED

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Recommended for Success: Satisfactory completion of ENGL 101

Basic introductory course in normal animal behavior of dogs and cats. The diagnosis and treatment of some of the most common pet behavior problems. Includes history of diseases and parasites in the area; management techniques to prevent diseases and parasites, state and federal regulatory services. Lecture. (A-F Only).
ANTHR 101—PHYSICAL ANTHROPOLOGY 3 UNITS
Introduction to human evolution. The evidence for human biological and behavioral adaptations is examined. Issues and topics will include the principles of genetics and evolution, human variation, comparative primate anatomy/behavior and an assessment of the human fossil record. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(TCSU ANTH 110) General Education: (MJC-GE: A)(CSU-GE: B2, D1)(IGETC: 5B)

ANTHR 102—CULTURAL ANTHROPOLOGY 3 UNITS
Introduction to the methods, theories, and insights of cultural anthropology and the application of these to life in a multicultural society. Topics include, but are not limited to: the research and analysis of culture and cultural processes; cross-cultural comparisons of subsistence patterns; economics, religion, kinship, gender, language, sexuality and political organization; and, cultural change in a globalized world. Recommended for people who travel internationally. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(CC ANTHR 2)(TCSU ANTH 120) General Education: (MJC-GE: B)(CSU-GE: D1)(IGETC: 4A)

ANTHR 104—LINGUISTIC ANTHROPOLOGY 3 UNITS
Formerly listed as ANTHR 104—Language, Culture and Communication. Recommended for Success: Before enrolling in this course, students are strongly advised to complete ENGL 101 with a minimum grade of C. An introduction to the anthropological study of language. Topics include: a survey of linguistics, including phonetics, phonology, morphology, syntax and semantics; the ethnography of communication; classification and cultural meaning; language, literacy and writing; and, anthropological approaches to the language emergence and change. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(TCSU ANTH 130) General Education: (MJC-GE: B, C)(CSU-GE: C2, D1)(IGETC: 38, 4A)

ANTHR 105—PHYSICAL ANTHROPOLOGY LABORATORY 1 UNIT
Corequisite: or satisfactory completion of Concurrent enrollment in or satisfactory completion of ANTHR 101. Laboratory investigation of methods and techniques of human evolution and variation, including use of the scientific method, anthropometrics, and an analysis of the developmental and functional morphology of primates. Lines of evidence examined will include the study of population genetics, comparative anatomy and behavior of primates, forensic anthropology, human fossils and their reconstruction. Field trips may be required. (A-F Only) Lab. Transfer: (CSU, UC)(TCSU ANTH 140) General Education: (MJC-GE: A)(CSU-GE: B3)(IGETC: 5B)

ANTHR 107—FORENSIC ANTHROPOLOGY INTRODUCTION 3 UNITS
Introduction to forensic anthropology as an applied field of physical anthropology; the methods of solving crimes with anthropological data and applying techniques designed for the analysis of human skeletal remains (personal identification, the determination of population, cause of death, DNA analysis, and issues of collection of physical evidence). Interaction between anthropologists and law enforcement agencies and human rights issues. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU

ANTHR 130—ARCHAEOLOGY & CULTURAL PREHISTORY 3 UNITS
An introduction to anthropological archaeology including concepts, theories, and methods employed by archaeologists in reconstructing past life ways of humans. Topics include history and interdisciplinary nature of archaeological research, data acquisition, analysis and interpretation with a discussion of applicable data and models, cultural resource management, selected cultural sequences. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(TCSU ANTH 150) General Education: (CSU-GE: D1)(IGETC: 4A)

ANTHR 140—MAGIC, WITCHCRAFT, AND RELIGION 3 UNITS
Formerly listed as ANTHR 140—Magic, Witchcraft and Religion. Recommended for Success: Before enrolling in this course, students are strongly advised to complete ENGL 101 with minimum grade of C. A cross-cultural study of the forms, functions and politics of supernatural beliefs and associated rituals in a diverse world. Emphasis on investigating belief systems and rituals within particular cultural contexts, including their emergence and the effect of their practice. Additional emphasis is on broad ethnographic comparison, to derive insight into the power and cultural work of religious and supernatural frameworks in various societies. Religious and supernatural worlds are also analyzed for their local and global connections with other Cultural institutions, movements, forms, pollities, and processes. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B)(CSU-GE: D1)(IGETC: 4A)

ANTHR 150—NATIVE PEOPLE OF NORTH AMERICA 3 UNITS
Introductory survey of Native North Americans. Protohistory will be examined, with emphasis on historic and contemporary culture groups and their politics, economics, and religions. The impact of non-Native peoples on indigenous cultures will be explored. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(CC ANTHR 15) General Education: (CSU-GE: D1)(IGETC: 4A)

ANTHR 174—ANTHROPOLOGY SUMMER FIELD STUDIES 3 UNITS
Application of principles of anthropology through extended field studies at selected sites. Skills developed in cultural field studies, ethnographic data collection, archaeological artifact and site identification. Requires ability to work and study under rigorous conditions. Two maximum completions. Field trips are required. (A-F or P/NP) Lecture. Transfer: CSU

AP (Anatomy & Physiology)
Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divdeps/sme/
Instructors: David Ward, Michele Monloux, Pamela Upton, Robert Droual, Sandra Uyeshiro

AP 50—ELEMENTARY HUMAN ANATOMY-PHYSIOLOGY 3 UNITS
Introduction to the structure and function of the human body, basic terminology, cell biology, and the organ systems. Designed as a preliminary course for allied health students, but open to all students. Field trips are not required. (A-F or P/NP) Lecture. General Education: (MJC-GE: EA) (CC BIOL 10)

AP 150—INTEGRATIVE ANATOMY AND PHYSIOLOGY 5 UNITS
Prerequisite: Satisfactory completion of BIO 116 or BIO 101 or BIO 111. An intense one semester study of the general structure and function of the human body with an emphasis on integrative functions of the organ systems. Includes organ, tissue and cellular interrelationships; cellular communication; blood movement and hemostasis; fluid balance; respiration and digestion; and reproduction. Intended for students entering health professions that accept a one semester course. Field trips are not required. (A-F or P/NP) Lecture/Lab /Discussion. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B2, B3)(IGETC: 5B)
ARCH (Architecture)

Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divdeps/sme/
Instructors: Dennis Thorpe

ARCH 100—INTRODUCTION TO ENGINEERING AND ARCHITECTURE 1 UNIT
Also offered as ENGR 100
Introduction to the vocational and academic opportunities at MJC with special emphasis on engineering, architecture and related technologies. Topics include models of student success, characteristics of the professions, development of educational plans, Associate Degree Requirements, importance of teamwork, and self-assessment. Activities include field trips, practice labs, and presentations by MJC counselors and practicing engineers and architects. Lecture. Materials fee may be required. (Fall) Transfer: (CSU, UC)

ARCH 106—MATERIALS OF CONSTRUCTION 2 UNITS
Recommended for Success: Concurrent enrollment in ARCH 107
Use and application of construction processes and materials pertaining to architecture. Field trips may be required. Lecture. Materials fee may be required. (Fall) Transfer: CSU

ARCH 107—MATERIALS OF CONSTRUCTION LABORATORY 1 UNIT
Recommended for Success: Concurrent enrollment in or completion of ARCH 106 or ENGT 250. Observation and testing of mechanical properties of steel, concrete, and wood; laboratory and field exercises with basic construction methods using wood and concrete; field trips to construction sites, materials manufacturing and processing plants. Laboratory. Materials fee may be required. (Spring) Transfer: CSU

ARCH 117—HISTORY OF ARCHITECTURE 1 3 UNITS
The development of architecture, its philosophies and conditions from Prehistoric through Egyptian, Roman, Early Christian, Medieval, Romanesque Gothic and Pre-Columbian. Lecture. Materials fee may be required. (Fall) Transfer: (CSU, UC). General Education: (MJC-GE: C) (CSU-GE: C1)(IGETC: 3A)

ARCH 118—HISTORY OF ARCHITECTURE 2 3 UNITS
The development of architecture, its philosophies and conditions from the Renaissance through the Industrial Revolution, the Modern Movement and including the Twentieth Century. ARCH 117 is not a prerequisite. Lecture. Materials fee may be required. (Spring) Transfer: (CSU, UC). General Education: (MJC-GE: C)(CSU-GE: C1)(IGETC: 3A)

ARCH 121—BEGINNING GRAPHICS AND DESIGN 1 4 UNITS
Introduction to the graphic and computer production of architectural drawings pertaining to freehand, orthographic, axonometric and perspective drawings. Basic principles and concepts of two- and three-dimensional design. Field trips may be required. Lecture/Laboratory. Materials fee may be required. (Fall) Transfer: (CSU, UC)

ARCH 122—BEGINNING GRAPHICS AND DESIGN 2 4 UNITS
Prerequisite: Satisfactory completion of ARCH 121
Continuation of ARCH 121. Extended development of the content in ARCH 121 plus the introduction of the graphic methods and skills to communicate and represent conceptual ideas, analysis, and design concepts. Field trips may be required. Lecture/Laboratory. Materials fee may be required. (Spring) Transfer: (CSU, UC)

ARCH 131—ARCHITECTURAL DRAFTING 1 4 UNITS
Recommended for Success: Previous drafting experience.
Techniques and skills of drafting; introduction to building codes and construction methods, and the construction documents used to communicate the light-wood frame building process. Introduction to computer-assisted drafting in architectural applications. Field trips may be required. Lecture/Laboratory. Materials fee may be required. Transfer: CSU

ARCH 132—ARCHITECTURAL DRAFTING 2 3 UNITS
Prerequisite: Satisfactory completion of ARCH 131
Continuation of ARCH 131. Further development of office and drafting practices, contact document preparation, and construction processes with emphasis on heavy timber construction. Introduction to computer-assisted drafting in more complex architectural applications. Field trips may be required. Lecture/Laboratory. (Spring) Transfer: CSU

ARCH 152—ARCHITECTURAL DESIGN 1 5 UNITS
Prerequisites: Satisfactory completion of ARCH 122
Fundamentals of design concepts focusing on architectural form, function, space, and structure. Application of problem solving methods as applied to the relationship of man, building, and environmental concerns. Field trips required. Lecture/Laboratory. Materials fee may be required. (Fall) Transfer: CSU

ARCH 153—ARCHITECTURAL DESIGN 2 5 UNITS
Prerequisite: Satisfactory completion of ARCH 152
Continuation of ARCH 152. Explorations in architectural design within an environmental context. Consideration of projects dealing with buildings, site, climate, and structural issues and their interaction with aesthetic and functional concerns. Field trips required. Lecture/Laboratory. Materials fee may be required. (Spring) Transfer: CSU

ARCH 331—BASIC ARCHITECTURAL DRAFTING 1 2 UNITS
Introduction to architectural drafting and construction techniques for the nonprofessional with major emphasis on residential drawing and design. Topics include: a basic understanding of drafting skills, architectural nomenclature, design presentations, building materials, and a simple understanding of structure. Lecture/Laboratory.

ART

Dean: Michael Sundquist
Division Office: Performing and Media Arts Center, Room 205
Phone: (209) 575-6081
Division website: www.mjc.edu/arts
Instructors: Deborah Barr, Doug Smith, Haleh Niazmand, Paul Berger, Richard Serros, Rob Stevenson, Terry Hartman, Tom Duchscher

ART 102—INTRODUCTION TO COMPUTER GRAPHICS 3 UNITS
Also offered as CMPGR 202
Introduction to computer graphics using various applications and tools. Topics explored include but are not limited to: original image creation, photographic editing, scanning, printing, two-dimensional animation, sound, digitizing pens, mouse, and digital camera. Field trips required. Materials fee required. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC). General Education: (CSU-GE: C1)

ART 103—APPLIED COMPUTER GRAPHICS 3 UNITS
Also offered as CMPGR 213
Recommended for Success: Satisfactory completion of ART 102/CMPGR 202
Formerly listed as Microcomputer Graphics.
Concepts and techniques in computer graphics as related to fine and applied art applications. Field trips required. Materials fee required. Lecture/Laboratory. Transfer: CSU

ART 108—CERAMICS 1 3 UNITS
Techniques of elementary clay construction and ornamentation; introduction to throwing techniques. Materials Fee Required. Four maximum completions. Field trips might be required. (A-F or P/NP - Student choice) Lecture/Lab. MJC Activities. Transfer: (CSU, UC). (CC ART 31)

ART 109—CERAMICS 2 3 UNITS
Prerequisite: Satisfactory completion of ART 108.
Hand building and pottery construction. Emphasis on throwing form, and design. Materials Fee Required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

ART 110—CERAMICS 3 3 UNITS
Prerequisite: Satisfactory completion of ART 109.
Hand building, throwing techniques, and surface decoration, experiments in clay bodies, glazes and loading and unloading of kiln. Materials Fee Required. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)
ART 119—COMPUTER GRAPHICS PORTFOLIO REVIEW 1 UNIT
Also offered as CMPGR 219
Prerequisite: This course follows the completed courses of the Computer Graphics majors/certificate core requirements.

Prepares the student majoring or receiving a certificate in Computer Graphics with the necessary visual and business skills to develop a portfolio; emphasizes the creative and applied business needs for individuals entering the professional field of Computer Graphics. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU

ART 120—BASIC DRAWING 1 3 UNITS
An introductory course in techniques used in representing form, light and shadow, texture, perspective, composition, and expression using various drawing media. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC) General Education: (CSU-GE: C1)

ART 121—BASIC DRAWING 2 3 UNITS
Prerequisite: Satisfactory completion of ART 120.
Further exploration of various drawing materials and techniques. Emphasis on composition and development of a personal approach to drawing. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC) (CC ART 23A)

ART 123—FIGURE DRAWING 3 UNITS
Prerequisite: Satisfactory completion of ART 120.
Fundamentals of art anatomy and representation of the human figure. Drawing of both the nude and draped figure in various media. Two completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC) (CC ART 9A)

ART 124—COLOR AND DESIGN 1 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ART 120 with a minimum grade of C or better or previous drawing experience.
Design principles and color theory. Problems in two-dimensional form using various media. Field trips may be required. (A-F or P/NP) Lecture/ Lab. Transfer: (CSU, UC) General Education: (MJC-GE:C)

ART 125—COLOR AND DESIGN 2 3 UNITS
Prerequisite: Satisfactory completion of ART 124
Expressions in design. Utilization of the elements and principles of design in two and three-dimensional form using various materials and techniques. Field trips may be required. Lecture/Laboratory/Other. (Spring) MJC Activities. Transfer: (CSU, UC)

ART 127—ALTERNATIVE DRAWING METHODS 3 UNITS
Prerequisite: Satisfactory completion of ART 120
Theory and practice of nontraditional drawing material and techniques. Emphasis on contemporary approaches to drawing including mixed media, collage, nontraditional surfaces, and working in series. Further exploration of the compositional issues addressed in the Basic Drawing series. Lecture/Lab. MJC Activities. Transfer: (CSU, UC).

ART 140—SCULPTURE 1 3 UNITS
Study of form, structure, and three-dimensional design as related to sculpture using various materials such as stone, plaster, clay, plastics, and metals. Materials Fee Required. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC) General Education: (CSU-GE: C1)

ART 141—SCULPTURE 2 3 UNITS
Prerequisite: Satisfactory completion of ART 140.
Continuation of ART 140; in-depth realization of sculpture in both concept and craftsmanship. Materials Fee Required. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

ART 142—SCULPTURE 3 3 UNITS
Prerequisite: Satisfactory completion of ART 141.
Continuation of ART 141 with emphasis on experimentation and development of personal expression applied to sculptural problems. Materials Fee Required. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

ART 144—WATERCOLOR PAINTING 1 3 UNITS
Prerequisite: Satisfactory completion of ART 120 or ART 124
Theory and practice of transparent watercolor painting using still life and landscape subject matter. Traditional and experimental techniques will be used. Field trips may be required. Lecture/Laboratory. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)(CC ART 23A)

ART 145—WATERCOLOR PAINTING 2 3 UNITS
Prerequisite: Satisfactory completion of ART 144.
A continuation of the concepts and skills developed in ART 144. Emphasis is placed upon experimentation and on the development of a personal painting style. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC) (CC ART 23B)

ART 146—MIXED MEDIA PAINTING 3 UNITS
Prerequisite: Satisfactory completion of ART 120 or ART 124
Theory and practice of acrylic or oil painting with an emphasis on experimental techniques and differing mixed mediums. Lecture/Laboratory. Field trips may be required. Two completions allowed. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)(CC ART 25)

ART 147—PAINTING 1 (IN ACRYLIC) 3 UNITS
Prerequisite: Satisfactory completion of ART 120 or ART 124
Introduction to acrylic painting; basic techniques and stylistic approaches. Emphasis on developing form through color. Field trips may be required. Lecture/Laboratory. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

ART 148—PAINTING 1 (IN OIL) 3 UNITS
Formerly listed as ART 148 - Oil Painting 1
Prerequisite: Satisfactory completion of ART 120 or ART 124
Introduction to oil painting; basic techniques and stylistic approaches. Emphasis on developing form through color. Field trips may be required. Lecture/Laboratory. Maximum. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)(CC ART 21A)

ART 149—PAINTING 2 3 UNITS
Formerly listed as ART 149 - Oil Painting 2
Prerequisite: Satisfactory completion of ART 147 or ART 148
Continued work in oil and acrylic painting; basic techniques and stylistic approaches. Emphasis on developing form through color. Field trips may be required. Maximum three completions. Lecture/Laboratory. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)(CC ART 21B)

ART 150—GALLERY OPERATION AND MANAGEMENT 3 UNITS
Recommended for Success: Concurrent enrollment in ART 160, 164, or 165
Introduction to the various aspects of operation and management of an art gallery: exhibition organization, hanging, publicity and jurying. Field trips required. Two maximum completions. Lecture/Laboratory. MJC Activities. Transfer: CSU

ART 160—APPR ECIATION OF ART 3 UNITS
Introductory art appreciation for the general student. Illustrated lectures in painting, sculpture, architecture and design. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE:C) (CSU-GE:C1) (IGETC:3A)

ART 161—AMERICAN ART 3 UNITS
Analysis of the arts through the study of painting, sculpture, architecture, and history of North America from pre-historic times to the present. Emphasis will be on the arts of the United States. Field trips required. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE:C) (CSU-GE:C1)(IGETC:3A)

ART 162—HISTORY OF RENAISSANCE ART 3 UNITS
Analysis of the European 14th-16th-century drawing, painting, sculpture, and architecture, with an emphasis on the Italian High Renais-sance masters. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE:C) (CSU-GE:C1) (IGETC:3A)

ART 163—HISTORY OF MODERN ART 3 UNITS
Analysis of the arts through the study of painting, sculpture, architecture, and the history of Europe and the Americas from c. 1800 to the present. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE:C) (CSU-GE:C1)(IGETC:3A)

ART 164—HISTORY OF ART 1 3 UNITS
Analysis of great art epochs through study of paintings, sculpture, architecture and history from pre-historic times to the end of the Middle Ages. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC ART 11) General Education: (MJC-GE:C)(CSU-GE:C)(IGETC:3A)

ART 165—HISTORY OF ART 2 3 UNITS
Continuation of study of painting, sculpture and architecture from Renaissance to the present. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC ART 12) General Education: (MJC-GE:C)(CSU-GE:C1)(IGETC:3A)

ART 168—SURVEY OF PHOTOGRAPHY 3 UNITS
Recommended for Success: Satisfactory completion of ART 170 or 181.
A course survey dealing with past and present photographic technique and imagery. Field trips required. Lecture. (Spring) Transfer: (CSU, UC) General Education: (MJC-GE:C)(CSU-GE:C1)
ART 169—HISTORY OF NON-WESTERN ART 3 UNITS
Analysis of the art forms of Africa, Oceania, Asia and the Americas in their relation to their cultural history from prehistoric times to the present. Field trips required. Lecture. Not offered every semester. Transfer: (CSU, UC)(CC ART 13) General Education: (MJC-GE: C)(CSU-GE: C1)(IGETC: 3A)

ART 170—BASIC PHOTOGRAPHY 3 UNITS
Introduction to the art and craft of photography: cameras, films, papers, basic black and white darkroom operations, composition, print quality, and photographic seeing. Field trips required. Project card use available. Lecture/Laboratory. Not offered every semester. Materials fee required. MJC Activities. Transfer: (CSU, UC)(CC ART 170) General Education: (CSU-GE: C1)

ART 172—INTERMEDIATE PHOTOGRAPHY 3 UNITS
Prerequisite: Satisfactory completion of ART 170 or 182.
Refinement of basic craft, vision, and aesthetics as they apply to black and white photography. Continued emphasis on visual literacy and personalized seeing. Field trips required. Project card use available. Lecture/Laboratory. Materials fee required. Transfer: (CSU, UC)

ART 173—DIGITAL IMAGING FOR PHOTOGRAPHERS 3 UNITS
Recommended for Success: Satisfactory completion of ART 170
Introductory course in digital imaging and electronic desktop photography. Applications related to the use of fine art photography and publication will be emphasized. The class includes lectures, discussions, critiques, computer laboratory work. Field trips required. Three maximum completions. Material fee required. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

ART 175—COLOR PHOTOGRAPHY 3 UNITS
Prerequisite: Satisfactory completion of ART 172 or 186.
Introduction to color photography. Transparency and negative materials, printing processes; print presentation and aesthetics. Field trips required. Lecture/Laboratory. (A-F Only)(Fall) MJC Activities. Transfer: (CSU, UC)

ART 178B,C,D—ADVANCED PHOTOGRAPHY 2,3,4 UNITS
Prerequisite: Satisfactory completion of ART 172 or 186
Recommended for Success: Satisfactory completion of ART 168
Advanced exploration in the visual and technical areas of either black and white, color, or non-silver photography. Students will design a project and produce a portfolio of finished work. Field trips may be required. Materials fee required. Completions to 8 units maximum. Other - combination seminar, and hours arranged. Transfer: CSU

ART 179—PHOTOJOURNALISM 3 UNITS
Also offered as JRNAL 179
Prerequisite: Satisfactory completion of ART 170
Study of photography as a tool in reporting news, sports and feature stories in print and online media. Examines work and approaches of professional photojournalists, develops fundamental skills in visual storytelling, camera, lighting and compositional techniques, ethical criteria, page layout, copyright and ethics. Photographs will be made with film and/or digital cameras and processed on computer. May be completed up to 2 times. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: CSU

ART 181—BASIC PHOTOGRAPHY 1 1½ UNITS
Introduction to the art and craft of photography - cameras, films, papers, basic black and white darkroom operations, composition, print quality, and photographic seeing. Field trips required. ART 181 and 182 are the two semester equivalent of ART 170 but: do not fulfill the CSU-GE requirement. Trustee receipt required to purchase course materials as needed. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC) (MJC ART 181+182= CC ART 40)

ART 182—BASIC PHOTOGRAPHY 2 1½ UNITS
Prerequisite: Satisfactory completion of ART 181
Introduction to the art and craft of photography: cameras, films, papers, basic black and white darkroom operations, composition, print quality, and photographic seeing. ART 181 and ART 182 are the two-semester equivalent of ART 170, but: do not fulfill the CSU-GE requirement. Field trips required. Trustee receipt required to purchase course materials as needed. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC) (MJC ART 181+182= CC ART 40)

ART 185—INTERMEDIATE PHOTOGRAPHY 1 1½ UNITS
Prerequisite: Satisfactory completion of ART 170 or 182.
Refinement of basic craft, vision and aesthetics as they apply to black and white photography. Continued emphasis on visual literacy and personalized seeing. ART 185 and ART 186 are the two semester equivalent of ART 172. Field trips required. Trustee receipt required to purchase course materials as needed. Lecture/Laboratory. Transfer: (CSU, UC)

ART 186—INTERMEDIATE PHOTOGRAPHY 2 1½ UNITS
Prerequisite: Satisfactory completion of ART 185
Refinement of basic craft, vision and aesthetics as they apply to black and white photography. Continued emphasis on visual literacy and personalized seeing. ART 185 and ART 186 are the two semester equivalent of ART 172. Field trips required. Trustee receipt required to purchase course materials as needed. Lecture/Laboratory. Transfer: (CSU, UC)

ART 189—PHOTO LABORATORY TECHNOLOGY 1 UNIT
Recommended for Success: Satisfactory completion of ART 170
Maintenance and operation of a photographic lab facility: equipment, chemistry, scheduling and other related activities. Field trips required. Four completions allowed. Laboratory. MJC Activities. Transfer: CSU

ART 191—PHOTOGRAPHY LAB TECHNOLOGY 2 1 UNIT
Recommended for Success: Before enrolling in this class, students are strongly advised to satisfactorily complete ART 170
Maintenance and operation of a photographic lab facility: equipment, chemistry, scheduling and other related activities. Field trips may be required. Four completions allowed. Laboratory. A-F or P/NP) MJC Activities. Transfer: CSU

ART 197—FIELD STUDIES IN PHOTOGRAPHY 1 UNIT
Preparation of and participation in field studies of various thematic and technical approaches to photography as a fine art. Use of cameras and related equipment. Travel to specific geographic regions to augment the study of particular styles of photography. Geographical areas to be studied will vary from one term to the next. May be completed up to 4 times. (A-F or P/NP) Lecture/Lab. Transfer: CSU
### AUBDY - Autobody

**Dean (Interim): Pedro Mendez**  
**Office:** John Muir 258W  
**Phone:** (209) 575-6332  
**Department website:** [www.mjc.edu/prospective/programs/teched/autobody/](http://www.mjc.edu/prospective/programs/teched/autobody/)  
**Instructors:** Jeff Beebe

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>AUBDY 115</td>
<td>INTRODUCTION TO TECHNICAL INDUSTRIES</td>
<td>1</td>
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<td>Also offered as AUTEC 115 and INTEC 115</td>
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Introduction to educational and technical employment opportunities. Includes an understanding of curriculum requirements that pertain to educational goals as they relate to technical majors. Assists students in setting goals and developing skills necessary for life-long success in obtaining, maintaining, and advancing in technical careers. Current events that impact technical industries and society will be discussed. History and employment opportunities in technical industries. Techniques and applications of sound shop/agency practices and hazardous waste management. Development of an educational plan and presentations by MJC counselors. Field trips may be required. Materials fee required. Lecture/Other. (A-F Only) MJC Guidance. Transfer: CSU

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<tr>
<td>AUBDY 301</td>
<td>AUTOMOTIVE COLLISION REPAIR 1</td>
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Recommended for Success: Before enrolling in this course, students are strongly advised to be concurrently enrolled in AUBDY 321. Introduction to automotive collision repair industry with emphasis on shop safety, careers, vehicle designs welding techniques, on-structural steel repairs including straightening and replacement procedures. Materials Fee Required Field trips may be required. (A-F Only) Lecture/Lab.

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<tr>
<td>AUBDY 302</td>
<td>AUTOMOTIVE COLLISION REPAIR 2</td>
<td>5</td>
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Prerequisite: Satisfactory completion of AUBDY 301 with a minimum grade of C or better. This course is designed for the intermediate student who has successfully completed AUBDY 301 with emphasis on Automotive plastics, structural repairs, corrosion protection, vehicle dimensions, and estimating damage. Materials Fee Required Field trips may be required. (A-F Only) Lecture/Lab.

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<tr>
<td>AUBDY 303</td>
<td>AUTOMOTIVE COLLISION REPAIR 3</td>
<td>4</td>
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Prerequisite: Satisfactory completion of AUBDY 302 with a minimum grade of C or better. This course is designed for the student who has completed Auto Body 301 and 302 with emphasis on advanced techniques, including repair and replacement of non structural and structural components. This course works towards ASE certification and uses the ICAr Live delivery program. At the end of each program the student will take a post test and be eligible for ICAr Training Alliance gold class points. Materials Fee Required Field trips may be required. (A-F Only) Lecture/Lab.

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<tr>
<td>AUBDY 321</td>
<td>AUTOMOTIVE SPRAY REFINISHING 1</td>
<td>2</td>
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Introduction to automobile spray painting. Study of materials, supplies and equipment. Experience in feather edging and application of base coats; spray techniques in spot blending and panel refinishing with a base coat and clear coat. Materials Fee Required Field trips may be required. (A-F Only) Lecture/Lab.

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<tr>
<td>AUBDY 322</td>
<td>AUTOMOTIVE SPRAY REFINISHING 2</td>
<td>3</td>
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Prerequisite: Satisfactory completion of AUBDY 321 and AUBDY 301. Continuation of AUBDY 321 with further instruction of automotive refinishing with single stage, base/clear coat urethane paints, and estimate writing. Materials Fee Required Field trips may be required. (A-F Only) Lecture/Lab.

### AUTEC - Automotive Technology

**Dean (Interim): Pedro Mendez**  
**Office:** John Muir 258W  
**Phone:** (209) 575-6332  
**Department website:** [www.mjc.edu/prospective/programs/teched/autotech/](http://www.mjc.edu/prospective/programs/teched/autotech/)  
**Instructors:** John Peterson, Gerald Wray

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Introduction to educational and technical employment opportunities. Includes an understanding of curriculum requirements that pertain to educational goals as they relate to technical majors. Assists students in setting goals and developing skills necessary for life-long success in obtaining, maintaining, and advancing in technical careers. Current events that impact technical industries and society will be discussed. History and employment opportunities in technical industries. Techniques and applications of sound shop/agency practices and hazardous waste management. Development of an educational plan and presentations by MJC counselors. Field trips may be required. Materials fee required. Lecture/Other. (A-F Only) MJC Guidance. Transfer: CSU

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<tbody>
<tr>
<td>AUTEC 241</td>
<td>DIESEL ENGINE PRINCIPLES</td>
<td>3</td>
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Recommended for Success: Before enrolling in this course, students are strongly advised to complete AGM/AUTEC 289. Also offered as AGM 241 The operation and repair of modern diesel engines. Principles and theories are studied by running, testing, diagnosing, disassembling and reassembling components, systems, and engines. Field trips required. Materials fee required. Lecture/Lab. (A-F Only) Transfer: CSU

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<tbody>
<tr>
<td>AUTEC 289</td>
<td>PRINCIPLES OF POWER MECHANICS/ SMALL ENGINES</td>
<td>3</td>
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Formerly listed as AGM/AUTEC 389  
Also offered as AGM 289  
Introduction to the operation, construction, maintenance, repair and adjustments of two and four-stroke engines. Designed for persons without prior experience in engine repair. Experienced technicians will also benefit. Lecture/Laboratory. Materials fee required. (A-F Only) Transfer: CSU

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<tr>
<td>AUTEC 311</td>
<td>BASIC AUTOMOTIVE SYSTEMS</td>
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Introduction to the construction and operating principles of automotive systems to include: engine, cooling, lubrication, fuel, exhaust, and electrical. Proper selection and use of automotive shop manuals, service publications, tools, measuring devices, etc. Materials Fee Required Field trips may be required. (A-F Only) Lecture/Lab.

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<tr>
<td>AUTEC 315</td>
<td>A1: ENGINE REPAIR</td>
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Formerly listed as Engine Rebuilding  
Prerequisite: Satisfactory completion of AUTEC 311  
Use of automotive machine shop equipment. Engine disassembly, cleaning, inspection, measuring, and reassembly procedures. Lecture/Laboratory. Materials fee required. Lecture/Laboratory (A-F Only)

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<tr>
<td>AUTEC 317</td>
<td>A7: AUTO HEATING AND AIR CONDITIONING</td>
<td>3</td>
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Corequisite: Satisfactory completion of AUTEC 311  
Principles of automotive air conditioning and the components used in air conditioning. Factory-installed air conditioning units and add-on type units. Charging, leak detection, component replacement and repair procedures. Lecture/Laboratory. Materials fee required. (A-F Only)

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<tr>
<td>AUTEC 319</td>
<td>A8: ENGINE PERFORMANCE</td>
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Prerequisite: Satisfactory completion of AUTEC 368  
Corequisite: Satisfactory completion of, or concurrent enrollment in AUTEC 369  
Prepares students for Automotive Service Excellence A8 Examination. Comprehensive study of diagnosis and repair applications including general engines, ignition systems, fuel, air induction and exhaust systems, emission control systems, computerized engine controls, and engine electrical systems. Lecture/Laboratory. Materials fee required. (A-F Only).
BIO (Biology)

Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divdeps/sme/
Instructors: Catherine Greene, Derek Madden, Elizabeth McInnes, Joe Zermeno, Teri Curtis

All courses are offered for letter grade only unless otherwise stated. Biology majors must take major courses on a letter grade basis. All majors must complete a program of courses approved by the division. Suggested curricula for specific biological sciences majors and related fields may be obtained from the advisors. Classes may sometimes convene at off-campus sites within the YCCD.

BIO 50 — BASIC BIOLOGY

Introduction to the study of living organisms. Intended as a practical foundation for students interested in a basic knowledge of biological principles, terminology and the scientific process. May serve as a bridge to transfer level biology courses and is not open to students who have completed a transfer-level biology course. Field trips may be required. (A-F or P/NP) Lecture. General Education: (MJC-GE:A)

BIO 101 — BIOLOGICAL PRINCIPLES

Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
Corequisite: satisfactory completion of Concurrent enrollment in or satisfactory completion of CHEM 101.

BIO 111 — GENERAL BIOLOGY

Introduction to principles of life, including reproduction, heredity, development, evolution, historical development of biology, molecular biology, and ecology. Not open to students who have completed BIO 101. Not a substitute for BIO 101. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) (CC BIOL 17) General Education: (MJC-GE:A) (CSU-GE: B2, B3) (IGETC: SB)

BIO 114 — GENERAL ECOLOGY

Formerly listed as BIO 114 - Introduction to Ecology Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.
Introduction to the biological sciences and the general concepts and principles of ecology. Topics include organization and energetics of nature, natural interactions and biological diversity. Includes global and local ecosystems, scientific methods of ecological research, nutrient cycles and conditions of existence, and ecological assessment. Field trips may be required. (A-F or P/NP) Lecture/ Lab. Transfer: (CSU, UC) General Education: (MJC-GE:A) (CSU-GE: B2, B3)

BIO 115 — GENETICS, EVOLUTION, AND SOCIETY


BIO 116 — BIOLOGY: A HUMAN PERSPECTIVE

Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50 and satisfactorily complete MATH 70.
An introduction to the principles of biology with an emphasis on humans. Topics covered include scientific method, cell structure and function, biochemistry, metabolism, heredity, biotechnology, evolution, anatomy and physiology of the human body, development of aging, disease, and ecology. BIO 116 is recommended for allied health students. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) General Education: (MJC-GE:A) (CSU-GE: B2, B3)
BIO 130 — INTRODUCTION TO MARINE VERTEBRATES 3 UNITS
Recommended for Success: Satisfactory completion of a college-level biology course.
Groups of vertebrates adapted to marine environment, structural, physiological, and behavioral modifications making adaptation possible; species within those groups common to Pacific coastline. Field trips may be required. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE:B2)

BIO 130L — INTRODUCTION TO MARINE VERTEBRATES LABORATORY
Prerequisite: Satisfactory completion of BIO 130 or concurrent enrollment.
In-depth study of selected topics from BIO 130 through the use of specimens, slides, laboratory exercises and field trips. Laboratory: Field trips required. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE:B3)

BIO 140 — INTRODUCTION TO MARINE BIOLOGY 4 UNITS
Introduction to the natural history of plants and animals of the temperate and tropical marine environment including rocky shores, mud flat, sandy beach, salt marsh, coral reef, mangal forest, open ocean, deep ocean, bay/estuary and Sacramento-San Joaquin Delta communities. Arctic and Antarctic marine ecosystems will also be introduced. Field trips may be required. Lecture/Laboratory. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE:B2, B3)(IGETC: 5B)

BIO 145 — INTRODUCTION TO FRESHWATER BIOLOGY 4 UNITS
Introduction to the natural history of common organisms of the freshwater environment along with basic ecological principles, which includes: energy flow, nutrient cycling, population dynamics, and community structure. (A-F or P/NP) Field trips required. Lecture/Laboratory. Materials fee required. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE:B2, B3)(IGETC: 5B)

BIO 151X, A, B — BIOLOGY FIELD STUDIES 1½, 1, 2, 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete (BIO 111, BIO 101, ZOOL 101, BOT 101 or other college-level biology course.) Field trips to representative and unique ecosystems. Emphasis on life histories, adaptations and biological interactions of organisms within the ecosystem studied. Field experiences will include sampling methods, preparation of field notes and identification of species characteristic of the ecosystem. Field trips are required. Lecture/Laboratory. Four completions allowed in any combination not to exceed 6 units. Materials fee required. Not offered every semester. Transfer: CSU

BIO 180X, A, B — SPECIAL PROJECTS IN BIOLOGY ½, 1, 2 UNITS
Prerequisite: Concurrent enrollment in a college-level biology course.
Individual study, research, or project in the field of biology. Field trips may be required. Four completions allowed not to exceed 2 units in any combination of this course format. Lecture/Laboratory arranged. Materials fee may be required. (A-F or P/NP) Transfer: CSU

BOT (Botany)

BOT 101 — GENERAL BOTANY 4 UNITS
Prerequisite: Satisfactory completion of BIO 101.

BOT 110 — PLANT BIOLOGY 3 UNITS
Introduction to plants, including structure and function, heredity, development, reproduction, ecology and evolution as they pertain to plants. Not open to students who have completed Biology 101. Not a substitute for Botany 101. Lecture/Laboratory. Field trips may be required. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B2, B3)(IGETC: 5B)

BUSAD (Business Administration)

BUSAD 100 — STUDIES IN BUSINESS SUCCESS 1½ UNITS
Recommended for Success: Satisfactory completion of GUIDE 110
Discussion of academic and other requisites for success in various business fields. Students will create a personal development plan for meeting academic requirements, acquisition of necessary skills, and entry into the job market of their elected field. Lecture. Transfer: CSU

BUSAD 200 — SPREADSHEET SKILLS FOR FINANCIAL ACCOUNTING 2 UNITS
Prerequisite: Concurrent or previous enrollment in BUSAD 201 or 320.
Introduction to spreadsheet software. Spreadsheet analysis, design, testing and documentation as they relate to the field of accounting will be covered; hands-on experience using a microcomputer. Microsoft Excel or a similar spreadsheet application will be used. Lecture/Laboratory. Transfer: CSU

BUSAD 201 — FINANCIAL ACCOUNTING 4 UNITS
Recommended for Success: Satisfactory completion of BUSAD 310 and ENGL 101 placement eligibility.
Explores what financial accounting is, why it is important, and how it is used by investors and creditors to make decisions; focusing on a preparer approach. Covers the accounting information system and the recording and reporting of business transactions with a focus on the accounting cycle, the application of generally accepted accounting principles, the classified financial statements, and statement analysis. Includes issues relating to asset, liability, and equity valuation, revenue and expense recognition, cash flow, internal controls and ethics. Lecture. Transfer: (CSU, UC)(TCSU BUS 110) (CC BUSAD 2A)
<table>
<thead>
<tr>
<th>COURSES OFFERED</th>
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<tbody>
<tr>
<td><strong>BUSAD 202—MANAGERIAL ACCOUNTING</strong> 4 UNITS</td>
</tr>
<tr>
<td>Prerequisite: Satisfactory completion of BUSAD 201. Examination of how managers use accounting information in decision-making, planning, directing operations, and controlling. Focus on cost terms and concepts, cost behavior, cost structure, and cost-volume-profit analysis. Examination of profit planning, standard costs, operations and capital budgeting, cost control, and accounting for costs in manufacturing organizations. (A-F or P/NP) Course is not repeatable. Field trips are not required. Lecture. <strong>Transfer:</strong> (CSU, UC)(TCSU BUS 120) (CC BUSAD 28)</td>
</tr>
<tr>
<td><strong>BUSAD 203—COMPUTER ACCOUNTING</strong> 3 UNITS</td>
</tr>
<tr>
<td>Prerequisite: Satisfactory completion of BUSAD 201 or 310. Recommended for Success: BUSAD 320 if BUSAD 310 is used to satisfy the prerequisite. Introduction to the use of the computer in accounting/bookkeeping. Practical applications of accounting through hands-on experiences on the personal computer using a variety of current computer accounting software packages. Lecture/Laboratory. <strong>Transfer:</strong> CSU</td>
</tr>
<tr>
<td><strong>BUSAD 204—COST ACCOUNTING</strong> 3 UNITS</td>
</tr>
<tr>
<td>Prerequisite: Satisfactory completion of BUSAD 201 and 202. Introduction to cost accounting theory and practice. Control of material, labor and burden costs; methods of applying expenses; job order and process cost system; cost statements. Lecture. <strong>Transfer:</strong> CSU</td>
</tr>
<tr>
<td><strong>BUSAD 208—INTRODUCTION TO INTERNATIONAL BUSINESS</strong> 3 UNITS</td>
</tr>
<tr>
<td>Recommended for Success: Satisfactory completion of BUSAD 248 Also offered as AGEC 208 A comprehensive overview of international business. Offers a global perspective of international trade, international organizations and the political and cultural impact of world trade. Lecture. Field trips may be required. <strong>Transfer:</strong> CSU</td>
</tr>
<tr>
<td><strong>BUSAD 209—IMPORT/EXPORT FUNDAMENTALS</strong> 3 UNITS</td>
</tr>
<tr>
<td>Recommended for Success: Satisfactory completion of BUSAD 208 Also offered as AGEC 209 Overview of processes and procedures involved in importing and exporting products and services. Special emphasis on finance and financial documentation. Lecture. Field trips may be required. <strong>Transfer:</strong> CSU</td>
</tr>
<tr>
<td><strong>BUSAD 210—BUSINESS COMMUNICATION</strong> 3 UNITS</td>
</tr>
<tr>
<td>Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101. Principles and applications of written and oral business communications, including routine memo and letter writing, persuasive writing, oral communication, and informative report writing. (A-F or P/NP) Lecture. <strong>Transfer:</strong> CSU General Education: (MJC-GE: D2)</td>
</tr>
<tr>
<td><strong>BUSAD 218—BUSINESS LAW</strong> 4 UNITS</td>
</tr>
<tr>
<td>Laws and regulations affecting managerial decisions; legal concepts and case analysis in the areas of ethics, employment, consumer transactions, competition, the environment, business torts and crimes, contracts, agency, business organizations, and international business. Field trips are not required. (A-F or P/NP) Lecture. <strong>Transfer:</strong> (CSU, UC) (CC BUSAD 18)</td>
</tr>
<tr>
<td><strong>BUSAD 230—PERSONAL FINANCE</strong> 3 UNITS</td>
</tr>
<tr>
<td>Principles and practices of business from the consumer's point of view, factors involved in intelligent management of income and expenditure and ethical maximization of personal financial gain. Income and wealth distribution; occupational earnings; wise buying; consumer rights and legislation and protective agencies; credit and borrowing; financial services; automobiles; property; liability, health, life, and disability insurance; retirement, social security, pensions, annuities; housing; savings and investment; taxes; estate planning. Lecture. <strong>Transfer:</strong> CSU</td>
</tr>
<tr>
<td><strong>BUSAD 233—INVESTMENTS</strong> 3 UNITS</td>
</tr>
<tr>
<td>Recommended for Success: Satisfactory completion of BUSAD 230, and at least one semester of accounting. Thorough study of corporate stocks and bonds, with time deposits, government securities, mutual funds, real estate, commodity futures, options and less common investment media receiving brief consideration. Emphasis on careful, critical investigation of risk and reward—rigorous mathematical analysis expected. Field trips may be required. Lecture. <strong>Transfer:</strong> CSU</td>
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<tr>
<td><strong>BUSAD 240—PRINCIPLES OF MANAGEMENT</strong> 3 UNITS</td>
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<tr>
<td>(Not open to those who have completed management telecourse.) An introductory study of the basic business management functions: planning, organizing, leading, and controlling. Lecture. <strong>Transfer:</strong> CSU (CC BUSAD 401) General Education: (MJC-GE: B)</td>
</tr>
<tr>
<td><strong>BUSAD 245—PRINCIPLES OF MARKETING</strong> 3 UNITS</td>
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<tr>
<td>Understanding customer needs and behavior; developing a product and/or service mix to satisfy customer needs profitably; determining promotional strategy; selecting channels and methods of distribution, establishing appropriate prices. Legal, political, cultural, social, economic, competitive and ethical aspects of marketing. Field trips may be required. Lecture. <strong>Transfer:</strong> CSU (CC BUSAD 30)</td>
</tr>
<tr>
<td><strong>BUSAD 248—INTRODUCTION TO BUSINESS</strong> 3 UNITS</td>
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<tr>
<td>Survey of business principles, problems and operations; legal, ethical, moral, and social issues; ownership, human resources, management, production, marketing, finance; managerial controls; government regulation; risk management. Lecture. <strong>Transfer:</strong> (CSU, UC)(CC BUSAD 20)</td>
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<tr>
<td><strong>BUSAD 249—BUSINESS INTERNSHIP</strong> 4 UNITS</td>
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<tr>
<td>An internship program with selected business firms dealing with either accounting, computer science, marketing, business law, office administration, bookkeeping, or retail management practices in public or private agencies. Student interns will be under joint supervision of the employers and a faculty member. Intended to provide practical applications for students who have developed theoretical knowledge and effective interpersonal skills by completing their discipline's introductory level course(s). See appropriate instructor for required enrollment forms. Lecture. <strong>Transfer:</strong> CSU</td>
</tr>
<tr>
<td><strong>BUSAD 274—HUMAN RESOURCES MANAGEMENT</strong> 3 UNITS</td>
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<tr>
<td>Principles and methods related to effective utilization of human resources in organizations. Understanding human relations involved in recruitment, selection, and placement of employees with regard to training, experience, and abilities. Discussion, illustrations, and case studies to develop techniques effective in dealing with personnel problems. Lecture. <strong>Transfer:</strong> CSU</td>
</tr>
<tr>
<td><strong>BUSAD 299A,B—MARKETING PROJECTS</strong> 1, 2 UNITS</td>
</tr>
<tr>
<td>Formerly listed as BUSAD 295A-B - Special Projects Independent analysis or design of computer accounting software or work in specialized BUSAD topics. Projects must have the approval of instructor. Conference with the instructor: minimum of 1 per month. Completions up to 4 maximum units. Laboratory. <strong>Transfer:</strong> CSU</td>
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<tr>
<td><strong>BUSAD 300—MACHINE CALCULATION</strong> 2 UNITS</td>
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<tr>
<td>Recommended for Success: Satisfactory completion of MATH 20 Instruction in the operation of the electronic calculator including addition, subtraction, multiplication, and division using constant factors and automatic accumulation as applied to business applications. Major emphasis on 10-key touch operation. Lecture/Laboratory.</td>
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<tr>
<td><strong>BUSAD 310—BOOKKEEPING 1</strong> 3 UNITS</td>
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<tr>
<td>Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete BUSAD 300 or satisfactorily complete MATH 50. Essential bookkeeping fundamentals for job entry in business. Basics of double entry bookkeeping; general and special journals, general and subsidiary ledgers, business forms, payroll records and governmental payroll forms. Recommended as a preparatory course for BUSAD 201, Accounting. Field trips are not required. (A-F or P/NP) Lecture.</td>
</tr>
<tr>
<td><strong>BUSAD 319—PAYROLL ACCOUNTING</strong> 3 UNITS</td>
</tr>
<tr>
<td>Prerequisites: Satisfactory completion of BUSAD 310 or 201. Recommended for Success: Satisfactory completion of BUSAD 320 if BUSAD 310 is used as a prerequisite. Completing the payroll register. Reporting payroll tax information to the federal and state government, with emphasis on completing both quarterly and annual reports. Making the necessary journal entries to record payroll transactions. Computing payroll on the microcomputer. Lecture/Laboratory.</td>
</tr>
<tr>
<td><strong>BUSAD 320—BOOKKEEPING 2</strong> 3 UNITS</td>
</tr>
<tr>
<td>Prerequisite: Satisfactory completion of BUSAD 310 Entries requiring analysis and interpretation; entries for promissory notes; adjustments for prepaid, unlearned and accrued items, depreciation of assets; property sales, closing of books; partnership and corporate accounting, cash flows and financial analysis. Lecture.</td>
</tr>
<tr>
<td><strong>BUSAD 331—BEGINNING COMPUTER ACCOUNTING SOFTWARE</strong> 1 UNIT</td>
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<tr>
<td>Recommended for Success: Before enrolling in this course, students are strongly advised to know the complete accounting cycle. A beginning course using features of computerized accounting software package(s). Will enable students to learn and apply the features of computerized accounting software to record, process and communicate financial accounting data for a service or product based company in the small business setting. Three maximum completions. Field trips are not required. (A-F or P/NP) Lecture.</td>
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</tbody>
</table>
BUSAD 332—INTERMEDIATE COMPUTER ACCOUNTING SOFTWARE  
1 UNIT
Prerequisites: Satisfactory completion of BUSAD 331
A continuation of the beginning course using features of computerized accounting software package(s). Course is designed to enable students to learn and apply the features of computerized accounting software to record, process and communicate financial accounting data for a merchandising company in the small business setting. Lecture. Two maximum completions.

BUSAD 333—COMPUTER ACCOUNTING SOFTWARE  
2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to know the complete accounting cycle.
Combination of BUSAD 331 and BUSAD 332. Beginning course in the use of computerized accounting software package(s). Students will learn and apply the features of computerized accounting software in order to record, process and communicate financial accounting data for a service company and merchandising corporation in the small business setting. Three maximum completions. Field trips are not required. (A-F or P/NP) Lecture.

BUSAD 336—TAX ACCOUNTING  
3 UNITS
Recommended for Success: Satisfactory completion of BUSAD 201 or 310
US Federal Income Tax to include preparation of Federal Tax Returns, supplemental Federal schedules for individuals and business forms, and computation of social security and other self-employment taxes. (A-F or P/NP) Field trips may be required. Lecture. (Fall)

BUSAD 350—SALES AND ADVERTISING PROMOTION  
3 UNITS
Fundamentals of personal selling and advertising. The sales process is defined and analyzed. The use of a variety of advertising techniques, methods, and media is explored. Stresses practical application. Lecture.

BUSAD 364—TOTAL QUALITY MANAGEMENT  
3 UNITS
Recommended for Success: Satisfactory completion of SUPR 351, BUSAD 240 or equivalent. Also offered as SUPR 364.
(Note to those who have completed management coursework.)
This course provides an introduction to W. Edward Deming’s philosophy of Total Quality Management and its implications for improving the competitiveness of American business in the international economy. A variety of related management topics is also presented. Lecture.

BUSAD 377—HUMAN RELATIONS IN BUSINESS  
3 UNITS
People and their roles in the business and non-profit community. The nature of work, the work environment, personal skills and performance, work groups, and solving human relations problems. Field trips are not required. (A-F or P/NP) Lecture.

BUSAD - CGR

CGR (Communication Graphics)
Dean(Interim): Pedro Mendez,
Office: John Muir 258W
Phone: (209) 575-6332
Division website: www.mjc.edu/prospective/programs/techdeg/communicationgraphics/
Instructors: Alan Layne

CGR 201—GRAPHIC ARTS FUNDAMENTALS  
3 UNITS
History of major printing processes; application of layout and design, hot and cold type composition, proofreading, paste-up, process photography, offset production procedures, paper, printing inks, bindery and photographic legal restrictions. Field trips may be required. Lecture. Material fee required. (Fall) MJC Activities. Transfer: CSU

CGR 211—INDESIGN AND TYPOGRAPHY 1  
3 UNITS
Basic fundamentals of typesetting and composition. Includes instruction in the printer’s point system, type face identification and mark-up procedures. Operation of display and typesetting equipment. Note: PageMaker software. Field trips may be required. Lecture/Laboratory. (Fall) MJC Activities. Transfer: CSU

CGR 212—ELECTRONIC PREPRESS  
3 UNITS
Recommended for Success: Concurrent enrollment in CGR 211.
Terminology, materials, equipment, facilities and methods used in electronic prepress. Electronic job planning and layout basics, such as: file formats, fonts, imposition, trapping, screen angling, preflight, postscript output, image setters, proofing and output to plates. Techniques of preparing electronic files for output to: postscript printers, image setters, and direct to plate. Procedures for preparing line art, black and white photos, color photos, clip art and software created illustration. Scaling graphics to layout specs and working with single multicolored layouts. Note: Illustrator software. Field trips may be required. Lecture/Laboratory. (Fall) MJC Activities. Transfer: CSU

CGR 214—BINDERY  
3 UNITS
Formerly listed as CGR 214 - Printing Presses and Bindery 1
Introduction to bindery work: planning, paper cutting, folding, assembling, finish work and packaging. Die cutting materials, Scoring, Numbering, Foil stamping, and embossing. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CGR 221—IMAGE CAPTURE AND MANIPULATION  
3 UNITS
Image Capture and Manipulation of images for the Communication Graphics field utilizing Digital Cameras, Scanners, and Printing output devices. Manipulation of images to meet client needs using Adobe Photoshop. The digital novice will learn key technical skills involving hardware/software of digital cameras, scanners, printers and image storage. Students will become familiar with digital solutions while attaining working knowledge in image-editing Adobe Photoshop software, printing technologies and digital imaging devices. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: CSU

CGR 222—IMAGE ASSEMBLY AND PLATEMAKING  
1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete CFRDM 351 with a minimum grade of C or better satisfactorily complete CGR 214 with a minimum grade of C or better and.
Planning for lithograph plating; handling and repair of lithograph negatives; special negative operations—scribing, opaquing, retouching, flat layout and imposition; single and multiple negative masking. Imposition and step and repeat at the RIP. Addition of marks and color bars in the RIP software. Trapping in the RIP software. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CGR 223—LITHOGRAPHIC & FLEXOGRAPHIC PRESSES  
3 UNITS
Formerly listed as CGR 223 - Printing Presses and Bindery 2
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete CGR 214 with a minimum grade of C or better.
Beginning skills in the operation of Lithographic Offset Presses an Flexographic Web Press. Students will be required to print multi colored work and produce 2,000 or more copies in a final 3 hour lab. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CGR 224—ILLUSTRATOR AND ELECTRONIC PUBLISHING  
3 UNITS
Formerly listed as CGR 224 - Electronic Publishing Systems
Illustrator training and Introduction to electronic publishing systems, to include text generation, computer-designed graphics. Typographical applications and output devices, to include imagemounters wide format, and direct to plate devices. Current options for hardware and software used in the graphic communication industry and the advantages and disadvantages. Postscript and its role in electronic publishing. Three maximum completions. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: CSU

CGR 225—PRODUCTION SCREEN PRINTING  
2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have some experience with Illustrator, InDesign, or Photoshop to complete lab projects. Fundamentals of production screen printing on multimedia or substrates. Screen printing with single and multicolor with halftone registration. Materials fee required. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CGR 230—GRAPHIC DESIGN  
3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ART 120 and CGR 211 and CGR 224.
Introduces students to graphic design as a form of visual communication through the use of type, image, form, and color. Projects explore design processes in two dimensions; visual identity and communication, creative problem solving, and basic design practices. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: CSU
CGR 232—GRAPHIC DESIGN PORTFOLIO DEVELOPMENT 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to complete a minimum of 15 units in the CGR major.

Students develop their knowledge and skill for organizing a comprehensive professional portfolio that prepares their work to pursue career opportunities in the graphic design and printing industry. Portfolios include collections of individual and group projects, resume, a professional cover letter, and samples of completed job applications. Students prepare and present their portfolio as a final project. (A-F or P/NP) Lecture. Transfer: CSU

CGR 331—INDESIGN AND TYPOGRAPHY 2 3 UNITS
Formerly listed as CGR 331 - Typography 2
Prerequisite: Satisfactory completion of CGR 211 with a minimum grade of C or better.
InDesign and Typography 2 covers advanced skills in the page layout software InDesign and advanced skills of typography. History of type, and the use of InDesign to perform advanced typography skills to produce outstanding, flyers, brochures, posters, etc. Field trips may be required. (A-F or P/NP) Lecture/Lab.

CGR 332—ADVANCED PRESSES 3 UNITS
Formerly listed as CGR 332 - Production Presses and Bindery
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete CGR 214 with a minimum grade of C or better.
Advanced skills in the operation of Lithographic press and Flexographic press. Printing four colors in tight registration using a Lithographic press and a Flexographic press. Producing printed pieces for the college and meeting industry standards on those printing projects. Field trips may be required. (A-F or P/NP) Lecture/Lab.

CGR 333—PHOTO TECHNIQUES 3 UNITS
Recommended for Success: Satisfactory completion of CGR 211 and 221.
Photo manipulation procedures: Photoshop training, image capture using scanners and digital cameras, output devices (proofing and image setters), special films, proofing methods and materials, and utilizing industry equipment and software. Note: Primary software (Photoshop). Lecture/Laboratory. (A-F Only) Fall

MJC Activities.

CGR 342—DESIGNING FOR CLIENTS 2 UNITS
Prerequisite: Satisfactory completion of CGR 222
Recommended for success: Satisfactory completion of CGR 211, 224, 230, 221, and 331
Techniques required to design and prepare copy for several types of printing media. Emphasis on digital skills and procedures required for the production of artwork. Design and preparation of printing for a client. Field trips may be required. Lecture/Laboratory. (A-F Only) Spring

CGR 350—GRAPHIC COMMUNICATION INTERNSHIP 2 UNITS
Prerequisite: Minimum of 15 units completed in Communication Graphics major.
Supervised field experience in graphic communications. Study and research related to job training. Current developments in graphic communications. Initial orientation, two student/instructor conferences and one local work-site visit. 150 hours paid or 120 hours non-paid work per semester equals 2 units. Three maximum completions.

CGR 395—COMMUNICATION GRAPHICS OPEN LAB 1-3 UNITS
Prerequisite: Satisfactory completion of CGR 211 and/or CGR 221 and/or CGR 224 and/or CGR 214 and/or CGR 223.
Provides access to Communication Graphics laboratory setting for advanced students for the purpose of continued skills development applicable to production processes in Design and Printing. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab.

CHEM (Chemistry)
Dean: Brian Sanderson
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divdeps/sme/
Instructors: Joseph Caddell, Laura Maki, Mary Roslanier, Suzanne Hulsey

CHEM 101—GENERAL CHEMISTRY 1 5 UNITS
Prerequisite: Successful completion of MATH 90 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to complete CHEM 142 with a grade of C or better or complete High School Chemistry with a grade of B or better.
Principles of chemistry emphasizing measurements and significant figures, chemical reactions, stoichiometry, gas laws and theory, thermodynamics, atomic structure and quantum mechanics, periodic properties, chemical bonding, molecular structure, intermolecular attractions and properties of liquids and solids, and properties of solutions. Field trips are not required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) (TCSU CHEM 110) (IGETC 5A)

CHEM 102—GENERAL CHEMISTRY 2 5 UNITS
Prerequisite: Successful completion of CHEM 101.
Continuation of Chemistry 101 emphasizing kinetics, solutions, equilibrium, acids and bases, electrochemistry, thermodynamics, nuclear chemistry, coordination chemistry and descriptive chemistry. Field trips are not required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) (TCSU CHEM 120) (IGETC 5A)

CHEM 112—ORGANIC CHEMISTRY 1 5 UNITS
Prerequisite: Successful completion of CHEM 102.
Nomenclature, structure, reactions and spectroscopy of carbon containing compounds. Laboratory emphasizes basic techniques of synthesis, purification, and identification of organic compounds. Field trips are not required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) (IGETC 5A)

CHEM 113—ORGANIC CHEMISTRY 2 5 UNITS
Prerequisite: Successful completion of CHEM 112.
CHEM 113 is the second semester in a yearlong sequence of an organic chemistry course for science majors. Topics to be covered include nomenclature, physical properties and reactions of aromatic compounds, aldehydes, ketones, carboxylic acids, carboxylic acid derivatives, amines and bio-organic compounds. Mechanisms to be addressed are electrophilic and nucleophilic aromatic substitution and nucleophilic acyl substitution and addition. Oxidation and reduction processes will be investigated more thoroughly. Course concludes with an introduction to biomolecules. Concepts from CHEM 112 will be reinforced. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) General Education: (MJC-GE:A) (CSU-GE:B1,B3) (IGETC:5A)

CHEM 142—PRE-GENERAL CHEMISTRY 3 UNITS
Corequisite: or satisfactory completion of Concurrent enrollment in or satisfactory completion of MATH 90 or qualification by the MJC assessment process.
Intended to prepare students for General Chemistry with an emphasis on problem solving using unit analysis. Included are topics on classification of matter, nomenclature, gas laws, chemical formula, molar mass, empirical formula, chemical reactions, atomic and molecular structure, measurements and the metric system, chemical reactions and stoichiometry, aqueous solutions and fundamentals of acids and bases. Field trips are not required. (A-F or P/NP) Lecture/Discussion. Transfer: (CSU, UC) General Education: (MJC-GE:A) (CSU-GE:B1,B3) (IGETC:5A)

CHEM 143—INTRODUCTORY COLLEGE CHEMISTRY 5 UNITS
Prerequisite: Successful completion of MATH 70 or qualification by the MJC assessment process.
Designed to meet the requirements for certain nursing, dental hygiene, physical therapy, agriculture and forestry programs. Principles of general, inorganic, and physical chemistry with an introduction to organic chemistry. Uses the factor-label method of problem solving. Credit not granted to students who have completed CHEM 142. Field trips are not required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) (TCSU CHEM 130) (TCSU CHEM 210) (CC CHEM 10) (IGETC 5A) General Education: (MJC-GE:A) (CSU-GE:B1,B3) (IGETC:5A)

COURSES OFFERED
CHEM 144 — FUNDAMENTALS OF ORGANIC & BIOCHEMISTRY 4 UNITS
Prerequisite: Satisfactory completion of CHEM 143.

CHEM 150 — EXPLORING OUR CHEMICAL ENVIRONMENT 3 UNITS
Chemical perspective of environmental topics including acid rain and global warming. Basic chemical principles are developed in order to understand such items as conventional, nuclear, and alternative energy sources, air and water pollution, fertilizers, pesticides, food preservatives, genetic engineering, and medicines and drugs. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(CC CHEM 20) General Education: (MJC-GE: A)(CSU-GE: B1) (IGETC: SA)

CHEM 164 — INTRODUCTION CHEMISTRY LABORATORY 2 UNITS
Corequisite: or satisfactory completion of Concurrent enrollment in or satisfactory completion of CHEM 150.
Introductions concepts and techniques used in a chemistry laboratory. Recommended for liberal studies and other non-science majors. Topics include: scientific method, measurements, physical and chemical changes, data analysis, molecular compounds, chemical reactions and energy. No credit will be given for students who have completed CHEM 143 or CHEM 101 Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) General Education: (MJC-GE:A)(CSU-GE: B3)(IGETC: SA)

CLART (Culinary Arts)
Dean: Maurice McKinnon, EdD
Division Office: John Muir Hall, Room 157
Phone: (209) 575-6343
Division website: www.mjc.edu/prospective/programs/fcs/index.html
Instructors: Bob Gaitt

CLART 211 — FOOD SAFETY AND SANITATION 2 UNITS
Formerly listed as CLART 311
Law and practices related to sanitation and safety in the food preparation industry. Four completions allowed. Materials fee required. (A-F or P/NP) Lecture. Transfer: CC HPMGT 120

CLART 301 — CULINARY ACADEMY 1 14 UNITS
An introductory course designed to familiarize the student with basic culinary skills development. The daily production will emphasize techniques of roasting, grilling and braising utilizing menus that reflect American regional cuisine. Introduction to stocks, soups, mother sauces, sauces, derivatives, thickening agents, and flavoring agents. Identification and function, purchasing and receiving, and proper storage procedures of ingredients and products will be discussed. The baking module provides students with the opportunity to prepare breads, rolls, biscuits, muffins, pies, tarts and cookies. Field trips may be required. (A-F or P/NP) Fee for food supplies. Not offered every semester. (Fall) Lecture/Lab

CLART 302 — CULINARY ACADEMY 2 14 UNITS
Prerequisite: Satisfactory completion of CLART 301
Daily production will emphasize techniques of specialty deserts, pastries, pate a manger, and advanced cooking techniques that reflect modern American and international cuisine. Areas of specialized studies include management and supervision, cost control, computers, menu planning and facility planning. Field trips may be required. (A-F or P/NP) Fee for food supplies. Not offered every semester. (Spring) Lecture/Lab

CLART (Child Development)
Dean: Maurice McKinnon, EdD
Division Office: John Muir Hall, Room 157
Phone: (209) 575-6343
Division website: www.mjc.edu/prospective/programs/fcs/index.html
Instructors: Cheryl Williams-Jackson, Deborah Laflauchini, Laurie Prusso, Pam Guerra-Schmidt

CLART 48A,B — FUNDAMENTAL COMMUNICATION SKILLS FOR CHILD DEVELOPMENT MAJORS 1-2 UNITS
Formerly listed as CLART 50A, B
Recommended for success: Enrollment in at least one of the Child Development courses
Emphasis on developing fundamental communication skills including reading comprehension, preparation of written assignments, and spoken communication specific to the terminology utilized in the field of child development. Credit in this course may not be used to satisfy Child Development requirements for graduation from Modesto Junior College. Class can be completed a maximum of four times, for a maximum of 8.0 units, combined between 48A and 48B. Lecture

CLART 101 — PRINCIPLES AND PRACTICES OF TEACHING YOUNG CHILDREN 3 UNITS
Formerly listed as CLART 101 - Introduction to Early Childhood Education
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50
Examination of the underlying theoretical principles of developmentally appropriate practices applied to educational programs, environments, emphasizing the key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, social, emotional, creative, and intellectual development for children 0-8. Review of the historical roots of early educational programs and the evaluation of the professional practices promoting advocacy, ethics, and professional identity. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU (CC CHILDS 3)

CLART 103 — CHILD GROWTH AND DEVELOPMENT 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50
Examines the major physical, psychosocial, and cognitive/language developmental milestones for children, both typical and atypical, from conception through adolescence. Emphasis on interactions between maturational processes and environmental factors. While studying developmental theory and investigative research methodologies, students will observe children, evaluate individual differences and analyze characteristics of development at various stages. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU (CC CHILDS 3)

CLART 104 — CHILD GROWTH AND DEVELOPMENT - CONCEPTION THROUGH EARLY CHILDHOOD 2 UNITS
Formerly listed as CLART 104 - Child Growth and Development-Conception
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50
First half of CLART 103 - Examines the major physical, psychosocial, and cognitive/language developmental milestones for children, both typical and atypical, from conception through early childhood. Emphasis on interactions between maturational processes and environmental factors. While studying developmental theory and investigative research methodologies, students will observe children, evaluate individual differences and analyze characteristics of development at various stages. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU (CC CHILDS 3)
CLDDV 105 — CHILD GROWTH AND DEVELOPMENT - LATE CHILDHOOD THROUGH ADOLESCENCE  
Formerly listed as CLDDV 105 - Child Growth and Development-Late Childhood  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.  
Second half of CLDDV 103 - Late childhood through late adolescence. Examines the major physical, psychosocial, and cognitive/behavioral milestones for children, both typical and atypical, from late childhood through late adolescence. Emphasis on interactions between maturation processes and environmental factors. While studying developmental theory and investigatory research methodologies, students will observe children, evaluate individual differences and analyze characteristics of development at various stages. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B, E)(CSU-GE: E)

CLDDV 107 — INTRODUCTION TO CURRICULUM  
Formerly listed as CLDDV 107 - Introduction to Child Development Curriculum  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.  
Overview of knowledge and skills related to providing appropriate curriculum and environments for young children from birth to age eight. Examine a teacher's role in supporting development and fostering the joy of learning for all young children using observation and assessment strategies emphasizing the essential role of play. Overview of content areas will include, but not be limited to: principles of learning, models of curricular philosophies and programs, and integration of domains of development emphasizing language and literacy, social and emotional learning, sensory learning, art and creativity, math, and science, supporting inclusion of children with special needs. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU

CLDDV 109 — CHILD - FAMILY - COMMUNITY  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.  
Examination of the developing child in a societal context focusing on the interrelationship of family, early care and education, elementary education, peer group, community, and media, emphasizing historical and socio-cultural factors including culture, religion, economics, and politics. Processes of socialization and identity development will be highlighted, showing the importance of respectful, reciprocal relationships that support and empower children and their families. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU(CC CHILD 22)

CLDDV 111 — HEALTH, SAFETY, AND NUTRITION  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.  
Introduction to the laws, regulations, standards, policies and procedures and early childhood curriculum related to child health, safety, and nutrition. Key components that ensure physical health, mental health, and safety for both children and staff will be identified along with the importance of collaboration with families and health professionals. Focus on integrating the concepts into everyday planning, and program development for all children. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU General Education: (MJC-GE: E)

CLDDV 121 — GUIDANCE OF YOUNG CHILDREN  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50 and satisfactorily complete CLDDV 101 and satisfactorily complete CLDDV 103 or CLDDV 104 and CLDDV 105.  
Introduction to positive guidance and discipline approaches in educational and family settings. Exploration of the underlying causes of misbehavior. Appropriate and effective techniques that support socio-emotional, cognitive, psychological, and physical health and development. Understanding of individual parent, teacher, and caregiving styles and attitudes relative to behavior of children. Three maximum completions. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU

CLDDV 122 — LEARNING ENVIRONMENTS FOR INFANTS AND TODDLERS  
Recommended for Success: Before enrolling in this course students are strongly advised to satisfactorily complete CLDDV 101 or CLDDV 103 or CLDDV 104 and CLDDV 105.  
Development and evaluation of the physical and social learning environments for infants and toddlers including goals, curriculum, materials, state regulations, equipment, and interaction of children, staff, and families. (A-F or P/NP) Lecture. Transfer: CSU

CLDDV 123 — LEARNING ENVIRONMENTS FOR YOUNG CHILDREN  
Formerly listed as CLDDV 247  
Recommended for success: Satisfactory completion of CLDDV 101, or CLDDV 103, or CLDDV 104 and CLDDV 105  
Development and evaluation of the learning environment for young children including physical environment, curriculum, goals, materials, and equipment and including children with disabilities in a multicultural context. Exploration of the interaction of children, teachers, and families, and how those interactions affect programs and children's development. Lecture (A-F and CR/NC) Transfer: CSU

CLDDV 125 — INFANT AND TODDLER DEVELOPMENT AND CARE  
Prerequisite: Satisfactory completion of CLDDV 103 or CLDDV 104 and CLDDV 105.  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.  
Infant and toddler development milestones and practices for stimulation and learning. Exploration and assessment of the infant and toddler curriculum and environment, family involvement, educational theory, and recent brain research concerning the first three years of life. Health, safety, nutrition, aspects of group care, and the review of Department of Social Services Regulation compliance in infant and toddler programs. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU (CC CHILD 25)

CLDDV 126C,D,E — INCLUSION SPECIAL NEEDS PRACTICUM  
Prerequisite: Satisfactory completion of CLDDV 103.  
Corequisite: Concurrent enrollment in or satisfactory completion of CLDDV 121.  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.  
Limitations on Enrollment: TB clearance is required. Title 22.  
Child centered, play-oriented approaches to student teaching experience under guided supervision with toddlers and/or preschool-aged children with an identified disability. Build a comprehensive understanding of children and families through individualized, relationship-based (DIR Floortime) caregiving including the development of relationships with families. Build connections between theory and practice, develop professional behaviors, practice positive and nurturing guidance techniques, and utilize facilitation-based teaching through authentic observation, documentation, screening, and assessment while designing, facilitating, and evaluating curriculum that support an inclusive and culturally diverse environment. Will support IFSP/IEP goals and may include participation in an educational meeting. CLDDV 130 — Supervised Field Experience -- may NOT be used as a substitute for lab practicum. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CLDDV 127B,C,D,E — INFANT/TODDLER PRACTICUM  
Concurrent enrollment in or satisfactory prior completion of CLDDV 125.  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.  
Enrollment limited to those who can present evidence of TB clearance.  
Child-centered, play-oriented approaches to student teaching experience under guided supervision with infants and toddlers who may have a disability. Build a comprehensive understanding of children and families through individualized, relationship-based caregiving including the development of relationships with families. Build connections between theory and practice, develop professional behaviors, practice positive and nurturing guidance techniques, and utilize facilitation-based teaching through authentic observation, documentation, screening, and assessment while designing, facilitating, and evaluating curriculum that support an inclusive and culturally diverse environment. Will support IFSP goals and may include participation in an educational meeting. CLDDV 130 — Supervised Field Experience -- may NOT be used as a substitute for lab practicum. Course is repeatable up to a maximum of 5 units earned. Field trips may be required. (A-F or P/NP) Lecture/Laboratory. Transfer: CSU (CC CHILD 16)
CLDDV 128B, C, D — PRE-SCHOOL PRACTICUM 2 - 5 UNITS
Prerequisite: Satisfactory completion of CLDDV 101 or CLDDV 103 or CLDDV 104 and CLDDV 105. Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50 and satisfactorily complete or be concurrently enrolled in CLDDV 121.
Limitations on Enrollment: TB clearance is required.
Child centered, play-oriented approaches to student teaching experience under guided supervision with preschool-aged children who may have a disability. Build a comprehensive understanding of families and children through individually based, relationship-based caregiving including the development of relationships with families. Build connections between theory and practice, develop professional behaviors, practice positive and nurturing guidance techniques, and utilize facilitation-based teaching through authentic observation, documentation, screening, and assessment while designing, facilitating, and evaluating curriculum that support an inclusive and culturally diverse environment. Will support IEP goals and may include participation in an educational meeting. CLDDV 130 — Supervised Field Experience — may NOT be used as a substitute for lab practicum. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture / Lab Transfer: CSU (CC CHILD 16)

CLDDV 130B, C, D — SUPERVISED FIELD EXPERIENCE 2 - 4 UNITS
Formerly listed as CLDDV 260
Limitations on Enrollment: Fingerprint and TB clearances are required. 
Designed to combine experience in an infant, toddler, preschool, school-age care facility, or K-12 classroom with an expansion of skills or knowledge acquired at a site of employment on a paid or volunteer basis. Provides an orientation to the structure of work experience education and develops specific knowledge and skills related to employment situations through the accomplishment of goals. 75 paid hours or 60 volunteer hours of related work experience are required for the 2-unit class; 150 paid hours or 120 volunteer hours of related work experience are required for the 3-unit class; 225 paid hours or 180 volunteer hours of related work experience required for the 4-unit class. This course may NOT be used as a substitute for lab practicum. Class can be completed a maximum of four times for a maximum of 16.0 units, Lecture / Field Experience. Transfer: CSU

CLDDV 150 — ADMINISTRATION OF CHILDREN'S PROGRAMS 3 UNITS
Formerly listed as CLDDV 250
Prerequisite: Satisfactory completion of CLDDV 103, or CLDDV 104 and CLDDV 105
Laws governing private and public programs serving young children in California. Aspects of records, reports, health and safety, finances, staff management, curriculum development, spatial and equipment requirements, and parent-community relationships from the administrator's point of view. Course is not repeatable. Lecture. Transfer: CSU (CC CHILD 30)

CLDDV 151 — ADVANCED ADMINISTRATION OF CHILDREN'S PROGRAMS 3 UNITS
Formerly listed as CLDDV 270
Prerequisite: Satisfactory completion of CLDDV 150
Management and supervision in Early Care and Education programs. Includes strategic planning, group dynamics, supervision of staff and volunteers, development of motivation and morale, leadership and management skills, functions of personnel, interview skills, evaluations, human resource issues, resolving group conflicts and working with Recommended for Success boards. Designed to provide knowledge of methods and principles for working with adults in a supervisory capacity in Early Care and Education settings. Course is not repeatable. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU (CC CHILD 31)

CLDDV 154 — ADULT RELATIONSHIPS AND MENTORING IN SCHOOLS 2 UNITS
Formerly listed as CLDDV 264
Prerequisite: Satisfactory completion of CLDDV 101; and CLDDV 103, or (CLDDV 104 and CLDDV 105)
Impact of staff interaction on children and adults in the classroom environment. Roles and functions of adults as professionals. Three completions allowed. Field trips may be required. Lecture. (A-F or P/NP) Transfer: CSU

CLDDV 160 — ATYPICAL DEVELOPMENT 3 UNITS
Formerly listed as CLDDV 277
Recommended for success: ENGL 50; CLDDV 103, or CLDDV 104 and CLDDV 105
Examines the interaction of genetic, biological, and environmental influences in the prenatal, natal, and postnatal environment that contribute to the development of the atypical child. Identification of a variety of special needs in children from birth to 12 years of age. Factors influencing development will be explored including family, community, and culture as the child is included in all environments. Lecture. Transfer: CSU General Education: (MUC-GE B)

CLDDV 163 — WORKING WITH CHILDREN WITH SPECIAL NEEDS 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.
Introduction to inclusion of children with special needs, from infancy to adolescence in the home, school, and community. Includes laws and policies. Emphasis on cognitive, social, emotional, and physical development for the child with disabilities in care and educational settings. Collaboration with parents as partners and methods for working with professionals. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU (CC CHILD 19)

CLDDV 165 — CHILDREN AT RISK 3 UNITS
Recommended for Success: Satisfactory completion of ENGL 50
Examines risks conditions for prenatal, infants, and young children including prenatal drug exposure, very low birth weight, serious congenital infection, congenital anomaly, low Apgar scores at birth, and other potential neurologic problems. Introduces the characteristics and effects of major childhood stress, including parental divorce and remarriage, parental illness and death, childhood illness and disability, child abuse and family violence, and parental incarceration. Field trips may be required. Lecture. Transfer: CSU

CLDDV 166 — ADHD: IDENTIFY, ASSESS, INTERVENTIONS 1 UNIT
Basic description of Attention Deficit Hyperactivity Disorder, causes, identification, assessment, and treatments. (A-F or P/NP) Lecture. Transfer: CSU

CLDDV 167 — OBSERVATION AND ASSESSMENT 3 UNITS
Prerequisite: Satisfactory completion of CLDDV 103 or CLDDV 104 and CLDDV 105.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.
Focus on appropriate use of assessment and observation strategies to document development, growth, play, and learning to join with families and professionals in promoting children's success. Recording strategies, rating systems, portfolios, and multiple assessment tools are explored. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU

CLDDV 173 — AUTISM: OVERVIEW AND TREATMENT 3 UNITS
Basic concepts of autism. Topics include description, identification, interventions and treatments, and DIR Floor Time approach. May be completed up to 4 times. (A-F or P/NP) Lecture. Transfer: CSU

CLDDV 201 — HEALTH AND SAFETY PRACTICES IN PROGRAMS FOR CHILDREN 3 UNITS
Universal health precautions and other health and safety practices for children's programs. Health and safety requirements mandated by county and state, including injury prevention, infant and child first aid and CPR (satisfactory completion will earn student the Red Cross certificates in First Aid and CPR), prevention of infectious disease, caring for ill children, and recognizing signs of child abuse. Materials fee required. Lecture. Transfer: CSU

CLDDV 232 — HEALTHY CAREGIVER 3 UNITS
Formerly listed as FAMEF 330
Selected topics related to the professional growth of the family child care provider including interpersonal skills, communication styles, prevention of burn-out, and strategies for career success. Lecture. Transfer: CSU

CLDDV 262 — DIVERSITY IN EDUCATIONAL SETTINGS 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete CLDDV 103 or satisfactorily complete CLDDV 104 and satisfactorily complete CLDDV 105 and satisfactorily complete ENGL 50.
Examination of the development of social identities in diverse societies including theoretical and practical implications of oppression and privilege as they apply to young children, families, programs, classrooms, and teaching. Various classroom strategies will be explored emphasizing culturally and linguistically appropriate anti-bias approaches supporting all children in becoming competent members of a diverse society. Course includes self-examination and reflection on issues related to social identity, stereotypes and bias, social and educational access, media, and schooling. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU General Education: (MUC-GE B)(CSU-GE D7)

CLDDV 266 — MENTOR TEACHER SEMINAR ½ UNIT
Formerly listed as CLDDV 266 - Mentor Seminar
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.
Master Teachers and Site Supervisors attend seminars to explore issues related to their role as supervisors and mentors of early childhood teachers and child development students. Four completions allowed. Field trips may be required. (Non-Graded course) Lecture. Transfer: CSU
CLDDV 267—DIRECTOR SEMINAR 1/2 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.

Directors, site supervisors and other administrators of early childhood programs attend monthly seminars to explore issues related to professional duties. Seminars will include quality improvement efforts, advocacy, supervision and mentoring of colleagues. Seminar content will be individualized to meet the needs of participants. Four completions allowed. Field trips may be required. (Non-Graded course) Lecture. Transfer: (CSU)

CLDDV 274—EARLY LITERACY 3 UNITS
Research-based principles and practice for early literacy; development of beginning reading, writing, speaking, listening, and thinking in an early childhood education setting. (A-F or P/NP) Lecture. Transfer: (CSU)

CLDDV 280—SCHOOL-AGE DEVELOPMENT 3 UNITS
A study of the developing child during the school-age years. Developmental characteristics of school-age children, influences on behavior and learning, and the fundamentals of planning and implementing curriculum in programs serving school-age children and their families. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU)

CLDDV 281—SCHOOL-AGE PROGRAM AND CURRICULUM 3 UNITS
The fundamentals of planning, implementing, and evaluating curriculum for programs serving school-age children and their families. Developing and providing age-appropriate activities, environment, and relationships in the context of an integrated and active curriculum. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU)

CLDDV 290C—BRAIN DEVELOPMENT THROUGH MUSIC AND MOVEMENT ACTIVITIES 3 UNITS
Formerly listed as CLDDV 365
Recommended for Success: Satisfactory completion of ENGL 50, CLDDV 103, or CLDDV 104 and CLDDV 105.

The brain and its connection to motor skill development in young children. Non-competitive group games, movement programs, and educational fitness. Lecture. Transfer: CSU

CLDDV 291—CREATIVE ACTIVITIES FOR YOUNG CHILDREN 3 UNITS
Formerly listed as CLDDV 364
Recommended for Success: Satisfactory completion of ENGL 50, CLDDV 103, or CLDDV 104 and CLDDV 105.

Develop, implement, and analyze creative experiences in the young child’s learning process. Lecture. Transfer: CSU

CLDDV 292—MATH AND SCIENCE CURRICULUM FOR YOUNG CHILDREN 3 UNITS
Recommended for Success: Satisfactory completion of ENGL 50, CLDDV 103, or CLDDV 104 and CLDDV 105.

Study of math and science exploration by young children. Evaluation and development of appropriate math and science activities and materials. Discussion of variations in developmental levels, inclusion of children with special needs, and respect of cultural differences. Lecture. Transfer: CSU (CC CHILD 12 & 13)

CLDDV 293—MUSIC, BIRTH TO K: THEORY AND PRACTICE 3 UNITS
Also offered as MUST 103
Recommended for Success: Before enrolling in this class students are strongly advised to possess the following basic music skills: ability to read music (note names, melody and rhythm) and define and apply basic music vocabulary, or have successfully completed one or more of the following courses; MUST 101, MUSA 121, MUSA 161, MUSA 151, MUSA 153.

Introduction to the methods of teaching music to children (birth to Kindergarten). Theories on the developing mind and the benefit of musical understanding to musicianship as well as overall child development. Kodaly, Orff, Dalcroze and other methods will be covered. Relationship of child development theory and developmentally appropriate practice. Study of classroom implementation process. First in a two course sequence. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU

CLDDV 294—MUSIC, BIRTH TO K: APPLICATION 3 UNITS
Also offered as MUST 106
Prerequisite: Satisfactory completion of CLDDV 293/MUST 103.
Application of the methods of teaching music to children (birth to Kindergarten) at an infant/toddler or preschool center with instructor supervision. Students will continue to draw connections between basic music skills, methods of teaching theories, child development, and developmentally appropriate practice. Second in a sequence of two courses. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU

CLDDV 357—CURRENT ISSUES: CHILD CARE DIRECTORS 1 UNIT
Study of current issues and planning decisions facing directors of child care programs; examination and analysis of new and proposed state regulations. Lecture.

CLDDV 366—CURRENT ISSUES: INFANT/TODDLER TEACHERS 1 UNIT
Study of current issues in creating infant/toddler environments, evaluating development, and parent interaction. Lecture.

CLDDV 367—CURRENT ISSUES: PRESCHOOL TEACHERS 1 UNIT
Study of current issues in creating preschool environments, evaluating development, and parent interaction. Lecture.
CMPET 232—INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS 2 UNITS
Also offered as ELTEC 232
Formerly listed as CMPET 232 - Introduction to Programmable Logic
Introduction to the basic concepts of Programmable Logic Controllers. Installation, programming, maintaining, and trouble shooting of micro-sized programmable logic controller systems. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPET 234—ADVANCED TOPICS IN PROGRAMMABLE LOGIC CONTROLLERS 2 UNITS
Recommended for Success: Satisfactory completion of CMPET 232 or equivalent course.
Also offered as ELTEC 234
Advanced study of programmable logic controllers and complete controller systems. Emphasis on component selection, design and operation of industry-like controller systems. Lecture/Laboratory. (A-F Only). Transfer: CSU

CMPET 269—NETWORK + CERTIFICATION TRAINING LAB 1 UNIT
Concurrent Enrollment: Satisfactory completion of CMPSC 263
Recommended for Success: Satisfactory completion of any introductory computer course.
Also offered as CMPSC 269.
Network+ is quickly becoming the standard for introductory-level industry certification. Designed for those interested in a career in network support, this vendor-neutral certification takes the student through installing and configuring a network client. This laboratory course along with the CMPSC 263 course provides preparation for CompTIA’s Network+ certification exam. Extensive network lab projects will be required. Field trips may be required. Laboratory. Materials fee required. Transfer: CSU

CMPET 302—INTRODUCTION TO INDUSTRIAL NETWORKING WITH DEVCINET 1 UNIT
Instruction on DeviceNet which is an open architecture system of smart sensors, controllers, and I/O all linked together on a common network and controlled by a PC that may or may not be networked to other PC’s. Exploration of device level hardware and software. Lecture.

CMPGR (Computer Graphics Applications)
Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: my.edu/prospective/programs/fbss/
Instructors: Joel Hagen, Brian Sinclair

CMPGR 201—ANIMATION: A GLOBAL VIEW ART IN MOTION 3 UNITS
History of animation and its relationship to societies and cultures. Explores the development of animation from its earliest attempts in prehistoric times through the present day integration of technology. Strategies for production are presented, including animation techniques, design, layout, editing, timing, composition, color, lighting, music, sound effects, voice, story, concept, content, theme, historical relationship, social context, ethical context, purpose, audience, and philosophy. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU General Education: (MJC-GE C)

CMPGR 202—INTRODUCTION TO COMPUTER GRAPHICS 3 UNITS
Also offered as ART 102 - Introduction to Computer Graphics
Recommended for Success: Before enrolling in this course, students are strongly advised to have a basic working knowledge of personal computers including: turning on and off a computer system correctly; starting programs, moving and resizing windows, the Start Menu, understanding how your computer is organized; manipulating a mouse, including selecting, double clicking, and dragging items; naming, saving, and deleting files; using portable flash memory and other common storage devices.
Introduction to computer graphics using various applications and tools. Topics explored include but are not limited to: basic compositional concepts, original image creation, photographic editing, scanning, printing, 3D animation, digital sound editing, and digital drawing. Field trips are not required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC) General Education: (CSU-GE: C1)

CMPGR 213—APPLIED COMPUTER GRAPHICS 3 UNITS
Also offered as ART 103
Recommended for Success: Before enrolling in this course, students are strongly advised to be able to demonstrate basic computer skills such as creating and navigating folders and files. Concepts and techniques in computer graphics as related to fine and applied art applications. Three maximum completions. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPGR 214—DIGITAL CAPTURE FOR COMPUTER GRAPHICS 3 UNITS
Recommended for Success: Satisfactory completion of any previous computer graphics course. Explore digital capture and image editing techniques using such hardware devices as scanners, capture boards, digital cameras, and video. Students must have access to a digital camera. Field trips may be required. Lecture/Laboratory. Materials fee required. Transfer: CSU

CMPGR 215—BUSINESS PRESENTATION GRAPHICS 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be able to demonstrate basic computer skills such as creating and navigating folders and files. The use of a computer as a vehicle for preparing, producing, and controlling the presentation of visuals within the business environments. Hardware and peripheral equipment as well as commercially available software will be covered. Emphasis is placed on the use of existing commercially available software with "hands on" experience being provided in an open lab environment. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU (CC CMPSC 111)

CMPGR 217—COMPUTER ILLUSTRATION SOFTWARE 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be able to demonstrate basic computer skills such as creating and navigating folders and files. Introduction to illustration software as applied to visual and data presentations. Explores the techniques and tools used by artists, designers, and illustrators to produce artwork for print, publishing, multimedia graphics, web page design or illustration. Two maximum completions. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPGR 219—COMPUTER GRAPHICS PORTFOLIO REVIEW 1 UNIT
Also offered as ART 119
Recommended for Success: Before enrolling in this course, students are strongly advised to have a basic working knowledge of personal computers including: turning on and off a computer system correctly; starting programs, moving and resizing windows, the Start Menu, understanding how your computer is organized; manipulating a mouse, including selecting, double clicking, and dragging items; naming, saving, and deleting files; using portable flash memory and other common storage devices.
Prepares the student majoring in or receiving a certificate in Computer Graphics, Commercial, or Fine Art with the necessary visual and business skills to develop a portfolio; emphasizes the creative and applied business needs for individuals entering their respective professional field. Field trips may be required. (A-F Only). Lecture. Transfer: CSU

CMPGR 225—3D GRAPHICS AND ANIMATION 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have a basic working knowledge of personal computers including: turning on and off a computer system correctly; starting programs, moving and resizing windows, the Start Menu, understanding how a computer is organized; manipulating a mouse, including selecting, double clicking, and dragging items; naming, saving, and deleting files; using portable flash memory and other common storage devices.
Graphic and animation techniques utilizing microcomputers and 3D software. 3D modeling, scene composition, materials editing, object and camera movement, character development, and storyboarding will be explored. Students will have intensive hands-on experience with IBM or MAC graphic systems and related peripheral devices. Three completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPGR 226—3D GRAPHICS AND ANIMATION 2 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have successfully completed CMPGR 225.
Continued development of 3D modeling and animation skills. Storyboarding, integration of 3D software with other industry standard applications. Finished animation production techniques. Three completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPGR 235—BEGINNING PHOTOSHOP 3 UNITS
Formerly listed as Image Manipulation Software
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete CMPGR 202/ART 102
Introduction to the techniques and technology of digital imaging and image manipulation software. Three completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU
CMPGR 236—ADVANCED PHOTOSHOP 3 UNITS
Formerly listed as Advanced Photoshop Applications
Recommended for Success: Before enrolling in this course, students are strongly advised to have satisfactorily completed CMPGR 235.
Advanced skills in Adobe Photoshop including layout and publication, image processing, fine art and illustration. Three completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPGR 252—DESKTOP PUBLISHING FOR COMPUTER GRAPHICS 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be able to demonstrate basic computer skills such as creating and navigating folders and files. Desktop publishing concepts with hands-on training in the use of computers, printers, scanners, and various page-layout applications; text and graphics will be integrated into documents and publications typically used in a range of computer graphics disciplines. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPGR 262—EXPLORING THE WORLD WIDE WEB 1 UNIT

CMPGR 263—INTERNET LITERACY 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be able to demonstrate basic computer skills such as creating and navigating folders and files.
Provides the conceptual background and the online skills needed to become Internet literate. Covers Internet services: e-mail, listserver, newsgroups, FTP, telnet and the World Wide Web (WWW). Emphasis will be placed on the WWW, types of access (ISP), usage, software (browsers and other support software) and Internet etiquette in a global environment. Introduction to publishing and multimedia. Usage of search engines to conduct research and copyright issues and bibliographic style. Reflects on the impact of emerging technologies on the future of commerce and communications as well as societal issues. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPGR 264—PUBLISHING ON THE WORLD WIDE WEB 3 UNITS

CMPGR 265—MULTIMEDIA ON THE WORLD WIDE WEB 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have satisfactorily completed CMPGR 264.
Intermediate course covering multimedia components of the World Wide Web. Development with animation, sound, and video. Emphasis on further development of programming techniques and skills for advanced features for web pages. Extensive hands-on lab experience. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU General Education: (MJC-GE-D2)

CMPGR 266—DREAMWEAVER IN WEB SITE DESIGN 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be able to demonstrate basic computer skills such as creating and navigating folders and files.
Macromedia’s Dreamweaver web design software, including templates, libraries, Cascading Style Sheets, and FTP. Strategies for creating intuitive and accessible web sites such as audience considerations, site map and navigational building, and testing. Two maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPGR 268—FLASH: WEB GRAPHICS AND ANIMATION 1 3 UNITS
Recommended for Success: Satisfactory completion of CMPGR 202 or ART 103. Introduction to Macromedia’s Flash. Covers the tools and concepts of Flash and its many interactive possibilities and functions, including drawing, image, text, animation, sound, and action-scripting integration. Explores the strategies for creating intuitive and accessible Flash productions from start-to-finish, such as audience considerations, site map and navigation building, and the effective use of content and animation, output, optimization and testing. Lecture/Laboratory. Materials fee required. Transfer: CSU (CC CMPSC 19)

CMPGR 269—FLASH: WEB GRAPHICS AND ANIMATION 2 3 UNITS
Prerequisite: Satisfactory completion of CMPGR 268. In-depth look into how Flash is effectively used by real-world interactive designers and developers. Explore advanced Flash concepts and tools such as dynamic text, tell-targeting movie clips, drop-down menus, scrolling text, scriptable masks, embedded video, streaming and event sound, and the integration of Flash with HTML. Gain an understanding of how to use Action Scripting for more powerful interactivity and animation by exploring the use of variables, properties, expressions, functions, and operators. Bring together the Flash methods learned into the creation of a final, online portfolio presentation. Lecture/Laboratory. Materials fee required. Transfer: CSU

CMPGR 284—DESKTOP VIDEO ANIMATION 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be able to demonstrate basic computer skills such as creating and navigating folders and files. Fundamental skills in animation and special effects concepts and techniques utilizing computers and digital video media. Three maximum completions. Field trips are not required. (A-F or P/NP) MUC Activities. Lecture/Lab. Transfer: CSU

CMPGR 287—INTRODUCTION TO MULTIMEDIA 3 UNITS
Recommended for Success: Satisfactory completion of Basic Computer literacy course such as CMPSC 201.
Introduction to multimedia software and hardware on microcomputers. Students will have intensive “hands on” experience working with a variety of media such as text, numbers, sound, music, graphics, animation and video. Techniques of media capture, generation and editing and subsequent interactive multimedia development will be explored. Field trips may be required. Lecture/Laboratory. Materials fee required. Transfer: CSU

CMPGR 288—INTERMEDIATE MULTIMEDIA 3 UNITS
Prerequisite: Satisfactory completion of CMPGR 287
Continuation of Multimedia concepts and applications. Working with a variety of media forms such as test, numbers, sound, music, graphics, animation and video. Emphasis is placed on further development of scripting and interactive design. Discussion of needs assessment, design issues, implementation and presentation will be combined with “hands on” projects. Field trips may be required. Two maximum completions. Lecture/Laboratory. Materials fee required. Transfer: CSU

CMPGR 298A,B—SPECIAL TOPICS IN COMPUTER GRAPHICS 1,2 UNITS
Prerequisite: Varies with topic.
Participation in discussion, analysis, and evaluation of a special topic in computer graphics, microcomputer applications, and related technologies. Topic to be announced in class schedule. Field trips may be required. Four completions allowed for a maximum of 6 units in any combination. Lecture or Lecture/Lab. Transfer: CSU

CMPSC (Computer Science)

Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: mjc.edu/prospective/programs/biss/
Instructors: Brian Larson, Dale Phillips, Kathleen Short, Chris Vaughan, Lloyd Vaught, John Zamora

CMPSC 103—SYMBOLIC LOGIC 3 UNITS
Also offered as PHIL 103. An introduction to modern deductive logic, includes sentential and predicate logic with identity theory and definite descriptions. Lecture. Not offered every semester. Transfer: (CSU, UC) General Education: (MJC-GE-D2)(CSU-GE: A3)

CMPSC 201—GENERAL COMPUTER LITERACY 3 UNITS
Survey of the functions and uses of computers in business, education, industry, and science, with emphasis on the personal computer. Study of computers and peripheral equipment as integrated systems. Exploration of the impact of computers on society. Introduction to problem-solving and applications programming techniques. Experience with popular internet and application packages on the laboratory computers. Three maximum completions. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) General Education: (MJC-GE-D2)
CMPSC 202 — BUSINESS INFORMATION SYSTEMS  
3 UNITS  
Prerequisite: Satisfactory completion of CMPSC 201 and BUSAD 201 or BUSAD 310.  
Introduction to design, development, and use of information system models to improve managerial decision making. Study of information systems hardware and software; advanced computer coding, systems analysis and planning; systems security; application development using decision support systems; and expert systems. Lab work will focus on Internet research and advanced spreadsheet, database, and word processor functions for solutions to business problems. Field trips may be required. (A-F or P/NP)  Lecture/Lab. Transfer: (CSU, UC) (TCSU IS 120) 

CMPSC 203 — TECHNICAL COMPUTER LITERACY  
3 UNITS  
Concepts and techniques for using microcomputer applications. Instruction and extensive practice in Windows, word processing, spreadsheets, database management, internet basics, file transfer between applications, and related auxiliary applications. Field trips may be required. (A-F or P/NP)  Lecture/Lab. Transfer: CSU General Education: (MJC-GE:D2) 

CMPSC 204 — INTRODUCTION TO PROGRAMMING  
3 UNITS  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MATH 90.  
First course in computer programming for students with little or no programming experience. General computer literacy issues useful for technicians such as computer hardware, software development, operating systems, and telecommunications. Beginning problem-solving analysis, documentation, algorithm design, control structures, as well as program coding using an appropriate beginning programming language. Data manipulation, logic, looping, program testing, and program maintenance will be stressed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) 

CMPSC 205 — PROBLEM SOLVING AND PROGRAMMING 1  
4 UNITS  
Prerequisite: Satisfactory completion of CMPSC 204.  
First course for Computer Science transfer majors, but open to all students. Emphasizes object-oriented programming, algorithmic design, and problem analysis skills for computer science. Software engineering skills will be emphasized. Solutions will be implemented using a high-level object-oriented programming environment such as C++, C#, or JAVA. Extensive programming projects demonstrating problem solving and implementation skills will be assigned throughout the semester. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) (CC CMPSC 22)(TCSU CSCI 110) General Education: (MJC-GE:D2) 

CMPSC 206 — INTRO TO UNIX/LINUX SYST & PROGRAMMING  
3 UNITS  
Formerly listed as CMPSC 206 - Intro to UNIX/Linux Syst & Prgr 
Prerequisite: Satisfactory completion of CMPSC 204.  
Introduction to the UNIX operating system using Linux. Coverage will include using UNIX shells, commands, the role of the system administrator, the UNIX file system, editors, file processing, shell programming, utilities, PERL and CGI programming, C and C++ programming, and recent developments in UNIX and the X-Windows graphical user interface. Extensive hands-on experience using UNIX operating system and programming within the UNIX environment. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) (CC CMPSC 9) 

CMPSC 210 — UNIX/LINUX ADMINISTRATION  
3 UNITS  
Prerequisite: Satisfactory completion of CMPSC 206.  
This course guides students through the fundamental responsibilities of advanced UNIX/Linux system administration. Topics include file system monitoring, file and directory archiving, user account management, shutdown and rebooting sequences, system backups, system log responsibilities, system security and, configuration, monitoring and implementation of Web/DNS/Mail servers. Projects focus on the creation of shell scripts to automate system administration tasks. The course requires hands-on projects and scenario-based learning. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) (CC CMPSC 2B) General Education: (MJC-GE:D2) 

CMPSC 213 — PROGRAMMING WITH VISUAL BASIC  
3 UNITS  
Prerequisite: Satisfactory completion of CMPSC 204 with a minimum grade of C or better.  
Concepts in programming a computer using the language called Visual BASIC. Emphasis on structured design, graphical user interfacing, and documentation. Includes user screen development, control constructs, array processing, elementary file processing, and database access. Hands-on experience using microcomputers. Extensive interaction with computers will be expected. Three maximum completions. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) (CC CMPSC 2B) General Education: (MJC-GE:D2) 

CMPSC 214 — ADVANCED VISUAL BASIC  
3 UNITS  
Prerequisite: Satisfactory completion of CMPSC 213 with a minimum grade of C or better. Advanced concepts of computer programming using Microsoft Visual BASIC. Students will program user interfaces with Microsoft Word, Excel and Access. They will also create Internet and general business interfaces. Graphics and game structure applications will be covered. Three maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) 

CMPSC 216 — SCRIPT PROGRAMMING FOR THE WEB  
3 UNITS  
Formerly listed as CMPSC 216 - Javascript Programming for the Internet  
Prerequisite: Satisfactory completion of CMPSC 204.  
Developing World Wide Web applications with HTML and scripting tools such as python, java script, ruby and perl. An introduction to creating interactive HTML documents through manipulation of the W3C DOM (Document Object Model). Designing Web-based applications, validating and processing user input, creating dynamic documents utilizing DHTML. Extensive programming projects demonstrating problem solving and implementation skills will be assigned throughout the semester. Hands-on computer assignments required. Three maximum completions. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) 

CMPSC 219 — DISCRETE STRUCTURES FOR COMPUTER SCIENCE  
4 UNITS  
Prerequisite: Satisfactory completion of CMPSC 205 and MATH 121.  
Introduction to computational topics essential for work in Computer Science. Topics include: number bases, induction, sets, relations, functions, congruence, recursion, combinations and permutations, probability, graphs, trees, logic, Boolean algebra, and proof techniques. Computing related problems and examples are integrated throughout the course. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) General Education: (MJC-GE:D2) (CSU-GE: B4) 

CMPSC 220 — DATABASE SERVER ADMINISTRATION  
3 UNITS  
Formerly listed as CMPSC 220 - SQL Server Administration  
Recommended for Success: Before enrolling in this course, students are strongly advised to have prior experience working with computer server systems or first complete CMPSC 264 - Windows Server OS course.  
Provides students with the knowledge and skills required to install, configure, administer, and troubleshoot various SQL Server client/server database management systems. Three maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU) 

CMPSC 225 — DATABASE PROGRAMMING WITH SQL  
3 UNITS  
Formerly listed as CMPSC 225 - SQL Database Implementation  
Prerequisite: Satisfactory completion of CMPSC 275 or CMPSC 204.  
Provides students with the technical skills required to implement a database solution with SQL Server. Topics include: architecture, key features of SQL Server, reviewing SQL Server programming tools, Transact-SQL, creating databases, data integrity, planning and creating indexes, advanced query techniques, summarizing data, managing transactions and locks, implementing views, stored procedures and triggers, working with distributed data, and advanced text queries. Three maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU) 

CMPSC 231 — INTERMEDIATE WORD PROCESSING  
3 UNITS  
Recommended for Success: Satisfactory completion of OFADM 203 and (OFADM 330 or CMPSC 274) Also offered as OFADM 231.  
Intermediate word processing features such as mail merge, macros, styles, graphics, tabs, and sorts. Features will be applied in creating business documents. Two maximum completions. Lecture/Laboratory. Materials fee required. Transfer: CSU (CC OFTEC 141) 

CMPSC 241 — ASSEMBLY LANGUAGE PROGRAMMING  
4 UNITS  
Prerequisite: Satisfactory completion of CMPSC 205.  
First course in computer architecture and assembly language programming. Data representation and manipulation, CPU organization and memory, addressing modes, logic and control, table processing, and I/O control processes will be examined. Macros, program modules, and interrupts will be studied. Extensive hands-on computer projects implementing course objectives will be assigned. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) General Education: (MJC-GE:D2) 

CMPSC 261 — PROBLEM SOLVING AND PROGRAMMING 2  
4 UNITS  
Prerequisite: Satisfactory completion of CMPSC 205.  
Introduction to data structures implemented using object-oriented design. Includes more advanced features of high-level languages such as C++ or Java. Continued emphasis on good programming methodologies and problem solving techniques and analysis. Emphasis on algorithm efficiency, recursive algorithms, and linked lists, stacks, queues, and trees. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)(TCSU CSCI 120)(CC CMPSC 24) General Education: (MJC-GE:D2)
CMPSC 263—NETWORKING ESSENTIALS 4 UNITS
Prerequisite: Satisfactory completion of CMPSC 201.
Concepts of networking technologies. Includes networking standards and the OSI model, transmission basics and media, TCP/IP protocols, topologies and Ethernet standards, hardware, WANs and remote connectivity, wireless networking, network operating systems, voice and video over IP, network security, network troubleshooting, integrity and availability of networks, and network management. Designed to assist individuals preparing for various certifications. Hands-on computer assignments required. Materials Fee Required. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPSC 264—WINDOWS SERVER OS 3 UNITS
Prerequisite: Satisfactory completion of CMPSC 263.
Technical study of the Windows Server operating system. Includes server hardware, installation, configuration, clients, management, network protocols, active directory and security, remote access and virtual private networks, interoperability, Internet and intranets, monitoring, tuning, and troubleshooting. Hands-on computer assignments required. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU General Education: (MJC-GE: D2)

CMPSC 270—UNDERSTANDING DATA COMMUNICATIONS 3 UNITS
How data communications systems and their various hardware and software components work. Includes communication between personal computer systems, database services, electronic bulletin boards, and the Internet. Hands-on computer assignments required. Lecture/Laboratory. Materials fee required. Transfer: CSU

CMPSC 275—DATABASE MANAGEMENT SYSTEMS/ MICROCOMPUTER 3 UNITS
Prerequisite: Satisfactory completion of CMPSC 203.
Introduction to database management systems (DBMS). Instruction on the design, setup and maintenance of a DBMS. Applications in inventory control, mailing lists, report, report construction and format, sorting and indexing operations, general file relationships and information retrieval. Hands-on experience using a microcomputer. Emphasis on desktop DBMS such as Microsoft Access. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU General Education: (MJC-GE: D2)(CC CMPSC SS)

CMPSC 276—WEB DATABASE DEVELOPMENT 3 UNITS
Formerly listed as CMPSC 276 - Introduction to Data Warehousing
Prerequisite: Satisfactory completion of CMPSC 275 or CMPSC 225 or CMPSC 220.
Introduction to Web Database development. Emphasizes heterogeneous database design, optimization and reporting in a web database environment. This class will use industry standard tools and techniques with a variety of databases and programming tools. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU General Education: (MJC-GE: D2)(CC CMPSC SS)

CMPSC 281—ADVANCED NETWORKING & SECURITY 3 UNITS
Prerequisite: Satisfactory completion of CMPSC 264.
Technical study of security for networks. Includes assessing security risks, planning administrative access and user accounts, securing communication channels, securing file and print resources, secure access to remote users and offices, secure network access to Internet users, extending the network to partner organizations, designing a public key infrastructure, and developing a security plan. Hands-on computer assignments required. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPSC 289—DIRECTORY SERVICES 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to either complete CMPSC 264, Windows Server, or have experience managing business server systems.
Technical study of Directory Services using tools such as LDAP and Active Directory. Includes the design and implementation of directory services, analyzing business requirements, information technology structures, software, hardware and network requirements, large and small scale directory services design, group policy design, design topology and locations, replication and disaster recovery. Hands-on computer assignments required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPSC 291—WINDOWS PROGRAMMING WITH VISUAL STUDIO 4 UNITS
Formerly listed as CMPSC 291 - Windows Programming With Visual C++
Prerequisite: Satisfactory completion of CMPSC 205.
Windows Programming using the Microsoft Visual Studio environment. Review of object-oriented programming and problem solving concepts. Emphasis on designing user applications, event-driven programming, debugging and exception handling, object-based file handling, database access, web-based and smart device applications, and advanced programming techniques. Hands-on computer programming projects will be required. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU General Education: (MJC-GE: D2)

CMPSC 294—COMPUTER SCIENCE FINAL PROJECT 3 UNITS
Limitations on Enrollment: The students are required to bring the skills of their individual specializations, based on their 18 hours of coursework in either Information Systems, Networking, or Programming to form teams and solve a collaborative real-world IT industry level of problem application.
Culminating experience for students pursuing an Associate of Science degree in Computer Science. Objectives of degree courses will be integrated into a final managed project advised by one or more Computer Science faculty. Effective project and team management will be emphasized. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

CMPSC 298A,B,C—SPECIAL TOPICS IN COMPUTER SCIENCE 1,2,3 UNITS
Prerequisite: Varies with topic.
Participation in discussion, analysis, and evaluation of a special topic in computer science, microcomputer applications, and related technologies. Topic to be announced in class schedule. Twelve maximum units in any combination. Field trips may be required. Lecture. Materials fee required. Transfer: CSU

CMPSC: NON-CREDIT COURSES

CMPSC 801—DATABASE MANAGEMENT SYSTEM WORKSHOP
An introduction to a database management system with hands-on instruction using a microcomputer. Students will define, create, and use their own database. Unlimited repeats. Lecture/Laboratory. Materials fee required.

CMPSC 803—SPREADSHEET WORKSHOP
Introduction to the basic application of computers in the business environment. Specific instruction on use of the Electronic Spreadsheet. Unlimited repeats. Lecture/Laboratory. Materials fee required.

CMPSC 805—WORD PROCESSING WORKSHOP
Introduction to the basic application of computers in the business environment. Specific instruction on use of word processing as an office automation tool. Exploration of benefits of word processing and its ability to expand productivity. Unlimited repeats. Lecture/Laboratory. Materials fee required.
# Colsk - Dairy Industry

## Daind (Dairy Industry)

**Dean:** Mark A. Anglin  
**Division Office:** Agriculture, Room 100  
**Phone:** (209) 575-6200  
**Division website:** [www.mjc.edu/prospective/programs/agens/index.html](http://www.mjc.edu/prospective/programs/agens/index.html)  
**Instructors:** Bill Hobby

### Daind 310 — Good Manufacturing Practices and Sanitation 1 Unit
Introduction to dairy plant sanitation, good manufacturing practices, guidelines and implementation. Introduction to chemicals, pH and their roles in functional cleaning of the dairy plant and associated equipment. Field trips required. Two completions allowed. Lecture. (A-F Only)

### Daind 302 — Fluid Stream 1 Unit
Introduction to the basic elements of routing and uses of fluid milk throughout the dairy plant; demonstration of how fluids are utilized. Process flow from incoming raw milk throughout the plant to pasteurized finished products. Field trips required. Two maximum completions. Lecture. (A-F Only)

### Daind 303 — Industrial Safety 1 Unit
Introduction to the elements of industrial safety as it relates to a dairy processing facility. Topics to be covered: illness and injury prevention, confined space entry, lock-out, tag-out programs, hazard communication programs, and industrial lift programs. Field trips required. Two maximum completions. Lecture. (A-F Only)

### Daind 304 — Sensory Evaluation 1 Unit
Develop skills for sight, taste, smell and touch, in the evaluation of various dairy products. Course content follows the California Agriculture Teaching Association Curricular Code used for Career Development Events—dairy product evaluation. Applicable to the associate degree. Field trips required. Two maximum completions. Lecture. (A-F Only)

### Daind 305 — Haccp and Food Safety 1 Unit
Introduction to hazardous analysis critical control point programs including the importance of HACCP and the identification of critical control points. The class will demonstrate how to design and implement an HACCP program. Field trips required. Two maximum completions. Lecture. (A-F Only)

### Daind 306 — Dairy Industry Employability Skills 1 Unit
Resume preparation, interviewing skills, and job search techniques that are unique to the dairy processing industry. Field trips required. Two maximum completions. Lecture. (A-F Only)

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## Colsk (College Skills)

### Colsk 100 — Foundation for First Year College Success 3 Units
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50 and READ 82. Provides success strategies to enhance academic and lifelong learning skills for first year college students. Exploration of topics such as motivation and attitudes, values, goal setting, decision-making processes, critical and creative thinking, personal health, interpersonal communication, behavioral expectations and etiquette, personality theories, cultural diversity, information & technology competence, as well as techniques for maximizing the ability to succeed as a lifelong learner. Field trips may be required. (A-F or P/NP) Lecture. **Transfer:** (CSU) General Education: (M/G-E 1)

### Colsk 810 — College Skills Development
Provides supervised computer laboratory experience for students who must use a computer laboratory to achieve the goals and objectives of a course in which they are enrolled. Enrollment takes place when students log-on to computers located in Modesto Junior College laboratories. Unlimited repeats. Laboratory.

### Colsk 820 — College Skills Enhancement
Supervised experience developing and implementing research methods and strategies to enhance classroom learning. Unlimited repeats. Laboratory.

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## Dance

For dance course descriptions, please see THETR (Theatre) or PEC (Physical Education: Co-Ed Activities).
DTAST (Dental Assisting)

Dean: Maurice McKinnon, EdD
Division Office: John Muir Hall, Room 258-W
Phone: (209) 575-6373
Division website: www.mjc.edu/alliedhealth
Instructors: Brenda Nidey

DTAST 360 — INTRODUCTION TO DENTAL ASSISTING 3 UNITS
Prerequisite: High school graduation or equivalent; proof of completion of CPR for the Professional Rescuer from the American Red Cross or the Health Care Provider CPR course from the American Heart Association, which must be valid through the end of the program.
An introduction to the profession of dentistry including the educational requirements, legal and ethical responsibilities of each member of the dental team. Discussion of current issues facing the dental profession. Overview of the career opportunities available to the registered dental assistant. Introduction to data gathering on dental patients, including oral diagnosis and treatment planning. Instruction in evaluating the medically compromised dental patient and preparing for medical emergencies. Field trips may be required. Lecture. Materials fee required (A-F Only)(Fall).

DTAST 361 — PREVENTION OF DISEASE TRANSMISSION 2 UNITS
Prerequisite: High school graduation or equivalent; proof of completion of CPR for the Professional Rescuer from the American Red Cross or the Health Care Provider CPR course from the American Heart Association, which must be valid through the end of the program.
This course covers the knowledge and skills required for dental health care professionals to control, prevent the spread of disease, properly manage hazardous chemicals and maintain a safe dental office environment. Protocols established by the American Dental Association, Dental Board of California, California Dental Association, Center for Disease Control and Prevention, OSHA, and OSHA regulations with emphasis on Bloodborne Pathogen Standard and the Hazard Communication Program. Field trips may be required. Lecture/Laboratory. Materials fee required (A-F Only)(Fall).

DTAST 362 — DENTAL SCIENCE 3 UNITS
Concurrent Enrollment: DTAST 360, 361, 363, 364 and 365
An overview of human anatomy and physiology with an emphasis on the head and neck. The knowledge of the structures of the head and oral cavity including identification of oral landmarks and to recognize whether any abnormalities or lesions exist. The study of tooth morphology and the relationship to form and function of the dentition. Recognize conditions that are variations of normal but not considered pathological. Field trips may be required. Lecture. Materials fee required (A-F Only)(Fall).

DTAST 363 — INTRODUCTION TO CLINICAL DENTISTRY 2 UNITS
Concurrent Enrollment: DTAST 360, 361, 362, 364 and 365
Introduction to dental assisting, role of the chairside assistant; basic skills for preparing the dental patient for treatment. Intraoral tasks delegated to qualified dental assistants which are related to operative dentistry. Field trips may be required. Lecture/Laboratory. Materials fee required (A-F Only)(Fall).

DTAST 364 — DENTAL MATERIALS 2 UNITS
Concurrent Enrollment: DTAST 360, 361, 362, 363 and 365
The dental assistant's role in the manipulation of dental materials used in the oral environment. Instruction in the properties, characteristics, and manipulation of dental materials. Identification of government regulations and compliance with health and safety procedures when using dental materials. The study of drugs, their composition, uses, effects and contraindications as applied to the dental patient. Identification of laws regulating safe use of medication for the dental patient. Field trips may be required. Lecture/Laboratory. Materials fee required. (A-F Only)

DTAST 365 — THEORY OF DENTAL RADIOLOGY 3 UNITS
Prerequisite: High school graduation or equivalent; proof of completion of CPR for the Professional Rescuer from the American Red Cross or the Health Care Provider CPR course from the American Heart Association, which must be valid through the end of the program.
Introduction to the principles of dental radiology, basic concepts of x-ray generation, occupational safety procedures, materials and equipment used in producing dental x-rays. Theory of dental radiological techniques. DTAST 365 (Fall) and DTAST 369 (Spring) have been designed to meet the standards set forth by the Dental Board of California for the California Radiation Safety Licensure. Both courses must be completed with a grade of C or better in order to qualify for licensure. Field trips may be required. Lecture. Materials fee required. (A-F Only)(Fall)

DTAST 366 — ADMINISTRATIVE DENTAL ASSISTING 2 UNITS
Prerequisite: Satisfactory completion of DTAST 360, 361, 362, 363 and 364 and 365
Basic dental office business concepts and procedures including communication skills, patient relations, record management, risk management and application of current technology. Employment skills necessary to obtain a position as an administrative dental assistant. Field trips may be required. Lecture. Materials fee required. (A-F Only)(Fall).

DTAST 367 — EXPANDED FUNCTIONS 2 UNITS
Prerequisite: Satisfactory completion of DTAST 360, 361, 362, 363, 364 and 365 with a C or better.
Concurrent Enrollment: DTAST 366, 368, 369 and 370.
Achievement of a healthy and functional dentition through the prevention of new and recurring diseases by the means of dental plaque control techniques. Procedures in which plaque and stains on the surface of the teeth are removed from the coronal surfaces. Specific intraoral tasks that are completed as a procedure delegated to the expanded function dental assistant. Field trips may be required. Lecture/Laboratory. Materials fee required. (A-F Only)(Spring)

DTAST 368 — ADVANCED DENTAL ASSISTING 3 UNITS
Prerequisite: Satisfactory completion of DTAST 360, 361, 362, 363, 364 and 365 with a C or better.
Concurrent Enrollment: DTAST 366, 367, 368 and 369.
Advanced training in the areas of dental specialties including prosthodontics, endodontics, periodontics, pediatric dentistry, orthodontics and oral surgery. Field trips may be required. Lecture/Laboratory. Materials fee required. (A-F Only)(Spring)

DTAST 369 — CLINICAL DENTAL RADIOLOGY 3 UNITS
Prerequisite: Satisfactory completion of DTAST 360, 361, 362, 363, 364 and 365 with a C or better.
Concurrent Enrollment: DTAST 366, 367, 368 and 369.
Applied advanced dental radiography techniques. Identification and interpretation of anatomical landmarks related to dental radiography, exposure, processing and evaluation techniques, and applied quality assurance techniques. Emphasis on infection control as applied to dental radiography, evaluation of the exposed and processed dental radiograph used for diagnostic interpretation using manual and automatic processing. DTAST 365 (Fall) and DTAST 369 (Spring) have been designed to meet the standards set forth by the Dental Board of California for the California Radiation Safety Licensure. Both courses must be completed with a grade of C or better in order to qualify for licensure. Field trips may be required. Lecture/Laboratory. Materials fee required. (A-F Only)(Spring)

DTAST 370 — CLINICAL 1 6 UNITS
Prerequisite: Satisfactory completion of DTAST 360, 361, 362, 363, 364 and 365 with a C or better.
Concurrent Enrollment: DTAST 366, 367, 368, and 369.
Role of the chairside dental assistant; basic skills for preparing the dental patient for treatment including knowledge and skills essential to the functions of the registered dental assistant during clinical experience. Field trips may be required. Lecture/Laboratory. Materials fee required. (A-F Only)(Spring)

DTAST 371 — CLINICAL 2 1 UNIT
Prerequisite: Satisfactory completion of DTAST 366, 367, 368, 369 and 370 with a C or better.
Role of the chairside dental assistant; advanced skills for preparing the dental patient for treatment including knowledge and skills essential to the functions of the registered dental assistant. Field trips may be required. Laboratory. Materials fee required. (A-F Only)(Summer)

DTAST 372 — PIT AND FISSURE SEALANTS 1/2 UNIT
Prerequisite: Satisfactory completion of DTAST 367.
Limitations on Enrollment: Dental assistant classes are limited to those admitted to the Dental Assistant program.
Tooth morphology and caries etiology will be reviewed to enhance the presentation of principles and application of pit and fissure sealants. This course meets the requirements for certification in Pit and Sealant Placement for California Dental Board. Materials Fee Required. (P/NP Only) Lab.
EASC — EHS

EASC — EHS

ECON — Economics

ECON 101 — PRINCIPLES OF MACROECONOMICS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to have college-level composition skills.
Introduction to macroeconomic theory in the context of managed market economy. Covers basic concepts in economics, particularly those relating to aggregate economic analysis, such as scarcity, trade-offs, and opportunity costs. Topics include: market systems, aggregate measures of economic activity, macroeconomic equilibrium, money and financial institutions, monetary and fiscal policy, international economics, and economic growth. Lecture. (A-F or P/NP) Transfer: (CSU, UC)(MJC-GE:B)(CSU-GE:B1, B3)(IGETC: 4B)

ECON 102 — PRINCIPLES OF MICROECONOMICS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to have college-level composition skills.
An introductory course focusing on individual economic decision-making. Topics include: scarcity, opportunity costs, comparative advantage, market structure and market failure, elasticity, cost theory, price and output determination under various market structures and factor markets. Related topics such as international trade, public choice, income distribution, externalities and government regulation may be included. Lecture. Transfer: (CSU, UC)(MJC-GE:B)(CSU-GE:B1, B3)(IGETC: 4B)

ECON 115 — ECONOMIC HISTORY OF THE UNITED STATES
Recommended for Success: Satisfactory completion of ENGL 101 Also offered as HIST 115
Analysis of origins and development of business, labor and agriculture from the colonial period to the present. Emphasis on the federal government’s part in the development and regulation of business, labor and agriculture; the government’s role in the national economic process. Lecture/Transfer: (CSU, UC)(MJC-GE:B)(CSU-GE:B1, D1)(IGETC: 4B, 4C)

ECON 116 — INTRODUCTION TO ECONOMICS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MATH 70 and satisfactorily complete EASC 161.
Introduction to microeconomic theory, which examines the behavior of consumers and producers in resource allocation. Topics include: concepts of supply and demand, price determination, consumer buying behavior, market structure, and externalities. Lecture. (A-F or P/NP)

ECON 117 — PRINCIPLES OF MICROECONOMICS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to have college-level composition skills.
An introductory course focusing on individual economic decision-making. Topics include: scarcity, opportunity costs, comparative advantage, market structure and market failure, elasticity, cost theory, price and output determination under various market structures and factor markets. Related topics such as international trade, public choice, income distribution, externalities and government regulation may be included. Lecture. Transfer: (CSU, UC)(MJC-GE:B)(CSU-GE:B1, B3)(IGETC: 4B)

In this program the student will develop skills in plant recognition and use, nursery practices, and landscape design sufficient to enter the landscape or nursery business or to transfer to a university. Contact the division office in the Agriculture Building for advising assistance.

ECON 118 — PRINCIPLES OF MACROECONOMICS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to have college-level composition skills.
Introduction to macroeconomic theory in the context of managed market economy. Covers basic concepts in economics, particularly those relating to aggregate economic analysis, such as scarcity, trade-offs, and opportunity costs. Topics include: market systems, aggregate measures of economic activity, macroeconomic equilibrium, money and financial institutions, monetary and fiscal policy, international economics, and economic growth. Lecture. (A-F or P/NP) Transfer: (CSU, UC)(MJC-GE:B)(CSU-GE:B1, B3)(IGETC: 4B)
<table>
<thead>
<tr>
<th>COURSES OFFERED</th>
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<tbody>
<tr>
<td><strong>EHS 65—INTRODUCTORY LANDSCAPE PLANNING AND DESIGN</strong></td>
</tr>
<tr>
<td>Formerly listed as OH 65.</td>
</tr>
<tr>
<td>Preparation in the planning and designing of landscaped areas. Emphasis on location of lawns, trees, shrubs, walks, driveways, patios, planters and other landscape structures for home and park. Field trips required. Lecture/Laboratory.</td>
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<tr>
<td><strong>EHS 100—ENVIRONMENTAL GARDENING</strong></td>
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<tr>
<td>Formerly listed as OH 100.</td>
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<tr>
<td>Plants used in the landscape, basic landscape design principles and plant propagation techniques. Emphasis on the place of horticultural crops in the economy and the role of plants in the environment. Discussion will center on the physiology of plants and their use and care. Emphasis will be on the practical application of horticultural principles. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)</td>
</tr>
<tr>
<td><strong>EHS 201—PLANT IDENTIFICATION AND USAGE 1</strong></td>
</tr>
<tr>
<td>Recommended for Success: Satisfactory completion of EHS 210 and/or PLSC 200.</td>
</tr>
<tr>
<td>Formerly listed as EHS 201-Plant Materials and Usage 1.</td>
</tr>
<tr>
<td>Identification, growth habits, culture and ornamental use of landscape and indoor plants adapted to climates of California. Plants emphasized will come from the current California Association of Nurserymen &amp; Garden Centers (CANGC) and California Landscape Contractors Association (CLCA) Certification Tests Plant Lists. Covers those plants best observed and studied in the spring of the year. Field trips required. Will require Saturday labs. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)</td>
</tr>
<tr>
<td><strong>EHS 202—PLANT IDENTIFICATION AND USAGE 2</strong></td>
</tr>
<tr>
<td>Recommended for Success: Satisfactory completion of EHS 210 and/or PLSC 200.</td>
</tr>
<tr>
<td>Formerly listed as EHS 202-Plant Materials and Usage 2.</td>
</tr>
<tr>
<td>Identification, growth habits, culture and ornamental use of landscape and indoor plants adapted to climates of California. Plants emphasized will come from the current California Association of Nurserymen &amp; Garden Centers (CANGC) and California Landscape Contractors Association (CLCA) Certification Tests Plant Lists. Covers those plants best observed and studied in the fall of the year. Field trips required. Will require Saturday labs. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)</td>
</tr>
<tr>
<td><strong>EHS 210—INTRODUCTION TO ENVIRONMENTAL HORTICULTURE SCIENCE</strong></td>
</tr>
<tr>
<td>A general course in environmental horticulture with emphasis on nursery operations, landscaping, turf management, and floral industries. Topics include basic botany, cultural practices, propagation, structures and layout, pest management, planting, container gardening and house plants, floral design, plant identification, turfgrass installation and care, and survey of career opportunities. Saturday labs required. Field trips are required. (A-F Only) Lecture/Lab. Transfer: CSU</td>
</tr>
<tr>
<td><strong>EHS 212—FLORICULTURE CROP PRODUCTION</strong></td>
</tr>
<tr>
<td>Recommended for Success: Satisfactory completion of EHS 201 and 202.</td>
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<tr>
<td>Formerly listed as OH 212.</td>
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<tr>
<td>Analysis, description and operation of greenhouses and other structures and facilities as they relate to floriculture. Included are: relationships of light, temperature, moisture, aeration, humidity, and fertility of floricultural crops; identification and investigation of major greenhouse-grown crops including foliage plants, flowering potted plants, bedding plants, cut flowers, color and specialty crops; and planning and implementing several cropping plans for floriculture plants and products. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU</td>
</tr>
<tr>
<td><strong>EHS 215—LANDSCAPE DESIGN</strong></td>
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<tr>
<td>Recommended for Success: Before enrolling in this course, students are strongly advised to have successfully completed EHS 201 and EHS 202.</td>
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<tr>
<td>The study and implementation of the art and science of landscape design, including principles of design, the design process, drafting, graphics, and presentation methods. Project emphasis is placed upon residential and small commercial sites. Field trips are required. (A-F Only) Lecture/Lab. Transfer: CSU</td>
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<tr>
<td><strong>EHS 220—TURFGRASS MANAGEMENT</strong></td>
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<tr>
<td>Maintenance and management of turfgrass that include sports athletic fields, golf courses, parks, cemeteries, commercial, and residential lawns. Discussion will focus on identification, installation, cultural requirements and maintenance practices. Field trips are required. (A-F or P/NP) Lecture/Lab. Transfer: CSU</td>
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<tr>
<td><strong>EHS 235—PLANT PROPAGATION/PRODUCTION</strong></td>
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<tr>
<td>Recommended for Success: Satisfactory completion of PLSC 200 and/or EHS 210.</td>
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<tr>
<td>Also offered as PLSC 235.</td>
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<tr>
<td>Plant propagation and production practices with emphasis on nursery operations including sexual and asexual reproduction, planting, transplanting, fertilizing, plant pest and disease control, structures and site layout. Preparation and use of propagating and planting mediums. Use and maintenance of common tools and equipment. Regulations pertaining to plant production. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU</td>
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<tr>
<td><strong>EHS 250—LANDSCAPE IRRIGATION</strong></td>
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<tr>
<td>Recommended for Success: Satisfactory completion of EHS 210.</td>
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<tr>
<td>Formerly listed as OH 250 - Urban Irrigation Practices.</td>
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<tr>
<td>Prepares students to design, install and maintain a water efficient landscape irrigation system. Topics include water supply, basic hydraulics, component identification and terminology, system layout, pipe sizing, types of heads, valves, controllers. Field trips may be required. Lecture/Laboratory. (A-F Only) Transfer: CSU</td>
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<tr>
<td><strong>EHS 276—LANDSCAPE MAINTENANCE</strong></td>
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<tr>
<td>Recommended for Success: Satisfactory completion of EHS 210.</td>
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<tr>
<td>Formerly listed as OH 276 - Park and Landscape Maintenance.</td>
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<tr>
<td>Enhancing the function and aesthetic value of public and private landscapes by applying appropriate maintenance techniques. Topics include planting, pruning, watering, soil fertility, pest management, weed control, and landscape maintenance business practices. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU</td>
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<tr>
<td><strong>EHS 278—LANDSCAPE CONSTRUCTION AND INSTALLATION</strong></td>
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<tr>
<td>Recommended for Success: Satisfactory completion of EHS 210.</td>
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<tr>
<td>Formerly listed as OH 278 - Landscape Engineering.</td>
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<tr>
<td>Fundamentals of landscape construction, including soil preparation, paving and construction materials, hand and power tool use, turf and plant installation, plan reading, estimating and bidding preparation, also covers local codes and state requirements and prepares students to pass the C-27 Landscaping Contractor's License exam. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU</td>
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<tr>
<td><strong>EHS 280—BEGINNING FLORAL DESIGN</strong></td>
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<tr>
<td>Introduction into the concepts and practices of floral design. In-depth study of the principles and elements of design used in floral composition. Principles of design as well as the design process and implement this process through the medium of floral materials. Hands-on laboratory experiences and practice in the art of floral design. American Geometric Line design is primary focus. Materials fee required. Field trips are required. (A-F Only) Lecture/Lab. Transfer: CSU</td>
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<tr>
<td><strong>EHS 281—ADVANCED FLORAL DESIGN</strong></td>
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<tr>
<td>Prerequisite: Satisfactory completion of EHS 280.</td>
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<tr>
<td>Formerly listed as OH 281 - Commercial Floristry Advanced Floral Design.</td>
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<tr>
<td>Advanced floral design theory, techniques and skills in the floral industry, including wedding, sympathy, party, holiday, high style and advanced floral designs. Techniques include working with the customer, consultations, pricing and use of computers and other business machines. Construction and servicing of weddings, funerals, party and holiday floral displays. Field trips required. Two maximum completions. Lecture/Laboratory. Materials fee required. (A-F Only) Transfer: CSU</td>
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<tr>
<td><strong>EHS 282—FLORAL SHOP MANAGEMENT</strong></td>
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<tr>
<td>Prerequisites: Satisfactory completion of EHS 280 and EHS 281.</td>
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<tr>
<td>Formerly listed as OH 282.</td>
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<tr>
<td>Prepares students with the business and management skills needed to run a successful floral shop. Flower shop involvement required. Field trips required. Two maximum completions. Lecture/Laboratory/Other. (A-F Only) Materials fee required. Transfer: CSU</td>
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<tr>
<td><strong>EHS 291—ENVIRONMENTAL HORTICULTURE SCIENCE TEACHING STRATEGIES</strong></td>
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<tr>
<td>Application of environmental horticulture science teaching strategies. Construction of an action plan incorporating environmental horticulture science curriculum in an applied setting, such as a school garden, Exploration of science curriculum standards as they relate to teaching strategies applied in the classroom. May be completed up to two times. Field trips required. (A-F or P/NP) Lecture. Transfer: CSU</td>
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</tbody>
</table>
ELTEC (Electronics Technology)

Dean (Interim): Pedro Mendez
Office: John Muir 258W
Phone: (209) 575-6332
Division website: www.mjc.edu/prospective/programs/teched/electech/
Instructors: Adrian De Angelis, Jim Hower, Timothy Vaughan

ELTEC 205—ELECTRONICS FABRICATION AND ASSEMBLY TECHNIQUES
3 UNITS
Introduction to fabrication and assembly techniques used in the electronics industry. Soldering, circuit board repair, and component identification, manual and automated techniques used in circuit assembly and product manufacture are included. Materials Fee Required. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

ELTEC 208—THE WORLD OF ELECTRICITY AND ELECTRONICS
3 UNITS
Also offered as INTEC 208
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MATH 20.
An overview of electrical and electronic phenomena as applied to common consumer and industrial devices. The course examines the physical nature and laws of electricity and magnetism and the application of the scientific method. DC and AC circuits and their characteristics are examined, predicted, and measured. Electronic test equipment and voltage sources are utilized in the construction, troubleshooting and testing of electrical and electronic circuits. The historical development and the socioeconomic aspects of the “electronic age” are also examined. **This course is approved by the State of California for the Department of Apprenticeship Standards (DAS) Electricians Training Program. Materials fee required. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU General Education: MJC-GE A

ELTEC 212—DIGITAL PRINCIPLES AND CIRCUITS
3 UNITS
Also offered as CMPET 212
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MATH 70 with a minimum grade of C or better or concurrent enrollment.
Introduction to digital circuits. Use and application of digital components in electronic devices controls and computers. Study of number systems, basic logic gates, counters, shift registers, A/D and D/A interfaces, and memories. Special emphasis on interfacing digital circuits to real-world input and output devices. Introduction to programmable logic devices. Prepares students for microprocessors and PLCs. This course is approved by the State of California for the DAS Electricians Apprenticehip program. Materials Fee Required. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

ELTEC 214—MICROPROCESSOR PROGRAMMING AND INTERFACING
4 UNITS
Also offered as CMPET 214
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ELTEC/INTEC 212 Digital Electronics.
Introduction to the structure and operation of microprocessors as controllers for today’s electronic devices and systems. Basic microprocessor hardware including memories, registers, counters, input/output ports, decoders, and arithmetic logic using the popular PIC RISC microcontroller. Emphasis on interfacing to electronic hardware. Materials Fee Required. Field trips are not required. (A-F Only) Lecture/Lab. Transfer: CSU

ELTEC 221—INSTRUMENTATION DEVICES AND SYSTEMS
3 UNITS
Also offered as INTEC 221
Prerequisite: Satisfactory completion of ELTEC 208.
An introduction to industrial instrumentation devices and systems. The principles and operation of mechanical and electrical transducers. Analysis of industrial instrumentation and control systems. This course is approved by the State of California for the DAS Electricians Training program. Field trips are not required. (A-F Only) Lecture/Lab. Transfer: CSU

ELTEC 223—INDUSTRIAL ELECTRICAL COMPONENTS AND CONTROL DEVICES
3 UNITS
Also offered as INTEC 223
An introduction to common components and control devices found in the manufacturing and processing industry. Content includes basic terminology, component identification, manufacturer’s specifications, and maintenance procedures for the components and devices. Lecture/Laboratory. Materials fee required. (A-F Only) Transfer: CSU

ELTEC 226—MOTORS, CONTROLS AND CONTROLLERS
3 UNITS
Also offered as INTEC 226
Introduction to AC and DC motors and control systems. Emphasis on system troubleshooting. Use and programming of AC and DC systems. Lecture/Laboratory. Transfer: CSU

ELTEC 229—COMMERCIAL AND INDUSTRIAL WIRING
3½ UNITS
Also offered as INTEC 229
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete INTEC 225 OR AGM 225) AND INTEC 208 OR ELTEC 208.
Essential insights and practices in Commercial and Industrial Wiring that develop skills for the electrical trade. Topics include the application of basic concepts in the design of electrical systems, implementation of accepted trade practices used in installations, and common troubleshooting techniques. Field trips may be required. Materials fee required. (A-F Only) Lecture/Lab. Transfer: CSU

ELTEC 230—BLUEPRINT READING
1 UNIT
Also offered as INTEC 230.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete AGM 225 and (ELTEC/INTEC 229) and (ELTEC/INTEC 226).
Fundamental concepts of blueprint reading for electricians applicable in any field. Topics include construction-related blueprints (residential, commercial and industrial), machinery, automation, electronics; associated systems (hydraulic, pneumatic, communication.) Lecture/Laboratory. Transfer: CSU

ELTEC 232—INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS
2 UNITS
Also offered as CMPET 232
Introduction to the basic concepts of Programmable Logic Controllers. Installation, programming, maintaining, and trouble shooting of micro-sized programmable logic controller systems. **This course is approved by the state of California for the DAS Electrician Trainee Program. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

ELTEC 234—ADVANCED TOPICS IN PROGRAMMABLE LOGIC CONTROLLERS
2 UNITS
Recommended for Success: Satisfactory completion of ELTEC 232 or CMPET 232
Also offered as CMPET 234.
Advanced study of programmable logic controllers and complete controller systems. Emphasis on component selection, design, and operation of industry-like controller systems. Lecture/Laboratory. Transfer: CSU

EHS 383—COMMERCIAL FLORISTRY PRACTICUM
4 UNITS
Prerequisites: Satisfactory completion of EHS 280, 281, 282.
Also offered as OH 383
Recommended for Success: Satisfactory completion of EHS 210, 212.
Formerly listed as OH 383
Involvement in all areas of, and taught in, a retail flower shop. Includes principles of small business management, including personnel, physical plant and financial management; floral design, construction, and pricing; floral orders and wire services; floral delivery; purchasing, marketing and inventory control. Two maximum completions. Laboratory/Other/Conjunction with practicing flower shop manager - MJC nursery or shop site. Field trips required. (A-F Only)

EHS 390—NURSERY INDUSTRY SKILLS
1 UNIT
Formerly listed as OH 390
A repeatable short course in Ornamental Horticulture that covers all skill aspects of the wholesale and retail nursery business. Also included are excerpts from plant identification, turf, and landscape design. Six maximum completions. Field trips may be required. Lecture. (A-F Only)
ELTEC 265—TROUBLESHOOTING TECHNIQUES 1 UNIT
Fast and efficient troubleshooting methods are presented and practiced. Covers single-solution problems commonly found in industrial equipment and processes; business, medicine, and everyday life. Prepares students to actively troubleshoot problems in personal and professional life. Multiple-solution problem-solving, brainstorming, and “out of the box” thinking methods also presented and practiced. This course is approved by the State of California for the DAS Electricians Training program. Field trips are not required. (A-F or P/NP) Lecture. Transfer: CSU

ELTEC 320—ELECTRICAL SAFETY 1 UNIT
Also offered as INTEC 320
Understanding of electrical hazards common to business and industry. Introduction to the knowledge of common electrical injuries to employees, property damage, and how to prevent them. Basic skill development in how to recognize, evaluate, and control electrical hazards. The course covers regulatory compliance and safe work practices. (A-F Only) Lecture.

ELTEC 321—PHOTOVOLTAIC SYSTEMS 3 UNITS
Prerequisite: Satisfactory completion of ELTEC 208 or INTEC 208 or ELTEC 230 or INTEC 230 and ELTEC 320 or INTEC 320 and ELTEC 229 or INTEC 229 or AGM 225 or INTEC 225 and INTEC 248.
Study of Off-Grid, Interconnected (Grid-tied), and Hybrid photovoltaic systems, including the study of locations and positioning for PV arrays, electrical and mechanical design and integration (including hands-on experiences), Safety rules and regulations related to this industry, financial topics (systems estimates and rebates), and an overview of NABCEP certification requirements. Field trips may be required. (A-F Only) Lecture/Lab.

EMS (Emergency Medical Service)

EMS 350—FIRST RESPONDER WITH HEALTHCARE PROVIDER CPR 3 UNITS
An entry-level course designed for firefighters and other emergency workers who will respond to medical emergencies ahead of transportation. Focuses on stabilization of ill or injured patients prior to arrival of more advanced life support. This course meets the basic requirements for most volunteer fire agencies as well as some paid fire departments. Materials fee required. Student may repeat if required by regulation. Field trips are not required. (A-F Only) Lecture.

EMS 380—BASIC ECG INTERPRETATION AND INTRODUCTION TO CARDIAC CARE 3 UNITS
Recommended for Success: Understand basic medical terminology. Designed for students who have had little or no formal training in arrhythmia diagnosis. Emphasis will be on diagnosing the major and life-threatening arrhythmias incorporating patient assessment and treatment. Field trips may be required. Lecture. (A-F or P/NP)

EMS 389—EMERGENCY MEDICAL TECHNICIAN 1 LAB ½ UNIT
Prerequisite: Satisfactory completion of EMS 350.
Corequisite: Concurrent enrollment required in EMS 390.
This is the laboratory course for EMS 390 which places the student in a practical environment. Students will observe and perform patient diagnostics and treatment under the direct supervision of a preceptor. Student may repeat if required by regulation. Field trips are not required. (A-F Only) Lab.

EMS 390—EMERGENCY MEDICAL TECHNICIAN 1 6 UNITS
Limitations on Enrollment: Enrollment limited to students who can demonstrate completion of Basic First Aid and CPR (Healthcare Provider level) from the American Heart Association or National Safety Council, or Professional Rescue level from the American Red Cross. Students must also provide certification of completion of a 48-hour First Responder course which meets State of California Fire Marshal training level.
Prepares the student for certification as an Emergency Medical Technician I. Students are trained to provide basic life support emergency care as mandated by the California Emergency Medical Services authority. Materials fee required. Field trips are not required. (A-F Only) Lecture.

EMS 391—EMERGENCY MEDICAL TECHNICIAN 1 REFRESHER COURSE 1½ UNITS
Prerequisite: Satisfactory completion of EMT 390 or equivalent.
Provides new and updated information for the Emergency Medical Technician, as well as reinforcement of basic knowledge and skills. Meets requirements for re-certification as an EMT in California. Unlimited completions. Lecture. (A-F Only)

ENGL (English)

ENGL 48—GRAMMAR REVIEW 1 UNIT
Students will review the fundamentals of standard English grammar. They will practice recognizing and correcting errors in grammar and usage. Field trips are not required. (A-F or P/NP) Lecture.

ENGL 49—BASIC ENGLISH SKILLS 5 UNITS
Corequisite: or satisfactory completion of Concurrent enrollment in or satisfactory completion of READ 40.
Fundamentals of writing. Emphasis on improving writing fluency, developing paragraphs and short essays, and learning to edit for spelling, punctuation and word usage. Credit in this course may not be used to satisfy English requirements for graduation from Modesto Junior College. Field trips may be required. (P/NP Only) Lecture. Transfer: (CC ENGL 650)

ENGL 50—BASIC COMPOSITION AND READING 5 UNITS
Prerequisite: Satisfactory completion of ENGL 49 or qualification by the MJC Assessment process.
This course is designed for students who need to build basic English skills in writing, reading, and thinking. The course includes instruction in writing effective sentences, organizing ideas into paragraphs and essays, utilizing fundamentals of English syntax, reading academic texts, and building vocabulary. Basic critical thinking and study skills are also emphasized. Field trips may be required. Lecture. (A-F or P/NP) Transfer: (CC ENGL 151)

ENGL 101—COMPOSITION AND READING 3 UNITS
Prerequisite: Satisfactory completion of ENGL 50 or qualification by the MJC English assessment process. Recommended for success: Satisfactory completion of READ 184.
Fundamental skills in reading and writing at the college level. Emphasis on exposition, argument, research, and information competency. Students are required to write a minimum of 8,000 words, at least 6,000 of which must be in essays that have a developed thesis. 2,000 – 3,000 words of the 8,000 must be research-based writing. MLA conventions of formatting and documentation. Field trips may be required. Lecture. (A-F or P/NP) Transfer: (CSU, UC)(CC ENGL 1A) General Education: (MJC GE: D1)(CSU-GE: A2)(IGETC: A1)

PLACEMENT REQUIREMENTS FOR ENGLISH COURSES

For students who have not already completed an English composition course at Modesto Junior College or at any other college, placement in ENGL 49, 50, and 101 requires the English Placement Examination.

- ENGL 50: Placement by examination or completion of ENGL 49 with a grade of C or better.
- ENGL 101: Placement by examination or completion of ENGL 50 with a grade of C or better.
- ENGL 103: Completion of ENGL 101 with a grade of C or better.

Course Offered:

ENGL 101—COMPOSITION AND READING 3 UNITS
Prerequisite: Satisfactory completion of ENGL 50 or qualification by the MJC Assessment process. Recommended for success: Satisfactory completion of READ 184.
Fundamental skills in reading and writing at the college level. Emphasis on exposition, argument, research, and information competency. Students are required to write a minimum of 8,000 words, at least 6,000 of which must be in essays that have a developed thesis. 2,000 – 3,000 words of the 8,000 must be research-based writing. MLA conventions of formatting and documentation. Field trips may be required. Lecture. (A-F or P/NP) Transfer: (CSU, UC)(CC ENGL 1A) General Education: (MJC GE: D1)(CSU-GE: A2)(IGETC: A1)
ENGL 102—ADVANCED COMPOSITION & INTRODUCTION TO LITERATURE
Prerequisite: Satisfactory completion of ENGL 101.
Advanced composition with an introduction to literary analysis of fiction, poetry, and drama. Intended primarily for university transfer students; but open to any qualified student. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC](CC ENGL 18) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 103—ADVANCED COMPOSITION & CRITICAL THINKING
Prerequisite: Satisfactory completion of ENGL 101.
Advanced composition course that focuses on the techniques and principles of argumentative writing. Examines style, diction, evidence, inference, reasoning, and rhetorical strategies of written argument. Students are required to write a minimum of 8,000 words; at least 6,000 of which must be in-essays that have a developed thesis. Field trips may be required. Lecture. Transfer: [CSU, UC](CC ENGL 1C) General Education: (MJC-GE: C2)(CSU-GE: A3)(IGETC: 1B)

ENGL 105—CREATIVE WRITING: POETRY
Prerequisite: Satisfactory completion of ENGL 101 with a minimum grade of C or better.
Instruction and practice in writing poetry. Two maximum completions. Field trips are not required. (A-F or P/NP) Lecture. MJC Activities. Transfer: [CSU, UC] General Education: (CSU-GE: C2)

ENGL 106—CREATIVE WRITING: SHORT FICTION
Prerequisite: Satisfactory completion of ENGL 101 with a minimum grade of C or better.
Instruction and practice in writing shorter forms of fiction. A maximum of 6 units of creditable writing transferable to University of California. Two maximum completions. Field trips are not required. (A-F or P/NP) Lecture. MJC Activities. Transfer: [CSU, UC] General Education: (CSU-GE: C2)

ENGL 108—CREATIVE WRITING: AUTOBIOGRAPHY
Prerequisite: Satisfactory completion of ENGL 101 with a minimum grade of C or better.
Instruction and practice in the writing of autobiography. Two maximum completions. Field trips are not required. (A-F or P/NP) Lecture. MJC Activities. Transfer: [CSU, UC]

ENGL 109—CREATIVE WRITING: SCRIPTWRITING
Prerequisite: Satisfactory completion of ENGL 101.
Instruction and practice in the writing of dramatic scripts for film, television, and theater. Two maximum completions. Field trips may be required. (A-F or P/NP) Lecture. MJC Activities. Transfer: [CSU, UC]

ENGL 112—INTRODUCTION TO THE NOVEL AND SHORT STORY
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
An introduction to the novel and short story with emphasis on intelligent reading, analysis, and discussion of a range of fiction representing various types and traditions. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC] General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 114—INTRODUCTION TO POETRY
Prerequisite: Satisfactory completion of ENGL 50 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.

ENGL 116—INTRODUCTION TO DRAMA
Prerequisite: Satisfactory completion of ENGL 50 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Analysis and discussion of selected plays from classical Greek period to present. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC] General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 131—INTRODUCTION TO WORLD LITERATURE TO 1500
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to have successfully completed ENGL 101 and ENGL 102.
Classical and medieval literature including historical backgrounds and reading in Asian, Middle Eastern, and European cultures. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC] General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 132—INTRODUCTION TO WORLD LITERATURE (1500 TO PRESENT)
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to have successfully completed ENGL 101 and ENGL 102.
ENGL 132 is a continuation of ENGL 131, reading from the renaissance to contemporary literatures of Asian, Middle Eastern, European, and Latin American cultures. Note: students do not have to have taken ENGL 131 to enroll in ENGL 132. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC](CC ENGL 81) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 135—SURVEY OF AMERICAN LITERATURE TO 1850
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101 and ENGL 102.
Survey of American literature from its beginning to mid-nineteenth century. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC](CC ENGL 17) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 136—SURVEY OF AMERICAN LITERATURE: 1850 TO THE PRESENT
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101 and ENGL 102.
Survey of American literature from mid-nineteenth century to the present. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC](CC ENGL 46) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 137—SURVEY OF ENGLISH LITERATURE: TO THE 18TH CENTURY
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101 and ENGL 102.
Survey of English literary history from the Anglo-Saxons to the Eighteenth Century with detailed study of the writings of Chaucer, Marlowe, Spenser, Shakespeare, Milton, and others. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC](CC ENGL 46) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 138—SURVEY OF ENGLISH LITERATURE: 1700 - PRESENT
Formerly listed as ENGL 138 - Survey of English Lit: 18th Century to Present
Prerequisite: Satisfactory completion of ENGL 50 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101 and ENGL 102.
Literary history of the eighteenth and nineteenth centuries with detailed study of the writings of Pope, Wordsworth, Coleridge, Byron, Keats, Shelley, Tennyson, and others. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC](CC ENGL 47) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 151—FOLKLORE
Formerly listed as ENGL 151 - Introduction to Folklore
Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Examine interrelationships of people throughout the world through discussion and analysis of our folk heritage. Folk-themes and symbolism in literature also will be discussed. Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC] General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 156—THE BIBLE AS LITERATURE:
THE HEBREW CANON AND INTERTESTAMENTALWritings
Formerly listed as ENGL 156 - The Bible As Literature- The Hebrew Canon
Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to have eligibility for ENGL 101.
Literary criticism and an appreciation of historical background and textual transmission of selected books of the Hebrew Bible (Old Testament) and Intertestamental Writings (also known as the Apocrypha) in translation Field trips may be required. (A-F or P/NP) Lecture. Transfer: [CSU, UC] General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)
ENGL 157 — THE BIBLE AS LITERATURE: THE NEW TESTAMENT  3 UNITS
Formerly listed as ENGL 157 - Bible As Lit: The New Testament
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Literary criticism and an appreciation of historical background and textual transmission of selected books of the New Testament. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 161 — FILM APPRECIATION  4 UNITS
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to achieve satisfactory completion of ENGL 101.
An introductory course in film appreciation, emphasizing the development of sensitivity and critical judgment in audience response to film. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 162 — HISTORY OF CINEMA  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Examines the international development of cinema from 1895 to the present. Covers a wide range of both American and foreign films and offers a broad survey of major movements, styles, and genres in the history of motion pictures. Focuses specifically on the social, historical, technical, and technological factors that have shaped the film industry and the films produced by it. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 163 — INTRODUCTION TO SHAKESPEARE  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete English 101 and 102.
A reading of six to nine representative comedies, histories, and tragedies, designed to introduce the student to Shakespeare’s art. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 166 — ADOLESCENT LITERATURE  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Introduction to literature for adolescents (ages 9-16). Includes types of literature and forms drawn from a variety of ethnic and cultural sources, and ways to promote interest, themes, and criteria for choosing materials. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 169 — CHILDREN’S LITERATURE  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Introduction to literature for children. Includes types of literature and forms drawn from a variety of ethnic and cultural sources, storytelling, ways to promote interest, and criteria for choosing materials. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 171 — INTRODUCTION TO AFRICAN-AMERICAN LITERATURE  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
An introduction to the contributions of African-Americans in American literature from the slave era to the present. The emphasis will be on a chronological study of major works in the following genres: slave narratives, folk tales, poetry, short story, novel, and drama. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 172 — INTRO TO CHICANO/A LITERATURE  3 UNITS
Formerly listed as ENGL 172 - Intro to Chicano Literature
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Survey of Chicano literature in English from its beginnings to its contemporary form. Emphasis on influences that have shaped the literature and critical skills needed to evaluate and appreciate Chicano poetry, theater, fiction, and essay. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 173 — INTRO TO LATIN AMERICAN LITERATURE  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Introduction to Latin American literature from its Colonial Period to the present. Emphasis on chronological survey of major works of Latin American writers studied in English translation and selected from the following: indigenous legends, chronicles, epistles, poetry, novels, drama, and short stories. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 174 — INTRODUCTION TO MODERN ASIAN LITERATURE  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
An introductory course on Asian literature from the 19th century to the present in its English translation. Emphasis on major works that have made an impact on western literary tradition and the social, cultural, and historical forces that have shaped these works. Field trips are not required. (A-F Only) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 175 — INTRODUCTION TO WOMEN’S LITERATURE  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
An introduction to literature by and about women, including an historical overview, archetypes, stereotypes, cultural impediments to women’s writing, methods of criticism, and recent literary achievements. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 176 — INTRODUCTION TO MEXICAN LITERATURE  3 UNITS
Prerequisite: Satisfactory completion of ENGL 50.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Introduction to Mexican literature from its Colonial Period to the present. Emphasis on chronological survey of major works of Mexican writers studied in English translation and selected from the following: chronicles, epistles, poetry, novels, drama, and short stories. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 179 — INTRODUCTION TO NATIVE AMERICAN LITERATURE,  3 UNITS
Formerly listed as ENGL 179 - Intro to Native American Lit
Prerequisite: Satisfactory completion of ENGL 50 or qualification by the MJC assessment process.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Study of traditional and contemporary Native American literature, oral traditions, and myths from a variety of nations, including some local Native American peoples. Relationship of contemporary writing to earlier cultural heritage. Place of Native American literature in the American literary tradition and canon. Close reading of contemporary autobiography, novels, short fiction, and poetry. Field trips may be required. (A-F Only) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)

ENGL 183 — INTRODUCTION TO TUTORING COMPOSITION  2 UNITS
Prerequisite: Satisfactory completion of ENGL 101.
Introductory course in the tutoring processes of English composition. Students will learn strategies for tutoring developmental to advanced writers. Specific focus will be on techniques for improvement of fluency, structure, revision, proofreading, and reading. Intended for students selected as tutors for the Division of Literature and Language Arts' learning centers. Field trips may be required. (A-F Only) Lecture. Transfer: CSU
ENGR (Engineering)

ENGR 100—INTRODUCTION TO ENGINEERING & ARCHITECTURE 1 UNIT

Also offered as ARCH 100

Introduction to the vocational and academic opportunities in engineering, architecture and related technologies. Topics include models of student success, characteristics of the professions, degree requirements, importance of team work and self assessment. Activities include field trips, practice labs, projects and presentations by practicing engineers and architects. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU (UC)

ENGR 101—INTRODUCTION TO SURVEYING AND TOPOGRAPHY 3 UNITS

Prerequisite: Satisfactory completion of MATH 115 or MATH 122.

Introduction to principles and techniques for measurement of distances, directions, and angles. Additional topics include measurement errors, traverse computations, global positioning systems, Total Station, topographic surveys, and building and curve layout. Lecture/Laboratory. Field trips may be required. Transfer: CSU, UC

ENGR 127—ENGINEERING GRAPHICS 4 UNITS

Prerequisite: Satisfactory completion of MATH 90 or eligibility for MATH 101 or higher as determined by MJC Assessment process.

Development of graphics skills for engineering drawings with the use of computer-aided drafting (CAD) software. Topics include orthographic and pictorial projections, section and auxiliary views, dimensioning, tolerancing, threaded fasteners, and working drawings. Introduction to 3D modeling and engineering design. Design project required. (A-F or P/NP) Lecture/Laboratory. Transfer: CSU, UC

ENGR 130—PROPERTIES OF MATERIALS 4 UNITS

Prerequisite: Satisfactory completion of CHEM 101 with a minimum grade of C or better and PHYS 101 with a minimum grade of C or better and MATH 171

Investigation of the internal structure of metals, ceramics, polymers, composites, and semiconductor materials and their effect on mechanical, electrical, magnetic, and thermal properties. Laboratory investigations include metallography, tensile/compression tests, and heat treatment analysis, hardness testing and composite performance testing. Materials Fee Required Field trips are required. (A-F or P/NP) Lecture/Lab. Transfer: CSU, UC

ENGR 135—ENGINEERING MECHANICS/STATICS 3 UNITS

Prerequisite: Satisfactory completion of PHYS 101 and MATH 172.

Static analysis of particles and rigid bodies; vector notation; analytical solutions of two- and three-dimensional structures in equilibrium; centroids, center of gravity, moments of inertia and friction. Lecture/Laboratory. (A-F or P/NP) Transfer: CSU, UC

ENGR 140—INTRODUCTION TO CIRCUIT ANALYSIS (WITHOUT LAB) 3 UNITS

Satisfactory prior completion of or concurrent enrollment in MATH 174 and PHYS 103.

Direct-current and alternating-current circuit analysis; steady and transient phenomena in RLC circuits; circuit theorems; single-phase and polyphase alternating-current circuits and laboratory demonstrations/exercises emphasizing circuit construction, analysis and instrumentation. Field trips may be required. Lecture/Laboratory. (A-F or P/NP) Transfer: CSU, UC

ENGR 141—INTRODUCTION TO CIRCUIT ANALYSIS (WITH LAB) 4 UNITS

Prerequisite: Concurrent enrollment in or prior satisfactory completion of MATH 174 and PHYS 102.

Direct-current and alternating-current circuit analysis; steady and transient phenomena in RLC circuits; circuit theorems; single-phase and polyphase alternating-current circuits and laboratory demonstrations/exercises emphasizing circuit construction, analysis and instrumentation. Field trips may be required. Lecture/Laboratory. Materials fee may be required. (Spring) (A-F or P/NP) Transfer: CSU, UC

ENGT (Engineering Technology)

ENGT 210—INTRO TO COMPUTER ASSISTED DRAFTING 1 UNIT

Introduction to the use of the computer as a drafting tool. Topics include basic drawing, editing, and utility commands of AUTOCAD. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU (MJC ENGT 210+ 211=CC DRAF 50A)

ENGT 211—INTERMEDIATE COMPUTER ASSISTED DRAFTING 1 UNIT

Formerly listed as Intermediate Topics in Computer Assisted Drafting

Prerequisite: Satisfactory completion of ENGT 210.

Continuation of ENGT 210 to include topics on the use of layers, blocks, templates, dimensioning and various advanced drafting and editing commands. Field trips are not required. (A-F or P/NP) Lecture/Lab Transfer: CSU (MJC ENGT 210+ 211=CC DRAF 50A)

ENGT 212—ADVANCED COMPUTER ASSISTED DRAFTING 1 UNIT

Formerly listed as Advanced Topics in Computer Assisted Drafting

Prerequisite: Satisfactory completion of ENGT 211.

Advanced topics in computer assisted drafting including blocks and attributes, external references, layouts, viewports and other tools necessary for working drawings. Field trips are not required. (A-F or P/NP) Lecture/Lab Transfer: CSU

ENGT 215—INTRODUCTION TO SOLID MODELING 1 UNIT

Introduction to the use of the solid modeling software. Topics include working in the sketch environment, solids construction, solids editing, drawing views, dimensioning, and assemblies. Field trips are not required. (A-F or P/NP) Lecture/Lab Transfer: CSU

Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/dvdeps/sme/
Instructors: Jeremy Wilson

The Engineering Technology program prepares students to transfer to four-year college and university programs. It is for students interested in learning the more pragmatic and applications aspects of engineering, and is directed to the application of established scientific and engineering knowledge and methods. Consult with an engineering advisor for selection of courses.
ENSCI (Environmental Sciences)
Dean: Mark Anglin
Division Office: Agriculture Building, Room 100
Phone: (209) 575-6200
Division website: www.mjc.edu/prospective/programs/agens/index.html

ENSCI 108—ENVIRONMENTAL CONSERVATION  3 UNITS
Study of the world’s environment to sustain the highest quality of life. Includes study of ecology, populations, environmental pollution, conservation of natural resources including energy, water, soils, forests, rangelands, and wildlife. Field trips may be required. (A-F or P/NP) Lecture.

ENSCI 108L—ENVIRONMENTAL CONSERVATION LABORATORY 1 UNIT
Prerequisite: Satisfactory completion of ENSCI 108 or concurrent enrollment in ENSCI 108.
Study of environmental conservation management concepts in an experiential format. Laboratory study will encompass environmental pollution controls, population studies; energy use and alternatives; water quality use and conservation, soil analysis and land-use planning; wildlife habitat restoration; and hazardous materials analysis and alternatives. Field trips required. Laboratory.
Transfer: (CSU, UC)

ENSCI 109—INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS  3 UNITS
Also offered as GEOG 109.
Introduction to Geographical Information Systems (GIS). GIS centers upon mapping as a tool for identifying and assessing spatial relationships of human activity. Applications to business, economics, weather, geology, agriculture etc. Students will create, apply, and evaluate databases which generate maps. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC) (CC GEOGR 60)

ENSCI 110—CALIFORNIA WATER  3 UNITS
An interdisciplinary examination of California’s water use and management with an historical emphasis on the politics and conflict arising from water scarcity. Field trips may be required. (A-F or P/NP) Lecture/Lab.
Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D7)(IGETC: 4G)

ESL (English as a Second Language)
Dean: Patrick Bettencourt
Division Office: Journalism 180, Phone: (209) 575-6149,
Division website: www.mjc.edu/current/programs/divdeps/litlang/
Instructors: Daniel Martin, Gabriele Steiner, Michael Strangio, Ruth Luman, Sara Shore, Michael Akard

The Literature and Language Arts division offers two programs in ESL: a non-credit, adult basic education program of courses on six levels, and a six-level credit program intended for students who plan to pursue other academic and vocational study at the college. Most ESL courses are not degree-applicable; no major is offered.

ENGLISH PATHWAYS

BEGINNING LANGUAGE LEARNER

COLLEGE-LEVEL ENGLISH

ADVANCED
HIGH INTERMEDIATE
INTERMEDIATE
LOW INTERMEDIATE
HIGH BEGINNING
BEGINNING ENGLISH LEARNER

BEGINNING LANGUAGE LEARNER

To earn an associate degree and/or transfer to a four-year university

ESL for College

ENGL 101
ENGL 50
ENGL 49
ESL 47 + ESL 48
ESL 45 + ESL 46
ESL 40 + ESL 44
ESL 30 + ESL 34
ESL 20 + ESL 24
ESL 10

ESL for Life and Work

Career and Technical Education Programs for Certificate

Job Training

Workforce

Accuplacer English/ESL Assessment Examination

Casas ESL Assessment Examination

ESL 6
ESL 5
ESL 4
ESL 3
ESL 2
ESL 1

Integrated Skills in Listening/Speaking/Reading/ Writing/ Learning

Grammer
Reading/composition
Spoken English
ESL: NON-DEGREE COURSES FOR CREDIT

ESL 1—ESL: BEGINNING ENGLISH FOR LIFE AND WORK  5 UNITS
Beginning English for non-English speakers. Emphasis on beginning spoken English and basic literacy. Field trips may be required. (A-F Only) Lecture.

ESL 2—ESL: ELEMENTARY ENGLISH FOR LIFE AND WORK  5 UNITS
Prerequisite: Satisfactory completion of ESL 1 or qualification by the MJC assessment process. Elementary English with emphasis on spoken English for practical needs and preparation for advancement into academic ESL classes. Field trips may be required. (A-F Only) Lecture.

ESL 3—ESL: HIGHER ELEMENTARY ENGLISH FOR LIFE AND WORK  5 UNITS
Prerequisite: Satisfactory completion of ESL 2 or qualification by the MJC assessment process. High elementary level English for speakers of other languages. Instruction and practice in listening, speaking, and reading. Preparation for advancement into credit ESL classes. Field trips may be required. (A-F Only) Lecture.

ESL 4—ESL: INTERMEDIATE ENGLISH FOR LIFE AND WORK  5 UNITS
Prerequisite: Satisfactory completion of ESL 3 or qualification by the MJC assessment process. Intermediate level English for speakers of other languages. Instruction and practice in listening, speaking, reading, and writing with a greater emphasis on academic preparation. Field trips may be required. (A-F Only) Lecture.

ESL 5—ESL: HIGH INTERMEDIATE ENGLISH FOR LIFE AND WORK  5 UNITS
Prerequisite: Satisfactory completion of ESL 4 or qualification by the MJC assessment process. High intermediate level English for speakers of other languages. Instruction and practice in listening, speaking, reading, and writing with a greater emphasis on academic and workforce preparation. Field trips may be required. (A-F Only) Lecture.

ESL 6—ESL: LOW ADVANCED ENGLISH FOR LIFE AND WORK  5 UNITS
Prerequisite: Satisfactory completion of ESL 5 or qualification by the MJC assessment process. Low advanced level English for speakers of other languages. Instruction and practice in listening, speaking, reading, and writing with great emphasis on transition to academic programs, the workplace, and job-training courses. Field trips may be required. (A-F Only) Lecture.

ESL 10—ENGLISH LANGUAGE 1  10 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ESL 901 and/or ESL 902, especially if they lack elementary listening comprehension and speaking skills. To be successful in ESL 10, students need to be able to understand, follow, and respond to basic instruction(s) in English. Elementary course in speaking, listening, reading, and writing for persons learning English as another language. Field trips may be required. Lecture. (A-F or P/NP)

ESL 20—ENGLISH LANGUAGE 2  5 UNITS
Prerequisite: Satisfactory completion of ESL 10 or qualification by the MJC assessment process. Continuation of ESL 10. Elementary English grammar component for persons learning English as another language. Emphasis on vocabulary and sentence structure for practical communication in school, community, and work. Field trips may be required. (A-F or P/NP) Lecture.

ESL 23—ENGLISH SPEAKING AND LISTENING 1  5 UNITS
Formerly listed as ESL 23 - Spoken English 1
Recommended for Success: Before enrolling in this course, students are strongly advised to use English grammar and tenses at the elementary level. Read simplified texts demonstrating knowledge of elementary vocabulary and follow basic oral and written instructions without the need of a translator. An introduction to basic pronunciation of vowels and consonants of the English language. Attention paid to rhythm, intonation, and syllable stress, and the aural and vocabulary skills required to function in basic English. Field trips may be required. (A-F or P/NP) Lecture.

ESL 24—ESL COMPOSITION AND READING 1  5 UNITS
Prerequisite: Satisfactory completion of ESL 10 or qualification by the MJC assessment process. Recommended for Success: Before enrolling in this course, students are strongly advised to be concurrently enrolled in ESL 20. Practice in reading and writing for students at the beginning (second-semester) level. Significant homework may be assigned to a lab. Field trips may be required. (A-F or P/NP) Lecture.

ESL 30—ENGLISH LANGUAGE 3  5 UNITS
Prerequisite: Placement in ESL 30 through MJC assessment process, or satisfactory completion of ESL 20 or equivalent course. Continuation of ESL 20. Lower intermediate component for persons learning English as another language. Emphasis on review and expansion of lower intermediate grammatical structures in reading, writing, listening, and speaking. Lecture. Field trips may be required. (A-F or P/NP).

ESL 33—ENGLISH SPEAKING AND LISTENING 2  5 UNITS
Prerequisite: Satisfactory completion of ESL 23 or qualification by the MJC assessment process. Continued development in pronunciation, rhythm, intonation, stress, reductions, linking, and focus shift of English. Beginning aural comprehension of simplified lectures, participation in group discussion, and vocabulary necessary for delivery of short presentations. Field trips are not required. (A-F or P/NP) Lecture.

ESL 34—ESL COMPOSITION AND READING 2  5 UNITS
Prerequisite: Satisfactory completion of ESL 20 or qualification by the MJC assessment process and ESL 24 or qualification by the MJC assessment process. Recommended for Success: Before enrolling in this course, students are strongly advised to be concurrently enrolled in ESL 30. Practice in reading and writing for students at the low-intermediate (third-semester) level of ESL courses. Continuation of ESL 24. Significant homework may be assigned to a lab. Field trips may be required. (A-F or P/NP) Lecture.

ESL 40—ENGLISH LANGUAGE 4  5 UNITS
Non-degree course. Prerequisite: Placement in ESL 40 through assessment process or satisfactory completion of ESL 30 or equivalent course. Intermediate course in English for persons learning English as another language. Introduction to more difficult structures in English sentences. Review of elementary English. Field trips may be required. (A-F or P/NP) Lecture.

ESL 40A—SKILLS FOR SUCCESS IN INTERMEDIATE GRAMMAR  ½ UNIT
Designed to provide further practice on grammar points needed for success in ESL 40 or higher; in particular, for students who are weak in prerequisite skills and/or who have failed ESL 40. These courses do not serve as prerequisites for ESL 45. Laboratory Field trips are not required. (A-F or P/NP Lab).

ESL 43—ENGLISH SPEAKING AND LISTENING  3½ UNITS
Formerly listed as: ESL 43 - Spoken English 2
Prerequisite: Satisfactory completion of ESL 33 or qualification by the MJC assessment process. Continued development in natural pronunciation of American English with emphasis on advanced rhythm, intonation, and stress. Students become adept at oral presentations and gain proficiency inleading discussions. Aural comprehension emphasizes paraphrasing, note taking, and summaries of college lectures. Field trips may be required. (A-F or P/NP) Lecture.

ESL 44—ESL COMPOSITION AND READING 3  5 UNITS
Prerequisite: Satisfactory completion of ESL 30 and ESL 34 or qualification by the MJC assessment process. Recommended for Success: Before enrolling in this course, students are strongly advised to be concurrently enrolled in ESL 40. Practice in writing paragraphs and multi-paragraph compositions and reading for students at the intermediate level of ESL with a comprehensive foundation in English grammar and the ability to write well-formed paragraphs in English. Continuation of ESL 34. Significant homework may be assigned to a lab. Field trips may be required. (A-F or P/NP) Lecture.

ESL 45—ENGLISH LANGUAGE 5  5 UNITS
Prerequisite: Placement in ESL 45 through assessment process or satisfactory completion of ESL 40 or equivalent course. Continuation of ESL 40. Higher intermediate components for persons learning English as another language. Review and expansion of higher intermediate grammatical structures in reading, writing, listening, and speaking. Lecture. (A-F or P/NP)

ESL 46—ESL COMPOSITION AND READING 4  5 UNITS
Prerequisite: Satisfactory completion of with a minimum grade of C or better Placement in ESL 45 through assessment process or satisfactory completion of ESL 40 and ESL 44 or equivalent course. Practice in writing academic essays and analysis of authentic reading for students at the higher intermediate level of ESL. Significant homework may be assigned to a lab. Field trips may be required. (A-F or P/NP) Lecture.
ESL 47 — ENGLISH LANGUAGE 6  
Prerequisite: Placement in ESL 47 through assessment process or satisfactory completion of ESL 45 or equivalent course. Continuation of ESL 45. Advanced English grammar component for persons learning English as another language. Emphasis on review and expansion of advanced grammatical structures in reading, writing, listening, and speaking for success in college-level courses. Lecture. (A-F or P/NP)

ESL 48 — ESL COMPOSITION AND READING 5  
Prerequisite: Satisfactory completion of ESL 45 and ESL 46 or qualification by the MJC assessment process. Field trips may be required. Non graded. Lecture.

ESL: NON-CREDIT, NON-DEGREE COURSES

ESL 901 — ESL: BEGINNING ENGLISH FOR LIFE AND WORK  
Formerly listed as ESL 901 - ESL: Beginning. Beginning English for non-English speakers. Emphasis on beginning spoken English and basic literacy. Repeatable. Field trips may be required. (Non-Graded course) Lecture.

ESL 902 — ESL: ELEMENTARY ENGLISH FOR LIFE AND WORK  
Formerly listed as ESL 902 - ESL: Lower Elementary.  Prerequisite: Satisfactory completion of ESL 901 or qualification by the MJC assessment process. Elementary English with emphasis on spoken English for practical needs and preparation for transition into academic ESL classes. Repeatable. Field trips may be required. (Non-Graded course) Lecture.

ESL 903 — ESL: HIGHER ELEMENTARY ENGLISH FOR LIFE AND WORK  
Formerly listed as ESL 903 - ESL: Higher Elementary. Prerequisite: Satisfactory completion of ESL 902 or qualification by the MJC assessment process. High elementary level English for speakers of other languages. Instruction and practice in listening, speaking, and reading and writing. Preparation for transition into academic ESL classes. Repeatable. Field trips may be required. (Non-Graded course) Lecture.

ESL 904 — ESL: INTERMEDIATE ENGLISH FOR LIFE AND WORK  
Formerly listed as ESL 904 - ESL: Intermediate. Prerequisite: Satisfactory completion of ESL 903 or qualification by the MJC assessment process. Intermediate level English for speakers of other languages. Instruction and practice in listening, speaking, reading, and writing with a greater emphasis on academic preparation. Repeatable. Field trips may be required. (Non-Graded course) Lecture.

ESL 905 — ESL: HIGH INTERMEDIATE ENGLISH FOR LIFE AND WORK  
Formerly listed as ESL 920 - English At Work 1. Prerequisite: Satisfactory completion of ESL 904 or qualification by the MJC assessment process. High intermediate level English for speakers of other languages. Instruction and practice in listening, speaking, reading, and writing with a greater emphasis on academic and workforce preparation. Repeatable. Field trips may be required. (Non-Graded course) Lecture.

ESL 906 — ESL: LOW ADVANCED ENGLISH FOR LIFE AND WORK  
Formerly listed as ESL 921 - English At Work 2. Prerequisite: Satisfactory completion of ESL 905 or qualification by the MJC assessment process. Low advanced level English for speakers of other languages. Instruction and practice in listening, speaking, reading, and writing with great emphasis on transition to academic programs, the workplace, and job-training courses. Repeatable. Field trips may be required. (Non-Graded course) Lecture.

FAMILY LIFE (Family Life)

FAMLF 131 — FAMILY RELATIONSHIPS  
3 UNITS  
The family and its interpersonal relationships, the formation and development of the family, adjustments within the family, the family cycle, parenthood, marriage enrichment, dissolution of marriage and remarriage, exploration of resources to strengthen the family. Lecture. (A-F or P/NP) Transfer: (CSU, UC) General Education: (MJC GE: E) (CSU GE: D7,E) (IGETC: AG)

FAMLF 242 — PARENT INVOLVEMENT  
3 UNITS  
Recommended for Success: Satisfactory completion of CLDOV 245 Experience in promoting increased parent involvement and parent education in community programs. Field trips required. Lecture/Other. (Fall) Transfer: CSU

FAMLF 355X, A — THE CHILD IN THE FAMILY  
1/2, 1 UNIT  
Influences of the family and school on the growth and development of the child from the prenatal stage through the early childhood years. Community resources that impact children. May be completed up to four times. Field trips may be required. Lecture. (A-F or P/NP)

FAMLF 390 — THE PROCESS OF PARENTING  
1 UNIT  
Discussion of child growth and development related to parenting. Background for understanding parent-child relationships. Emphasis on cooperation through effective and mutually respectful communication techniques. Lecture. Three maximum completions. (A-F or P/NP)

FAMLF: NON-CREDIT COURSES

FAMLF 800 — PARENT EDUCATION  
Exploration of current issues in parenting. Influences of the family and school on the growth and development of the child. Emphasis on positive and nurturing guidance techniques. Unlimited completions allowed. Field trips may be required. Non graded. Lecture.
FDNTR 219—NUTRITION 3 UNITS
Recommended for Success: Satisfactory completion of Laboratory chemistry course in high school or college, or concurrent enrollment.
Concepts of nutrient requirements of the body in relation to growth maintenance, and repair at different stages of a normal life cycle; factors influencing normal metabolism; construction of an adequate diet at different ages and food safety and hunger will be examined. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(TCSU NUTR 110)(CC BOL 50) General Education: (MIC-GE A)

FDNTR 320—DIET IN HEALTH AND DISEASE 3 UNITS
Recommended for Success: Satisfactory completion of or concurrent enrollment in FDNTR 219 or 351.
Collecting data for assessing nutrition status and planning modified diets to meet individual patient needs. Emphasis placed upon application in health care facilities. Field trips may be required. Lecture. (A-F or P/NP)

FDNTR 351—PRACTICAL NUTRITION 3 UNITS
Recommended for Success: Laboratory chemistry course in high school or college or concurrently enrolled.
Basic principles of nutrition and their application. Hunger, food safety and current nutritional controversies will be examined. (A-F or P/NP) Lecture. General Education: (MIC-GE A)

FDP 200—BASIC FOOD PROCESSING 3 UNITS
Introductory course for work in food processing industry. Methods of food preservation, assurance of quality, laws related to food processing, skills and techniques used by the industry. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU

FDP 300—CERTIFIED PROFESSIONAL FOOD MANAGER TRAINING 1½ UNITS
Develops a working knowledge and familiarity with technology and strategies to manage food safety from production to consumption. Field trips may be required. Two maximum completions. Lecture. Materials fee required. (A-F Only)

FDP 301—CERTIFIED HACCP MANAGER TRAINING 1½ UNITS
Recommended for Success: An understanding of basic food safety program: i.e., GMPs, SSPOs, and fundamentals of sanitation procedures.
Elements of hazard analysis and critical control points and how they integrate into a successful food safety program for manufacturers, wholesalers, distributors and food establishment operations with the goal of HACCP certification. Field trips required. Two maximum completions. Lecture. Materials fee required. (A-F Only)

FDP 342—INTRODUCTORY WINE EVALUATION 1 UNIT
Limitations on Enrollment: Students must be at least 21 year of age, as this is the legal age for alcohol consumption.
The scientific study of wines, with an emphasis on using precise descriptive language for sensory evaluation: the use of the senses of sight, smell, taste, and touch in a disciplined, systematic way to learn about some of the chemical and physical properties of wine. Emphasizes California varietal wines as a basis for learning about varietal wine characteristics to build a foundation for understanding the great wines of the world. Materials Fee Required Three maximum completions. Field trips are required. (P/NP Only) Lecture.

FDP 376—BASIC FOOD PLANT LABORATORY PROCEDURES 1 UNIT
Details of food plant laboratory procedures; emphasis on net weight, fill weight, syrup checking, and statistical quality control. Lecture/Laboratory. (A-F Only)

FDP 378—FOOD LABORATORY INSTRUMENTS 1 UNIT
Operation, principles, importance and care of basic food laboratory instruments. Lecture/Laboratory. (A-F Only)

FDP 379—FOOD PRODUCTS GRADING 1 UNIT
Fundamentals of food products grading. Lecture/Laboratory. (A-F Only)

FDP 380—FOOD PRODUCTS MICROANALYSIS-A 1 UNIT
Training in insect part and fly egg determination in food products. Lecture/Laboratory. (A-F Only)

FDP 381—FOOD PRODUCTS MICROANALYSIS-B-MOLD COUNTING 2 UNITS
Instruction in mold count procedures as applied to fruit and tomato products and food plant sanitation. Includes Howard Mold, Geotrichum Mold, and Rot Count methods. Lecture/Laboratory/Other. (A-F Only)

FDP 382—FOOD PRODUCTS MICROANALYSIS-C 1 UNIT
Principles of food bacteriology, use of materials and equipment; tests that identify the presence and number of bacteria important in the food industry. Lecture/Laboratory. (A-F Only)

FDP 383—ENZYMES IN THE FOOD INDUSTRY 1 UNIT
Fundamentals of food enzymes and their use in the food industry; classification, production, activity, use, immobilization and inhibition, modification of food by endogenous enzymes, and the major classes of industrial enzymes. Lecture. (A-F Only)

FDP 386—FOOD LABORATORY CHEMISTRY PROCEDURES 1 UNIT
Basic chemical principles and techniques as they are applied to chemical analysis of foods. Field trips may be required. Lecture/Laboratory. (A-F Only)

FDP 387—FOOD PROCESSING SANITATION AND CLEANUP 1 UNIT
Introduction to the fundamentals of food processing equipment, cleanup and sanitation, types of cleaning agents, residue problems, cleanup methods and techniques. Two maximum completions. Field trips may be required. Lecture. (A-F Only)
FDSER (Food Service)

Dean: Maurice McKinnon, EdD
Division Office: John Muir Hall, Room 258-W
Phone: (209) 575-6373
Division website: www.mjc.edu/prospective/programs/fcs/index.html

FDSER 323 — CATERING  2 UNITS
A study of catering principles and application in the production of cold and hot hors d’oeuvres, including vegetables, ham, pork, poultry, seafood, fruit, cheese, mousse and sauces for buffet service. Stresses quality and quantity control and artistic presentation. (A-F or P/NP) Lecture/Lab.

FREN (French)

Dean: Patrick Bettencourt
Division Office: Journalism 180
Phone: (209) 575-6149
Division website: www.mjc.edu/current/programs/divdeps/lliang/
Instructors: Carol Lancaster Mingus, Laura Paull

FREN 51 — INTRODUCTION TO PRACTICAL FRENCH 1  3 UNITS
Basic conversational French for travel, work, or preparation for French 101. Field trips may be required. Lecture. Transfer: CSU General Education: (MJC-GE: C) (CSU-GE: C1) (IGETC: 3B, 6A)

FREN 52 — INTRODUCTION TO PRACTICAL FRENCH 2  3 UNITS
Prerequisite: Satisfactory completion of FREN 51. Continuation of FREN 51. Review and expansion of essentials of French grammar and vocabulary through oral expression. (A-F or P/NP) Lecture.

FREN 101 — FRENCH 1  5 UNITS
Essentials of written and spoken French, simple composition, conversation, and reading. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B, 6A)

FREN 102 — FRENCH 2  5 UNITS
Continuation of FREN 101. Review and expansion of tenses, vocabulary, and commonly used expressions. Equivalent to the satisfactory completion of three years of high school French. Lecture. (A-F or P/NP) Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B, 6A)

FREN 103 — FRENCH 3  5 UNITS
Prerequisite: Satisfactory completion of FREN 102. Review of French grammar, reading and conversational practice. Includes reading and discussion in French of selections from literary works of French writers. Equivalent to the satisfactory completion of four years of high school French. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B, 6A)

FREN 104 — FRENCH 4  5 UNITS
Prerequisite: Satisfactory completion of FREN 103. Review and expansion of grammatical structures covered in FREN 103. Includes reading and discussion in French of literary works of French and Francophone writers. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B, 6A)

FILM 150 — FILM PRODUCTION  3 UNITS
Techniques of motion picture production. Students write scripts; operate camera, sound, lighting and editing equipment to produce basic film projects. This class will focus on single camera “film style” and techniques utilizing video production equipment. Materials fee required. Field trips may be required. (A-F or P/NP) Lecture. MJC Activities. Transfer: (CSU, UC)

FILM 151 — ADVANCED FILM PRODUCTION 1  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete FILM 150 with a minimum grade of C or better satisfactorily complete RATV 142.
Practical applications in film production. Creative use of camera, sound, editing, and production planning. Students will produce, direct and edit individual projects. This class will provide intermediate experience in group filmmaking, affording expanded areas of responsibility. Each group will produce a 20-minute feature film. Materials fee required. Three completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)

FILM 152 — ADVANCED FILM PRODUCTION 2  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete FILM 151 and satisfactorily complete RATV 142.
Continuation of FILM 151. Emphasis on the development of leadership skills, directing techniques and professional caliber filmmaking. This course will also provide advanced experience in group filmmaking while producing a 15-25 minute film. All individual and group work will be geared towards submission into student film festival competitions. Materials fee required. Two completions allowed. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)

FILM 153 — CONTEMPORARY FILM  3 UNITS
Introduction to the contemporary film industry from a creative, technical and business perspective. Basic skill development in understanding the language of film, creative thinking and writing. Samples of topics explored include directorial choices, cinematic composition, decoding the ideological message, and film as it relates to popular culture and current affairs. Attendance of first run feature films at local movie theaters is required. Materials fee required. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)

FILM 154 — MOVIES WITH A MESSAGE  3 UNITS
Also offered as SOSC 154.
A film appreciation series intended to explore what can be learned about place, culture, history, and the human experience from films, and how movies can shape perceptions, illuminate social issues, and advance political action while examining the aesthetic relationship of subject to style, form, function, and the cultural values of the film maker. May be completed up to two times. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C1)

FILM 155 — THE DOCUMENTARY FILM  3 UNITS
Introduction to the history and theory of documentary film practice through the examination of a variety of documentary films (educational, propaganda, social activist, ethnographic, cinema vérité, etc.) Screening and discussion of selected documentaries will be used to enhance this visual art form. (A-F or P/NP) Lecture. Transfer: CSU General Education: (MJC-GE: C) (CSU-GE: C1)
The Fire Science curriculum prepares the student for a career in fire service. Students will learn about the organization and operations of fire service, proper use of fire equipment, tactics and strategies of fire fighting, specialized job skills, and management techniques. Fire Science courses dropped or inactivated Fall 1987 to Fall 1988 are valid for students completing those courses prior to deletion from the catalog. For more information, contact the Regional Fire Training Center at S49-7028.

**FSCI 301—FIRE PROTECTION ORGANIZATION** 3 UNITS
Introduction to the fire service and fire protection, career opportunities in fire protection and related fields; history of fire protection; fire loss analysis; public, quasi-public and private fire protection services; specific fire protection functions. Student may repeat if required by regulation. Field trips may be required. (A-F Only) Lecture. Transfer: (CC FIRE 1)

**FSCI 302—FIRE PREVENTION TECHNOLOGY** 3 UNITS
A basic overview of the role of fire prevention in modern fire service. Identifies the relationship of fire prevention, fire safety education, fire detection and suppression systems. Field trips may be required. Lecture. (A-F Only) Lecture. Transfer: (CC FIRE 2)

**FSCI 303—FIRE PROTECTION EQUIPMENT AND SYSTEMS** 3 UNITS
Prerequisite: Satisfactory completion of FSCI 301 Formerly listed as FSCI 329. Portable fire extinguishing equipment; sprinkler systems; protection systems for special hazards; fire alarm and detection systems. Field trips required. Lecture. Not offered every semester. (A-F Only) Lecture. Transfer: (CC FIRE 3)

**FSCI 304—BLDG CONSTRUCTION FOR FIRE PROTECTION** 3 UNITS
Prerequisite: Satisfactory completion of FSCI 301 with a minimum grade of C or better. Fundamentals of building construction as it relates to fire protection. Introduction to building materials and processes that are involved in the construction of structures. Provide students with the knowledge required to operate safely and effectively within residential or commercial buildings. Four completions allowed. Field trips may be required. (A-F Only) Lecture. (CC FIRE 4)

**FSCI 305—FIRE BEHAVIOR AND COMBUSTION** 3 UNITS
Theory and fundamentals of how and why fires start, spread, and are controlled; an in-depth study of fire chemistry and physics, fire characteristics of materials, extinguishing agents, and fire control techniques. Lecture. (A-F Only) Transfer: (CC FIRE 5)

**FSCI 309—FIRE MANAGEMENT 2E** 2 UNITS
Prerequisite: Satisfactory completion of FSCI 356 with a minimum grade of C or better. Provides chief officers or chief officer candidates with knowledge of contemporary management issues and concepts. Key topics include governmental relations, changing settings/policy formation, program management, personnel, labor relations, and legal environment. Materials Fee Required Student may repeat if required by regulation. Field trips may be required. (A-F Only) Lecture/Lab.

**FSCI 311—RESCUE SYSTEMS 1** 2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have received California State Fire Training's Firefighter One Certification or have satisfactorily completed FSCI 363. Topics include: Team organization, rescue, and environmental considerations, use of ropes, knots rigging and pulley systems, descending, rappelling, and belaying tools and techniques, subsurface rescue techniques, use of cribbing, wedges, cutting/prying and hydraulic tools, use of fire service ladders in specialized rescue situations, and day and night simulated rescue exercises. Materials fee required. Field trips may be required. (A-F or P/NP) Lecture.

**FSCI 322—FIRE SERVICE CAREER DEVELOPMENT/PROMOTIONS** 3 UNITS
Prerequisite: Satisfactory completion of FSCI 301. Introduction to Fire Service Career Development. This course of instruction is designed to assist fire science students to prepare for entry level and interdepartmental Fire Service examinations. To be considered an eligible candidate students must have a working knowledge of fire service testing standards and terminology. Students will collect information for the application processes, resume writing, entry level written tests, mechanical aptitude and oral interviews. Students are also instructed on aspects of pre-employment medical and psychological tests and background checks. Field trips may be required. (A-F Only) Lecture/Lab.

**FSCI 323—FIRE HYDRAULICS** 3 UNITS
Recommended for Success: Before enrolling this course, students are strongly advised to satisfactorily complete FSCI 301
Review of applied mathematics; hydraulics laws as applied to the fire service; application of formulas and mental calculation to hydraulics and water supply problems. Lecture. (A-F Only)

**FSCI 327—FIRE APPARATUS AND EQUIPMENT** 3 UNITS
Recommended for Success: Satisfactory completion of FSCI 307
Fire apparatus design, specifications and performance capabilities; effective utilization of apparatus in fire service emergencies. Field trips may be required. May be repeated an unlimited number of times. Lecture. (A-F Only) Lecture/Lab.

**FSCI 328—INVESTIGATION OF FIRES** 4 UNITS
Prerequisite: Satisfactory completion of FSCI 301 with a minimum grade of C or better. Determining cause of fires (accidental, suspicious and incendiary); types of fires; related laws; introduction to arson and incendiary; recognizing and preserving evidence, interviewing witnesses and suspects, arrest and detention procedures; court procedures and giving court testimony. Field trips may be required. (A-F Only) Lecture/Lab.

**FSCI 332—FIRE FIGHTING TACTICS AND STRATEGY** 3 UNITS
Prerequisite: Satisfactory completion of FSCI 301
Principles of fire control through the utilization of manpower, equipment, and extinguishing agents on the fireground. Field trips may be required. Not offered every semester. Lecture. (A-F Only)

**FSCI 336—RESCUE PRACTICES** 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete FSCI 301
Rescue problems and techniques; emergency rescue equipment; toxic gases; chemicals and diseases; radiation hazards; care of victims, including resuscitation, extraction, and other emergency conditions. Field trips may be required. (A-F Only) Lecture.

**FSCI 337—WILDLAND FIRE CONTROL** 3 UNITS
Prerequisite: Satisfactory completion of FSCI 301
Introduction to factors affecting wildland fire prevention, fire behavior, and control techniques. May be repeated an unlimited number of times. Field trips may be required. Lecture. (A-F Only) Transfer: (CC FIRE 7)

**FSCI 346—INSTRUCTIONAL METHODS FOR FIRE TRAINING OFFICERS** 2 UNITS
Prerequisite: Satisfactory completion of FSCI 301
Provides a variety of methods and techniques to assist a fire training officer in selecting, developing, and organizing materials for in-service training programs. Not offered every semester. Lecture. (A-F Only)

**FSCI 347—FIRE PREVENTION 1C** 2 UNITS
Prerequisite: Satisfactory completion of FSCI 354 and FSCI 355
Designed to provide fire service personnel with the third phase of State Certified Fire Prevention instruction. Includes instruction on flammable and combustible liquid hazards, storage and extinguishment. Materials Fee Required. Field trips may be required. (A-F Only)

**FSCI 350—FIRE COMMAND 1A** 2 UNITS
Prerequisite: Satisfactory completion of FSCI 301 with a minimum grade of C or better.
Fundamental skills for the First-in Incident Commander and company officers. Instruction and simulation time pertaining to the initial decision and action processes at a working fire. Topics include the fire officer, fire behavior, fireground resources, operations, and management. Materials Fee Required Student may repeat if required by regulation. Field trips are not required. (A-F Only) Lecture/Lab.
FSCI 351—FIRE COMMAND 1B  2 UNITS
Prerequisite: Satisfactory completion of FSCI 301 with a minimum grade of C or better. FSCI 350 with a minimum grade of C or better.
Prepares fire officers for command of various emergency incidents. Emphasizes development of management and decision making practices required for success. Topics include use of the Incident Command System to manage major disasters, wildland fires, multi-casualty and hazardous materials incidents. Materials Fee Required. Field trips may be required. Lecture/Lab. (A-F Only)

FSCI 352—TRAINING INSTRUCTOR 1A  2 UNITS
Prerequisite: Satisfactory completion of FSCI 301
Designed to provide the prospective or active fire company officer with a variety of methods and techniques for training fire service personnel in accordance with latest concepts in vocational education. Emphasizes teaching technical lessons, evaluating teaching and learning efficiency and the application of principles of learning through practice teaching demonstrations. Unlimited completions. Lecture/Laboratory. Materials fee required. (A-F Only)

FSCI 353—TRAINING INSTRUCTOR 1B  2 UNITS
Prerequisite: Satisfactory completion of FSCI 352
Designed to provide the prospective or active fire company officer with knowledge of the selection, development, organization and utilization of instructional materials for teaching technical lessons. Structured to provide fire service personnel with the professional preparation leading to standard-designated subjects instructor qualification. Lecture/Laboratory. Materials fee required for State Fire Marshal Certificate and student manual. Not offered every semester. (A-F Only)

FSCI 354 FIRE PREVENTION 1A  2 UNITS
Prerequisite: Satisfactory completion of FSCI 301 with a minimum grade of C or better.
Designed to provide prospective or active Fire Company Officer and Fire Prevention personnel with basic fire prevention information. Structured to prepare the student for responding to a variety of fire prevention situations in a professional and effective manner. Materials fee required. Field trips might be required. (A-F Only)

FSCI 355—FIRE PREVENTION 1B  2 UNITS
Prerequisite: Satisfactory completion of FSCI 301 and FSCI 354.
Designed to provide fire service personnel with the second phase of state certified fire prevention instruction. Includes instruction on private water systems, fixed fire extinguishing, detection and alarm systems. Materials Fee Required. Field trips are required. (A-F Only)

FSCI 356—FIRE MANAGEMENT 1  2 UNITS
Prerequisite: Satisfactory completion of FSCI 301 with a minimum grade of C or better.
Designed to provide the fire service student with instruction in the elements of organizational process, demonstration of growth and development in the use of managerial skills, applications of the course content to fire service work and personal life, location and use of managerial resources, and development of an action plan. Materials Fee Required. Field trips may be required. (A-F Only) Lecture/Lab.

FSCI 357—FIRE INVESTIGATION 2  UNITS
Prerequisite: Satisfactory completion of FSCI 301 with a minimum grade of C or better.
Examines the national arson problem, fire investigation responsibilities, conduct of the investigator; fire chemistry, heat energy sources and explosive conditions; fire investigation techniques and legal aspects of fire investigation. Materials Fee Required. Field trips are required. (A-F Only) Lecture/Lab.

FSCI 362—BASIC FIRE ACADEMY  8 UNITS
Prerequisite: Satisfactory completion of FSCI 301.
Limitations on Enrollment: Students must possess CPR certification because they wear self-contained breathing apparatus equipment, so they must meet physical and medical requirements in order to ensure safety, per NFPA 1582 regulation. Acceptance into program by Fire Academy Selection Committee; consideration of acceptance based upon completion of application process.
Basic knowledge and skills of a fire fighter as set by the State Fire Marshal. Successful completion of the course fulfills the educational requirement for Fire Fighter I. Materials Fee Required. Field trips are required. (A-F Only) Lecture/Lab. Transfer: (MIC FSCI 362 & 363=CC FIRE7, FIRE 50, FIRE 101, FIRE 106, FIRE 108, FIRE 110)

FSCI 363—ADVANCED FIRE ACADEMY  9 UNITS
Prerequisite: Satisfactory completion of FSCI 362.
Advanced Fire Academy is the second of two courses of the Fire Academy designed for the individual who desires a career as a professional firefighter. This course includes instruction in ventilation, vehicle extrication, ICS 200, 67-hr. Wildland Firefighting, Confined Space Awareness, Low-Angle Rope Rescue Operations, Hazmat Operations/Decon. Materials Fee Required Field trips are required. (A-F Only) Lecture/Lab. Transfer: (MIC FSCI 362 & 363=CC FIRE7, FIRE 50, FIRE 101, FIRE 106, FIRE 108, FIRE 110)

FSCI 364—FIRE APPARATUS DRIVER/OPERATOR 1A  2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete FSCI 362.
Limitations on Enrollment: Enrollment limited to students who possess a valid California Driver’s License, class B, firefighter restricted (minimum).
Continued development of a fire fighter’s career. Operation of emergency vehicle and pump operations. How to drive and maintain various types of vehicles. Pump operation and uses for water sources and determining water flow. Materials fee required. Field trips may be required. (A-F Only) Lecture/Lab. Transfer: (CC FIRE 29A & 29B)

FSCI 365—EMERGENCY AID FIRST RESPONDER  1 UNIT
Prerequisite: Satisfactory completion of FSCI 357 with a minimum grade of C or better.
This course provides a deeper understanding of fire investigation and builds on Fire Investigation 1A. Topics include: The juvenile fire-setter, report writing, evidence preservation and collection, interview techniques, motives, and fire fatalities. Materials Fee Required. Field trips may be required. (A-F Only)

FSCI 366—FIRE APPARATUS DRIVER/OPERATOR 1B  2 UNITS
Prerequisite: Satisfactory completion of FSCI 357 with a minimum grade of C or better.
Information on pump construction and theory of pump operations. Topics include: methods for performing basic hydraulics and techniques on basic inspections, documentation, maintenance, and troubleshooting fire pumps. Each student also has the opportunity to increase his or her pumping skills during simulated pumping conditions. Materials fee required. Student may repeat if required by regulation. Field trips may be required. (A-F Only) Lecture/Lab.

FSCI 367—FIRE INVESTIGATION 1B  2 UNITS
Prerequisite: Satisfactory completion of FSCI 357 with a minimum grade of C or better.
Prepares Fire Officers to use management techniques and Incident Command System when commanding multiple alarms or large combat forces. Materials Fee Required. Field trips may be required. Lecture/Lab. (A-F Only)

FSCI 371—FIRE COMMAND 2A  2 UNITS
Prerequisite: Satisfactory completion of FSCI 350 with a minimum grade of C or better.
Prepares Fire Officers to use management techniques and Incident Command System when commanding multiple alarms or large combat forces. Materials Fee Required. Field trips may be required. Lecture/Lab. (A-F Only)

FSCI 372B—FIRE MANAGEMENT 2B  2 UNITS
Prerequisite: Satisfactory completion of FSCI 356 with a minimum grade of C or better.
Covers the purpose of budgeting, budget controls, types of budgets and budget systems and justifying budgets. Materials fee required. Field trips may be required. (A-F Only)

FSCI 373—FIRE INSTRUCTOR 2A  2 UNITS
Prerequisite: Satisfactory completion of FCLI 352, FSCI 353.
The first of three classes for California State Fire Training, Fire Instructor II certification. Advanced skill development for instructors who are responsible for evaluating performance. Course work provides the student with the techniques of evaluation. Course content includes construction of written and performance tests. Students will apply concepts of test planning, test analysis, test security, and test evaluation to determine instructor and student effectiveness. This is an essential course for writing valid and objective Fire Service tests. Materials Fee Required. Field trips are not required. (A-F Only) Lecture/Lab.

FSCI 374—FIRE INSTRUCTOR 2B  2 UNITS
Prerequisite: Satisfactory completion of FCLI 352, FSCI 353.
Designed to develop leadership skills. Group dynamics, problem solving techniques and interpersonal relations development to utilize in staff meetings and brainstorming sessions. Skills for public meetings such as panel discussions and forums. Interactive team teaching is also included. Materials Fee Required. Field trips are not required. (A-F Only)
FSCI - GEOG

FSCI 375—FIRE INSTRUCTOR 2C 2 UNITS
Prerequisite: Satisfactory completion of FSCI 352 and FSCI 353.
Principles of media in the instructional process; selection of audio-visual and instructional media, employment of basic and advanced forms of instructional media, use of computers in the instructional process; individualized instruction programs. Materials Fee Required. Field trips may be required. (A-F Only)

FSCI 381—ETHICS OF LEADERSHIP COURSE 1 3 UNITS
First of a four course series of the California Public Safety Leadership and Ethics Program. Builds comprehension of the roles and responsibilities through concepts, examples, and practice. Explores current issues in human resource management encompassing workforce diversity as well as an overview of political and legal issues, to include civil rights laws. Field trips may be required. (A-F or P/NP) Lecture.

FSCI 382—ETHICS OF LEADERSHIP COURSE 2 3 UNITS
Prerequisite: Satisfactory completion of FSCI 362.
Second of a four course series of the California Public Safety Leadership and Ethics Program. Course is designed to provide the participant with the knowledge, skills, and abilities to effectively lead others and explore issues with diversity more in-depth as well as additional ethics explorations and issues. (A-F Only) Lecture.

FSCI NON-CREDIT COURSES

FSCI 860—ADVANCED MEDICAL FIRST RESPONDER COURSE 3 UNITS
Prerequisite: Satisfactory completion of FSCI 365
Designed to meet Emergency Medical Service requirements for recertification of police and fire personnel designated as first responders to the scenes of medical emergencies. Eight maximum completions. Lecture/Laboratory.

FTECH (Fire Technology)

FTECH 301XABC—INCIDENT COMMAND SYSTEMS 1/2 - 3 UNITS
Limitations on Enrollment: Enrollment limited to students who are certificated firefighters.
Provides description and detail of the Incident Command System (ICS) organization and operations in supervisory roles on all types of emergency incidents. Materials fee required. Student may repeat if required by regulation. Field trips may be required. (A-F or P/NP) Lecture.

GENED (General Education Preparation/Counseling)

GENED 956—GED PREPARATION
General review of all basic high school subjects in preparation for the General Education Development tests (GED), and to provide students with knowledge required for entry and success in college programs. Repeatable. Field trips are not required. (Non-Graded course) Lecture
GEOL—INTRODUCTION TO GEOLOGY 3 UNITS
Study of the composition of the earth, and the physical and chemical processes which shape it. Topics include plate tectonics, volcanism, earthquakes, rocks and minerals, weathering, and erosion. Credit will be granted for either GEOL 160 or 161. Field trips may be required. Lecture. Material fees may be required. Not offered every semester. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B1)(IGETC: 5A)

GEOL 161—PHYSICAL GEOLOGY 4 UNITS
Formerly listed as GEOL 160.
Study of the physical and chemical processes that shape the earth, including plate tectonics, volcanoes, weathering, and erosion; the composition of the earth, and geologic hazards, such as mass wasting, flooding and earthquakes. Laboratory topics include rock and mineral identification, and the use of maps and aerial photographs to understand erosional and tectonic processes. Field trips may be required. Lecture/Laboratory. Transfer: (CSU, UC) (CC ESC 35) General Education: (MJC-GE: A)(CSU-GE: B1,B3)(IGETC: 5A)

GEOL 165—GEOLOGY OF CALIFORNIA 3 UNITS
The geologic setting and evolution of California’s geomorphic provinces. Emphasis is on processes that have and are still acting to shape the landscape: volcanism, earthquakes, and erosion. Field trips may be required. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B1)(IGETC: 5A)

GEOL 166—HISTORICAL GEOLOGY 4 UNITS
Formerly listed as GEOL 163.
Introduction to the origin, development and evolution of the earth and its inhabitants. Topics include the study of fossils and rocks, continents and ocean basins, geologic time, plate tectonics, climate change and mass extinctions. Laboratory utilizes rocks, fossils and stratigraphic principles to decipher ancient environments. Field trips may be required. Lecture/Laboratory. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B1)(IGETC: 5A)

GEOL 171X,A,B—GEOLOGY FIELD STUDIES ½,1,2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete or concurrently enroll in a geology or earth science course. Introduction to basic geological concepts through field trips to areas of geologic significance. Emphasis will be on the materials and structures that compose a landscape, and the history and evolution of the areas visited. Four completions allowed. Field trips are required. (A-F or P/NP) / Discussion /Discussion /Discussion Transfer: (CSU, UC) (CC ESC 35)

GEOL 174—GEOLOGY SUMMER FIELD STUDIES 3 UNITS
Recommended for Success: Satisfactory completion of previous course in geology or earth science.
Application of principles of geology through extended field studies at selected sites in the western United States and other geologically significant locations. Skills developed in rock, mineral, and fossil identification, and use of geological field equipment. Requires ability to work and study under rigorous conditions. Lecture/Laboratory. Field trips may be required. Materials fees required. Transfer: CSU

GERM—INTRODUCTORY GERMAN 1 3 UNITS
Formerly listed as Introduction to Practical German 1
Slow-paced, non-transferable course designed for people who have never studied German and/or another foreign language. Introduction to elementary German grammar and pronunciation. Field trips may be required. (A-F or P/NP) Lecture. General Education: (MJC-GE:C)

GERM 52—INTRODUCTION TO PRACTICAL GERMAN 2 3 UNITS
Prerequisite: Satisfactory completion of GERM 51. Continuation of GERM 51. Review and expansion of essentials of spoken and written German. Lecture.

GERM 101—GERMAN 1 5 UNITS
Essentials of written and spoken German, simple composition, conversation and reading. Field trips may be required. Lecture/Laboratory. Equivalent to the satisfactory completion of two years high school German. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 6A)

GERM 102—GERMAN 2 5 UNITS
Prerequisite: Satisfactory completion of GERM 101. Continuation of GERM 101. Review and expansion of tenses, vocabulary, and commonly used expressions. Equivalent to the satisfactory completion of three years of high school German. Field trips may be required. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 6A)

GERON—AGING IN AMERICA 3 UNITS
Formerly listed as HUMSR 104.
Analysis of the aging process from a multidisciplinary approach, including sociology, psychology, and physiology. Students will have an opportunity to explore their beliefs, feelings and values regarding the aged population. Field trips may be required. Lecture. Transfer: CSU
GUIDE (Guidance/Counseling)

Dean (Interim): Dean Tsuruda
Division Office: Moris Memorial Building, Room 103
Phone: (209) 575-6800
Division website: www.mjc.edu/prospective/getting_started/advising/index.html
Instructors: Alida Garcia, Barbara St. Urban, Dana Hanlon, Dean Tsuruda, Eric Ivy, Eva Rivera-Jara, Hanna Louie, Kim Bailey, Linda Wong, Marcos Garcia, Mary Silva, Pam Crttenden, Pam Loyd, Ron Tingley, Therese Maldonado-Ballance, Tina Giron

The Guidance program is an integral part of the counseling services. Students who take guidance skills courses will learn to:

- Acquire, organize and demonstrate problem-solving and decision-making skills;
- Explore, evaluate and pursue career and educational options;
- Develop social, intellectual and emotional competencies; develop needed skills and strategies to maximize the educational experience;
- Understand themselves, others and their environment to enable them to develop individual value systems and life styles.

One of the following courses must be taken to fulfill the guidance graduation requirement: GUIDE 109, 110, 111, 112, 116, or 120. Students should enroll in a Guidance class their first semester of attendance at MJC.

GUIDE 109—INTERNATIONAL STUDENT/NEW AMERICAN FOCUS 1 UNIT
Education and career planning for students whose previous education has been outside the United States. Acquaints students with the college, its curriculum, facilities, services, academic regulations, vocational and certicate programs, degree and transfer requirements. Reviews extracurricular activities, personal adjustment, American customs, culture shock, survival techniques and immigration regulations. A detailed educational plan is developed. Students must complete a conference with a counselor during the semester. Lecture. MJC Guidance. (P/NP Only) Transfer: CSU

GUIDE 110—EDUCATIONAL PLANNING ½ UNIT
Acquaints MJC students with the college, its curriculum, facilities, services, academic regulations, vocational and certicate programs, degree and transfer requirements. Students must complete a conference with a counselor during the semester. An educational plan is developed according to each student's needs and goals. Field trips are not required. (P/NP Only) Lecture. MJC Guidance. Transfer: CSU (CC GUIDE 107)

GUIDE 111—CAREER AWARENESS 1 UNIT
Assists students in exploring career alternatives through development of skills necessary for the research, selection and planning of a life-long career. The role of attitudes, interests, values and skills will be addressed. Interests, aptitude and values tests may be used. Important aspects of occupational choice will be covered along with occupational information. An educational plan will be developed. Students must complete a conference with a counselor during the semester. Materials Fee Required Field trips are not required. (P/NP Only) Lecture. MJC Guidance. Transfer: CSU (CC GUIDE 11)

GUIDE 112—JOB HUNTING SKILLS ½ UNIT
Formerly listed as GUIDE 112—Job Employment Skills
Realities of the job market and techniques for conducting a successful job search. Emphasis on learning about job application procedures, resume writing and interviewing skills. Students must complete an appointment with a counselor during the semester. Two maximum completions. Field trips are not required. (P/NP Only) Lecture. MJC Guidance. Transfer: CSU (CC GUIDE /BUSAD 25)

GUIDE 116—ORIENTATION FOR RE-ENTRY ADULTS 2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to speak, write, and understand the English language.
Designed to help new or returning adult students be successful in college after having been out of school for a number of years. Acquaints students with college services, programs, and requirements, and numerous topics related to academic and career success. These topics include adult transitions, self exploration, educational planning, study skills, time management, learning styles, goal setting, career exploration, and other topics related to student success. Students must complete a conference with a counselor during the semester. An educational plan will be developed based on student's academic and career goals. Field trips are not required. (P/NP Only) Lecture / Discussion. MJC Guidance. Transfer: CSU

GUIDE 120—SUCCESS STRATEGIES FOR TRANSFER STUDENTS 3 UNITS
Formerly listed as STSK 120
Increases success in college by assisting students in obtaining skills and techniques necessary to reach their educational objectives. Explore personality, interests and values to increase self-understanding and select an appropriate major and career. Topics include: educational planning and transfer strategies, motivation, paper research strategies, note-taking, subject specific study techniques, time management and textbook study methods. Lecture. (A-F Only) MJC Guidance. Transfer: (CSU, UC)

HE (Health Education)

Dean: William Kaiser
Division Office: PE Office Building, Room 105
Phone: (209) 575-6269
Division website: www.mjc.edu/athletics
Instructors: Cheryl Mulder, David Shock, Demitrius Suera, Eric Fischer, Jim Stevens, Mary Shea, Michael Giardia, Milan Motroni, Paul Bregan, Shawn Black, Steve Anastoteus

The expanding field of health education through public or community agencies and the schools will require trained professionals for positions of leadership and supervision. The professionals will be dealing with such complex issues as physical and mental well-being, substance abuse, exercise, environmental and consumer health, disease control, human sexuality, family relations, death and dying, first aid and emergency care. Since careers in the Health Education field usually require a minimum of a four-year degree, health education majors at MJC are given an introduction to health through basic health and safety courses and are advised to follow general education and transfer requirements for four-year colleges and universities.

HE 100—STANDARD FIRST AID/CPR 1 UNIT
A basic course for an Emergency Services professional or the citizen who wishes to maintain or acquire cardio pulmonary resuscitation (CPR) and basic first aid certification. Successful course completion results in certification in CPR and Standard First Aid. Materials fee required. Four completions allowed. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC HHP 62)

HE 101—EMERGENCY RESPONSE/CPR FPR 3 UNITS
Course designed to provide the First Responder with advanced first aid capabilities necessary in an emergency to help sustain life, reduce pain, minimize the consequences of injury or sudden illness and to provide emergency care of the sick and injured. CPR for the Health Care Provider and First Responder certification issued upon satisfactory completion. Materials fee required. Four completions allowed. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC EMS 13)

HE 110—HEALTHFUL LIVING 3 UNITS
A consideration of factors in the selection of a plan for healthful living. Emphasis on self-assessment through gathering and analyzing information while setting new health goals. The course focuses on emotional, physical, social, spiritual, intellectual and environmental Wellness in achieving human potential. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC HHP 60) General Education: (MJC-GE: E) (CSU-GE: E)

HE 111—WOMEN’S HEALTH ISSUES 3 UNITS
HE 118 — EXERCISE AND NUTRITION FOR HEALTHY LIVING  3 UNITS
Theories of exercise including techniques of endurance, methods of strength attainment, flexibility training. Nutrition concepts and influences on exercise and weight management. Lecture. Transfer: CSU General Education: (MJC-GE: B)

HE 198A, B, C — SPECIAL TOPICS AND PROBLEMS  1-3 UNITS
Participation in discussion, analysis, and evaluation of a special topic or problem in health education. Topics announced each semester in schedule of classes. Field trips may be required. Four completions allowed. Lecture. Transfer: CSU.

HIST (History)

Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: mjc.edu/prospective/programs/bbss/
Instructors: Eileen Kerr, Curtis Martin, Eva Mo, Bill Newell, Al Smith

HIST 101 — HISTORY OF THE UNITED STATES TO 1877  3 UNITS
Formerly listed as HIST 101 — History of the United States Through Reconstruction
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Survey of United States history to 1877 exploring the intersection of politics, the economy, society, culture and geography. Periods covered include: American societies to 1492, the colonial period, the American Revolution, creation of the U.S. Constitution and federalism, the early national period, the antebellum period, the Civil War and Reconstruction. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D6) (IGETC: 4F) (AI: Group a, c)

HIST 102 — HISTORY OF THE UNITED STATES POST CIVIL WAR  3 UNITS
Recommended for Success: Satisfactory completion of HIST 101
U.S. history from the late 19th century until contemporary times. Local, state and national historic development will be traced with emphasis placed on American institutions and their role in the development of American culture. Special attention to U.S. urban and industrial processes; the country’s international role and resulting institutional developments. The role of class and ethnicity will be integrated with comparisons tracing European, Indigenous, and African American experiences. Analysis of the role of technology in the formation of America. The evolution of contemporary local, State and Federal governments as they relate to politics, economics and social movements is addressed. The gradual movement toward full inclusion of all peoples of America under State and Federal Constitutional law is emphasized. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D6) (IGETC: 4F) (AI: Group a, c)

HIST 104 — WESTERN CIVILIZATION TO 1650  3 UNITS
Formerly listed as HIST 104 — Western Civilizations
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Survey of the social, economic, political, religious, intellectual, and cultural development of Western Civilization from the Neolithic to the Reformation. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B, C) (CSU-GE: D6) (IGETC: 4F)

HIST 105 — WESTERN CIVILIZATION SINCE 1650  3 UNITS
Formerly listed as HIST 105 — Western Civilization
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Survey of the political, economic, social, and cultural changes in the history of Western Civilization from 17th century Absolutism to the present. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B, C) (CSU-GE: D6) (IGETC: 4F)

HIST 106 — WORLD CIVILIZATION TO THE 16TH CENTURY  3 UNITS
A comparative and interactive investigation and analysis of World Civilization as related to the development of the modern world. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B, C) (CSU-GE: D3, D6) (IGETC: 4F)

HIST 107 — WORLD CIVILIZATION FROM THE 16TH CENTURY  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
A comparative study of World Civilizations from 1500 to the present. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B, C) (CSU-GE: D6) (IGETC: 4F)

HIST 112 — TWENTIETH CENTURY AMERICA  3 UNITS
Explores the political, economic, social and cultural developments of twentieth century United States History. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D6) (IGETC: 4F) (AI: Group a)

HIST 113 — SOCIAL AND CULTURAL HISTORY OF THE UNITED STATES PRIOR TO THE 20TH CENTURY  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
The first in a two-part series, HIST 113 examines the development of American society and culture prior to the 20th century. HIST 113 specifically analyzes the formation and evolution of American social institutions in response to indigenous American and immigrant European and African cultures. This course compares interpretations of race, gender, class, political economy and human rights to examine social and cultural transformations in America. Emphasis is placed on the evolution of State and Federal constitutional government and the principle of inclusion. Contemporary local, State, and Federal government developments are analyzed historically in relation to political and social movements as a foundation for contemporary social activism. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D6) (IGETC: 4F) (AI: Group a)

HIST 115 — ECONOMIC HISTORY OF THE UNITED STATES  3 UNITS
Also offered as ECON 115.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Study of the history of women in the United States, their experiences and contributions from the pre-colonial period to the present. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D6) (IGETC: 4F) (AI: Group a)

HIST 116 — WOMEN IN AMERICAN HISTORY  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Study of the history of women in the United States, their experiences and contributions from the pre-colonial period to the present. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D6) (IGETC: 4F) (AI: Group a)

HIST 119 — SOCIAL AND CULTURAL HISTORY OF 20TH CENTURY AMERICA  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
The second in a two-part series, HIST 119 examines the development of American society and culture in the 20th and 21st century. HIST 119 specifically analyzes American political and economic institutions and their interaction with Indigenous American, Latinx/Chicano, African American, European, and Asian American ethnicities. Particular attention is given to various historic and contemporary civil and human rights movements. Critical evaluation of the role of local, State, and Federal government in the inclusion of Native and Asian American ethnicity is emphasized. The effects of U.S. foreign and domestic policies on first and third world nations will be evaluated. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D6) (IGETC: 4F) (AI: Group a)

HIST 125 — HISTORY OF MEXICO  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Survey of Mexican history from the first Mesopotamian civilizations through the present, exploring the intersection of politics, the economy, society, culture, and geography. Periods covered include: Mesoamerica, the colonial period, independence, La Reforma, the Porfirato, the Mexican Revolution and its aftermath, and the post-WWII period. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B) (CSU-GE: D3, D6) (IGETC: 4F)
HIST 128—HISTORY OF AMERICAN FAR WESTERN FRONTIER  3 UNITS
A regional history of frontier life in the trans-Mississippi West during the 19th century, including early exploration through the fur trade, territorial expansion, and the mining and farming frontier. Special emphasis is given to the contributions of Native Americans, African, Iberian and Mexican cultures in shaping the character of the American West. Field trips are not required. (A-F or P/NP) Lecture. **Transfer:** (CSU, UC) (CC HIST 55) **General Education:** (MJC-GE: B) (CSU-GE: D3, D6) (IGETC: 4F)

HIST 129—HISTORY OF CALIFORNIA  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Survey of California history from the first peoples to inhabit this region through the present. The course explores the intersection of politics, the economy, society, culture, and geography and the way it has contributed to the formation of contemporary California. Emphasis comparing and contrasting the historical development of California to that of the rest of the nation. Field trips may be required. (A-F or P/NP) Lecture. **Transfer:** (CSU, UC) (CC HIST 11) **General Education:** (MJC-GE: B) (CSU-GE: D6) (IGETC: 4F)

HIST 145—HISTORY OF LATIN AMERICA  3 UNITS
Formerly listed as HIST 145 - Latin American History
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Survey of Latin American history through the present, emphasizing changes and continuities in the political, economic, social, and cultural life of the continent. Examines issues such as: the colonial legacy, development and underdevelopment, ideas of race and ethnicity, relationships to the outside world, the construction of the nation-state, gender, and social, economic, and political movements. Field trips may be required. (A-F or P/NP) Lecture. **Transfer:** (CSU, UC) **General Education:** (MJC-GE: B) (CSU-GE: D3, D6) (IGETC: 4F)

HIST 154—AFRICAN AMERICANS THROUGH THE 19TH CENTURY  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.

HIST 155—AFRICAN AMERICANS IN THE 20TH AND 21ST CENTURIES  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Second in a two-part series. Examines the political, economic, technological, and social history of African Americans from the end of the 19th century through the early 21st century. Specific analysis of complex relationships between European Americans, Latinos/Chicano Americans, and African American ethnic groups. Inquiry into race, gender, and class disparities. Ongoing struggles for ethnic self determination and inclusion are contrasted against institutional resistance and social marginalization. Emphasis on the evolution of State and Federal Constitutional government and the struggle for ethnic parity, disparity, and inclusion. Contemporary and historic local, State, and Federal government developments are analyzed in relation to political and social movements as a foundation for contemporary activism for civil rights, human rights, and economic justice. Field trips may be required. (A-F or P/NP) Lecture. **Transfer:** (CSU, UC) **General Education:** (MJC-GE: B) (CSU-GE: D3, D6) (IGETC: 4C, 4F) (AI: Group a)

HUMAN 101—INTRODUCTION TO THE HUMANITIES  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be eligible for ENGL 101.
Introduction to major works of the humanities that focuses on the diversity of human experience and the relationships among arts and ideas. Field trips may be required. (A-F or P/NP) Lecture. **Transfer:** (CSU, UC) **General Education:** (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B)

HUMAN 105—EARLY HUMANISTIC TRADITIONS  3 UNITS
Recommended for Success: Eligibility for ENGL 101
Examination of creative and intellectual achievements from cultures of the world beginning with Prehistory and extending to the Renaissance. Lecture. Field trips may be required. (A-F or P/NP) **Transfer:** (CSU, UC) (CC HUMAN 1) **General Education:** (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B)

HUMAN 106—HUMANITIES IN THE MODERN WORLD  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Study of creative and intellectual achievements from cultures around the world, beginning with 1600’s and extending into the 20th centuries. Field trips may be required. (A-F or P/NP) Lecture. **Transfer:** (CSU, UC) (CC HUMAN 2) **General Education:** (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B)

HUMAN 110—EAST MEETS WEST  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be eligible for ENGL 101
Differences between Eastern and Western world cultures are explored. Works studied are chosen from the fields of art, music, philosophy, literature and/or architecture. Field trips may be required. (A-F or P/NP) Lecture. **Transfer:** (CSU, UC) (CC HUMAN 3) **General Education:** (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B)

HUMAN 130—INTRODUCTION TO WESTERN RELIGIONS  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be eligible for ENGL 101
Origins and development of the three monotheistic religions of Western Civilization: Judaism, Christianity and Islam; scripture, beliefs, traditions, rituals, and celebrations; scripture of all three faiths, along with architecture and arts. Field trips may be required. (A-F or P/NP) Lecture. **Transfer:** (CSU, UC) **General Education:** (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B)

HUMAN 140—INTRODUCTION TO WORLD MYTHOLOGY  3 UNITS
Recommended for Success: Eligibility for ENGL 101
An overview of mythology which examines the nature, functions, and meanings of myths throughout the world, their cultural contexts, artistic expressions, and influence on contemporary life. Field trips may be required. Lecture. (A-F or P/NP) **Transfer:** (CSU, UC) **General Education:** (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B)
### HUMSR (Human Services)

**Dean:** Vacant  
**Division Office:** Journalism 150  
**Phone:** (209) 575-6129  
**Division Website:** mjc.edu/prospective/programs/human-services/  
**Instructors:** Kimberly Kennard

The Modesto Junior College Human Services programs provide knowledge and skills involved with the delivery of a wide variety of social services through various community social work and counseling agencies.

The two-year programs are designed to prepare students for entry-level employment in human service organizations as well as to upgrade current employees. They also provide a basis for future academic training leading to degrees in Social Work, Sociology, and Psychology.

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**HUMSR 40—INDEPENDENT LIVING SKILLS AND ACTIVITIES**  
1½ UNITS  
Formerly listed as Independent Living Skills  
Non-degree course.

Provides foster youth ages 16-18 with the knowledge, information, survival skills, and activities for daily living and foundation to transition from foster care to living independently in the community. Field trips may be required. Lecture. (P/NP Only)

**HUMSR 101—INTRODUCTION TO HUMAN SERVICES**  
3 UNITS  
Development of human services in American society by private and governmental agencies at national, state, and local levels. Emphasis on contemporary programs and practices, needs served, and projected changes. Preparation for "new careers" in paraprofessional programs in the health, education, and social services, such as eligibility workers, counselor aides, vocational rehabilitation aides, social service technicians, and pre-professional positions. Field trips may be required. Lecture. **Transfer:** CSU General Education: (MJC-GE:B)

**HUMSR 103—INTRODUCTION TO HUMAN SERVICE CAREERS**  
½ UNIT  
Introduction to careers in the human services profession, personal qualities, clinical skills, and academic requirements necessary for entry-level human service positions. (A-F or P/NP) Lecture. **Transfer:** CSU

**HUMSR 104—AGING IN AMERICA**  
3 UNIT  
Also offered as GERON 101.

Analysis of the aging process from a multidisciplinary approach, including sociology, psychology, and physiology. Students will have an opportunity to explore their beliefs, feelings, and values regarding the aged population. Field trips may be required. (P/NP Only) Lecture. **Transfer:** CSU

**HUMSR 110—INTRODUCTION TO INTERVIEWING, COUNSELING**  
3 UNITS  
Recommended for Success: Satisfaction completion of ENGL 101.

Introduction to the principles and practices of interviewing, counseling, and theoretical frameworks. Designed to assist in the preparation of paraprofessionals in the Human Services and other related fields. Recognition and understanding of social problems, and the impact on human behavior. Lecture. (A-F or P/NP) **Transfer:** CSU

**HUMSR 111—COUNSELING IN CHEMICAL DEPENDENCY**  
3 UNITS  
Recommended for Success: Satisfaction completion of ENGL 101

Concepts of counseling, therapy, personality development, and theoretical frameworks relevant to chemical dependency. Recommended for the paraprofessional in the chemical dependency profession and other related fields. Clinical skills, assessment tools, techniques, crisis intervention strategies, and resolution will be covered. Lecture. (A-F or P/NP) **Transfer:** CSU

**HUMSR 113—CO-OCcurring DISORDERS**  
3 UNITS

Introduction to the treatment needs of individuals who are diagnosed with a psychiatric disorder in combination with a chemical dependency disorder. Students will learn to identify, assess, and offer treatment to those with a dual diagnosis/co-occurring disorder. Field trips may be required. (A-F only) Lecture. **Transfer:** CSU

**HUMSR 114—DEATH AND DYING**  
3 UNITS  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.

Exploration of feelings, belief systems, values and theoretical comprehension about death, dying, and the bereavement process from a historical, multidisciplinary, and cultural perspective. Topics include: coping mechanisms, counseling the dying, suicide, grief and bereavement, terminal illness, and multi-cultural concepts about death. (A-F or P/NP) Lecture. **Transfer:** CSU (CC SOCIO 28) General Education: (MJC-GE:B)

**HUMSR 116—DRUGS AND ALCOHOL IN SOCIETY**  
3 UNITS  
Recommended for Success: Satisfaction completion of ENGL 101

An introductory course that focuses on drug and alcohol use, abuse, and dependency in society. Covers causes for addiction, current trends, historical dimensions, prevention, treatment, multicultural considerations, and corresponding myths regarding chemical dependency and psychoactive drugs. Lecture. (A-F or P/NP) **Transfer:** CSU (CC PSYCH 35)

**HUMSR 117—INTERVENTION AND TREATMENT STRATEGIES IN CHEMICAL DEPENDENCY**  
3 UNITS  
Recommended for Success: Satisfaction completion of ENGL 101

Prerequisite: Satisfactory completion of HUMSR 111 and 116.

Continued development in the application of therapeutic techniques, clinical skills, and strategies relative to the treatment of chemical dependency. Emphasizes the intervention process, assessment tools, crisis counseling, theoretical foundations, recovery dynamics, and family systems. Lecture. (A-F or P/NP) **Transfer:** CSU

**HUMSR 118—PHARMACOLOGY OF ABUSED SUBSTANCES**  
3 UNITS  
Also listed as PSYCH 118.

An introduction to psychopharmacology and the process of drug addiction. Topics include classification of abused and psychotherapeutic drugs, basic principles of pharmacology, behavioral, and psychological effects of drugs, major neurotransmitter systems and how they are influenced by drugs. Lecture. **Transfer:** CSU

**HUMSR 119—INTRODUCTION TO GROUP LEADERSHIP AND GROUP PROCESS**  
3 UNITS

An introduction to the dynamics of group interaction with an emphasis upon the individuals' subjective experience as the group studies itself (under supervision). The factors involved in problems of communication, effective emotional responses, and personal growth will be highlighted. Emphasis on group process as a means of changing individual behavior. Field trips may be required. (A-F only) Lecture. **Transfer:** CSU

**HUMSR 120—PROFESSIONAL DEVELOPMENT IN THE HELPING PROFESSIONS**  
3 UNITS  
Formerly listed as Professional Development in Chemical Dependency

Recommended for Success: Satisfaction completion of ENGL 101.

Focuses on the application of clinical skills, theoretical foundations, strategies, techniques, ethical standards, and professional development in the Human Services and Chemical Dependency profession. Lecture. (A-F or P/NP) **Transfer:** CSU

**HUMSR 142—INTRODUCTION TO PSYCHOSOCIAL REHABILITATION**  
3 UNITS

Introduction to the field of psychosocial rehabilitation and its application in the public mental health system. The class provides an overview of the core practice models, principles, theories, and methods in psychosocial rehabilitation as related to the social sciences, and gives students a broad view of best clinical practices, social and psychological considerations in working with individuals who have psychiatric disorders using sociocultural concepts, theories, and methodology. Field trips may be required. Lecture. (A-F or P/NP) **Transfer:** CSU (CC PSYCH 35) General Education: (MJC-GE:B)

**HUMSR 143—PSYCHOSOCIAL REHABILITATION PRACTICE**  
3 UNITS

Continued development in the field of psychosocial rehabilitation, and its application in the public mental health system. Designed to provide opportunities for students to practice and apply models of psychosocial rehabilitation, principles, theories, and methods related to the social sciences with individuals who have psychiatric disorders using sociocultural concepts and methodology. Course is not repeatable. Field trips may be required. Lecture. (A-F or P/NP) **Transfer:** CSU General Education: (MJC-GE:B)
HUMSR 144 — COMMUNITY AGENCY PRACTICUM DISCUSSION 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101.
Analysis of field experiences of students concurrently enrolled in HUMSR 145A, HUMSR 145B, or HUMSR 145D. Class time is devoted to sharing, evaluation, and discussion of student's supervised field experiences and placement. Continued development of clinical skills, theoretical integration, knowledge base, professional values, and competence in the helping profession. Field trips are not required. (A-F or P/NP) Lecture. Transfer: CSU

HUMSR 145A, 145B, 145D — COMMUNITY AGENCY PRACTICUM 1, 2, 4 UNITS
Formerly listed as Community Agency Fieldwork.
Prerequisite: Satisfactory completion of HUMSR 110 or 111.
Concurrent Enrollment: HUMSR 174
Supervised field experience in a variety of community social agencies. Three maximum completions in any combination of HUMSR 145 A, B, and D. Lecture/Lab. (A-F or P/NP). Transfer: CSU

IIS (Individualized Instruction and Services)

Division Office: Special Programs, Morris, 112B
Phone: (209) 575-6702

IIS 10 — MATH STRATEGIES FOR DISABLED STUDENTS 1 UNIT
Non-degree course.
Intended for students with disabilities who need additional instruction and compensatory strategies to learn and be successful within the traditional classroom. Specialized instruction will occur in basic skills and in formulating efficient test-taking and study strategies specifically related to math. Four completions allowed. Lecture. (A-F or P/NP).

IIS 12 — COLOR THEORY AND APPLICATION 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete READ 82 and ENGL 50 and MATH 20.
Corequisite: Satisfactory completion of or concurrent enrollment in INTDS 200.
Basic color theory and its application to the built environment. Development of skills and knowledge applicable to interior architecture, decorative arts, and related fields of design, such as product development. Exploration of the impact of cultural heritage, the effects of environment, and the psychological implications related to the application and use of color. Field trips may be required. Lecture/Laboratory. (A-F or P/NP). Transfer: CSU

INTDS (Interior Design)

Dean: Maurice McKinnon, EdD
Division Office: John Muir Hall, Room 157
Phone: (209) 575-6343
Division website: www.mjc.edu/prospective/programs/ind/index.html

Course content within the Interior Design program emphasizes the home and the workplace as the environment created by individuals in response to their family and work interests and needs. Focus is placed not only on the physical set-up of the structure and interior but also on the psychological and sociological effects of the environment on the people who function within it. Product knowledge is emphasized as students learn to keep up with what is in demand as lifestyles and tastes change.

INTDS 10 X, A, B — INTERIOR DESIGN OPEN LAB ½, 1, 2 UNITS
Corequisite: Concurrent enrollment in INTDS 100 or 120 or 130 or 140 or 145 or 150 or 155 or 160 or 170 or 180 or 190 or 200 or 201 or 202 or 203 or 204 or 205 or 206 or 210 or 215 or 220 or 230 or 235 or 240 or 245 or 250 or 255 or 260 or 265 or 270 or 290 or 295X or 298X or 299 or 349 or 373 or 375 or 398 or 399.
Open lab for the currently enrolled interior design student; concurrent enrollment with another interior design course required. Four completions allowed. Laboratory. (P/NP Only).

INTDS 100 — CAREERS IN DESIGN 2 UNITS
Introduction to educational and interior design employment opportunities. Includes portfolio and educational plan development and curriculum requirements that pertain to educational goals as they relate to interior design majors. Emphasizes personal, educational, and professional qualifications required for success in obtaining, maintaining, and advancing in the field of interior design and related professions. Field trips may be required. Lecture. (A-F or P/NP). Transfer: CSU.
INTDS 130—FABRICS FOR INTERIORS 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete READ 82 and MATH 20 and ENGL 50.

INTDS 140—RENDERING AND RAPID VISUALIZATION 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete READ 82 and ENGL 50 and MATH 20.
Prerequisite: Satisfactory completion of INTDS 120, 200 and 230
Introduction to the principles and techniques used in interior illustration. Emphasis on drawing in perspective using light, shade, and shadow, and pencil rendering of furniture, interior finishes, and accessories. May be completed up to 2 times. Field trips may be required. Lecture/Laboratory. (A-F or P/NP). MIC Activities. Transfer: CSU

INTDS 145—FUNDAMENTALS OF LIGHTING DESIGN 3 UNITS
Fundamentals of lighting design, theory, and application, including both aesthetic and technical considerations. Basic study of how light affects color and vision. Survey of lighting techniques, codes, and energy efficient practices for interior designers. Field trips may be required. (A-F or P/NP). Lecture. Transfer: CSU

INTDS 150—HISTORY OF INTERIORS/DECORATIVE ARTS 1 3 UNITS
Overview of the development of interior architecture and furniture styles of the world from Antiquity to the Classical Revival Period of the nineteenth century. Covers dominant social, economic, technological influences, and innovations affecting design and development of specific styles and periods. Description of dominant influences and characteristics of interiors, furniture, ornamentation, design, and decorative arts, architecture, and textiles. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC) General Education: (MIC-GE-C) (CSU-GE C1)

INTDS 155—HISTORY OF INTERIORS DECORATIVE ARTS 2 3 UNITS
Survey of the historical relationship between interior architecture, furniture, and decorative arts.
Overview of styles from the Classical Revival period of the nineteenth century through the present time. Social, economic, technological influences and innovations are emphasized. Field trips may be required. Lecture. (A-F or P/NP). Transfer: (CSU, UC) General Education: (MIC-GE-C)

INTDS 160—ASIAN DESIGN AND DECORATIVE ARTS 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete READ 82, AND ENGL 50 AND MATH 20.
Broad survey of historic and contemporary Asian decorative arts, architecture, interiors, and landscape design. Introduction to the influence of trade, International exhibitions, and globalization on Western design and manufacturing, including the Asian-inspired works of Western architects and designers. Survey of Asian motifs, materials, colors schemes, and resources. Field trips may be required. Lecture/Laboratory. (A-F or P/NP). Transfer: CSU

INTDS 180—UNIVERSAL DESIGN FOR HEALTH, SAFETY, & WELFARE 3 UNITS
Formerly listed as INTDS 180 - Barrier-Free Design, Codes & Regulations
Global design decisions related to environmental, social, cultural, economic and physiological needs. Concepts of universal, accessible, adaptable, barrier-free, aging-in-place, and lifespan design. Related ADA guidelines, local, state, and federal codes will be discussed. Includes survey of appropriate interior finishes, materials and resources. Space planning considerations for specific needs, issues relating to aging population and life style. Field trips are not required. (A-F or P/NP). Lecture. Transfer: CSU

INTDS 190—SUSTAINABLE AND GREEN DESIGN 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete READ 82 and MATH 20 and ENGL 50.
Overview of environmentally responsible design, building practices, systems, and materials with an emphasis on residential construction and interiors. Field trips may be required. (A-F or P/NP). Lecture. Transfer: CSU

INTDS 200—INTERIOR DESIGN FUNDAMENTALS 3 UNITS
Overview of interior design and furnishings. Study and application of principles of color and design, period influences, selection and arrangement of decorative materials, organized selection of furnishings and materials. Includes consumer and socioeconomic considerations. Field trips may be required. Lecture. Transfer: CSU

INTDS 210—INTRODUCTION TO SALES & MARKETING FOR DESIGN 3 UNITS
Introduction to sales psychology and the principles of marketing and business development for design. Increasing success in the workplace by building client relationships, understanding client needs and wants, and finding a niche. Focus on marketing methods, branding, ethics, selling design services, communication and presentation techniques, and effective use of technology. Field trips may be required. Lecture. (A-F or P/NP). Transfer: CSU

INTDS 215—INTERIOR DESIGN STUDIO 1 2 UNITS
Corequisite: Satisfactory completion of or concurrent enrollment in INTDS 200.
Designed to apply concepts and theories presented in the lecture course, INTDS 200, Fundamentals of Interior Design. Emphasizes the design process in developing solutions for design projects. Develops skills for using visual and oral communication tools for client presentations. Field trips may be required. A-F and P/NP Lecture/Laboratory. Transfer: CSU

INTDS 220—INTERIOR FINISHES CONSTRUCTION MATERIALS 3 UNITS
Analysis, application and evaluation of the materials and components of Interior Design and Architecture. Emphasis will be placed on the selection, specification and estimation of cost and installation criteria. Introduction to local and regional design resources, the influence of style and innovations in technology and sustainability. Flooring, paint and wall coverings, window treatments, textiles, furnishings and various surface materials will be included. Field trips may be required. (A-F or P/NP). Lecture. Transfer: CSU

INTDS 230—DRAFTING FOR INTERIORS 3 UNITS
Introduction to tools and techniques specific to drafting of interior spaces. Development of floor plans, sections, elevations, cabinetry and reflected ceiling plans relating to interior design. Incorporation of space planning, ADA guidelines, building codes, concepts of universal and lifetime design, and visual presentations. (A-F or P/NP) Field trips may be required. Lecture/Laboratory. Transfer: CSU

INTDS 235—SPACE PLANNING 3 UNITS
Formerly listed as Residential Space Planning
Research and development of design solutions based upon human factors, codes, and interior environmental issues. Application of the design process to interior design projects. Structural and non-structural components of interior environments are included. Skills in drafting and presentation techniques are emphasized. Field trips may be required. (A-F or P/NP). Lecture. Transfer: CSU

INTDS 245—KITCHEN AND BATH DESIGN 3 UNITS
Overview of the basic principles of kitchen and bath design and space layout, including drawing floor plans and elevations to scale. Selection and evaluation of current product and materials are made based upon the survey of the client’s needs. Cabinetry, appliances, finish materials, barrier-free design and changing family patterns, reflecting current materials, innovations, technology, and regulations. Field trips may be required. (A-F or P/NP). Lecture. Transfer: CSU

INTDS 250—COMPUTER AIDED DRAFTING/ DESIGN FOR INTERIOR DESIGN 3 UNITS
Prerequisite: Satisfactory completion of INTDS 200.
Overview and application of the basic skills and techniques of Computer Aided Drafting/Design (CADD) using designer-specific software. Floor plans, space planning, elevations and client needs are emphasized. Principles and elements of design as well as the ADA and NIBA guidelines will be applied to interior architecture, layout, lighting, finish materials & furnishings. Field trips may be required. Lecture/Laboratory. (A-F or P/NP). Transfer: CSU

INTDS 270—BUSINESS AND PROFESSIONAL PRACTICES 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MATH 10 or qualify through the MIC assessment process. The business and professional management of an interior design practice, including legal issues, ethics, project programming and business practices. Introduction to field-specific software for management. Emphasis placed upon creating a business plan, developing contracts, choosing an appropriate business format, and licensing alternatives. Wholesale resource development procedures and introduction to professional examinations are included. Field trips may be required. Lecture. (A-F or P/NP). Transfer: CSU
INTEC (Industrial Technology)

Dean (Interim): Pedro Mendez
Office: John Muir 258W
Phone: (209) 575-6332
Division website: www.mjc.edu/prospective/programs/teched/industrialtech/
Instructors: John Kopp

Courses are intended for students interested in new career opportunities in the Manufacturing, Maintenance, Electrician, Home Building, Building and Safety Code Administration, Plant and Facilities and Production fields as well as those already working in the Industry who are interested in updating or upgrading their knowledge and skills.

INTEC 50 — BASIC VOCATIONAL ENGLISH FOR INDUSTRIAL TECHNOLOGY
Reading, writing, speaking and vocabulary skill development specific to industrial technology. Designed for students who want to improve their basic language skills. For elective credit only, does not apply toward Industrial Technology major. Field trips may be required. Two maximum completions. Lecture/Laboratory.

INTEC 115 — INTRODUCTION TO TECHNICAL INDUSTRIES
Also offered as AUBDY 115 and AUTECH 115.
Introduction to educational and technical employment opportunities. Includes an understanding of curriculum requirements that pertain to educational goals as they relate to technical majors. Assists students in setting goals and developing skills necessary for life-long success in obtaining, maintaining, and advancing in technical careers. Current events that impact technical industries and society will be discussed. History and employment opportunities in technical industries. Techniques and applications of sound shop-agency practices and hazardous waste management. Development of an educational plan and presentations by MJC counselors. Field trips may be required. Materials fee required. MJC Guidance. Lecture/Other. (A-F Only). Transfer: CSU

INTEC 200 — INTRODUCTION TO MECHANICAL TECHNOLOGY
Also offered as AG 200: Introduction to Mechanical Technology
Basics in woodworking, cold metal, electrical wiring, plumbing, masonry and welding as related to agriculture maintenance and repair. Designed for students who seek to develop basic mechanical skills. Materials fee required. Field trips may be required. (A-F Only) Lecture/Lab. Transfer: CSU

INTEC 201 — INTRODUCTION TO INDUSTRIAL OPERATIONS
Introduction to policies, procedures, terminology, reports, federal and state law, safety, team building and quality programs of modern industrial and processing plants. Field trips may be required. Three maximum completions. Lecture. Transfer: CSU

INTEC 202 — FUNDAMENTALS OF INDUSTRIAL TECHNOLOGY
Students will explore common industrial production, manufacturing and fabrication processes. Field trips required. Three maximum completions. Lecture/Laboratory. Transfer: CSU

INTEC 203 — INDUSTRIAL MECHANICAL/PNEUMATIC COMPONENTS AND EQUIPMENT
Formerly listed as INTEC 203 - Industrial Mechanical Components
An introduction to fluid power, power transmission, and other common mechanical components and equipment found in the manufacturing and processing industry. Content includes basic terminology, operation, calculations, installation, and maintenance of individual components as well as systems. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

INTEC 205 — PRINCIPLES OF QUALITY CONTROL SYSTEMS
Recommended for Success: Satisfactory completion of INTEC 201, 202, 203, 261 or industry experience.
Principles of quality control, quality improvement methodology, and quality commitments of industrial corporations. Field trips may be required. Three maximum completions. Lecture. Transfer: CSU.

INTEC 208 — THE WORLD OF ELECTRICITY AND ELECTRONICS
Also offered as ELTEC 208
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MATH 20.
An overview of electrical and electronic phenomena as applied to common consumer and industrial devices. The course examines the physical nature and laws of electricity and magnetism and the application of the scientific method. DC and AC circuits and their characteristics are examined, predicted, and measured. Electronic test equipment and voltage sources are utilized in the construction, troubleshooting and testing of electrical and electronic circuits. The historical development and the socioeconomic aspects of the “electronic age” are also examined. **This course is approved by the State of California for the Department of Apprenticeship Standards (DAS) Electricians Training Program. Materials fee required. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

INTEC 221 — INSTRUMENTATION DEVICES AND SYSTEMS
Prerequisite: Satisfactory completion of ELTEC 211 or 208.

INTEC 223 — INDUSTRIAL ELECTRICAL COMPONENTS AND CONTROL DEVICES
An introduction to common components and control devices found in the manufacturing and processing industry. Content includes basic terminology, component identification, manufacturer’s specifications, and maintenance procedures for the components and devices. Lecture/Laboratory. Materials fee required. (A-F Only). Transfer: CSU

INTEC 225 — PRINCIPLES OF ELECTRICAL WIRING
Formerly listed as ELECT 225.
Also offered as AGM 225.
Fundamental principles, systems, and applications of electrical energy and the equipment necessary to manually or automatically control that energy. Field trips required. Lecture/Laboratory. Materials fee required. (A-F Only). Transfer: CSU

INTEC 226 — MOTORS, CONTROLS AND CONTROLLERS
Prerequisite: Satisfactory completion of ELTEC 211 and ELTEC 208 or INTEC 208
Also offered as ELTEC 226.
An introduction to AC and DC motors and the circuits which control them. Use and programming of variable frequency drive motor controllers. Lecture/Laboratory. Materials fee required. (A-F Only). Transfer: CSU

INTEC 229 — COMMERCIAL AND INDUSTRIAL WIRING
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete (INTEC 225 OR AGM 225) AND (INTEC 208 OR ELTEC 208).
Also offered as ELTEC 229.
Essential insights and practices in Commercial and Industrial Wiring that develop skills for the electrical trade. Topics include the application of basic concepts in the design of electrical systems, implementation of accepted trade practices used in installations, and common troubleshooting techniques. Field trips may be required. Materials fee required. Lecture/Lab. (A-F Only). Transfer: CSU

INTEC 248 — ELECTRICAL CODES AND ORDINANCES
Interpretation and application of national, state and local codes and ordinances which regulate the installation and maintenance of electrical circuits and equipment. This course may be repeated up to four completions. Formerly listed as INDED 393. Four completions allowed. Field trips are required. (A-F Only) Lecture. Transfer: CSU

INTEC 249 — ANALYSIS OF ELECTRICAL CODES
Prerequisite: Satisfactory completion of INTEC 248
Continuation of INTEC 248. Training in analysis of national, state and local codes and ordinances which regulate installation, alteration and maintenance of electrical circuits and equipment. Lecture. Three maximum completions. Materials fee required. (A-F Only) (Spring). Transfer: CSU

INTEC 261 — INTRODUCTION TO PLANT MAINTENANCE
An introduction to fundamental maintenance principles, procedures, practices and troubleshooting principles for equipment and systems in modern industrial and processing plants. Formerly listed as INDED 361 Transfer. CSU Field trips may be required. (A-F Only) Lecture.
### COURSES OFFERED

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>INTEC 262</td>
<td>HYDRAULICS/PNEUMATICS</td>
<td>3</td>
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<tr>
<td>Also offered as AGM 262</td>
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<td></td>
<td>Principles and practices of hydraulics/pneumatics as used in the industry. Study of the different applications and management of hydraulics for the most efficient use. Basic pneumatic principles and application systems. Field trips may be required. Two maximum completions. Lecture. Transfer: CSU</td>
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<tr>
<td>INTEC 265</td>
<td>TROUBLESHOOTING TECHNIQUES</td>
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<td>Also offered as ELTEC 265</td>
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<td></td>
<td>Common troubleshooting methodologies used in manufacturing today. One-solution and multiple-solution problems commonly found in everyday life through industrial processes. Prepares students to actively solve problems in personal and professional life. Lecture. Transfer: CSU</td>
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<tr>
<td>INTEC 300</td>
<td>SURVEY OF APPLIED TECHNOLOGIES</td>
<td>3</td>
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<td>Also offered as ELTEC 300</td>
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<td></td>
<td>Survey of applied technologies in the Advance Manufacturing, Transportation, or Construction Industry. Topics include electricity, small engine/industrial mechanics, common computer software and robotics. Field trips may be required. (A-F Only) Lecture/Laboratory.</td>
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<tr>
<td>INTEC 301</td>
<td>EMPLOYABILITY SKILLS 1</td>
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<td>Development of basic background in non-technical skills (S.C.A.N.S.) that will increase a person's employability in the Family and Consumer Sciences and Industrial Technology related occupations. Topics include: Team Building, Safety, Time and Money Management. Field trips may be required. Lecture/Laboratory.</td>
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<tr>
<td>INTEC 302</td>
<td>EMPLOYABILITY SKILLS 2</td>
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<td>Development of basic background in non-technical skills (S.C.A.N.S.) that will increase a person's employability in the Family and Consumer Sciences and Industrial Technology related occupations. Topics will include: Leadership, Safety, Industry Expectations. Field trips may be required. Lecture/Lab.</td>
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<tr>
<td>INTEC 303</td>
<td>INTRODUCTION TO TEAMWORK DEVELOPMENT FOR INDUSTRY</td>
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<td>Interdisciplinary approach to the study of team solutions to industrial problems. Introduction to team member selection criteria, development of team cohesiveness, team solutions to realistic industry problems, and use of computer software to solve and present team solutions. Modules in communications, computer application and industrial technology. Lecture.</td>
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<tr>
<td>INTEC 306</td>
<td>INTRODUCTION TO OCCUPATIONAL SAFETY &amp; HEALTH</td>
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<td>Formerly listed as INSAF 361</td>
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<td>Also offered as MTGA 306</td>
<td>May need to take out!</td>
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<td>Introduction to the principles and techniques of occupational safety and health. Lecture. (A-F Only)</td>
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<tr>
<td>INTEC 312</td>
<td>BEARINGS</td>
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<td>A descriptive introduction to the common industrial bearing. Content includes basic terminology, operation and maintenance of journal bearings, ball and roller bearings, bearing seals, bearing lubrication, and bearing maintenance. Lecture.</td>
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<tr>
<td>INTEC 320</td>
<td>ELECTRICAL SAFETY</td>
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<td>Also offered as ELTEC 320</td>
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<tr>
<td>INTEC 340</td>
<td>UNIFORM BUILDING CODE, STRUCTURAL</td>
<td>3</td>
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<tr>
<td>Formerly listed as INDED 369</td>
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<td>Review of building plans for compliance with structural engineering requirements as per the Uniform Building Code. Four completions allowed. Lecture. (A-F Only)</td>
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<tr>
<td>INTEC 341</td>
<td>UNIFORM BUILDING CODE, NON-STRUCTURAL</td>
<td>3</td>
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<tr>
<td>Formerly listed as INDED 370</td>
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<td></td>
<td>Review of building plans for compliance with non-structural requirements such as occupancy types and life-safety requirements as per the Uniform Building Code. Four completions allowed. Lecture. (A-F Only)</td>
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<tr>
<td>INTEC 344</td>
<td>UNIFORM MECHANICAL CODE</td>
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<td>Formerly listed as INDED 371</td>
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<td></td>
<td>Minimum code requirements for the installation of heating, ventilating, cooling, and refrigeration systems in residential and commercial applications. Four completions allowed. Lecture. (A-F Only)</td>
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<tr>
<td>INTEC 346</td>
<td>ENFORCEMENT OF BUILDING REPAIR AND ABATEMENT REGULATIONS</td>
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<td>Formerly listed as INDED 374</td>
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<td></td>
<td>General review of housing regulations and their application to existing structures. Four completions allowed. Lecture. (A-F Only)</td>
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<tr>
<td>INTEC 350</td>
<td>INDUSTRIAL TECHNOLOGY INTERNSHIP</td>
<td>2</td>
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<tr>
<td>Prerequisite: Minimum of 15 units completed in Industrial Technology major. Supervised field experience in Industrial Technology. Study and research related to job training. Current technical developments in industry. Two maximum completions. Lecture. Field experience arranged. (P/NP Only) (Spring)</td>
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<tr>
<td>INTEC 362</td>
<td>INDUSTRIAL REFRIGERATION SYSTEMS</td>
<td>2</td>
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<tr>
<td></td>
<td>Principles underlying heat transference as used in refrigeration systems. Explanation of devices and equipment used in industrial refrigeration systems. Formerly listed as INDED 363. Field trips may be required. (A-F Only) Lecture.</td>
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<tr>
<td>INTEC 366</td>
<td>HEATING VENTILATION, AIR CONDITIONING AND REFRIGERATION</td>
<td>2</td>
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<tr>
<td></td>
<td>Principles and installation and maintenance of heating and cooling systems in residential and industrial facilities. Four completions allowed. Lecture/Laboratory. (A-F Only)</td>
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<tr>
<td>INTEC 367</td>
<td>PLUMBING PRINCIPLES AND METHODS</td>
<td>2</td>
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<tr>
<td>Formerly listed as INDED 368</td>
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<tr>
<td></td>
<td>Principles of design, installation, and maintenance, and troubleshooting of residential and commercial pipe fitting and plumbing. Discussions and activities involve application of standard plumbing practice. Field trips may be required. Lecture/Laboratory. (A-F Only)</td>
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<tr>
<td>INTEC 376</td>
<td>MECHANICAL BLUEPRINT READING</td>
<td>2</td>
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<tr>
<td>Also offered as: ENGT 376</td>
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<td></td>
<td>Recommended for Success: Before enrolling in this course, students are strongly advised to have a basic working knowledge of personal computers. Reading and interpreting basic two-dimensional mechanical drawings and sketches. Terminology, symbols, notes, and practices for manufacturing and fabrication trades. Field trips may be required. (A-F or P/NP) Lecture/Lab.</td>
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<tr>
<td>INTEC 379</td>
<td>UNIFORM PLUMBING CODE</td>
<td>3</td>
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<tr>
<td>Formerly listed as INDED 379</td>
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<tr>
<td></td>
<td>Installation and inspection of plumbing in the construction of residential units. Content based upon current Uniform Plumbing Code. Lecture. Four completions allowed. (A-F Only)</td>
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<tr>
<td>INTEC 380</td>
<td>ELEMENTARY CARPENTRY AND CONSTRUCTION</td>
<td>5</td>
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<td>Designed to provide entry-level skills for students wanting to explore and enter the construction trades. Experiences in developing carpentry, construction, planning and employability skills used in the residential and commercial construction industry. Field trips may be required. Materials fees required. Lecture/Laboratory. (A-F Only)</td>
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<tr>
<td>INTEC 390</td>
<td>A,B—ADVANCED MANUFACTURING TRAINING</td>
<td>1,2</td>
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<tr>
<td>Advanced skills utilized in industry and needed by students working in the mechanical and automation areas of plant maintenance. Field trips may be required. Maximum of 10 units of INTEC 390 and INTEC 391 credit. Lecture. (A-F Only)</td>
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<tr>
<td>INTEC 391</td>
<td>ADVANCED MANUFACTURING TRAINING</td>
<td>½</td>
</tr>
<tr>
<td>Advanced skills utilized in industry and needed by students working in the mechanical and automation areas of plant maintenance. Field trips may be required. Maximum of 10 units of INTEC 390 and INTEC 391 credit. Lecture. (A-F Only)</td>
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</tbody>
</table>
ITAL (Italian)

Dean: Patrick Bettencourt
Division Office: Journalism 180
Phone: (209) 575-6149
Division website: www.mjc.edu/current/programs/divdeps/litlang/
Instructors: Gabrielle Stein

ITAL 51 — INTRODUCTION TO PRACTICAL ITALIAN 1 3 UNITS
Introduction to the essentials of spoken and written Italian with emphasis on daily life situations, travel, and occupation. (A-F or P/NP) Field trips may be required. Lecture.

ITAL 52 — INTRODUCTION TO PRACTICAL ITALIAN 2 3 UNITS
Recommended for Success: Satisfactory completion of ITAL 51. Continuation of ITAL 51. Review and expansion of essentials of spoken and written Italian. (A-F or P/NP) Field trips may be required. Lecture.

ITAL 101 — ITALIAN 1 5 UNITS

LIBR (Library and Information Technology)

Dean: Dr. Tobin Clarke
Division Office: East Campus, Library 122
Phone: (209) 575-6062
Division website: www.mjc.edu/current/quickreferences/librarylrc.html
Instructors: Ellen Dambrosio, Iris Carroll, James Clarke, Kathleen Ennis, Sue Adler, Wendy Griffiths-Bender

The division of Library & Information Technology offers a variety of courses that support the information competencies applicable to college-level research and lifelong learning. These courses are designed to benefit transfer students who want to develop research skills using the information resources and services found in college libraries, as well as lifelong learners seeking to acquire skills necessary to thrive in an information society. Library & Information Technology courses are transferrable to four-year colleges and universities.

LIBR 100 — RESEARCH METHODOLOGY 2 UNITS
Formerly listed as LR 100
Introduction to academic information sources, including traditional print resources, eBooks, online periodical and research databases, and the World Wide Web. Emphasis on the development of effective research strategies, and the retrieval, evaluation, and use of information for academic research assignments. Field trips are not required. (A-F or P/NP) Lecture. Transfer: CSU

LIBR 120 — LIBRARY RESEARCH ON THE INTERNET 1 UNIT
Formerly listed as LR 120 - Library Research on the World Wide Web
Introduction to online research, with an emphasis on the concepts and skills necessary for academic research. Analysis of advantages and limitations of web-based information; extensive practice on a variety of standard search tools, including online library catalogs, online periodical and research databases, subject directories, and search engines. Evaluation of online information and documentation of online sources in APA and MLA formats. Field trips are not required. (A-F or P/NP) Lecture. Transfer: CSU
The Machine Tool Technology program provides training toward the acquisition of proficiency in the use of metal removal and metal forming machine tools. Training in calculations of cutting speeds and feeds, use of measuring tools, study of elementary metallurgy, and making adjustments are also emphasized. Special focus is given to care of equipment, orderliness, accuracy, speed, judgment, confidence and safe working habits.

MACH 211D,E — MACHINE TOOL TECHNOLOGY 1 4,5 UNITS
Prerequisite: Satisfactory completion of MATH 20 & ESL 45
Study and application of basic machining tools, (steel rules, vernier calipers and micrometers), layout tools and hand tools. Emphasis in the theory and practice in the use of drilling machines, bandsaws and lathes. This course meets California apprenticeship standards. Intended for students with little or no experience in the manufacturing industry. Field trips may be required. Two maximum completions. Materials fee required. Lecture/Laboratory. (A-F Only) Transfer: CSU

MACH 212D,E — MACHINE TOOL TECHNOLOGY 2 4,5 UNITS
Prerequisite: Satisfactory completion of (MACH 211D, or E) and MACH 301.
Principles and fundamental use of precision grinders and advanced applications of the manual engine lathe and milling. Advanced levels of measuring systems, study of basic metallurgy, and techniques of heat treating to enhance the properties of metallic parts. Meets California apprenticeship standards. Field trips may be required. Two maximum completions. Materials fee required. Lecture/Laboratory. (A-F or P/NP) Transfer: CSU

MACH 213C,D — MACHINE TOOL TECHNOLOGY 3 3,4 UNITS
Prerequisite: Satisfactory completion of (MACH 212D, or E) and MACH 302.
Theory and practice in the use of the dividing head, metric system, classes of fit, tool and cutter grinding, gear cutting, and dovelats. Carbide tools emphasized. Exploration and study of manufacturing processes found in use in local industries. Meets California apprenticeship standards. Field trips may be required. Two maximum completions. Materials fee required. Lecture/Laboratory. (A-F or P/NP)(Fall) Transfer: CSU

MACH 218 — INTRODUCTION TO CNC LATHES PROGRAMMING 2 UNITS
Recommended for Success: Previous experience in the use of manual or CNC lathes.
The use of manual programming techniques to develop tool path codes required to produce products using two axis CNC lathes. Equipment and practice in the use of the CNC lathes. Effective cutting speeds, feeds, and depth of cut for various machining operations. The use of “canned cycles” with word address programming format will be addressed. May be completed up to 2 times. Field trips may be required. Lecture/Lab. (A-F or P/NP) Transfer: CSU

MACH 219 — INTRODUCTION TO CNC MILL PROGRAMMING 2 UNITS
Recommended for Success: Previous experience in the use of manual or CNC lathes and milling machines. The previous courses and/or training must have been completed satisfactorily.
The use of manual programming techniques to develop tool path codes required to produce products using CNC milling and turning equipment. Effective cutting speeds, feeds, and depth of cut for various machining operations using “canned cycles” and word address programming format will be addressed. May be completed up to 2 times. Materials fee required. Lecture/Lab. (A-F or P/NP) Transfer: CSU

MACH 220 — CNC MACHINE TOOL PROGRAMMING 2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to be familiar with basic metal cutting practices, machine tool setup, and calculation of cutting tool speeds and feeds as encountered in the operation of manual lathes and milling machines; and have a working knowledge in the operation of personal computers; and have a basic understanding of formatting, structure, and codes used in the Word Address Format system of CNC programming.
The use of CAM (Computer Aided Manufacturing) programming techniques and software to develop tool path codes required to machine products using CNC milling and turning equipment. Materials Fee Required. Three maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

MACH 222 — CNC MACHINE OPERATIONS 2 UNITS
Recommended for Success: Concurrent enrollment in MACH 219, 220, or 221 and previous machining experience.
The setup and operation of computer-controlled machine tools with emphasis on vertical machining centers and two axis turning centers. Primary controller operation, machine setup, tooling application, installation and adjustment and basic codes needed for editing will be addressed. Field trips may be required. Two maximum completions. Lecture/Laboratory/Other. Materials fee required. Transfer: CSU

MACH 223 — ADVANCED CNC MACHINE OPERATIONS 3 UNITS
Prerequisite: Satisfactory completion of MACH 222.
Advanced setups, controller issues, and inspection techniques that may be encountered in the use of CNC controlled machine tools. May be completed up to 2 times. Field trips may be required. Lecture/Lab. (A-F or P/NP). Materials fee required. Transfer: CSU

MACH 301 — MACHINE SHOP 1 3 UNITS
Study and application of basic machining tools. (steel rules, vernier calipers and micrometers), layout tools and hand tools. Theory and practice in the use of drilling machines, bandsaws, lathes and vertical milling machines. Meets California apprenticeship standards. Two maximum completions. Field trips may be required. Lecture/Laboratory. (A-F or P/NP) Materials fee required.

MACH 302 — MACHINE SHOP 2 3 UNITS
Prerequisites: Satisfactory completion of MACH 211D, or E or MACH 301.
Principles and fundamentals in the use of the milling machine, band saw and surface grinder with emphasis on milling operations. Principles of metallurgy, heat treating, and the application of more advanced measuring techniques will be explored. Field trips may be required. Lecture/Laboratory. (A-F or P/NP) Three maximum completions. Materials fee required.

MACH 303 — MACHINE SHOP 3 3 UNITS
Prerequisites: Satisfactory completion of MACH 212D, or E or MACH 301.
Theory and practice in the use of the dividing head, gear cutting, and non-traditional machining systems. Field trips may be required. Lecture/Laboratory. Three maximum completions. (A-F or P/NP) Materials fee required.

MACH 310 — ADVANCED TOPICS IN MACHINING 1 UNIT
Prerequisite: Previous machining experience or Satisfactory completion of MACH 211E OR MACH 301 OR MACH 221 OR MACH 222.
Overview of advanced tooling and machining practices. Topics may include electrical discharge machining, rapid prototyping, fixtureing, cutting tool materials and geometry, die casting and plastic injection molding. Field trips may be required. Three maximum completions. Lecture/Laboratory. Materials fee required. (Summer/P/NP Only)

MACH 311 — CNC PROGRAMMING WITH MACROS 1 UNIT
Prerequisite: Previous machining experience or Satisfactory completion of MACH 219 and previous CNC programming experience or on-the-job training. This is NOT an entry-level class.
The application and practice of using macro techniques in the development of programs for the operation of CNC machine tools. May be completed up to 2 times. Field trips may be required. Materials fee required. Lecture/Lab. (P/NP Only)
MACH 312—4 AXIS MILL PROGRAMMING AND OPERATION  1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to have had previous programming experience on CNC machining centers using word address format language.
Application and practice of programming, installing, and operating 4th axis rotary devices on CNC vertical machining centers. Materials fee required. Two completions allowed. Field trips may be required. (P/NP Only) Lecture/Lab.

MACH 313—MANUFACTURING PROCESSES  2 UNITS
The exploration and study of manufacturing techniques and common industrial processes found in local industries. Field trips may be required. Two maximum completions. Lecture.

MACH 315—3D PART PROGRAMMING FOR CNC MACHINES  1 UNIT
Prerequisite: Satisfactory completion of MACH 220.
The application and practice of developing a program using CAD/CAM software that will direct a CNC machining center to cut a three dimensional contoured part. May be completed up to 2 times. Field trips may be required. Materials fee required. Lecture/Lab. (P/NP Only).

MACH 395—ADVANCED MACH TOOL TECHNOLOGY LAB  1-3 UNITS
Formerly listed as MACH 395C
Prerequisite: Satisfactory completion of MACH 211 or MACH 301 or MACH 218 or MACH 219 or MACH 220 or MACH 222.
Provides access to a Machine Tool Technology laboratory setting for advanced students for the purpose of continued skills development applicable to production machining processes. Three maximum completions. Field trips are not required. (P/NP Only) Lab.

MATH 10—INTRODUCTION TO MATHEMATICS  4 UNITS
Recommended for success: Qualification by MJC assessment process.
Module 1: A review of the four arithmetic operations as they apply to whole numbers, common fractions, and decimal fractions. Module 2: A variety of selected applications from arithmetic, pre-algebra, and geometry. Lecture (A-F or P/NP)
MATH 20—PRE-ALGEBRA 5 UNITS
Prerequisite: Qualification by MJC math assessment process or satisfactory completion of MATH 10.
Recommended for success: Placement into READ 82 or higher by MJC Assessment process.
Designed to help students prepare for algebra and apply math courses by reviewing fundamental operations of arithmetic and common geometric formulas, and introducing the algebraic concepts of simplifying expressions, polynomial arithmetic, and solving and graphing linear equations. Arithmetic reviewed includes: integers, decimals, ratios, and percents. Lecture. (A-F or P/NP)

MATH 47—SKILLS FOR SUCCESS IN NON-TRANSFER LEVEL COURSES ½ UNIT
Formerly listed as MATH 47 - Skills for Success in Elementary Algebra
Designed to provide practice in basic mathematical skills needed for success in non-transfer level math courses. Particularly useful for those who are weak in prerequisite skills or who have struggled in other non-transfer level mathematics courses. NOTE: MATH 47 DOES NOT serve as a prerequisite to any mathematics course. Four completions allowed. Field trips are not required. (P/NP Only) Lab.

MATH 49—SKILLS FOR SUCCESS IN TRANSFER LEVEL MATH COURSES ½ UNIT
Formerly listed as MATH 49 - Skills for Success in Intermediate Algebra
Designed to provide practice on mathematical skills needed for success in transfer level mathematics courses. Particularly useful for those who are weak in prerequisite skills or who have struggled in intermediate algebra or precalculus courses. NOTE: MATH 49 DOES NOT serve as a prerequisite to transferable mathematics courses. Four completions allowed. Field trips are not required. (P/NP Only) Lecture/Lab.

MATH 50—BUSINESS MATHEMATICS 3 UNITS
Prerequisite: Satisfactory completion of MATH 20 or qualification by the MJC assessment process.
Mathematical background for business students. Problems of buying and selling, simple and compound interest, bank discounts, trade and cash discounts, installment payments, inventory markups, annuities, present value, commissions, taxes, payrolls, depreciation, and financial statements. Field trips are not required. (A-F or P/NP) Lecture.

MATH 70—ELEMENTARY ALGEBRA 5 UNITS
Prerequisite: Satisfactory completion of MATH 20 or qualification by the MJC assessment process.
Equivalent to a first-year high school algebra course. Topics include: simplifying algebraic expressions, solving linear and quadratic equations, factoring, graphing lines and parabolas, solving systems of equations, rational expressions, and radicals, with application problems incorporated into each topic. Field trips are not required. (A-F or P/NP) (CC MATH 101) Lecture.

MATH 71—ELEMENTARY ALGEBRA 1 3 UNITS
Prerequisite: Satisfactory completion of MATH 20 or qualification by the MJC assessment process.
First half of MATH 70 - Elementary Algebra. Topics include: simplifying algebraic expressions, solving linear equations, graphing lines, and solving systems of linear equations and inequalities, with application problems incorporated into each topic. Field trips are not required. (A-F or P/NP) Lecture. (CC MATH 100A)

MATH 72—ELEMENTARY ALGEBRA 2 3 UNITS
Prerequisite: Satisfactory completion of MATH 71.
Second half of MATH 70 - Elementary Algebra. Topics include: simplifying algebraic expressions, factoring, solving quadratic equations, graphing parabolas, rational expressions, and radicals, with application problems incorporated into each topic. Field trips are not required. (A-F or P/NP) Lecture. (CC MATH 100B)

MATH 80—PLANE GEOMETRY 3 UNITS
Prerequisite: Satisfactory completion of MATH 70 or equivalent or qualification by MJC assessment process.
Theorems of plane geometry, proofs and the nature of a mathematical proof, numerical solution of geometric problems, and constructions using compass and straight edge. Lecture. (A-F or P/NP).
General Education: (MJC-GE: D2)

MATH 88—ALGEBRA WITH APPLICATIONS 3 UNITS
Prerequisite: Satisfactory completion of MATH 70 or (MATH 71 and MATH 72) or equivalent placement by the MJC assessment process.
Designed as an alternative to MATH 90 for students pursuing an AA or AS degree and not intending to transfer. Topics include linear equations, linear inequalities, and applications; quadratic equations and applications; exponential equations and applications; solving systems of linear equations and applications; probability. (A-F or P/NP) Lecture. Not repeatable. General Education: (MJC-GE: D2)

MATH 90—INTERMEDIATE ALGEBRA 5 UNITS
Prerequisite: Satisfactory completion of MATH 70 or MATH 71 and MATH 72 or qualification by the MJC assessment process.
Equivalent to second year high school algebra. Topics include linear, quadratic, exponential and logarithmic functions and equations; complex numbers; solving systems of equations using substitution, matrices and determinants; conic sections; sequences, series and combinatorics. Field trips are not required. (A-F or P/NP) Lecture (CE MATH 104) General Education: (MJC-GE: D2)

MATH 101—MATHEMATICAL IDEAS AND APPLICATIONS 3 UNITS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
A general education course emphasizing the role of mathematics in civilization, the nature of mathematical thought, and applications of mathematics. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MATH 6) General Education: (MJC-GE: D2)(CSU-GE: B4)(IGETC: 2A)

MATH 105—STRUCTURE OF MATHEMATICS 1 4 UNITS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
Structure of arithmetic for prospective elementary school teachers. The definitions, operations, and properties of sets, counting numbers, integers, rational and irrational numbers, number systems, number theory, logic. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MATH 4A) General Education: (MJC-GE: D2)(CSU-GE: B4)

MATH 106—STRUCTURE OF MATHEMATICS 2 4 UNITS
Prerequisite: Satisfactory completion of MATH 105.
Elementary probability, statistics and geometry for prospective elementary school teachers. Includes Euclidean geometry, measurement, and analytic geometry. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MATH 4B) General Education: (MJC-GE: D2)(CSU-GE: B4)

MATH 111—APPLIED COLLEGE ALGEBRA 3 UNITS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
A College Algebra course that presents each topic to answer the question, “What is this used for?” Instruction begins with a real-world problem and develops the mathematical models and methods to solve it. Topics include: polynomial, rational, exponential, and logarithmic functions; theory of equations; systems of equations; matrix algebra, and analytic geometry. Designed specifically for students needing only a one-semester, non-precalculus College Algebra course for transfer to a university. Not open to students who have received credit in MATH 121. Will not serve as a prerequisite to MATH 122 or MATH 171. Students preparing to take calculus must take MATH 121 and MATH 122. Lecture. Field trips are not required. (A-F or P/NP) Transfer: (CSU, UC) General Education: (MJC-GE: D2)(CSU-GE: B4)(IGETC: 2A)

MATH 121—PRE-CALCULUS 1 5 UNITS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
A one-semester College Algebra course or, together with MATH 122, a two-semester Precalculus course sequence. Emphasis on algebra skills essential for success in calculus. Topics include: review of linear, quadratic, rational, radical, exponential, logarithmic equations and graphs; systems of equations and inequalities (linear and nonlinear), functions and graphs; synthetic division, complex roots of polynomials; the Fundamental Theorem of Algebra; applications of exponential and logarithmic equations; sequences and series; mathematical induction; combinatorics. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MATH 17A) General Education: (MJC-GE: D2)(CSU-GE: B4)(IGETC: 2A)

MATH 122—PRE-CALCULUS 2 5 UNITS
Prerequisite: Satisfactory completion of MATH 121.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MATH 80.
Together with MATH 121, a two-semester Precalculus course sequence. A comprehensive course in analytic geometry and trigonometry. Topics include: vectors, rotation of axes, conic sections, polar and parametric functions, and trigonometric functions & graphs with applications. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MATH 17B) General Education: (MJC-GE: D2)(CSU-GE: B4)(IGETC: 2A)
MATH 171 — CALCULUS: FIRST COURSE 5 UNITS  
Prerequisite: Satisfactory completion of MATH 121 and MATH 122 or qualification by MJC assessment process.  
Fundamental foundations of differential and integral calculus. Topics include: limits, continuity, differentiation, curve sketching, applications of differentiation, integration, the Fundamental Theorem of Calculus, and applications of integration. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MATH 2) (TCSU MATH STAT 110) (TCSU MATH 120) General Education: (MJC-GE: D2) (CSU-GE: B4) (IGETC: 2A)

MATH 172 — CALCULUS: SECOND COURSE 5 UNITS  
Prerequisite: Satisfactory completion of MATH 171.  
A continuation of MATH 171. Topics include: techniques of integration, applications of integration, introductory differential equations, differentiation and integration of parametric and polar equations, and infinite sequences and series. Lecture (A-F or P/NP) Lecture. Transfer: (CSU, UC) (TCSU MATH 220) (TCSU MATH SEQ A) (CC MATH 18B) General Education: (MJC-GE: D2) (CSU-GE: B4) (IGETC: 2A)

MATH 173 — CALCULUS: THIRD COURSE 5 UNITS  
Prerequisite: Satisfactory completion of MATH 172.  
A continuation of MATH 172. The extension of calculus concepts to three dimensions and functions of multiple variables. Topics include: vectors and solids in 3-space, the calculus of vectors, partial differentiation, multiple integration, applications of partial differentiation and integration, and line and surface integrals. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (TCSU MATH 230) General Education: (CSU-GE: B4) (IGETC: 2A)

MATH 174 — INTRODUCTION TO LINEAR ALGEBRA AND DIFFERENTIAL EQUATIONS 5 UNITS  
Prerequisite: Satisfactory completion of MATH 173.  
Linear algebra topics including linear equations, vector spaces, scalar products, linear transformations, determinants and eigenvalues. Differential equation topics including solutions to first order equations, higher order linear equations, series solutions, systems of equations, and Laplace transforms. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (TCSU MATH 260) General Education: (CSU-GE: B4) (IGETC: 2A)

MDAST 320 — INTRODUCTION TO MEDICAL ASSISTING 3 UNITS  
Concurrent Enrollment: MDAST 321, 322, 323.  
Orientation to the medical office and the role of the medical assistant. Professional relations and communications, ethics, and legal responsibilities; history of medicine, and community health facilities. Field trips may be required. Lecture. (A-F Only) (Fall)

MDAST 321 — MEDICAL TERMINOLOGY 3 UNITS  
Emphasizing logical and rational understanding of word parts. Covers medical terms organized according to body systems, including fundamental understanding of the basic anatomy, function, diseases and surgeries of each body system. Lecture. (A-F Only) Transfer: (CC DFTEC 50)

MDAST 322 — MEDICAL ASSISTING ADMINISTRATIVE PROCEDURES 3½ UNITS  
Concurrent Enrollment: MDAST 320, 321, 322.  
Medical assisting administrative procedures including financial record keeping, insurance claims, banking functions, payroll and medical records. Students receive training in completing the above procedures manually and by computer. Field trips may be required. Lecture/Laboratory. (A-F Only) (Fall)

MDAST 323 — MEDICAL ASSISTING CLINICAL PROCEDURES 3 UNITS  
Concurrent Enrollment: MDAST 320, 321, 322  
Clinical medical assisting skills, which pertain to preparing the patient for examination and assisting patient and physician during patient examination and treatment. The assistant must anticipate the physician’s needs as to the type of examination, the specific equipment needed, and the extent of assistance required by the patient. This requires judgment based on a reasonable understanding of physical examination, the methods and equipment used, and the related role of the medical assistant. Lecture/Laboratory. Materials fee required (Items for infection control/malpractice liability insurance). (A-F Only) (Fall)

MDAST 324 — INTRODUCTION TO DISEASES AND PHARMACOLOGY 4 UNITS  
Concurrent Enrollment: MDAST 325, 326  
Medical terminology related to the human body in health and disease. Pathogenesis and discussion of representative diseases; signs and symptoms of many major diseases, and basic drugs used in treatment. Lecture. (A-F Only) (Spring)

MDAST 325 — LABORATORY PROCEDURES 3 UNITS  
Concurrent Enrollment: MDAST 324, 326  
Introduction to laboratory procedures necessary to aid the physician. Includes patient preparation for diagnostic studies, purposes, techniques and recording of procedures commonly performed. Field trips may be required. Lecture/Laboratory. (A-F Only) (Spring)

MDAST 326 — EXTERNSHIP 7 UNITS  
Concurrent Enrollment: MDAST 324, 325  
Externship portion of the program consists of two 8-week rotations in which students apply knowledge in performing administrative and clinical procedures. Students also receive training in medical office emergencies and seeking employment. Lecture/Laboratory. Materials fee required (Items for infection control/malpractice liability insurance). (A-F Only)

MDAST 327 — CLINICAL EXTERNSHIP 3½ UNITS  
Prerequisite: Satisfactory completion of (MDAST 320 and MDAST 321 and MDAST 322 and MDAST 323)  
Clinical Externship portion of the program consists of 184 clinical hours in which students apply knowledge in performing administrative and clinical procedures. Students also receive training in medical office emergencies and seeking employment. (A-F Only) Lab. Materials fee required.
MDAST 350—MEDICAL TRANSCRIPTION 3 UNITS
Recommended for Success: Satisfactory completion of MDAST 321, OFADM 203 or equivalent, OFADM 311 or equivalent.
Entry-level course to prepare students to take the Medical Transcriptionist Certification Exam offered by the American Association for Medical Transcription (AAMT) to qualify as a Certified Medical Transcriptionist (CMT). Covers use of computers to transcribe physician dictation including progress notes, letters, consultations, procedures and radiology reports heard through the earphones of a transcribing machine. Two maximum completions. Lecture. Materials fee required. Transcribing machine, earphones and supplies required.

MDAST 352—MEDICAL CODING/CPT 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MDAST 321.
Entry-level course that covers the use of Current Procedural Terminology (CPT), a coding system developed by the American Medical Association (AMA) to convert widely accepted, uniform descriptions of medical, surgical, and diagnostic services rendered by health care providers into five-digit numeric codes. This course along with Medical Assisting 353 prepares students to take the Certified Coding Specialist Examination offered by the American Health Information Management Association (AHIMA). Unlimited completions. (A-F or P/NP) Lecture.

MDAST 353—MEDICAL CODING/ICD 3 UNITS
Recommended for Success: Satisfactory completion of MDAST 321 or equivalent.
Formerly listed as MDAST 352: Medical Coding Specialist.
Entry-level course that covers the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) which is designed for the classification of patient morbidity (sickness) and mortality (death) information for statistical purposes and for the indexing of hospital records by disease and operation for data storage and retrieval. This course along with Medical Assisting 352 prepares students to take the Certified Coding Specialist Examination offered by the American Health Information Management Association (AHIMA). Two maximum completions. Lecture. (A-F or P/NP) Two completions allowed.

MDAST 354—INTERMEDIATE MEDICAL CODING/ICD9CM 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MDAST 321, MDAST 352, and MDAST 353.
Continued development in various settings where ICD-9-CM is used, such as specialties, physician offices, medical group practices, medical clinics, billing companies and hospitals. Fundamental skills include ICD-9-CM coding, guidelines/conventions, use of the ICD-9-CM manual, and numerous coding exercises (including excerpts from actual patient records). (A-F or P/NP). Field trips may be required. Lecture.

METEO (Meteorology)
Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divdeps/sme/Instructors: Noah Hughes

METEO 161—INTRODUCTION TO METEOROLOGY 4 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete (MATH 70 or PHYS 160) and (EASCI 161)
Introduction to atmospheric structure, weather monitoring techniques, solar radiation, thermodynamics, air pressure, humidity, cloud formation, wind patterns, planetary circulation patterns, storms, and severe weather (including thunderstorms, tornadoes, and hurricanes), and the causes and consequences of climate and climate change. Lab activities emphasize gathering and analysis of meteorological data (both archived and real time) to understand and predict weather events. Lecture/Laboratory. Field trips may be required. (A-F or P/NP) Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B1, B3)(IGETC:5A)

MICRO (Microbiology)
Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divdeps/sme/Instructors: Erynn Lucas

MICRO 101—MICROBIOLOGY 4 UNITS
Prerequisite: Satisfactory completion of BIO 116 or BIO 101 or BIO 111 and CHEM 143.
The study of microorganisms, microbial metabolism, genetics, and varieties, immunity, infections, and antimicrobials. Intended mainly for student entering the health professions. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) (CC BIOL 65) General Education: (MJC-GE: A) (CSU-GE: B2, B3) (IGETC: 5B)
MUSIC DEPARTMENT COURSE ID CROSSWALK

In the 2009-2010 MJC academic year, the Music Department has new course ID's. Below is a crosswalk that will allow you to quickly identify new course IDs for what formerly were MUSIC courses.

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MUSA (Music: Applied)

See “Repeat Limitations on Music Courses.” Students must meet performance and repertoire standards before proceeding to successive levels in the following classes.

MUSA 121—ELEMENTARY PIANO 1 UNIT
Formerly listed as MUSIC 120
Essentials of music notation, fundamentals of rhythm, tone production and the coordinated use of both hands; introduction of scales and chords; methods of practice and memorization. Completion of MUSA 121, Elementary Piano is recommended for all general elementary teaching candidates. Electronic keyboard lab and acoustic upright piano practice rooms available. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab MJC Activities. Transfer: (CSU, UC) (CC MUSIC 31A)

MUSA 122—PIANO ENRICHMENT 1 UNIT
Formerly listed as MUSIC 121
Recommended for Success: Satisfactory completion of MUSA 121 or equivalent. Designed for the continuation of development of coordination, understanding of rhythmic skills, technique and theory. Emphasis upon sight reading and ensemble playing. Electronic piano lab and practice rooms available. Field trips may be required. Four completions allowed. Lecture/Laboratory MJC Activities. Transfer: (CSU, UC)

MUSA 123—INTERMEDIATE PIANO 1 UNIT
Formerly listed as MUSIC 122
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSA 123.
Further study of piano technique, tone production, efficient use of physical self, detailed study diatonic scales and harmonic progressions, attention given to improving sight reading skills, learning process, musical interpretation of the score, memorization techniques and performance skills; introduction to intermediate level repertoire from various stylistic periods; participation in live performance demonstrations as well as live student recital at the end of term. Four Maximum completions. Field trips might be required. (A-F or P/NP) Lab MJC Activities Transfer: (CSU, UC) (CC MUSIC 41A & 41B)
MUSA 124—ADVANCED PIANO 2 UNITS
Formerly listed as MUSC 123
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSA 123.
Study of advanced piano playing techniques; review of scales and arpeggios in both major and minor modes, study of advanced repertoire from various stylistic periods. Emphasis on preparation of solo repertoire for live performances. Four completions allowed. Field trips may be required. (A-F Only) /Lab. MJC Activities. Transfer: (CSU, UC)

MUSA 131—ORGAN 1 1 UNIT
Formerly listed as MUSC 131
Recommended for Success: Satisfactory completion of MUSA 121 or equivalent.
History construction and literature for the organ, use of foot pedals, coordination of hands and feet, and comparison of popular and classical styles; development of repertoire. Four completions allowed. Lecture/Laboratory. Not offered every semester. MJC Activities. Transfer: (CSU, UC)

MUSA 132—ORGAN 2 1 UNIT
Formerly listed as MUSC 132
Prerequisite: Satisfactory completion of MUSA 131 or equivalent
Limitation on enrollment: Ability to coordinate keyboard manuals and pedals together using basic rhythms, melodic, and chordal structures.
Study and analysis of organ literature from baroque, classical, romantic and contemporary periods; function of the organ in solo and accompanimental forms, opportunity for practical experience in both areas; emphasis on cumulative repertoire. Four completions allowed. Lecture/Laboratory. (A-F or P/NP) Transfer: (CSU, UC)

MUSA 133—ORGAN 3 1 UNIT
Formerly listed as MUSC 133
Prerequisite: Satisfactory completion of MUSA 132 or equivalent
Limitation on enrollment: Ability to coordinate keyboard manuals and together using basic rhythms, melodic, and chordal structures.
Study and analysis of organ literature from baroque, classical, romantic and contemporary periods; function of the organ in solo and accompanimental forms, opportunity for practical experience in both areas; emphasis on cumulative repertoire. Four completions allowed. Lecture/Laboratory. (A-F or P/NP) Transfer: (CSU, UC)

MUSA 135—ELEMENTARY HARPSC HORD 1 UNIT
Formerly listed as MUSC 135
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSA 121.
Introduction to the basic skills of harpsichord performance. Literature from the Renaissance, Baroque and Early Classical periods. Performance techniques will include figured bass, vocal and instrumental accompanying. Four completions allowed. Field trips are not required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

MUSA 141—ELEMENTARY GUITAR 1 UNIT
Formerly listed as MUSC 141
Examination of the basic elements of classical guitar technique and repertoire. Technical works will emphasize posture, correct right- and left-hand technique, as well as treble clef note-reading in first position. The course will include sight-reading on easy melodies, as well as chord charts. Chord coverage will include: closed finger chords, opened finger chords, and bar chords. The student is responsible for providing a nylon-stringed classical guitar, a guitar tuner, and a foot-stool. All students will perform in a semi-formal performance at the end of the semester. Four completions allowed. Field trips are not required. (A-F or P/NP) Lecture. MJC Activities Transfer: (CSU, UC) (CC MUSIC 49)

MUSA 142—GUITAR PERFORMANCE 1 UNIT
Formerly listed as MUSA 142 and MUSC 164
Prerequisite: Satisfactory completion of MUSA 141.
Continuation of MUSA 141. Focus on group performances and an introduction to solo performance. Students will learn to follow notation up to the fifth position in solo and smaller ensembles. Intermediate techniques including tremolo, flamenco strumming, and harmonic playing. Technical exercises and techniques to develop finger independence. A classical, nylon-string guitar is strongly recommended for use in the course. Four completions allowed. Field trips are not required. (A-F or P/NP) Lecture. MJC Activities Transfer: (CSU, UC)

MUSA 143—GUITAR ENRICHMENT 1 UNIT
Formerly listed as MUSA 143 and MUSC 174—Guitar Advancement
Prerequisite: Satisfactory completion of MUSA 141.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSA 142.
Improvement of guitarist's accompanying technique, analytical skills, and performance competence. Music education majors are strongly encouraged to enroll. Special attention will be given to performance in solo and group settings. Students will be required to participate in a formal recital at the end of the term. A nylon-stringed classical or flamenco guitar is required for the course. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities Transfer: (CSU, UC)

MUSA 144—INTERMEDIATE GUITAR 1 UNIT
Formerly listed as MUSC 144
Prerequisite: Satisfactory completion of MUSA 141.
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSA 142 or satisfactorily complete MUSA 143.
Further development of guitar performance skills and techniques. Particular attention will be given to technical exercises and the performance practices surrounding the classical and flamenco intermediate repertoire. Students will need a Nylon-stringed classical guitar. Two public performances (mid-term and final) will be connected to this course. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities Transfer: (CSU, UC)

MUSA 145—APPLIED CLASSICAL GUITAR 1 UNIT
Formerly listed as MUSC 145
Corequisite: Concurrent enrollment required in or satisfactory completion of MUSA 144.
Designed for performance majors intending to transfer to four-year institutions. The curricula will cover materials necessary to provide the appropriate skill level for upper division coursework at most universities. Students must perform a forty-five minute recital as a completion requirement for the course. A fifteen-minute jury may substitute for the recital requirement. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture. MJC Activities Transfer: (CSU, UC) (CC MUSIC 50)

MUSA 151—ELEMENTARY VOICE 1 1 UNIT
Formerly listed as MUSC 151
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSA 141.
Development of singing voice through consideration and application of the basic elements of tone production, i.e., breathing, resonance, diction, posture, principles applied through group and individual vocal exercises and singing. This is the first of two preparatory courses for students who intend to take voice classes at the major level. Three completions allowed. Field trips may be required. (A-F or P/NP) Lecture. MJC Activities Transfer: (CSU, UC) (CC MUSIC 36)

MUSA 152—ELEMENTARY VOICE 2 1 UNIT
Formerly listed as MUSC 152—Voice Enrichment
Recommended for Success: Before enrolling in this course, students are strongly advised to have previous vocal experience.
Further development of the singing voice through consideration and application of the basic elements of tone production, i.e., breathing, resonance, diction, posture, principles applied through group and individual vocal exercises and singing. Field trips may be required. Four completions allowed. Lecture/Laboratory. MJC Activities Transfer: (CSU, UC) (CC MUSIC 37)

MUSA 153—APPLIED VOCAL REPERTOIRE 1 1 UNIT
Formerly listed as MUSC 153—Intermediate Voice
Corequisite: Concurrent Enrollment required in MUSA 155
Recommended for Success: Before enrolling in this course, students are strongly advised to have a choral background or previous voice lessons.
Limitation on enrollment: Enrollment limited to students possessing the ability to read music and sing within the tonal center.
Study and performance of vocal solo literature with emphasis on building repertoire; development of style, and preparation for recitals. Recital and public performance participation required. This class is intended for voice majors. Necessary for transfer to a four-year University as a music major. Four Maximum completions. Field trips are not required. (A-F or P/NP) Lab. MJC Activities Transfer: (CSU, UC) (CC MUSIC 39)
MUSA 154—APPLIED VOCAL REPERTOIRE 2  1 UNIT
Formerly listed as MUSIC 134
Prerequisite: Satisfactory completion of MUSA 153.
Corequisite: Concurrent enrollment required in MUSA 155.
Limitations on Enrollment: Enrollment limited to students with an intermediate level ability to sight read music and sing within the tonal center.
Continuation of MUSA 153 with greater emphasis on building repertoire, development of style, and preparation for transfer auditions, auditions in general and recitals. Recital and public performance participation required. This class is intended for voice majors. This is a necessary class to transfer as a music major to a four year university. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture.  MJC Activities Transfer: (CSU, UC) (CC MUSIC 56)

MUSA 155—VOCAL MASTER CLASS  1 UNIT
Formerly listed as MUSC 139
Corequisite: Concurrent enrollment required in MUSA 153 or MUSA 154.
Development of vocal performance through the consideration and application of good vocal technique, performance practice and dramatic character development; principles applied through recital attendance and through solo, duet or ensemble performances in class and public recitals. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture.  MJC Activities Transfer: CSU

MUSA 161—ELEMENTARY STRINGS  1 UNIT
Formerly listed as MUSC 127
Introduction to playing orchestral stringed instruments (violin, viola, cello, or bass). Designed for students with no previous instrumental music experience, students who wish to review fundamentals of string playing, or experienced instrumentalists who wish to learn a new instrument. Students must own or have access to a bowed string instrument. Public performance required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab.  MJC Activities Transfer: (CSU, UC)

MUSA 163—APPLIED MUSIC (VIOLIN AND VIOLA)  1 UNIT
Formerly listed as MUSC 128
Corequisite: Concurrent enrollment required in MUSE 161 or MUSE 165. Recommended for Success: Before enrolling in this course, students are strongly advised to play a violin or viola at an intermediate level and demonstrate the ability to read music. Study and performance of violin or viola technique and literature. Public performance participation required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab.  MJC Activities Transfer: (CSU, UC)

MUSA 164—APPLIED MUSIC (CELLO AND BASS)  1 UNIT
Formerly listed as MUSC 129
Corequisite: Concurrent enrollment required in MUSE 161 or MUSE 165 or MUSE 867. Recommended for Success: Before enrolling in this course, students are strongly advised to play a cello or bass at an intermediate or advanced level and demonstrate the ability to read music. Study and performance of cello or bass technique and literature. Recital and public performance participation required. Repeatable up to 4 units maximum. Field trips may be required. (A-F or P/NP) Lecture/Lab.  MJC Activities Transfer: (CSU, UC)

MUSA 173—APPLIED MUSIC (BRASS AND PERCUSSION)  1 UNIT
Formerly listed as MUSA 173 and MUSC 142
Limitations on Enrollment: Enrollment limited to students who pass audition.
Study and performance of brass and percussion solo literature, etudes, scales, and technical studies. Intended for music majors and/or advanced players. Recital and public performance participation required. Student must own or have access to an instrument appropriate for this course. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture.  MJC Activities Transfer: (CSU, UC)

MUSA 183—APPLIED MUSIC (WOODWINDS)  1 UNIT
Formerly listed as MUSC 144
Limitations on Enrollment: Enrollment limited to students who pass audition.
Study and performance of woodwind solo literature, etudes, scales, and technical studies. Intended for music majors and/or advanced players. Recital and public performance participation required. Student must own or have access to an instrument appropriate for this course. Field trips may be required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture.  MJC Activities Transfer: (CSU, UC) (CC MUSIC 52)

MUSC (Music: Commercial)
See "Repeat Limitations on Music Courses." Students must meet performance and repertoire standards before proceeding to successive levels in the following classes.

MUSC 111—RECORDING ARTS 1  2 UNITS
Formerly listed as MUSIC 172
Also offered as RATV 172
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSC 121 and MUSC 122
Introduction to the terminology and practices of the recording arts. Properties of sound, microphone placement, multi-track recording, mixing and mastering. Lab time and materials fees will be required. Two completions allowed. Field trips may be required. (A-F or P/NP)  MJC Activities Transfer: CSU

MUSC 112—RECORDING ARTS 2  2 UNITS
Formerly listed as MUSIC 178
Also offered as RATV 178
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSC 111
Advanced topics in the recording studio relating to the digital recording process. In depth study of microphone choice and placement, microphone pre-amplifiers and analog processors, direct inputting, non-destructive digital editing, software plug-ins, automation techniques, mixing and mastering in the recording process. Laboratory time required. Materials fee required. Four completions allowed.  MJC Activities Transfer: CSU

MUSC 121—INTRODUCTION TO THE SYNTHESIZER AND MIDI  2 UNITS
Formerly listed as MUSIC 170
Introduction to synthesizer and electronic keyboard sound design and operational procedures. MIDI (Musical Instrument Digital Interface) music studio techniques will be examined and utilized in an electronic music studio environment. Music acoustics, electronic music composition, synthesizer live performance, digital sampling, audio recording and music software programs will be explored. Four completions allowed. Field trips are not required. (A-F or P/NP) Lecture/Lab.  MJC Activities Transfer: (SU)

MUSC 122—ELECTRONIC MUSIC 2  1 UNIT
Formerly listed as MUSIC 171
Also offered as RATV 168
Recommended for Success: Satisfactory completion of MUSC12 or previous synthesizer/tape recording and MIDI music studio experience.
Advanced topics in electronic music composition, MIDI (Musical Instrument Digital Interface) music studio procedures, sampling, tape and digital recording. Performance in an electronic music concert is expected. Field trips may be required. Four completions allowed. Laboratory. (A-F or P/NP)  MJC Activities Transfer: CSU

MUSC 126—MUSIC PRODUCTION FOR MULTIMEDIA  2 UNITS
Formerly listed as MUSC 168
Also offered as RATV 168
Designed for the student with an interest in music composing, music production, sound design and sound effects. The course will explore production of music for recording artists, music videos, demos, public service announcements, radio programs, graphics animations, commercials, jingles, and TV/film scoring through the use of MIDI sequencing, digital multitrack recording and SMPTE synchronizing. Four completions allowed. Lecture/Lab.  MJC Activities. (A-F or P/NP) Transfer: CSU
MUSE (Music: Ensemble)

See “Repeat Limitations on Music Courses.” Students must meet performance and repertoire standards before proceeding to successive levels in the following classes.

MUSE 145—GUITAR ORCHESTRA 1 UNIT
Formerly listed as MUSE 173
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSA 141 or be concurrently enrolled in MUSA 141. Emphasis on guitar ensemble repertoire, preparation and performance. Required participation and performance in large and small ensembles. Students will be assigned to groups that will perform in mandatory graded concert performances throughout the course. Students should be prepared to perform in different venues and represent the college’s guitar department. Four completions allowed. Field trips are required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

MUSE 151—MASTERTOWERS CHORUS 1 UNIT
Formerly listed as MUSE 154
Previous experience in a large choral ensemble. A choral ensemble for all levels of singers. Study and performance of either one large-scale work or program of shorter choral works, drawn from the standard repertoire of classical, folk, and popular music. Public performances required. Four completions allowed. Laboratory. MJC Activities. Transfer: (CSU, UC) (CC MUSIC 66)

MUSE 155—CONCERT CHOIR 1 UNIT
Formerly listed as MUSE 152
Limitation on enrollment: Ability to match pitch, sing melodies in tune, and sight read elementary-level passages will be evaluated in audition. A large choral ensemble for intermediate and advanced level singers. Public performances of multi-cultural programs from a variety of historical periods. Field trips required. Four completions allowed. Rehearsal/Other. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

MUSE 156—CHAMBER CHOIR 1 UNIT
Formerly listed as MUSE 352—Singers
Limitation on enrollment: Ability to match pitch, sing melodies in tune, and sight read elementary-level passages will be evaluated in audition. A small choral ensemble for advanced singers. Public performances of historically and culturally varied music. Field trips required. Four completions allowed. Rehearsal/Other. MJC Activities. Transfer: (CSU, UC) (CC MUSIC 69)

MUSE 161—COMMUNITY ORCHESTRA 1 UNIT
Formerly listed as MUSE 162
Recommended for Success: Before enrolling in this course, students are strongly advised to have experience playing a musical instrument. Rehearsal and public performance of orchestral music written for a full symphony of strings, woodwinds, brass, and percussion. Repertoire will include works from many eras and a variety of cultures. Focus on developing ensemble balance and tone color, good intonation, rhythm, and stylistic integrity. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC) (CC MUSIC 76)

MUSE 165—STRING ORCHESTRA 1 UNIT
Formerly listed as MUSE 150
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSA 163 or satisfactorily complete MUSA 164 or.
Limitations on Enrollment: Enrollment limited to students who perform satisfactorily in an audition, demonstrating ability to sight read music, play scales, and adjust intonation on a bowed string instrument. Rehearsal and public performance of orchestral music for strings (from all eras and a variety of cultures). Focus on developing bowing and left hand technique. Repeatable up to a maximum of 4 units. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

MUSE 166—CHAMBER MUSIC ENSEMBLES (STRINGS) 1 UNIT
Formerly listed as MUSE 151
Recommended for Success: Before enrolling in this course, students are strongly advised to demonstrate ability to read music and play an instrument at an advanced level. Rehearsal and performance of chamber ensemble literature. Ensembles may include strings, woodwinds, or piano. Public performance required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture. MJC Activities. Transfer: (CSU, UC) (CC MUSIC 78)

MUSE 171—CONCERT BAND 1 UNIT
Formerly listed as MUSE 161
Recommended for Success: Before enrolling in this course, students are strongly advised to have previous experience in instrumental music and have the ability to read music. Student must own or have access to an appropriate instrument. Rehearsal and performance of original music and transcriptions for concert band. Field trips may be required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

MUSE 175—SYMPHONIC BAND 1 UNIT
Formerly listed as MUSE 146
Recommended for Success: Before enrolling in this course, students are strongly advised to have previous experience playing in a band and have the ability to read music. Rehearsal and performance of original wind literature and transcriptions for band. Public performances are required. Field trips may be required. Student must own or have access to an appropriate instrument. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

MUSE 176—CHAMBER ENSEMBLES (BAND INSTRUMENTS) 1 UNIT
Formerly listed as MUSE 145
Recommended for Success: Before enrolling in this course, students are strongly advised to have at least two years of experience on their instrument, and to be able to read music notation, and satisfactorily complete MUSE 175 and/or satisfactorily complete MUSE 171. Rehearsal and performance of chamber ensemble literature. Ensembles may be made up of varying numbers of woodwind, brass, and percussion instruments. Recital and public performance participation required. Student must own or have access to an appropriate instrument. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture. MJC Activities. Transfer: (CSU, UC) (CC MUSIC 78)

MUSE 181—JAZZ BAND 1 UNIT
Formerly listed as MUSE 149
Recommended for Success: Before enrolling in this course, students are strongly advised to have previous experience playing jazz music (one player per part). Student must own or have access to an appropriate instrument. Study and performance of jazz literature in both traditional and contemporary styles. Public performances required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

MUSE 185—EVENING JAZZ BAND 1 UNIT
Formerly listed as MUSE 147
Recommended for Success: Before enrolling in this course, students are strongly advised to have previous experience playing jazz ensemble music (one player per part). Student must own or have access to an instrument appropriate for this course. Study and performance of jazz literature in both traditional and contemporary styles. Public performances are required. Field trips may be required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC) (CC MUSIC 72)

MUSE: NON-CREDIT COURSES

MUSE 851—MASTERTOWERS CHORUS 1 UNIT
Formerly listed as OLDAD 854
Study and performance of either one large-scale work or program of shorter works. Public performance required. Not a graded course. Lecture/Laboratory.

MUSE 861—COMMUNITY ORCHESTRA 1 UNIT
Formerly listed as OLDAD 862
Study and performance of a combination of large-scale and shorter works for orchestra. Public performance. Field trips may be required. Laboratory/Rehearsal. Unlimited repeats. Not a graded course.

MUSE 871—CONCERT BAND 1 UNIT
Formerly listed as OLDAD 861
Prerequisite: Previous experience in instrumental music or Satisfactory completion of MUSA 171 or 160. Rehearsal and performance of original wind literature and transcriptions for concert band. Field trips may be required. Laboratory/Rehearsal. Not a graded course.
MUSG - MUST

**MUSG (Music: General)**

**MUSG 101 — MUSIC APPRECIATION**  
3 UNITS  
Formerly listed as MUSC 110  
A survey course emphasizing the development of the listener’s perception of the basic elements of music. Illustrations encompass various types of folk and traditional music, traditional classical music from a variety of historical periods, and musical materials of a contemporary nature. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (M-JC-GE:C) (CSU-GE:C1) (IGETC:3A)

**MUSG 102 — INTRODUCTION TO WORLD MUSIC**  
3 UNITS  
Formerly listed as MUSIC 169  
Exploration of traditional/contemporary folk music of Africa, Asia, Latin America Europe and the U.S. from the perspective of music as culture. Investigations of the impact/influence of migratory patterns, social-political processes, and how ethnicities (groups that exist by language and customs) are reflected in music. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (M-JC-GE:C) (CSU-GE:C1) (IGETC:3A)

**MUSG 111 — INTRODUCTION TO AMERICAN POPULAR MUSIC**  
3 UNITS  
Formerly listed as MUSIC 178  
Survey course emphasizing the listeners perception and understanding of the elements of American Popular Music. Illustrations will cover folk, jazz, Musical Theatre and Rock styles of popular music. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (M-JC-GE:C) (CSU-GE:C1) (IGETC:3A)

**MUSG 121 — HISTORY OF WESTERN MUSIC 1**  
3 UNIT  
Formerly listed as MUSIC 112  
Survey of musical styles by master composers dating from the ancient period through the end of the baroque period (1750). Various historical periods, the stylistic practices in composition and performance, musical compositions of the most prominent composers from each historical period. Field trips may be required. Lecture/Laboratory. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MUSIC 111) General Education: (M-JC-GE:C) (CSU-GE:C1) (IGETC:3A)

**MUSG 122 — HISTORY OF WESTERN MUSIC 2**  
3 UNIT  
Formerly listed as MUSIC 113  
A general survey of the musical styles by master composers dating from the classical period (1750) to the present. Emphasis will be placed on identifying the various historical periods, the stylistic practices in composition and performance, and utilizing the musical compositions of the most prominent composers from each historical period. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MUSIC 111) General Education: (M-JC-GE:C) (CSU-GE:C1) (IGETC:3A)

**MUSI (Music: Independent Activities)**

**MUSI 349 A-D — WORK EXPERIENCE IN THE ARTS — SUPERVISED PRACTICE**  
1 UNIT  
Formerly listed as MUSIC 349A  
Designed for those majors who wish to combine classroom experience with an expansion of skills or knowledge acquired at a site of employment on a paid or volunteer basis. Work must directly relate to the student’s area of study. May be repeated for a total of 16 units. Also offered during May, June, and July. Lecture/Other. (A-F Only)

**MUSP (Music: Stage Production)**

**MUSP 151 — MUSICAL THEATRE WORKSHOP**  
2 UNITS  
Formerly listed as MUSIC 157  
Recommended for Success: Before enrolling in this course, students are strongly advised to have previous vocal experience. Intended for those interested in singing and acting. Study and performance of musical theatre. Public performance is required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

**MUSP 153 — ADVANCED MUSICAL THEATRE WORKSHOP**  
2 UNITS  
Formerly listed as MUSIC 158  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSP 151. Intended for those interested in singing and acting. Study and performance of musical theatre. Public performance is required. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

**MUST (Music: Theory)**

**MUST 101 — MUSIC FUNDAMENTALS 1**  
3 UNITS  
Formerly listed as MUSIC 100  
Basic music theory concepts such as rhythm, musical notation, tonality, scales, key signatures, intervals and chords. Basic aural skills concepts such as rhythmic drills and sight singing using solfeggio. (A-F Only) Lecture. Transfer: (CSU, UC)

**MUST 102 — MUSIC FUNDAMENTALS 2**  
3 UNITS  
Formerly listed as MUSIC 101  
Prerequisite: Satisfactory completion of MUST 101/MUSIC 100  
Recommended for Success: Satisfactory completion of MUSI 121/MUSIC 120 and MUST 130/MUSIC 197. A continuation of MUST 101. Further study of intervals, rhythm, chord construction with application to the keyboard, ear training, sight singing, and simple dictation. Lecture/Laboratory. Transfer: (CSU, UC)

**MUST 103 — MUSIC, BIRTH TO K: THEORY AND PRACTICE**  
3 UNITS  
Formerly listed as MUSIC 176  
Also offered as CLDDV 293  
Recommended for Success: Before enrolling in this course students are strongly advised to possess the following basic music skills: ability to read music (note names, melody and rhythm) and define and apply basic music vocabulary, or have successfully completed one or more of the following courses; MUST 101/MUSIC 100, MUSA 121/MUSIC 120, MUSA 161/MUSIC 127, MUSA 161/MUSIC 131 or MUSP 153/MUSIC 133. Introduction to the methods of teaching music to children (birth to Kindergarten). Students will continue to draw connections between basic music skills, methods of teaching theories, child development, and developmentally appropriate practice. Study of classroom implementation process. First in a two course sequence. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)

**MUST 106 — MUSIC, BIRTH TO K: APPLICATION**  
3 UNITS  
Formerly listed as MUSIC 177  
Also offered as CLDDV 294  
Prerequisite: Satisfactory completion of CLDDV 293/MUST 103/MUSIC 176. Application of the methods of teaching music to children (birth to Kindergarten) at an infant/toddler or preschool center with instructor supervision. Students will continue to draw connections between basic music skills, methods of teaching theories, child development, and developmentally appropriate practice. Second in a sequence of two courses. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)
MUST 111 — RHYTHMIC SKILLS
Formerly listed as MUSIC 119
Introduction to terminology and symbols used in the rhythmic notation of music, and to facilitate the development of the ability to read, write and accurately perform rhythmic figures with proper inflexion and artistic phrasing. Four completions allowed. Lecture/Laboratory. Not offered every semester. Transfer: CSU

MUST 120 — MUSIC THEORY REVIEW
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUST 101 or MUST 102, or have had at least two years of high school or community ensemble performance experience, and have declared music as their major. Designed to prepare music majors for the required music theory sequence; review of fundamentals of music theory, rhythmic and pitch notation, terminology, diatonic intervals, triads, inversions, figured bass, Roman numeral analysis. Four completions allowed. (A-F or P/NP) Lecture.
Transfer: CSU

MUST 121 — MUSIC THEORY 1
Formerly listed as MUSIC 102
Prerequisite: Satisfactory completion of MUST 101.
Corequisite: Concurrent enrollment required in MUST 131 and MUST 130.
Brief review of primary Music Fundamentals topics; Tonality, Introduction to common harmonic practice through exercises in part writing and figured bass, simple guided composition, and analysis. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC MUSIC 20A) General Education: (MUC-GC) (CSU-GC-CT) (IGETC-3A)

MUST 122 — MUSIC THEORY 2
Formerly listed as MUSIC 103
Prerequisite: Satisfactory completion of MUST 121.
Corequisite: Concurrent enrollment required in MUST 132 and MUST 130.
Continuing development of technique in common harmonic practice through Roman numeral analysis, partwriting, figured bass, and guided composition exercises. Introduction to tonization and secondary dominants, introduction to phrase and period structure. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (TCSU MUS 140) (CC MUSIC 20B) General Education: (MUC-GC) (CSU-GC-CT) (IGETC-3A)

MUST 123 — MUSIC THEORY 3
Formerly listed as MUSIC 106
Prerequisites: Satisfactory completion of MUST 122
Concurrent Enrollment: MUST 130
Recommended for Success: Concurrent enrollment in MUST 133.
Continuation of the study of structural elements of music such as melody, rhythm, harmony and form with emphasis on the organization of these elements; study of chromatic alteration, expansion of harmonic resources through chromatism; study of binary and sonata form. Lecture. Not offered every semester. Transfer: (CSU, UC) (TCSU MUS 140) (CC MUSIC 20B) General Education: (CSU-GE: C1) (IGETC-3A)

MUST 124 — MUSIC THEORY 4
Formerly listed as MUSIC 107
Prerequisites: Satisfactory completion of MUST 123
Concurrent Enrollment: MUST 130
Recommended for Success: Concurrent enrollment in MUST 134.
Continued development of analytical techniques; study of fugue and basic tonal counterpoint; introduction to Impressionism and to twentieth century structural techniques; study of ternary structures and rondo form. Lecture. Not offered every semester. Transfer: (CSU, UC) (CC MUSIC 21B) (CSU-GE: C1) (IGETC-3A)

MUST 130 — PRACTICAL MUSICA
Formerly listed as MUSIC 197
Corequisite: Concurrent enrollment required in MUST 121 or MUST 122 or MUST 123 or MUST 124.
Development of aural and rhythmic skills by means of computer assisted participation. Exposure to standard western art music repertoire by means of guided listening. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: CSU

MUST 131 — AURAL SKILLS 1
Formerly listed as MUSIC 104
Corequisite: Satisfactory completion of or concurrent enrollment in MUST 121
Introduction to sight singing techniques using movable Do, solfege and rhythmic syllables; supplements the study of music theory by practical application of concepts learned through singing, rhythmic reading analysis and dictation. (A-F or P/NP) Lecture/Laboratory. Transfer: (CSU, UC) (CC MUSIC 4A) (TCSU MUS 160)

MUST 132 — AURAL SKILLS 2
Formerly listed as MUSIC 105
Corequisite: Satisfactory completion of or concurrent enrollment in MUST 122.
Continuation of MUST 131; further development of techniques for sight singing, taking melodic and rhythmic dictation. (A-F or P/NP) Lab. Transfer: (CSU, UC) (CC MUSIC 4B)

MUST 133 — AURAL SKILLS 3
Recommended for Success: Concurrent enrollment in MUST 132.
Continuation of materials presented in preceding applied music theory courses. Development of individual proficiency in sight-singing, dictation, aural, rhythmic and keyboard skills. Field trips may be required. Lecture/Laboratory. (Fall) Transfer: (CSU, UC) (CC MUSIC 5A)

MUST 134 — AURAL SKILLS 4
Formerly listed as MUSIC 109
Prerequisite: Satisfactory completion of MUST 133
Recommended for Success: Concurrent enrollment in MUST 124.
Continuation of materials presented in preceding applied music theory courses. Development of individual proficiency in sight-singing, dictation, aural, rhythmic and keyboard skills. Field trips may be required. Lecture/Laboratory. (Spring) Transfer: (CSU, UC) (CC MUSIC 5B)

NR (Natural Resources)
Dean: Mark A. Anglin
Division Office: Agriculture, Room 100
Phone: (209) 575-6200
Division website: www.mjc.edu/prospective/programs/agens/index.html
Instructors: Mike Morales, Dale Pollard
In this program the student will develop skills and knowledge in animal/plant science and I.D., mechanics, communications, public relations, and computations specific to become a park ranger maintenance person, or private entrepreneur in allied jobs including game farm worker. This program will also prepare the student for transfer to a state university or university program when the General Education requirements are completed. Contact the division office in the Agriculture Building for advising assistance.

NR 50 — SURVEY OF NATURAL RESOURCES
Survey of natural resources, their importance to society and ecological principles of resource conservation, identification, conservation, and use of renewable and non-renewable resources; career opportunities and industries associated with natural resources. Field laboratories, including some Saturdays, required. Lecture/Laboratory.

NR 53 — INTRODUCTION TO AGRICULTURE RESOURCES AND RURAL RECREATION
Natural resources as industries and basic skills relate to natural resources management. Concepts in natural resources management, soil and land, water, forest, fish and wildlife, outdoor recreation, energy, mineral and metal resources, and opportunities for employment. Field trips required. Lecture/Laboratory.
NR 220—INTRODUCTORY FORESTRY 3 UNITS
Introduction to the integrated management of trees, soils, water, fish and wildlife for the production of wood and fiber products. Emphasis will be on the study of both the traditional and emerging uses of the forest resources to satisfy human needs and the protection of the public trust. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU (CC FORES 10/FORTEC 162) General Education: (MJC-GE-A)

NR 222—NATIVE TREE AND SHRUB IDENTIFICATION 3 UNITS
Formerly listed as Native Plants Identification
The study of botanical characteristics, taxonomy, physiology, and community relationships of the major trees and shrubs in California and the Western United States. Includes discussion of commercial uses and geographic ranges of native plants common to the region. Field trips outside of regular class hours. Field trips required. Lecture/Lab. (A-F Only) Transfer: CSU (CC NARTC 160) General Education: (CSU, UC)(CC FORES 1)

NR 224—INTRODUCTION TO FOREST MEASUREMENT 3 UNITS
Recommended for Success: Satisfactory completion of EHS 201 or 202 or NR 220 or 222 or 376, or equivalent.
Introduction to principles and practices of interpreting aerial photographs. Emphasis on vegetation typing, mapping, road reconnaissance and inventory techniques. Use of aerial photographs to obtain location, area, vegetation types, timber volume. Explanation of Geographic Information Systems and its application to forestry and natural resources. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU (CC NARTC 160)

NR 230—OUTDOOR/FOREST RECREATION 3 UNITS
A study of historic, social, political, economic, and environmental factors influencing outdoor recreation at federal, state, and local levels. Survey of conflicts in natural resources land-use and solutions to these conflicts: Maintenance and operation of recreational facilities. Field trips may be required. Lecture/Lab (A-F Only) Transfer: CSU

NR 376—FORESTRY TECHNOLOGY 3 UNITS
Recommended for success: Satisfactory completion of NR 220 or NR 222 or NR 224.
Additional training in silviculture, cruising, forest management, harvesting, and regulations as determined by the California Forest Practice Act. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU (CC FORES 10/FORTEC 162)

NR 379—WILDLAND FIRE CONTROL 1 UNITS
Introduction to fundamentals of wildland fire behavior; basic fire fighting strategy; methods of attack to suppress wildland fires. Course is taught in conjunction with U.S. Forest Service. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: CSU (CC NARTC 22)
NURSE 261—NURSING PROCESS: FUNDAMENTALS 8 UNITS
Prerequisites: Acceptance into the MJC Associate Degree Nursing Program. 
Concurrent enrollment in: NURSE 260 and NURSK 800.
Recommended for Success: Satisfactory completion of NURSE 115, FDNTN 219.
Enrollment limited to: Capacity of MJC Nursing Program.
Applies fundamental concepts and principles of the nursing process to the care and needs of patients within the acute care setting. Focus on assessment and care of patients experiencing alterations in basic health needs. Practice of basic clinical skills in a simulated lab setting prior to beginning care in the acute care facility. Additional theoretical principles include therapeutic communication, patient teaching, professional ethics, and legal aspects of nursing. Lecture/Laboratory. Field trips may be required. Materials fee required. (Fall, Spring) (A-F Only) Transfer: CSU

NURSE 262—NURSING PROCESS: SKILLS ½ UNIT
Prerequisite: Satisfactory completion of NURSE 260 and NURSE 261.
Corequisite: Concurrent enrollment in NURSK 800.
Limitations on Enrollment: Enrollment based on program capacity.
This course prepares the nursing student to perform nursing skills necessary for satisfactory participation in the obstetrics and pediatric clinical setting. Skills included in this course are: intravenous therapy, gavage feeding, infant bathing, delivery table set-up, and correct administration of medications. Materials Fee Required. Field trips are not required. (P/NP Only) Lab Transfer: CSU

NURSE 263—NURSING PROCESS: MATERNITY 4 UNITS
Prerequisite: Satisfactory completion of NURSE 262.
Corequisite: Concurrent enrollment in NURSK 800.
Enrollment limited to: Capacity of MJC Nursing Program.
Applies the basic principles and concepts of the nursing process to meet the needs of the childbearing woman, the childbearing family and the patient with alterations of the reproductive system. Health maintenance, prevention of illness, and patient/family teaching in the hospital and community setting will be emphasized. Includes socio-cultural-spiritual aspects of the family. Field trips are not required. (A-F Only) Lecture/Lab Transfer: CSU

NURSE 264—NURSING PROCESS: PEDIATRICS 4.5 UNITS
Prerequisite: Satisfactory completion of NURSE 261 and NURSE 262.
Corequisite: Concurrent enrollment required in NURSK 800.
Limitations on Enrollment: Program requires it by using a non-evaluative process to limit enrollment from among a pool of qualified students.
Applies the principles and concepts of the nursing process to meeting the needs of the childbearing woman, the childbearing family and the patient with alterations of the reproductive system. Family-centered care in the hospital and outpatient settings will be emphasized. Throughout the course health maintenance and prevention of illness is emphasized in patient/family teaching. Field trips are not required. (A-F Only) Lecture/Lab Transfer: CSU

NURSE 265—NURSING PROCESS: MEDICAL-SURGICAL 6 UNITS
Prerequisite: Satisfactory completion of NURSE 260 and NURSE 261 and NURSE 262 and 
NURSE 263 and NURSE 264.
Corequisite: Concurrent enrollment in NURSK 800.
Limitations on Enrollment: Acceptance into the ADN program. Enrollment limited to program capacity.
Applies the principles and concepts of the nursing process that focuses on promoting adaptation of adolescent through senescent clients with serious or complex alterations in health. Students will complete didactic units in oxygenation, cardiovascular, hematomatolical, immunological, and oncologic nursing. Acute hospital settings and hospice services will be utilized for the clinical practicum of the course. Materials Fee Required. Field trips may be required. (A-F Only) Lecture/Lab Transfer: CSU

NURSE 266—NURSING PROCESS: MENTAL HEALTH 4 UNITS
Formerly listed as NURSE 253 - Nursing Process 3
Prerequisites: Satisfactory completion of NURSE 262, 263, and 264.
Corequisite: Concurrent enrollment in: NURSK 800.
Enrollment limited to: MJC Nursing Program capacity.
Applies the principles and concepts of the nursing process to meet the needs of clients with psychiatric disorders across the life span. Mental health maintenance, prevention of illness, patient/family teaching, and therapeutic communication/relationships will be emphasized. Students will be assigned to an acute psychiatric setting and tertiary areas that support and provide community mental health care services. Lecture/Lab Field trips may be required. (Fall, Spring) (A-F Only) Transfer: CSU

NURSE 267—NURSING PROCESS: ADVANCED MEDICAL-SURGICAL 11 UNITS
Prerequisite: Satisfactory completion of NURSE 265 and NURSE 266.
Corequisite: Concurrent enrollment in NURSK 800.
Includes advances in medical/surgical concepts and principles in the nursing process. Promotes role transition from student nurse to professional nursing through a clinical preceptorship. The student is responsible for all the clinical skills learned in previous semesters, acquires new skills and takes a clinical competency test in the acute care setting. The 5 1/2 week, 180-hour preceptorship is the capstone of the nursing program, encompassing all the clinical, technical and critical thinking skills learned in the program, and emphasizing leadership in management of patient care. In preceptorship, the student works directly with a registered nursing preceptor in the acute care facility. Materials Fee Required. Field trips are not required. (A-F Only) Lecture/Lab Transfer: CSU

NURSE 350—VOCA TIONAL NURSE 1 14 UNITS
Enrollment limited to those admitted to the CNA to LVN program.
Applies the fundamentals of nursing to the care and needs of patients within the acute and long-term hospital setting. Care of patients with alterations in basic health care needs. Practice of fundamental clinical skills in a simulated lab setting prior to beginning care in the hospital. Lecture/Laboratory. Field trips required. (A-F Only)

NURSE 351—VOCA TIONAL NURSE 2 12 UNITS
Prerequisite: Satisfactory completion of NURSE 350.
Applying concepts of care for adults with disorders of the musculoskeletal system, integumentary system, and cardiopulmonary system. Apply concept of mental health, wellness and illness, in health care. Practical experience will be in skilled nursing, health care clinics, and acute care settings. Lecture/Lab. (A-F Only)

NURSE 352—VOCA TIONAL NURSE 3 13 UNITS
Prerequisite: Satisfactory completion of NURSE 351.
Applies basic principles and concepts of the nursing process to meet the adaptation needs of adult patients with disorders of the neurological system, gastrointestinal system, urinary system, endocrine system and the eye, ear, nose, and throat. Practical experience will be gained in skilled nursing facilities, health care clinics and acute care settings. Lecture/Lab. (A-F Only)

NURSE 353—VOCA TIONAL NURSE 4 9 UNITS
Prerequisite: Satisfactory completion of NURSE 352.
Applies basic nursing knowledge to the care and needs of adult patients with disorders of the reproductive system, during normal maternity nursing care and pediatric patients. Practical experience will be gained in the acute hospital setting. Nursing leadership principles are introduced. (A-F Only) Lecture/Laboratory. Materials fee required.

NURSE 354—VOCA TIONAL NURSE 5 2 UNITS
Prerequisite: Satisfactory completion of NURSE 353.
Applies the basic principles and concepts of the nursing process and leadership during preceptorship in a skilled nursing facility or health care facility. Lecture/Laboratory. (A-F Only)

NURSE 355—INTRAVENOUS THERAPY 1 UNIT
Enrollment limited to Licensed Vocational Nurses or those who are eligible for NCLEX-PN.
Applies the foundation and basic concepts of infusion therapy, including LVN nursing responsibilities in the initiation, maintenance, and therapeutic modalities of intravenous therapy. The course focuses on risk management and legal responsibilities, quality assessment and competency criteria, infection control procedures related to infusion therapy, fundamentals of fluid and electrolyte balance, and special needs of the pediatric and geriatric population. (A-F Only) Lecture/Laboratory. Materials Fee Required.

NURSK (Nursing: Skills)
Dean: Maurice McKinnon, EdD
Division Office: John Muir Hall, Room 258-W
Phone: (209) 575-6373
Division website: www.mjc.edu/alliedhealth

NON-CREDIT COURSES

NURSE 800 NURSING SKILLS DEVELOPMENT
Corequisite: Concurrent enrollment in NURSE 259 or NURSE 261 or NURSE 262 or NURSE 263 or NURSE 264 or NURSE 265 or NURSE 266 or NURSE 267 or NURSE 40 or NURSE 350 or NURSE 351 or NURSE 352.
Provides simulated clinical experiences in a supervised laboratory setting for students who must use the Allied Health skills laboratory to achieve the objectives of a course in which they are enrolled. Field trips are not required. (Non-Graded course) Lab
NURWE - OFADM

NURWE  (Nursing: Work Experience)

Dean: Maurice McKinnon, EdD
Division Office: John Muir Hall, Room 258-W
Phone: (209) 575-6373
Division website: www.mjc.edu/alliedhealth

Modesto Junior College serves the needs of its students and those of the community through its Cooperative Vocational Work Experience program. A program objective is to provide guidance and opportunity for career planning by students in the real laboratory of the community's business and industries. Work experience education results when it encompasses a systematic plan whereby students, while in college, gain realistic employment experiences through part-time work. Students should consult their advisors to determine divisional practice on work experience units acceptable toward major requirements. Pay may or may not be received for work experience programs depending upon the type and place of employment.

NURWE 361—WORK EXPERIENCE-NURSING  1 UNIT
Prerequisite: Satisfactory completion of NURSE 260 and NURSE 261.
Corequisite: Concurrent enrollment in NURSE 262 or NURSE 263 or NURSE 264 or NURSE 265 or NURSE 266 or NURSE 267 or NURSE 299.
Provides the student enrolled in the ADN program an opportunity to obtain nursing experience in a structured clinical work/study community service program in participating clinical agencies. Students gain additional practice in nursing by applying previously learned knowledge and skills. Lecture: 1 hour arranged. 75 hours compensated related work experience per semester equals 1 unit or 60 hours uncompensated related work experience. Four completions allowed. Field trips are not required. (P/NP Only) Lab.

NURWE 362—WORK EXPERIENCE-NURSING  2 UNITS
Prerequisite: Satisfactory completion of NURSE 260 and NURSE 261.
Corequisite: Concurrent enrollment in NURSE 262 or NURSE 263 or NURSE 264 or NURSE 265 or NURSE 266 or NURSE 267 or NURSE 299.
Provides the student enrolled in the ADN program an opportunity to obtain additional nursing experience in a structured clinical work/study community service program in participating clinical agencies. Students gain additional practice in nursing by applying previously learned knowledge and skills. Lecture: 1 hour arranged. 150 hours compensated related work experience per semester equals 2 units or 120 hours uncompensated related work experience per semester equals 2 units. Four completions allowed. Field trips are not required. (P/NP Only) Lab.

NURWE 385A-D—WORK EXPERIENCE VOCATIONAL NURSE  1-4 UNITS
Concurrent enrollment: NURSE 350
The Nursing Work Experience is designed to provide an opportunity for students enrolled in Vocational Nursing Program to participate in relevant work experiences in a community clinical agency participating in nursing work experience. Students acquire knowledge, skills, and attitudes necessary for success in the field of nursing. (P/NP Only)

OFADM  (Office Administration)

Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: mjc.edu/prospective/programs/bbos/
Instructors: Kevin Alavezos, Nancy Backlund, Christine Groth

OFADM 201—INTERMEDIATE KEYBOARDING  1 UNIT
Recommended for Success: Before enrolling for this course, students are strongly advised to have completed at least one semester of keyboarding and type a minimum of 45 gross words per minute on a five-minute test.
First of three modules in OFADM 203. Further development of keyboarding with an emphasis on speed and accuracy; practice and drill on production keyboarding; drill and practice on formatting techniques and procedures for setting up business letters, academic and business reports, tables, business forms, including interoffice memoranda, resumes, minutes, and agendas. Individualized instruction. Open entry/open exit. (A-F Only) Lecture. Transfer: CSU

OFADM 202—INTERMEDIATE KEYBOARDING  2 UNITS
Recommended for Success: Before enrolling for this course, students are strongly advised to have completed at least one semester of keyboarding and type a minimum of 45 gross words per minute on a five-minute test.
Second of three modules in OFADM 203. Further development of keyboarding with an emphasis on speed and accuracy; practice and drill on production keyboarding; drill and practice on formatting techniques and procedures for setting up business letters, academic and business reports, formal reports and all components, tables, business forms, including interoffice memoranda, resumes, minutes, and agendas. Individualized instruction. Open entry/open exit. (A-F Only) Lecture. Transfer: CSU

OFADM 203—INTERMEDIATE KEYBOARDING  3 UNITS
Recommended for Success: Before enrolling for this course, students are strongly advised to have completed at least one semester of keyboarding and type a minimum of 45 gross words per minute on a five-minute test.
Further development of keyboarding with an emphasis on speed and accuracy; practice and drill on production keyboarding; drill and practice on formatting techniques and procedures for setting up business letters, academic and business reports, formal reports and all components, tables, business forms, including interoffice memoranda, resumes, minutes, and agendas. Also, the design and creation of effective office forms and publications, such as letterheads, notepads, cover pages, announcements, flyers, and newsletters. Individualized instruction. Open entry/open exit. (A-F Only) Lecture. Transfer: CSU

OFADM 231—INTERMEDIATE WORD PROCESSING  3 UNITS
Also offered as CMPSC 231
Recommended for Success: Before enrolling in this course, students are strongly advised to have completed OFADM 203 and either OFADM 330 or CMPSC 274.
Intermediate word processing features such as mail merge, styles, graphics, tab, and sorts. Features will be applied in creating business documents. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: CSU

OFADM 232—ADVANCED WORD PROCESSING AND DESKTOP PUBLISHING  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete (CMPSC 231 or OFADM 231), or demonstrate prior knowledge of word processing software.
Application of advanced word processing techniques and procedures including those features relating to desktop publishing. For students who are already knowledgeable in word processing software. Field trips are not required. Lecture/Laboratory. (A-F or P/NP) Transfer: CSU

OFADM 301—BEGINNING KEYBOARDING  1½ UNITS
Development of basic alpha/numeric keyboarding skills needed for the operation of the keyboard by the touch system. Drills to develop speed and accuracy on straight copy. Designed for students with no previous keyboarding/typing experience. Field trips are not required. (A-F Only) Lecture/Lab. Transfer: (MJC OFADM 301 + 302 = CC OFTEC 120)
OFADM 302—BEGINNING DOCUMENT PROCESSING 1½ UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete OFADM 301 or have ability to keyboard by touch at 20 GPM. Keyboarding course designed to diagnose a student’s current keyboarding skills needs, prescribe appropriate practice materials, measure skill development, improve speed and accuracy, and continually evaluate the skill building process. Three maximum completions. Field trips are not required. (A-F Only) Lecture/Lab. Transfer: (MJC OFADM 301 + 302=CC OFTEC 120)

OFADM 303—KEYBOARDING FOR SPEED AND ACCURACY ½ UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete OFADM 301 or have ability to keyboard by touch at 20 GPM. Keyboarding course designed to diagnose a student’s current keyboarding skills needs, prescribe appropriate practice materials, measure skill development, improve speed and accuracy, and continually evaluate the skill building process. Three maximum completions. Field trips are not required. (A-F Only) Lab.

OFADM 304—PROFESSIONAL ENGLISH FOR BUSINESS 3 UNITS
Review of the mechanics of correct English usage as applied in the business environment. Emphasis is on sentence structure, word usage, punctuation, spelling, business vocabulary, dictionary usage, grammar review, and proofreading. Heavy emphasis is placed on the use of various business documents throughout the course for students to apply their writing skills. Field trips are not required. (A-F or P/NP) Lecture.

OFADM 305—RECORDS MANAGEMENT 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have successfully completed OFADM 353 and be eligible for ENGL 50.
Filing rules and their application to alphabetic, numeric, geographic, and subject systems; establishing manual and computer filing systems; records control, retention, transfer, equipment, and supplies; micrographics; using the computer to store, organize, maintain, and retrieve information. Field trips may be required. (A-F or P/NP) Lecture/Lab.

OFADM 311—BUSINESS EDITING AND PROOFREADING 3 UNITS
Recommended for Success: Ability to keyboard assignments.
Development of skills in transcibing typed and handwritten notes using word processing and voice recognition tools. Emphasis will be placed on the mechanics of letter styles, as well as grammar, punctuation, spelling, vocabulary, syllabication, capitalization, proofreading, and use of figures. (A-F or P/NP) Lecture.

OFADM 312—ALPHABETIC NOTETAKING 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete OFADM 301.
Abbreviated writing system, designed to give students a quick and easy method of writing in a short period of time. Designed for academic or job-related activities with emphasis on increasing speed in taking notes for college or business. Lecture. (A-F Only).

OFADM 313—OFFICE SKILLS 3 UNITS
A study of various positions available in an office. Emphasis on location, skills, salary, benefits, and retirement packages of office positions. Covers entry-level skills and experience necessary for beginning office positions, including career planning, telephone, and time management skills. Recommended as a first semester course for students pursuing an Office Administration or Clerical certificate or degree. Field trips may be required. (A-F or P/NP) Lecture.

OFADM 314—OFFICE PROCEDURES & TECHNOLOGIES 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have satisfactorily completed OFADM 202 and OFADM 362; and also have satisfactorily completed OFADM 231 or have prior knowledge of word processing software.
A study of the attributes and skills needed to work in the an office. Explores duties of administrative assistants. Covers topics in workplace environment, workforce behaviors, telecommunications, reprographics, oral and written communications, mailing and shipping, and record keeping. (Course only offered during fall semester) Field trips may be required. (A-F or P/NP) Lecture. (CC OFTEC 131)

OFADM 315—TODAY’S OFFICE 2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to have completed all Required Courses for Office Administration or Clerical degree or certificate.
Provides a simulated office environment to give students the experience that is often necessary in obtaining and keeping an office position. Students will be “hired” as an employee within the simulated office with the availability of transferring to other positions later in the course. Application of skills and knowledge necessary to be an effective employee will be emphasized. Upon mastery of necessary skills, students may be placed as interns in offices to gain additional experience. The course should be taken in the student’s last semester before graduation or certificate completion. (A-F or P/NP) Laboratory. (Spring Only)

OFADM 320—TELEPHONE TECHNIQUES 1 UNIT
Development of effective use of the telephone. Scenarios include appropriate greetings, placing callers on hold, dealing with difficult callers, and communication on the telephone. Telephone equipment and services are also covered. Lecture/Laboratory. (A-F or P/NP).

OFADM 328A,B—MACHINE TRANSCRIPTION 1,2 UNITS
Recommended for Success: Satisfactory completion of (OFADM 311 or 304) and ability to keyboard 40 gross words per minute on a five minute test.
Introduction and practice in the use of a standard transcription machine. Individualized instruction in the keyboarding of general business documents including letters, memos and reports. Open entry/open exit. Two maximum completions for 328A only. (A-F Only) Lecture/Lab. Transfer: (CC OFTEC 121 for 328B only)

OFADM 330—BEGINNING WORD PROCESSING 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete OFADM 301 or another equivalent course.
Introduction to the use and capabilities of word processing software with hands-on experience in creating, revising, and printing documents. Course designed for initial exposure to word processing. Students who have completed OFADM 356 should enroll in OFADM/CMPSC 231. Two completions allowed. Field trips are not required. (A-F or P/NP) Lecture/Lab.

OFADM 353—INTRODUCTION TO COMPUTERS AND WINDOWS 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to have the ability to keyboard by touch.
Basic introduction to computers and the Windows operating environment. Explains components of a computer system and provides hands-on training using a personal computer. Intended for students new to using personal computers and the Windows environment. Two maximum completions. Field trips are not required. (A-F Only) Lecture/Lab.

OFADM 356—INTRODUCTION TO WORD PROCESSING 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to have satisfactorily completed OFADM 301 and/or have the ability to keyboard by touch.
Beginning course in the use of word processing software. Features of the software will be explained and demonstrated in a hands-on learning environment. Two maximum completions. Field trips are not required. (A-F Only) Lecture/Lab.

OFADM 359—INTRODUCTION TO SPREADSHEET SOFTWARE 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to have satisfactorily completed OFADM 353.
Beginning course in the use of spreadsheet software. Features of software will be explained and demonstrated in a hands-on learning environment. Two maximum completions. Field trips are not required. (A-F Only) Lecture/Lab.

OFADM 361—INTRODUCTION TO DATABASES 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to have satisfactorily completed OFADM 353, 356, 359, and/or 362.
A beginning course using features of database software. Course is designed to enable students to learn and apply the features of database software to organize information and to work with stored information. Two maximum completions. Field trips are not required. (A-F Only) Lecture/Lab.

OFADM 362—INTRO TO BUSINESS PRESENTATION SOFTWARE 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete OFADM 353.
A beginning course using computer software to design slides, outlines, note pages, and audience handouts for business presentations. Two completions allowed. Field trips are not required. (A-F Only) Lecture/Lab.
**OFADM - PE**

OFADM 363—UNDERSTANDING THE INTERNET 1 UNIT
Fundamentals of using the internet. Topics included in the course: internet terminology, use of browsers, search engines and sites, downloading of files and e-mail. (A-F Only) Lecture.

OFADM 364—GRAMMAR IN THE OFFICE 1 UNIT
Basic English grammar for office employees. Emphasis on parts of speech, subject and verb agreement, pronoun usage, sentences, punctuation, number usage, and business terms. Proofreader’s marks and symbols are introduced, and strategies for effective business writing are presented. Open entry/open exit. (A-F Only) Lecture.

OFADM 366—PROOFREADING TECHNIQUES 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to have successfully completed OFADM 304. Self-paced course addressing the skills needed to identify mechanical and content errors in hand-written or printed text by using proofreader’s marks. Grammar, punctuation, and spelling rules will be reviewed. Field trips are not required. (A-F Only) Lecture/Lab.

OFADM 375—10-KEY ON THE COMPUTER 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete OFADM 101 or have the ability to keyboard by touch. Touch system of numeric keys on the 10-key pad. Field trips are not required. (A-F Only) Lecture.

OLDAD (Older Adults)

Dean: George Boodrookas
Division Office: Morris Memorial, Room 204
Phone: (209) 575-6663
Division website: www.mjc.edu/community/enroll/commed/commed-classes/index.html

NON-CREDIT COURSES

OLDAD 820—JEWELRY AND METALCRAFT
Techniques and the construction of jewelry from copper, bronze, sterling silver, and gold; setting of stones in jewelry; and techniques of the lost wax method of casting. Designed for older adults but open to all students. Unlimited repeats. Field trips may be required. Laboratory. Not a graded course.

OLDAD 822—LAPIDARY
Basic lapidary skills; faceting, grinding, polishing, and mounting of semiprecious, precious, and ornamental stones. How to recognize, procure, and develop gem materials, experiment with, and display gem ornamentation showing utility and craftsmanship. Diamond saw cutting, carving in stone table tops, and the making of mosaics and intarsia. Designed for older adults but open to all students. Unlimited repeats. Field trips may be required. Laboratory. Not a graded course.

OLDAD 830—PUBLIC SPEAKING: TALKING IT OUT
Development of effective listening, thinking and speaking skills among the older adult population. Course builds and reinforces speech development skills. Unlimited repeats. Lecture. Not a graded course.

OLDAD 874—CLOTHING CONSTRUCTION THROUGH KNITTING
Learn care of different types of fiber such as wool, cotton, and synthetic, the importance of gauge and weights of yarn and their uses. Basic skill development in knit, purl, cast on and cast off, increase and decrease. Introduction to different knitting techniques such as intarsia, mosaic, fair isle, and decorative stitches and ways to implement them into garments. Not a graded course.

**PE (Physical Education)**

Dean: William Kaiser
Division Office: PE Office Building, Room 105
Phone: (209) 575-6269
Division website: www.mjc.edu/athletics

Instructors: Bobby Boswell, Dimitrious Snaer, Eric Fischer, Jim Stevens, Kurt Olson, Lori Bryhni, Mary Shea, Michael Girardi, Milan Motroni, Paul Aiello, Paul Brogan, Sam Young, Shawn Black, Steve Aristotelous

The Physical Education program at MJC offers a balanced approach based upon the individual interests and needs of the student. In addition to a wide spectrum of physical education activity classes, MJC offers intercollegiate competition in many sports and adaptive physical education courses. Theory classes are offered in basketball, football, track and field, wrestling, softball, and baseball. Since the majority of career opportunities in Physical Education exist for students completing a bachelor’s degree, general education and transfer courses are carefully planned so that students are well prepared for individual career needs and upper division college work.

Courses should be selected with the assistance of a Physical Education faculty advisor. Students interested in a career in Physical Education are encouraged to take a variety of activity classes each semester, thereby broadening their activity skills before transfer.

**Repeat Limitations on Physical Education Courses**

No activity may be taken more than four times, regardless of the number of skill levels it may have listed. Persons who have met the limit of repetition of credit courses as stated in the catalog may audit the course with the approval of the instructor. Auditors receive no credit for class work, no grade, and no record is kept of their performance in class. Enrollment is allowed after the first day of instruction. An Audit Enrollment Form can be obtained in the Admissions after staff verify that the repeat limit has been reached. This form must be signed by the instructor and the student and turned in to the Admissions Office along with a payment of $15.00 per unit paid to the Business Office. Students enrolled in ten (10) or more units at the time audit enrollment occurs will not be assessed the fee up to three (3) units.

For purposes of this limitation, activities are defined as Adaptive, Baseball, Basketball, Body Mechanics, Bowling, Cross Country, Dance, Divining, Fencing, Football, Golf, Gymnastics, Lifesaving, Racquetball, Self-Defense, Soccer, Softball, Swimming, Table Tennis, Tennis, Track and Field, Volleyball, Water Polo, Weight Training, and Wrestling.

- CSU -12 units maximum.
- UC - See UC All Campus Credit List for credit limitations available in Counseling Office.

**ACTIVITIES REQUIREMENT FOR DEGREE**

Physical Education classes used to fulfill the graduation activity requirements must be from the PEA, PEC, PEM, PEW, PEVM, or PEVV class listings.

**PE 100—INTRODUCTION PHYSICAL EDUCATION** 3 UNITS
History, philosophy, and principles of Physical Education. Study of the aims and objectives of modern physical education with emphasis on the development of basic philosophy and background for the profession of physical education. Field trips are not required. (A-F Only) Lecture. Transfer: (CSU, UC)

**PE 101—BASKETBALL THEORY** 1 UNIT
Basketball rules, mastery of position and team play. Development of strategies and philosophy. Field trips are not required. (A-F Only) Lecture/Lab. Transfer: (CSU, UC)

**PE 102—OFFENSIVE FOOTBALL THEORY** 2 UNITS
An analysis of offensive position and team play. Critical analysis of offensive techniques, rules, physical and mental training procedures, and film evaluation. Three maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)
PE 103—TRACK AND FIELD TEAM CONCEPTS 1 UNIT
Specialized approach to track and field. Rules, training procedures, strategy, and performance evaluation. Three completions allowed. Field trips are not required. (A-F or P/NP) Lecture. 
Transfer: (CSU, UC)

PE 104 WRESTLING THEORY 1 UNIT
Analysis of wrestling, rule interpretation, winning psychology, film analysis. Repeatable up to 2 units maximum. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)

PE 105—DEFENSIVE FOOTBALL THEORY 2 UNITS
An analysis of defensive position and team play. Critical analysis of defensive techniques, rules, physical and mental training, and film evaluation. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)

PE 106—OFFENSIVE BASEBALL THEORY 2 UNITS
An analysis of offensive techniques, position and team play. Coverage of rules and training procedures. Two maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)

PE 107—DEFENSIVE BASEBALL THEORY 2 UNITS
An analysis of defensive techniques, position and team play. Coverage of rules and training procedures. Two maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)

PE 108—CARE AND PREVENTION OF ATHLETIC INJURIES 3 UNITS
Designed for prospective coaches, trainers, health and physical educators, and athletes, to aid in the recognition, evaluation, and care of athletic injuries. Techniques in taping, prevention, and rehabilitation of injuries. Sport specific injuries are examined and discussed to familiarize students with the multitude of injuries that can and will occur in sporting activities. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(CC HHIP 4)

PE 109—PEAK PERFORMANCE THROUGH MENTAL TRAINING 3 UNITS
Techniques for maximizing sport and dance performance through the development of mental skills and strategies for stress control, imagery, goal setting and concentration. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)

PE 110—OFFICIATING: SPRING SPORTS 3 UNITS
Regulations and techniques of officiating baseball and softball. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)

PE 111—APPLICATION OF SPORTS MEDICINE 3 UNITS
Prerequisite: Satisfactory completion of PE 108
Practical application of modalities and techniques used in the treatment and care of athletic injuries for the prospective Athletic Trainer. Emphasis on injury recognition, development of conditioning and reconditioning programs, and taping techniques to enable athletes to return to competitive activities. Lecture. (A-F Only) Transfer: (CSU, UC)

PE 113—OFFENSIVE/DEFENSIVE SOFTBALL THEORY 1 UNIT
Analysis of offensive and defensive techniques, strategies, positions, and team play including rules and physical and mental training. Course designed to prepare the student to compete in collegiate softball. Two maximum completions. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)

PE 114—CROSS COUNTRY CONCEPTS 1 UNIT
Specialized approach to cross country and long distance running. Training procedures, performance evaluation, nutritional strength, and racing strategy components. Three completions allowed. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)

PE 115—OFFICIATING: FALL SPORTS 3 UNITS
Regulations and techniques of officiating football and basketball. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)

PE 116—FOOTBALL TEAM PLAY CONCEPTS 2 UNITS
Essential concepts of team-building in football. Goal-setting and development of individual roles. Exploration of team communication processes and activation of leadership of the successful football team. Provides both the participant and the future mentor specialized exposure for an in-depth survey of team building in regard to the sport of football. Lecture/Laboratory. Field trips may be required. (A-F or P/NP)(Fall) Transfer: (CSU, UC)

PE 120—SPORTS AND SOCIETY 3 UNITS
Examine sports as a significant aspect of modern culture and a major institution of modern society. Topics that will be analyzed include: gender and sports, the relationship between organized sports and aggression, sports as an economy, and the issues of social class and race in sports Lecture. (A-F or P/NP) Transfer: (CSU, UC)

PE 121—COACHING EFFECTIVENESS 3 UNITS
Role of coach in athletics, ethics, leadership and management principles, psycho-social aspects of athlete behavior management, motor learning, physiological systems and physical training theory. Lecture. (A-F or P/NP) Transfer: (CSU, UC)

PE 122—ADAPTED PHYSICAL EDUCATION THEORY AND LAB 3 UNITS
Common definitions, scope and basic concepts of Adapted Physical Education. A study of specific disabilities, with a primary focus on identification, etiology and implications for physical education. Course includes practical experience in the field. Intended for students interested in pursuing a career in physical therapy, nursing, adapted physical education, gerontology or fields requiring one to work with individuals with disabilities. Lecture/Laboratory. Transfer: (CSU, UC)(A-F Only)

PE 130—PERSONAL TRAINER HEALTH FITNESS INSTRUCTOR 3 UNITS
Formerly listed as PE 130
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PEC 195 or satisfactorily complete PEC 197 or satisfactorily complete PEW 192.
Basic competency in designing and implementing fitness programs for a healthy population. Features both practical and theoretical instruction as well as career advice. Emphasis on safe, effective and efficient methods of teaching cardiovascular training, resistance training, balance training and flexibility training for individuals or groups. Covers a broad range of exercise physiology, exercise program design, anatomy of major muscle groups, interval and circuit training, exercise biomechanics, advanced lifting techniques, the basics of working with special populations, and exercise progression. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU)

PE 132—AQUATIC FITNESS & HEALTH INSTRUCTOR 3 UNITS
Basic competency in designing and implementing aquatic fitness programs for a healthy population. Features both practical and theoretical instruction as well as career advice. Emphasis on safe, effective and efficient methods of teaching cardiovascular training, resistance training, balance training and flexibility training for group aquatic exercise. Covers a broad range of exercise physiology, exercise program design, anatomy of major muscle groups, water laws, the basics of working with special populations, and modifications. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU)

PE 141—SUPERVISION IN ATHLETIC TRAINING 2 UNITS
Prerequisite: Satisfactory completion of PE 108.
Policies and procedures, emergency protocols, vital signs, Bloodborne pathogens, and daily functions that are necessary for the student to work in the Athletic Training Center. Continued development in decision-making strategies, analysis, and an awareness of the factors related to medical protocols. Basic skill development in working in the Athletic Training Center with athletes and coaches for an in depth experience related to sports medicine. Four completions allowed. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU)

PE 194—INTRODUCTION TO WORLD DANCE 3 UNITS
Also offered as THETR 194
A survey of dance and its development as an art form through social, political and cultural context. Investigation of cultural traditions and styles, values, aesthetics and more will be explored. (A-F Only) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE:C)(CSU-GE: C1)(IGETC: 3A)

PE 349—WORK EXPERIENCE: PHYSICAL EDUCATION 1-4 UNITS
Concurrent Enrollment in a minimum of 7 units, which may include Cooperative Vocational Work Experience.
Designed for physical education and health majors who wish to combine classroom experience with an expansion of skills or knowledge acquired at a site of employment on a paid or volunteer basis. Work must relate to the student’s area of study. Maximum 4 units may be earned per semester. May be repeated to a maximum of 16 units work experience credit. (Cooperative General Work Experience is included in this maximum.) Also offered during May, June, and July. Lab. (A-F Only) Maximum four completions.
**PEA (Physical Education: Adapted Activities)**

**PEA 104—ADAPTED STRENGTH DEVELOPMENT** 1 UNIT

*Recommended for Success: Before enrolling in this course, students are strongly advised to provide medical verification of physical or learning disability or motor problems.*

Development and maintenance of muscular strength for students with physical/medical limitations. Emphasis on encouraging independence and teaching lifelong fitness knowledge and skills. Four completions allowed. Field trips are not required. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

**PEA 106—FUNCTIONAL WATER EXERCISE** 1 UNIT

*Recommended for Success: Before enrolling in this course, students are strongly advised to provide medical verification of physical or learning disability or motor problems.*

A specialized course involving aquatic exercises which include range of motion, strength, cardiovascular endurance, and flexibility training. Specialized adapted equipment appropriate for limited mobility conditions may be used. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

**PEA 107—ADAPTED SWIMMING** 1 UNIT

*Recommended for Success: Before enrolling in this course, students are strongly advised to provide medical verification of physical or learning disability or motor problems.*

Basic water safety and swim skills. A specialized course in physical exercise which includes personalized and group swim exercises which include strength, endurance, flexibility training and instruction in improving and/or modifying swimming skills. Student may repeat if required by regulation. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

**PEA 108—ADAPTED AQUATICS** 1 UNIT

*Recommended for Success: Medical verification of physical or learning disability or motor problems.*

A specialized course in physical exercise which includes personalized and group aquatic exercises for strength, endurance, and flexibility. May be completed up to 4 times. Lecture/Lab.

**PEA 116—ADAPTED RUN/WALK** 1 UNIT

*Recommended for Success: Medical verification of physical or learning disability or motor problems.*

Personalized and group exercises that include development of an overall fitness routine involving conditions for walking and/or running: balance, gait, functional motor control, developmental movement, strength and endurance. Emphasis on encouraging independence and teaching lifelong fitness knowledge and skills. Recommended for students with physical and learning disabilities. Laboratory. Four completions allowed. MJC Activities. Transfer: (CSU, UC)

**PEA 119—ADAPTED SPORTS** 1 UNIT

*Recommended for Success: Medical verification of physical or learning disability or motor problems.*

Introduces students with a physical and/or developmental disabilities to a variety of sports. Students will safely participate in sports such as, but not limited to, softball, volleyball, tennis, Frisbee, soccer, basketball, and golf. Laboratory. Four completions allowed. (Spring) MJC Activities. Transfer: (CSU, UC)

**PEA 141—ADAPTED FITNESS** 1 UNIT

*Recommended for Success: Provide medical verification of physical or learning disability or motor problems.*

A specialized course in physical exercise which includes individual and group exercises that include development of an overall fitness routine involving all aspects of body conditioning: balance, flexibility, functional motor control, developmental movement, strength and endurance. There will be an emphasis on encouraging independence and teaching lifelong fitness knowledge and skills. Four completions allowed. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**Non-Credit Courses**

**PEA 800—ADAPTIVE EXERCISE FOR MATURE ADULTS**

Use of adaptive weight room and equipment for body maintenance, strengthening, and conditioning. Designed for students with disability limitations. Unlimited repeats. Lecture/Laboratory.

**PEC (Physical Education: Coed Activities)**

**PEC 102, A—WATER AEROBICS** ½, 1 UNIT

*Formerly listed as PEW 102*

Designed to elevate the heart rate to contribute to cardiovascular fitness; provide increased resistance for strength improvement with virtually no impact; help joints move through their range of motion, promoting flexibility. Lecture/Laboratory. Not offered every semester. MJC Activities. Transfer: (CSU, UC)

**PEC 106X, A—BADMINTON** ½, 1 UNIT

Basic skills, rules, strategy, practice in singles and doubles play. Lecture/Laboratory. MJC Activities. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

**PEC 108,A—DEEP WATER AEROBICS** ½, 1 UNIT

*Recommended for Success: Basic swimming and water skills*

Group aquatic exercises utilizing strength, endurance, flexibility training in deep water which can involve specialized aquatic equipment. Lab. MJC Activities. Transfer: (CSU, UC)

**PEC 111—BEGINNING RACQUETBALL** 1 UNIT

Fundamentals of racquetball. Participation at local court. Expenses are the responsibility of the student. Materials fee required. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

**PEC 112—INTERMEDIATE RACQUETBALL** 1 UNIT

Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PEC 111.

Intermediate skills and theory. Basic singles and doubles play. Participation at local court. Expenses are the responsibility of the student. Materials Fee Required. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

**PEC 118,A—BOWLING** ½, 1 UNIT

Fundamentals of bowling. Students are required to pay line and shoe charges at bowling alley. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**PEC 120,X,A—HIP HOP** ½, 1 UNIT

*Also listed as THEIR 170*

Fundamental skills of hip hop dance derived from the current dance vernacular and culture. Dance movement education, exploration, and recreation. May be completed up to 4 times. Lecture/Lab. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

**PEC 122,X,A—BEGINNING MODERN DANCE** ½, 1 UNIT

*Also offered as THEIR 185*

Emphasis on basic modern dance technique, beginning composition, improvisation, dance history and philosophy. Dance as an art form and recreation. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)
PEC 123X,A — INTERMEDIATE MODERN DANCE ½,1 UNIT
Also offered as: THEIR 169X, A
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PEC 122X,A or THEIR 168X,A.
Emphasis on intermediate modern dance technique, intermediate composition, improvisation, partnering, dance history and philosophy. Dance as art form and as recreation. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 124X,A — ADVANCED MODERN DANCE ½,1 UNIT
Also offered as: THEIR 187
Recommended for Success: Before enrolling in this course, students are strongly advised to complete PEC 123X,A or THEIR 168X,A or equivalent.
Emphasis on composition, improvisation, expression, dance history and philosophy; an outlet for expressive movement ideas. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 125 — BEGINNING BALLROOM DANCE 1 UNIT
Formerly listed as PEC 125 — Beginning Social Dance
An introduction to ballroom dancing, including basic steps in some of the most popular Latin and American dance rhythms; may include the waltz, foxtrot, rhumba, swing, samba, cha cha, tango, contemporary hustles, line dancing, square dancing, and polka. Student will learn to identify musical beats and rhythms appropriate for each dance. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

PEC 126 — JAZZ DANCE 1 UNIT
Also offered as: THEIR 188
Technique of Jazz Dance with explorations into contemporary derivations of jazz. Emphasis is given to technical style of this form, and to the interrelationship of music and movement. Field trips may be required. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 128X,A — AEROBICS ½,1 UNIT
Aerobic movements for improved cardiovascular condition, muscle tone, flexibility, balance, agility, coordination and weight control. Lecture/Laboratory. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

PEC 130X,A — INTERNATIONAL FOLK DANCE ½,1 UNIT
International folk dance is accessible to the average person in good condition at this introductory level. Dances which originated with people living in or native to various countries/areas, such as Middle East, Balkans, Russia, etc. Dance exploration and recreation. Three maximum completions. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 133X,A — BALLET 1 ½,1 UNIT
Also offered as: THEIR 189
Fundamental ballet techniques and terminology. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 134X,A — CONTACT IMPROVISATION ½,1 UNIT
Contact improvisation is an exciting movement art form, exploring the vast potential for movement generated by two or more people, communicating spontaneously through weight, motion and touch. Four completions allowed. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 135 — SPRINGBOARD DIVING 1 UNIT
Springboard diving course for students of all ability levels. Workouts will include stretching, strength development, flexibility and coordination exercises, techniques of the approach, hurdle, press, takeoff, flight and entry. Mid-air maneuvers will be identified and practiced on one meter and three meter diving boards as skill levels increase. Basic water safety and related safety issues will be included. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

PEC 136 — INDOOR ROCK CLIMBING 1 UNIT
Indoor rock climbing class covering climbing techniques, safety equipment, and basic safety skills used by climbers and belayers. Classes will be held at Stoneridge Climbing Gym of Modesto. Facility use fee required. Field trips may be required. Four completions allowed. Laboratory. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

PEC 140X,A — EXERCISE FOR FITNESS ½,1 UNIT
A course in physical fitness with emphasis on cardiovascular improvement and respiratory efficiency through a variety of physical activities consisting of continuous motion exercises. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 143X,A — BEGINNING GOLF ½,1 UNIT
Fundamentals of golf. Maximum four completions. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 144X,A — INTERMEDIATE GOLF ½,1 UNIT
Recommended for Success: PEC 143 or equivalent.
Further application of golf fundamentals and rules. Maximum four completions. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 145X,A — ADVANCED GOLF ½,1 UNIT
Recommended for Success: PEC 144 or equivalent.
Golf course play and skills improvement on individual basis. Maximum four completions. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 147X,A — GYMNASTICS ½,1 UNIT
Tumbling, floor exercise, stunts, and acrobatic skills are taught and practiced in progression and combined for skill development. (A-F or P/NP) Four completions allowed. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 148 — YOGA FOR BETTER HEALTH 1 UNIT
Fitness class using Yoga postures, breathing, and relaxation techniques to increase flexibility and strength, balance and coordination. Appropriate for all ages and learning abilities. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

PEC 150X,A — INTERMEDIATE YOGA FOR BETTER HEALTH ½,1 UNIT
Recommended for Success: PEC 148 or Prior experience in yoga.
Intermediate class using yoga postures, breathing, and relaxation techniques to increase flexibility, strength, balance and coordination. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 157 — ADVANCED JUDO 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PEC 165 or PEC 166 or PEW 167 or demonstrate basic judo skills and competencies, along with a knowledge and understanding of judo concepts, terminology, etiquette, and methods of scoring, timekeeping, and elimination systems. Intermediate and advanced skills (standing, mat and falling techniques) and strategies to improve judo techniques and enhance competitiveness. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

PEC 159 — SPIRIT LEADERSHIP TRAINING 3 UNITS
Instruction, training and development of a corps of spirit leaders to promote enthusiasm for school athletic activities. Lecture. MJC Activities. Transfer: (CSU, UC)

PEC 162 — AIKIDO 1 BASIC 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to be able to demonstrate physical activity, such as falling down and standing up. Students are also advised to consult a physician if they are pregnant, or have significant health problems.
An introduction to the fundamental principles and techniques of Aikido, an ethical Japanese martial art based on non-aggressive, non-resistant, co-creative conflict resolution and internal personal growth by non-competitive means. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

PEC 163 — AIKIDO 2, INTERMEDIATE 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to demonstrate the Aikido Techniques: Yonkyo, Sumi Otoshi, Tenchi Nage, Ikkyo, Kote gaeshi and Irimi Nage or hold Kyo rank from an Aikido Dojo.
A continuing exploration of the fundamental principles and techniques of Aikido, an ethical Japanese martial art based on non-aggressive, non-resistant, co-creative conflict resolution and internal personal growth by non-competitive means. Four completions allowed. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

PEC 164 — SELF DEFENSE 1 UNIT
A practical course in self defense. Practice of various basic techniques and principles of balance, leverage, and momentum. Discussion of how to avoid threatening situations in the home or on the street. Four completions allowed. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

PEC 165 — BEGINNING JUDO 1 UNIT
Instruction and practice in the basic skills of the sport of Judo including terminology, etiquette, throwing and grappling techniques, with integration of various Katas and Randori. Four completions allowed. Laboratory. MJC Activities. Transfer: (CSU, UC)
PEC 166X—INTERMEDIATE JUDO 1/2, 1 UNIT  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PEC 165.
Instruction and practice in the intermediate skills of the sport of Judo. Course will cover the terminology, etiquette along with throwing and grappling techniques, with integration of various Katas (forms) and Randori (free exercise). Four completions allowed. (A-F or P/NP). Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

PEC 168, A—BEGINNING SWIMMING 1/2, 1 UNIT  
Recommended for Success: Must be comfortable in shallow water. Class conducted in a shallow pool.
Basic skills of floating, breathing, kicking, pulling, using arms and legs. Lecture/Laboratory. (A-F or P/NP) Four completions allowed. MJC Activities. Transfer: (CSU, UC)

PEC 169 X,A—INTERMEDIATE SWIMMING 1/2, 1 UNIT  
Recommended for success: Satisfactory completion of PEC 168A.
Continued development in basic stroke techniques and endurance for intermediate swimming. May be completed up to 4 times. Lecture/Lab. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

PEC 170X,A—ADVANCED SWIMMING 1/2, 1 UNIT  
Recommended for Success: Students are strongly advised to satisfactorily complete PEC 168.  
Continued development in stroke techniques, and workout knowledge for advanced swimming. Four completions allowed. Lecture/Laboratory. A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

PEC 171,A—SWIM FOR FITNESS 1/2, 1 UNIT  
Recommended for Success: Ability to handle self in deep water.
To meet individual needs in basic stroke techniques and endurance swimming for intermediate and/or advanced swimmers. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 172—LIFEGUARD TRAINING 1 UNIT  
Prerequisite: Pass swimming pre-test, be at least 15 years old on the first day of class.
Preventive lifeguarding, learning how to recognize specific characteristic behaviors of patrons at an aquatic facility; facility emergency planning; First Aid and CPR for the Professional Rescuer included. Successful course completion results in American Red Cross certification in lifeguard training, CPR, and first Aid. Lab. (A-F or P/NP) Four completions allowed. Materials fee required. MJC Activities. Transfer: (CSU, UC)

PEC 174X,A—TABLE TENNIS 1/2, 1 UNIT  
Instruction in basic skills, rules, strategy, practice in singles and doubles play, plus supplemental films, video tapes and class competition. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 175X,A—BEGINNING TENNIS 1/2, 1 UNIT  
Fundamental skills in tennis. Four completions allowed. (A-F or P/NP) Lecture/Laboratory MJC Activities. Transfer: (CSU, UC)

PEC 176X,A—INTERMEDIATE TENNIS 1/2, 1 UNIT  
Recommended for Success: Before enrolling in this course students are strongly advised to satisfactorily complete PEC 175X,A.
Development of net and backcourt skills and strategies, net play, volleying, and proficiency in rules, terminology, and etiquette. Four completions allowed. Lecture/Laboratory. A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

PEC 177,A—ADVANCED TENNIS 1/2, 1 UNIT  
Recommended for Success: Before enrolling in this course students are strongly advised to satisfactorily complete PEC 176 or equivalent.
Skills and strategy of competitive tennis, including tournaments, and ladder play. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 178,A—TOURNAMENT TENNIS 1/2, 1 UNIT  
Recommended for Success: Before enrolling in this course students are strongly advised to satisfactorily complete PEC 177A.
Designed for the expert tennis player and includes intracaseus competition. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 179,A—TRACK AND FIELD 1/2, 1 UNIT  
Generalized training and techniques for track and field. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 182,A—TRAINING FOR DISTANCE RUNNING 1/2, 1 UNIT  
Become better prepared for endurance distance running with organized training runs. Information on creating an effective training program, nutrition, weight training and cross training. Field trips may be required. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 183,A—Volleyball 1/2, 1 UNIT  
Fundamentals of volleyball. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 184,A—POWER VOLLEYBALL 1/2, 1 UNIT  
Recommended for Success: PEC 183 or equivalent.
Power volleyball for team play. Advanced offensive and defensive strategy and game skills. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 186,A—INTERMEDIATE VOLLEYBALL 1/2, 1 UNIT  
Recommended for Success: Satisfactory completion of PEC 183.
Intermediate skills and theory: Intermediate offensive and defensive strategy. Lecture/Laboratory. (A-F) Four completions allowed. MJC Activities. Transfer: (CSU, UC)

PEC 187,A—PILATES FOR FITNESS 1/2, 1 UNIT  
A fitness class that utilizes the Pilates exercise system focused on improving flexibility and strength for the total body through a series of controlled movements. Pilates exercises can improve posture, alignment, coordination and balance. Movements are designed to tone muscles without putting stress on the spine. For people of all ages and fitness levels. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

PEC 190X,A—ADVANCED WATER POLO 1/2, 1 UNIT  
Recommended for Success: Satisfactory completion of PEC 189 or equivalent.
Advanced team play and game strategy in water polo for recreation exercise. Four completions allowed. Lecture/Laboratory. (A-F or P/NP)(Summer) MJC Activities. Transfer: (CSU, UC)

PEC 191—POWERLIFTING 1 UNIT  
Prerequisite: Satisfactory completion of PEC 195 or PEW 192.
Advanced techniques of effective strength training in a supervised program with an emphasis on traditional powerlifting using free weights and supplemental exercise programs. (P/NP). May be completed up to 4 times. MJC Activities. Transfer: (CSU, UC)

PEC 195—WEIGHT TRAINING 1 UNIT  
Principles and procedures of effective strength training techniques in a supervised weight training program. Lecture/Laboratory. (P/NP only) Four completions allowed. MJC Activities. Transfer: (CSU, UC)

PEC 197—ADVANCED WEIGHT TRAINING 1 UNIT  
Recommended for Success: Satisfactory completion of PEC 195.
Strength training in a supervised weight training program with emphasis on olympic lifts with free weights. May be completed up to 4 times. Lab. (P/NP Only) MJC Activities. Transfer: (CSU, UC)

NON-CREDIT COURSES

PEC 841—FITNESS FOR LIFE 1 UNIT  
Exercises designed to modify personal attitudes and actions toward health and physical activity. Exercise modalities may include, but are not limited to; pilates, weight training, aeroacs, walking/jogging, and yoga. Four completions allowed Non-graded. Unlimited repeats. Lecture/Laboratory.
**PEM**

(Physical Education: Men's Activities)

**PEM 108X, A—BASEBALL** 1½, 1 UNIT
Fundamentals and theory of baseball. Lecture/Laboratory. Four completions allowed. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

**PEM 111X, A—BASEBALL - TEAM PLAY CONCEPTS** 1½, 1 UNIT
Team play approach to game of baseball. Lecture/Laboratory. MJC Activities. Four completions allowed. MJC Activities. Transfer: (CSU, UC)

**PEM 112X, A—BEGINNING BASKETBALL** 1½, 1 UNIT
Fundamentals of basketball. Four completions allowed Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**PEM 113X, A—INTERMEDIATE BASKETBALL** 1½, 1 UNIT
Intermediate skills and theory. Basic team play concepts. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**PEM 114X, A—ADVANCED BASKETBALL** 1½, 1 UNIT
Advanced skills, theory and concepts of competitive team play. May be completed four times. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**PEM 140X, A—TOUCH FOOTBALL AND KANAKI** 1½, 1 UNIT
Discussion and practical applications of rules and strategy, with emphasis on individual movements found in offensive and defensive touch football and kanaki. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**PEM 141X, A—ADVANCED TOUCH FOOTBALL** 1½, 1 UNIT
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PEM 140A. Conditioning, skills, rules, and strategies with emphasis on the passing game to prepare for participation in advanced football. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**PEM 162X, A—SOCCER** 1½, 1 UNIT
Practical application of basic offensive and defensive tactics, individual and team skills, strategy and rules review; scrimmages. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**PEM 196X, A—ADVANCED WRESTLING** 1½, 1 UNIT
Advanced wrestling and training methods; and the philosophy behind winning at advanced levels of competition. Four completions allowed. (A-F or P/NP). Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

**PEVM**

(Physical Education: Varsity Men's Activities)

Courses listed below offer advanced instruction and intensive training in sports fundamentals to develop teams for intercollegiate competition. A varsity activity may be taken a maximum of four times. Participation in intercollegiate sports requires concurrent enrollment in not less than 12 units of work, nine of which must be in courses counting toward the associate degree, remediation, transfer and/or certification. Special medical examinations are required for students participating in competitive sports. Verification of insurance is also required. Participation in a second sport or a second year of a sport requires a 2.0 grade point average and 24 units passed.

**PEVM 100 VARSITY BASEBALL** 3 UNITS
Instruction, training, and competition in intercollegiate baseball. Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)

**PEVM 105—MEN’S VARSITY BASEBALL (FALL)** 3 UNITS
Recommended for Success: PE 101
Instruction, training and competition in intercollegiate baseball. Laboratory/Other. (Fall) Four completions allowed. (A-F Only) MJC Activities. Transfer: (CSU, UC)
### PEVW

**(Physical Education: Varsity Women's Activities)**

Courses listed below offer advanced instruction and intensive training in sports fundamentals to develop teams for intercollegiate competition. A varsity activity may be taken a maximum of four times.

Participation in intercollegiate sports requires concurrent enrollment in not less than 12 units of work, nine of which must be in courses counting toward the associate degree, remediation, transfer, and/or certification. Special medical examinations are required for students participating in competitive sports. Insurance is also required. Participation in a second sport or a second year of a sport requires a 2.0 grade point average and 24 units passed.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEVW 100</td>
<td>Women's Varsity Basketball - Fall</td>
<td>3</td>
<td>Instruction, training, and competition in intercollegiate basketball. (Fall semester) Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 101</td>
<td>Women's Varsity Basketball - Spring</td>
<td>1½</td>
<td>Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PEVW 100. Continued instruction, training, and competition in intercollegiate basketball. (Spring Semester) Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 103</td>
<td>Women's Varsity Cross Country</td>
<td>3</td>
<td>Instruction, training, and competition in intercollegiate cross-country running. Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 115</td>
<td>Women's Varsity Golf</td>
<td>3</td>
<td>Instruction, practice, and competition in intercollegiate golf. Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 120</td>
<td>Women's Varsity Softball</td>
<td>3</td>
<td>Instruction, training, and competition in intercollegiate softball. Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 123</td>
<td>Women's Varsity Soccer</td>
<td>3</td>
<td>Instruction, training, and competition in intercollegiate soccer. Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 125</td>
<td>Women's Varsity Swimming and Diving</td>
<td>3</td>
<td>Instruction, and intercollegiate competition in swimming and diving. Field trips are not required. Lab. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 130</td>
<td>Women's Varsity Tennis</td>
<td>3</td>
<td>Instruction, training, and competition in intercollegiate tennis. Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 135</td>
<td>Women's Varsity Track and Field</td>
<td>3</td>
<td>Instruction, training, and competition in intercollegiate track and field events. Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 140</td>
<td>Women's Varsity Volleyball</td>
<td>3</td>
<td>Instruction, training, and competition in intercollegiate volleyball. Four completions allowed. Field trips are not required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEVW 145</td>
<td>Women's Varsity Water Polo</td>
<td>3</td>
<td>Instruction, training and competition in intercollegiate water polo. Four completions allowed. Laboratory/Other: (Fall) MJC Activities. Transfer: (CSU, UC)</td>
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### PEW

**(Physical Education: Women's Activities)**

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<tr>
<th>Course Code</th>
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</tr>
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<tbody>
<tr>
<td>PEW 166, A</td>
<td>Women's Self Defense</td>
<td>½, 1</td>
<td>A practical course in women's self defense. Practice of various basic techniques and principles of balance, leverage and momentum. Discussion and practical exercises on how to avoid threatening situations in the home or on the street. Open to all female students. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEW 167X, A</td>
<td>Women's Beginning Judo</td>
<td>½, 1</td>
<td>Instruction and practice in the basic skills of the sport of Judo used for women as self defense. Course will cover terminology, etiquette, throwing and grappling techniques with integration of various Katas (forms), Randori (free exercise) and Japanese jujutsu. Four completions allowed. Lecture/Laboratory. Not offered every semester. MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEW 180X</td>
<td>Women's Softball</td>
<td>½, 1</td>
<td>Discussion and practical application of rules, strategy, fielding, throwing, base running, team offense, and team defense used in fastpitch softball. Four completions allowed. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)</td>
</tr>
<tr>
<td>PEW 192</td>
<td>Women's Weight Training</td>
<td>1</td>
<td>Introduction to individual opportunities in development of power, strength, flexibility and/or endurance through weight training. (P/NP only). MJC Activities. Transfer: (CSU, UC)</td>
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### Pharmacy Technician

Courses are offered through Community Education (209) 575-6063

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### PHILO

**(Philosophy)**

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<tr>
<th>Course Code</th>
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</tr>
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<tbody>
<tr>
<td>PHILO 101</td>
<td>Philosophy</td>
<td>3</td>
<td>A careful and critical examination of some of the “Great Questions” philosophers have pursued from ancient times to the present. Some of these include: What is human nature? What is real? Do we have free will? Does God exist? What can we know? How should we act? What is the source of evil? And, what is the nature of truth? (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC PHILO 1) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B)</td>
</tr>
<tr>
<td>PHILO 103</td>
<td>Symbolic Logic</td>
<td>3</td>
<td>Also offered as CMPSC 103 An introduction to modern deductive logic, includes sentential and predicate logic with identity theory and definite descriptions. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: D2)(CSU-GE: A3)</td>
</tr>
<tr>
<td>PHILO 105</td>
<td>Reasoning</td>
<td>3</td>
<td>Prerequisite: Satisfactory completion of ENGL 101 An examination of logic and its practical application in everyday situations, including problem solving, advertisement discrimination, political evaluation and argumentation. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: D2)(CSU-GE: A3)(IGETC: 1B)</td>
</tr>
</tbody>
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PHILO 107—PHILOSOPHY OF SCIENCE 3 UNITS
Prerequisite: Satisfactory completion of ENGL 101

PHILO 111—ETHICS: THEORY AND APPLICATION 3 UNITS
Systematic study of reflective choice; standards of right and wrong by which it may be guided and attainable goods toward which it may be directed. Readings on concepts of good, duty, egoism, altruism, freedom, personal and social responsibility. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2) (IGETC: 3B)

PHILO 113—PHILOSOPHY OF ART 3 UNITS
An examination of the central features of art as well as alternative accounts of art and aesthetic experience including discussions of beauty, representation, and truth. Field trips may be required. Lecture. (A-F or P/NP) Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2) (IGETC: 3B)

PHILO 115—RELIGION: A PHILOSOPHICAL AND COMPARATIVE INQUIRY 3 UNITS
Introduction to the philosophical problems of religion and a comparative analysis of religious traditions and spiritual practices. Topics include the nature and existence of God, faith and reason, religious knowledge, language and experience in human life. Lecture. (A-F or P/NP) Transfer: (CSU, UC)(CC HUMAN/PHILO 4) General Education: (MJC-GE: C)(CSU-GE: C2) (IGETC: 3B)

PHILO 120—HISTORY OF PHILOSOPHY: ANCIENT 3 UNITS
Western ideas and philosophies from ancient Greece to the 15th century, with a consideration of prominent Eastern philosophies. The primary focus is on Greek and Roman philosophy, and the development of Christian philosophy through the middle ages. Some of the topics include free will determinism, the nature of existence, being, definition and logic. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2) (IGETC: 3B)

PHILO 121—HISTORY OF PHILOSOPHY: MODERN 3 UNITS
Western ideas and philosophers in the 17th and 18th centuries, with a consideration of the rise of modern science, rationalist and empiricist philosophies, and the critical and transcendental philosophy of Kant (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2) (IGETC: 3B)

PHILO 123—TWENTIETH CENTURY PHILOSOPHY 3 UNITS

PHILO 130—POLITICAL THEORY 3 UNITS
A study of social and political thought using classical and contemporary writings, with emphasis on current issues. Ideologies discussed include democracy, socialism, capitalism, communism, fascism, and anarchism. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: G)(CSU-GE: C4) (IGETC: 4H)

PHILO 135—ENVIRONMENTAL ETHICS 3 UNITS
How ought we to relate to the rest of nature? What, if anything, is the value of wilderness and wild animals? Are we morally bound to use technology in an ecologically responsible manner? Course will address questions and issues such as these that arise when considering the relationship between human beings and the environment. Topics include animal rights, land use policy, sustainability, bioengineering, climate change, environmental justice. Theoretical approaches include deep ecology, anthropocentrism, ecofeminism, and pragmatism. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2) (IGETC: 3B)

PHILO 140—PHILOSOPHY AND FILM 3 UNITS
An introduction to philosophical problems and reasoning through an analysis of films. Topics discussed include philosophy of life and existence, political ideologies, the nature of aesthetic experience, and theories of film. Field trips may be required. Lecture/Laboratory. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2) (IGETC: 3B)

PHILSCI 164—PHYSICAL SCIENCE ENVIRONMENTAL LAB 1 UNIT
Corequisites: Concurrent enrollment required in or satisfactory completion of PHILSCI 161. Laboratory and practical experience in the physical sciences. Emphasis on measuring techniques, data analysis, and the scientific method. Field trips are not required. (A-F or P/NP) Lab. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B3) (IGETC: 5A)

PHILO - PHYS

PHILSCI (Physical Science)

Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divdeps/sme/
Instructors: Kenneth Meidl, Thomas Nomof, Jeremy Wilson

PHILO—PHYS

PHYS (Physics)

Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divdeps/sme/
Instructors: Kenneth Meidl, Thomas Nomof

COURSES OFFERED

PHYS 101—GENERAL PHYSICS: MECHANICS 5 UNITS
Prerequisite: Satisfactory completion of PHYS 165 and MATH 171. Introduction to calculus-based physics: linear, rotational, and oscillatory mechanics with computer applications. Field trips may be required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B1, B3) (IGETC: 5A)

PHYS 102—GENERAL PHYSICS: WAVES, THERMODYNAMICS, & OPTICS 5 UNITS
Prerequisite: Satisfactory completion of PHYS 101 and MATH 172. Continuation of calculus-based physics: thermodynamics, wave motion, acoustics and optics. Field trips may be required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B1, B3) (IGETC: 5A)

PHYS 103—GENERAL PHYSICS: ELECTRICITY, MAGNETISM, & MODERN PHYSICS 5 UNITS
Prerequisite: Satisfactory completion of PHYS 101 and MATH 172. Continuation of calculus-based physics: electricity, magnetism and modern physics. Field trips may be required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) General Education: (MJC-GE: A)(CSU-GE: B1, B3) (IGETC: 5A)
PHYS 142—MECHANICS, HEAT, & WAVES  5 UNITS
Prerequisite: Satisfactory completion of MATH 122.
Non-calculus introduction to principles and laws of mechanics, thermodynamics and waves. Field trips may be required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) (CC PHYS 4A)
General Education: (MJC-GE: A) (CSU-GE: B1, B3) (IGETC: 5A)

PHYS 143—ELECTRICITY, MAGNETISM, OPTICS, ATOMIC AND NUCLEAR STRUCTURES  5 UNITS
Prerequisite: Satisfactory completion of PHYS 142.
Continuation of PHYS 142, including electricity, magnetism, light and atomic structure. Field trips may be required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) (CC PHYS 4B) General Education: (MJC-GE: A) (CSU-GE: B1, B3) (IGETC: 5A)

PHYS 160—DESCRIPTIVE INTRODUCTION TO PHYSICS  3 UNITS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
A survey course of selected topics in physical inquiry to include mechanics, wave motion, thermodynamics, electromagnetism and modern physics. Physical theory is explored on a conceptual level with emphasis placed on applying physical principles to everyday phenomena. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) (CC PHYS 1) General Education: (MJC-GE: A) (CSU-GE: B1) (IGETC: 5A)

PHYS 164—PHYSICS ENVIRONMENTAL LABORATORY  1 UNIT
Corequisite: Concurrent enrollment required in or satisfactory completion of PHYS 160.
Laboratory and practical experience in physics. Emphasis on measuring techniques, data analysis, and the scientific method. Field trips may be required. (A-F or P/NP) Lab. Transfer: (CSU, UC) General Education: (MJC-GE: A) (CSU-GE: B3)

PHYS 165—INTRODUCTORY PHYSICS  5 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MATH 121 or be eligible for enrollment in MATH 171 as determined by the MJC assessment process.
Introduction to physics through the study of laboratory measurement in selected topic areas to include mechanics, wave motion, thermodynamics, electricity and magnetism. Develops the theoretical and experimental foundation for PHYS 141 and PHYS 142. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: A) (CSU-GE: B1, B3) (IGETC: 5A)

PHYS 180—CONCEPTUAL PHYSICS: A HANDS-ON APPROACH  4 UNITS
Prerequisite: Satisfactory completion of MATH 90 or qualification by the MJC assessment process.
A survey course of selected topics in physical inquiry to include motion, waves, heat, energy, electricity, magnetism and modern physics. Physical theory is explored on a conceptual level with emphasis placed on applying physical principles to everyday phenomena. To include a weekly activity/laboratory session designed to provide students with practical experience in applying physical concepts. Field trips are not required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC) General Education: (MJC-GE: A) (CSU-GE: B1, B3) (IGETC: 5A)

PHYSO (Physiology)
Dean: Brian Sanders
Division Office: Science Building, Room 126
Phone: (209) 575-6173
Division website: www.mjc.edu/current/programs/divsmps/sme/
Instructors: David Ward, Michele Monlux, Pamela Upton, Robert Droual, Sandra Uyeshiro

PHYSO 101—INTRODUCTORY HUMAN PHYSIOLOGY  5 UNITS
Prerequisite: Satisfactory completion of BIO 116 or BIO 113 or BIO 101 and ANAT 125 and CHEM 143.
Study of body function, organ system integration, communication, and homeostasis at the biochemical, cellular, and system levels. Includes control of homeostasis, protein synthesis and cellular metabolism; cellular communication, neural information processing; blood movement; fluid balance; respiration and digestion; reproduction; sensory perception and control of movement. Intended for students entering the health professions. Field trips are not required. (A-F or P/NP) Lecture/Lab/Discussion. Transfer: (CSU, UC) (CC BIOL 60) (MJC ANAT 125 + PHYSO 101 = CC BIO 10 + 60) General Education: (MJC-GE: A) (CSU-GE: B2, B3) (IGETC: 5B)

PHYSO 103—INTRODUCTION TO NEUROSCIENCE  3 UNITS
Prerequisite: Satisfactory completion of PSYCH 101 Also offered as PSYCH 103
Introduction to the biological basis of behavior. Emphasis on divisions of the nervous system, neuroanatomy, neurophysiology, psychopharmacology as applied to the understanding of perceptual processes, psychoactive drugs, movement, regulation of hunger and thirst, sexual behavior, sleep, learning and memory, language, emotion, reward and stress, psychopathology. Appropriate for all students interested in the behavioral and biological sciences. Lecture. (A-F and P/NP) Transfer: (CSU, UC) General Education: (MJC-GE: A) (CSU-GE: B2) (IGETC: 5B)

PLSC (Plant Science)
Dean: Mark A. Anglin
Division Office: Agriculture, Room 100
Phone: (209) 575-6200
Division website: www.mjc.edu/prospective/programs/agens/index.html
Instructors: David Baggett, Mike Morales, Dale Pollard

PLSC 50—PREPARATORY PLANT SCIENCE  3 UNITS
Preparation in plant science including structure, growth processes, propagation, physiology, growth media, biological competitors and post-harvest factors of food, fiber, and ornamental plants. (A-F or P/NP) Lecture.

PLSC 200—INTRODUCTION TO PLANT SCIENCE  3 UNITS
Introduction to plant science, including structure, growth processes, propagation, physiology, growth media, biological competitors, and post-harvest factors of food, fiber, and ornamental plants. Lecture (A-F Only) Transfer: (CSU, UC) General Education: (MJC-GE: A) (CSU-GE: B2)

PLSC 205—FIELD CROPS  3 UNITS
Economic importance, adaptation, cultural practices, irrigation, integrated pest management, cost analysis, calendar of operations, and marketing in the production of field crops (including: barley, oats, wheat, corn, grain sorghum, alfalfa, rice, dry beans, sugar beets, cotton, and seed crops). Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

PLSC 215—VEGETABLE CROPS  3 UNITS
Vegetable crops common to the area, economic importance, cultural sequence, fertilization, irrigation, cultivation, integrated pest control, harvest and related factors, marketing, cost analysis, risks, environmental relationships including moisture, temperature, soil and weather on the production of vegetable crops. Field trips required. Lecture/Laboratory (A-F Only) Transfer: (CSU, UC)
PLSC 230—FRUIT SCIENCE  3 UNITS
Elementary culture of fruit and nut crops including growth and fruiting habits, varieties, characteristics and adaptations; environmental factors influencing local fruit production; pruning and training procedures on local fruit crops. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC) General Education: (MJC-GE:A)

PLSC 235—PLANT PROPAGATION/PRODUCTION  3 UNITS
Also offered as EHS 235
Recommended for Success: Satisfactory completion of PLSC 200 and/or EHS 210.
Plant propagation and production practices with emphasis on nursery operations including sexual and asexual reproduction, planting, transplanting, fertilizing, plant pest and disease control, structures and site layout. Preparation and use of propagating and planting mediums. Use and maintenance of common tools and equipment. Regulations pertaining to plant production. Field trips required. Lecture/Laboratory. Not offered every semester. (A-F Only) Transfer: (CSU, UC)

PLSC 241—VITICULTURE  3 UNITS
California grape production; study of table and wine-grape varieties, uses, adaptations and products, production practices, propagation and planting; training, pruning and irrigation systems; recognition and control of grape pests and diseases. Student is required to design a new vineyard and critique an existing operation. Field trips required. Lecture/Laboratory. (A-F Only) Transfer: (CSU, UC)

PLSC 250—PLANT NUTRITION AND FERTILIZER  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete NR 200.
An overview of plant nutrition principles in order to understand fertilizers, amendments, their uses, value, application, and relationship to soils and to crops grown in this area. Deficiency symptoms, pH, soil and plant tissue testing, and environmental factors and concerns. Field trips required. Lecture/Laboratory. Transfer: CSU (A-F Only)

PLSC 255—PLANT PEST CONTROL  3 UNITS
Study of crop insects and mites; their morphology, identification, life cycles, host and habitat relationships, methods and materials of control. Lecture/Laboratory. (A-F Only) Transfer: CSU

PLSC 260—PLANT DISEASE CONTROL  3 UNITS
Study of common local crop diseases; their economic importance, identification, life cycles, host and habitat relationships, and methods of control. Field trips are required. (A-F Only) Lecture/Lab. Transfer: CSU

PLSC 287—INTEGRATED PEST MANAGEMENT  1 UNIT
Current topics and discussion on integrated pest management, designed to satisfy Department of Pesticide Regulation requirements for certified pesticide applicator's continuing education. Field trips may be required. Unlimited completions. Lecture. (A-F Only) Transfer: CSU

PLSC 385—PRUNING  1 UNIT
Pruning of deciduous fruits, nuts and vines. Care and maintenance of tools and equipment. Proper irrigation, fertilization, and insect control also included. Field trips required. Lecture/Laboratory. Saturday labs. (A-F Only)
POLSC — 140 COMPARATIVE POLITICS 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101 and satisfactorily complete POLSC 101. Comparative survey of major totalitarian, authoritarian and democratic political systems. Emphasis on Great Britain, France, Germany, Russia, People’s Republic of China, Japan and selected Third World countries. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)
General Education: (MJC-GE: B)(CSU-GE:D8)(IGETC:4H)

POLSC 195 — INTERNSHIP IN POLITICAL SCIENCE DISCUSSION 1 UNIT
Formerly listed as POLSC 195 - Internship in Political Science Corequisite: Concurrent enrollment in POLSC 196.
An introductory examination and application of various research methods used by psychologists in order to describe, predict, and explain behavior. Field trips may be required. Lecture. Transfer: (CSU, UC)
General Education: (MJC-GE:A)(CSU-GE:B2)(IGETC:5B)

PSYCH 101 — GENERAL PSYCHOLOGY 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 101 and meet the eligibility requirements for ENGL 101.
Introduction to the areas, concepts, methods and facts of the science of psychology as they relate to the understanding of behavior. Lecture. (A-F or P/NP) Transfer: (CSU, UC)(CC PSYCH 1)

PSYCH 102 — RESEARCH METHODS 3 UNITS
Prerequisite: Satisfactory completion of PSYCH 101
Recommended for Success: Before enrolling in this course, students are strongly advised to complete ENGL 101.
An introductory examination and application of various research methods used by psychologists in order to describe, predict, and explain behavior. Field trips may be required. Lecture. Transfer: (CSU, UC)

PSYCH 103 — INTRODUCTION TO NEUROSCIENCE 3 UNITS
Prerequisite: Satisfactory completion of PSYCH 101
Also offered as PHYSO 103
Introduction to the biological basis of behavior. Emphasis on divisions of the nervous system, neuronanatomy, neurophysiology, psychopharmacology as applied to the understanding of perceptual processes, psychoactive drugs, movement, regulation of hunger and thirst, sexual behavior, sleep, learning and memory, language, emotion, reward and stress, psychopathology. Appropriate for all students interested in the behavioral and biological sciences. Lecture (A-F and P/NP) Transfer: (CSU, UC)
General Education: (MJC-GE:A)(CSU-GE:B2)(IGETC:5B)

PSYCH 104 — SOCIAL PSYCHOLOGY 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PSYCH 101 and be familiar with the theories of personality, experimental design, introductory information on diagnostic categories, diagnosis and treatment of mental illnesses.
An examination of the broad questions of normality in the context of biological, psychological, sociological, and cultural factors; including major theoretical, diagnostic and treatment approaches. Field trips are required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)

PSYCH 105 — ABNORMAL PSYCHOLOGY 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PSYCH 101.
An introduction to psychopharmacology and the process of drug addiction. Topics include classification of abused and psychotherapeutic drugs, basic principles of pharmacology, behavioral and physiological effects of drugs, major neurotransmitter systems and how they are influenced by drugs. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(CC PSYCH 5)

PSYCH 110 — HUMAN SEXUALITIES 3 UNITS
Study of human sexualities from a biopsychosocial perspective. The intersections of biology, culture, ethnicity, race, social class, sexual orientation and gender as they relate to sexualities will be explored throughout the course. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(CC PSYCH 5)

PSYCH 111 — PSYCHOLOGY OF GENDER 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PSYCH 101.
A survey of various factors in the development of gender identity and gender roles, including psychological, sociological, biological and cultural influences. Field trips may be required. Lecture (A-F or P/NP) Transfer: (CSU, UC)(CC PSYCH 5)

PSYCH 118 — PHARMACOLOGY OF ABUSED SUBSTANCES 3 UNITS
Also offered as HUMSR 118
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete HUMSR 116 or PSYCH 101.
An introduction to psychopharmacology and the process of drug addiction. Topics include classification of abused and psychotherapeutic drugs, basic principles of pharmacology, behavioral and physiological effects of drugs, major neurotransmitter systems and how they are influenced by drugs. Field trips are not required. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(CC PSYCH 30)
General Education: (MJC-GE: E)(CSU-GE: E)

PSYCH 130 — PERSONAL ADJUSTMENT 3 UNITS
The study of personal growth and adjustment. Includes discussion of personality, development, interpersonal relationships, stress management, work, and other concerns of individuals in society. Lecture. (A-F or P/NP) Transfer: (CSU, UC)(CC PSYCH 30)
General Education: (MJC-GE: E)(CSU-GE: E)

PSYCH 141 — HUMAN LIFESPAN 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PSYCH 101 and meet the eligibility requirements for ENGL 101.
Introduction to the scientific study of human development from conception through adulthood. Examines interplay of biological, psychological, social, and cultural factors on the developing human being. (A-F or P/NP) Lecture. Transfer: (CSU, UC)(CC PSYCH 10)

PSYCH (Psychology)

Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: www.mjc.edu/current/programs/divdeps/litlang/

PORTG — (Portuguese)

Dean: Patrick Bettencourt
Division Office: Journalism 180
Phone: (209) 575-6149
Division website: www.mjc.edu/current/programs/divdeps/litlang/

PORTG 51 — INTRODUCTION TO PRACTICAL PORTUGUESE 1 3 UNITS
Basic conversational Portuguese. Emphasis on the development of conversational skills rather than on reading and writing. Designed for students who need to speak Portuguese in their work or who wish to refresh their Portuguese-language background, or who need preparation for PORTG 101. Lecture/Laboratory. (Fall) General Education: (MJC-GE: C)

PORTG 52 — INTRODUCTION TO PRACTICAL PORTUGUESE 2 3 UNITS
A continuation of PORTG 51. Designed for those who need it for their work, travel, or to prepare for PORTG 101. Lecture/Laboratory. (Spring)
RATV (Radio/Television)

Dean: Michael Sundquist
Division Office: Performing and Media Arts Center, Room 205
Phone: (209) 575-6081
Division website: www.mjc.edu/arts
Instructors: Carol Lancaster Mingus, Laura Paull

RATV 101—VOICE AND ARTICULATION 3 UNITS
Formerly listed as Basic Voice and Articulation
Also offered as SPCOM 101 and THEIR 101.
Training program in basic voice and articulation. Emphasis on critical listening, self-analysis and self-improvement in tone production and control, voice quality, articulation and pronunciation. Introduction to the International Phonetic Alphabet. This is not a class for persons with a major speech or language delay or disorder. (A-F or P/NP) Lecture. Transfer: CSU

RATV 131—INTRODUCTION TO RADIO PRODUCTION 3 UNITS
Formerly listed as RATV 131 - Radio Control Room and Studio Production
Theory and operation of broadcast audio control room and studio equipment. Basic planning and production techniques for radio programs, station promotions, commercial and public service announcements. Field trips may be required. Lecture/Lab. (A-F or P/NP)
MJC Activities. Transfer: CSU

RATV 132—ADVANCED RADIO PRODUCTION 1 4 UNITS
Prerequisite: RATV 131
Students operate a limited power radio station incorporating standard broadcast procedures and practices and exercising their skills in the production of commercials and public service announcements, promotional announcements, news, and remote broadcasts. Students may produce programs for community commercial stations. Field trips may be required. Lecture/Lab. (A-F or P/NP) Transfer: CSU

RATV 133—ADVANCED RADIO PRODUCTION 2 4 UNITS
Prerequisite: RATV 132
Continuation of RATV 132. Refinement of skills utilizing digital recording and equipment operation. Students will prepare an audition tape for entry level in the job market. Outside speakers from broadcast industry will be featured. Field trips may be required. Two maximum completions. Lecture/Laboratory. Transfer: CSU

RATV 134—TELEVISION STUDIO PRODUCTION 3 UNITS
Introduction to television production techniques. This course offers and exciting blend of theory, practical and critical work, with access to the college TV studio facilities. Students will work in teams to produce their own programs and have many hands-on and skill-building opportunities in the areas of creative concept and script development, technical operation of television studio equipment and set design, multi-camera directing and performing in front of a camera. Lecture/Laboratory. Materials fee required. MJC Activities. Transfer: CSU

RATV 135—ADVANCED TELEVISION PRODUCTION 3 UNITS
Recommended for Success: RATV 134, 142.
Practical applications in single and multiple camera television production. Creative use of camera, sound, editing, and production planning. Students will produce, direct, and edit individual features that will be incorporated into a half hour television program. This class will provide expanded responsibilities in producing, directing, and operating video and audio equipment in remote and studio productions. Field trips may be required. Two maximum completions. Lecture/Laboratory. Materials fee required. Transfer: CSU

RATV 136—ADVANCED TELEVISION PRODUCTION 2 3 UNITS
Recommended for Success: RATV 135, 142.
Continuation of RATV 135. Development of leadership skills, directing techniques, and the producing process for the television industry. Field trips may be required. Two maximum completions. Lecture/Laboratory. Materials fee required. Transfer: CSU

RATV 137—RADIO PROGRAMMING AND BROADCAST ANNOUNCING 3 UNITS
Formerly listed as RATV 137 - Radio and Television Announcing
Recommended for Success: Before enrolling in this course, students are strongly advised to Computer/Internet Literacy.
Performance and the electronic media. Includes announcing, newscasting, interview and narration. Practical development of radio and television announcing skills through practice and evaluation. Field trips might be required. Lecture/Lab/Discussion (A-F or P/NP) Transfer: CSU

RATV 138—WRITING FOR RADIO, TV, & NEW MEDIA 3 UNITS
Formerly listed as RATV 138 - Writing for Radio & TV
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.
Applied studies in the techniques of writing for radio and television, including the gathering and writing of news, commercials and public service announcements, radio features and short dramatic scripts. Includes interview techniques, storyboarding, and the presentation of newscasts. Field trips are not required. (A-F Only) Lecture. Transfer: CSU

RATV 141—DOCUMENTARY PRODUCTION 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete RATV 134 or satisfactorily complete FILM 150.
Designed to explore the various forms and styles of documentary films and videos through critical analysis and hands-on experience. Using a workshop approach, students will learn the process and skills needed to research, write, produce and direct a 15 to 20 minute television documentary. Field trips might be required. (A-F Only) Lecture/Lab. MJC Activities. Transfer: CSU

RATV 142—LIGHT, SOUND, CAMERA, & EDITING WORKSHOP 3 UNITS
Designed to explore the fundamental technical and aesthetic principles of lighting, sound, editing and camera operation. Expanded knowledge in the areas of technical planning, interior and exterior lighting design, sound recording and enhancement techniques, composing dynamic images with a camera and final digital editing. Prepares students for work in film, television and digital production. Field trips might be required. (A-F or P/NP) Lecture. MJC Activities. Transfer: CSU

RATV 143—NON-LINEAR VIDEO EDITING 3 UNITS
Recommended for Success: Basic computer operating skills.
An introduction to the primary elements and basic interface of non-linear video editing. Students learn to perform basic editing functions and to operate the computer software and hardware user interface. Topics include basic software setup including preferences and settings, capturing video and audio files and signals; editing and trimming techniques; audio creation and editing; file finishing and output. Field trips may be required. Lecture/Laboratory. Transfer: CSU

RATV 150—INTRODUCTION TO THE MEDIA ARTS 3 UNITS
Formerly listed as RATV 150 - Introduction to Mass Communications
Exploration of the impact of the mass media on American society and culture within a global and historical perspective. Topics include the origins, development and contemporary structure of the print, electronic and digital media and how they shape the economic, political and social fabric of society; the role of communications media in a democracy; the impact of technology on mass communication; legal and ethical issues; and social issues including gender and cultural diversity. Explores trends in the fields of print and broadcast media and the growing variety of career options. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU

RATV 168—MUSIC PRODUCTION FOR MULTIMEDIA 2 UNITS
Also offered as MUSC 125
Designed for the student with an interest in music composing, music production, sound design and sound effects, the course will explore production of music for recording artists, music videos, demos, public service announcements, radio programs, graphics animations, commercials, jingles and TV/film scoring through the use of MIDI sequencing, digital multitrack recording and SMPTE synchronizing. Four maximum completions. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: CSU

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### RATV - RLES

**RATV 172 — RECORDING ARTS 1**  
*2 UNITS*  
Also offered as MUSC 111  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSC 121 satisfactorily complete MUSC 122.  
Introduction to the terminology and practices of the recording arts. Properties of sound, microphone placement, multi-track recording, mixing and mastering. Materials Fee Required. Two maximum completions. Field trips might be required. (A-F or P/NP) Lecture/Lab. **MJC Activities.** Transfer: CSU

**RATV 178 — RECORDING ARTS 2**  
*2 UNITS*  
Also offered as MUSC 112  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSC 171.  
Advanced topics in the recording studio relating to the digital recording process. In-depth study of microphone choice and placement, microphone pre-amplifiers and analog processors, direct inputting, non-destructive digital editing, software plugins, automation techniques, mixing and mastering in the recording process. Laboratory time required. Materials Fee required. Four completions allowed. **MJC Activities.** Transfer: CSU

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### READ (Reading)

**READ (Reading)**  
Dean: Patrick Bettencourt  
Division Office: Journalism 180  
Phone: (209) 575-6149  
Division website: www.mjc.edu/current/programs/divdeps/litlang/  
Instructors: Christopher Briggs, Dorothy Scully, Janelle Gray, Lawrence Scheg

**READ 21 — VOCABULARY DEVELOPMENT**  
*3 UNITS*  
Course is designed to improve the vocabulary of students who are functioning at the Precollege level. Field trips are not required. (A-F Only) Lecture.

**READ 40 — READING COMPREHENSION**  
*3 UNITS*  
Provides students the opportunity to improve their reading comprehension of pre-collegiate materials. Field trips are not required. (A-F Only) Lecture.

**READ 62 — COLLEGE VOCABULARY**  
*3 UNITS*  
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete MUSC 171.  
Development of college-level vocabulary. Use of context clues and structural analysis emphasized. Field trips are not required. (A-F Only) Lecture.

**READ 82 — COLLEGE READING - COMPREHENSION**  
*3 UNITS*  
Recommended for Success: Satisfactory completion of READ 40 or qualification by the MJC assessment process.  
Designed to improve student’s comprehension and retention of college level materials. Field trips are not required. (A-F Only) Lecture.

**READ 184 — CRITICAL READING**  
*3 UNITS*  
Recommended for Success: Satisfactory completion of READ 82 or recommendation of the reading assessment.  
Reading for inferred ideas, evaluation of ideas, tone, mood, and style. Discussion of application of reader’s knowledge to reading material. Field trips are not required. (A-F Only) Lecture. **Transfer:** CSU

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### REC (Recreation)

**REC (Recreation)**  
Dean: William Kaiser  
Division Office: PE Office Building, Room 105  
Phone: (209) 575-6269  
Division website: www.mjc.edu/athletics  
Instructor: Paul Aiello

With increased urbanization, expanded leisure time, and public awareness of the value of recreational activities, trained leaders are needed to organize and administer programs in a variety of settings. Since most jobs in Recreation require a four-year college degree, students in the Recreation program at MJC are encouraged to follow the four-year college transfer pattern and also to complete theoretical and practical recreation classes. Students are also advised to take electives in the fields of art, drama, music, sports, and activities. Considerable flexibility in the Recreation program is allowed in designing an individualized program to strengthen career needs and specialization areas selected by the student.

**REC 110 — SOCIAL RECREATION LEADERSHIP**  
*3 UNITS*  
A theory and activity course that teaches leadership techniques and strategies of recreational activities with an emphasis on the integration of individuals into group programs. Lecture. (A-F and P/NP) **Transfer:** CSU

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### RLES (Real Estate)

**RLES (Real Estate)**  
Dean: Vacant  
Division Office: Journalism 150  
Phone: (209) 575-6129  
Division website: mjc.edu/prospective/programs/bbss/

**RLES 380 — REAL ESTATE PRINCIPLES**  
*3 UNITS*  
Real estate principles and laws in California, including contracts, deeds, land titles, liens, escrows, leases, financing, land descriptions, mandatory disclosures, terminology, ethics, fair housing and licensing. Field trips may be required. Lecture.  
Prerequisite: Satisfactory completion of RLES 380 or 381.

**RLES 381 — REAL ESTATE PRACTICES**  
*3 UNITS*  
Practices and techniques of broker and salesperson including listing, prospecting, advertising, disclosures, selling, escrow procedures, financing, exchanges, property management and leases, land utilization and development, public relations and professional ethics, and fair housing in real estate business. Field trips may be required. Lecture.  
Prerequisite: Satisfactory completion of RLES 381

**RLES 382 — LEGAL ASPECTS OF REAL ESTATE 1**  
*3 UNITS*  
Prerequisite: Satisfactory completion of RLES 381  
California real property laws including the principal legal aspects of ownership, acquisition and transfer of real property, legal descriptions, contracts, escrow procedures, forms of trust and foreclosure, liens and restrictions, legal instruments. Lecture. Not offered every semester.

**RLES 384 — REAL ESTATE FINANCE**  
*3 UNITS*  
Prerequisite: Satisfactory completion of RLES 380 or 381.  
Lending regulations, policies and procedures applicable to financing residential, multi-family, commercial and special purpose properties. Special attention to the money market, sources of funds and FHA and VA loans as factors in property financing. Lecture. Not offered every semester.

**RLES 385 — REAL ESTATE APRAISAL, RESIDENTIAL**  
*3 UNITS*  
Prerequisite: Satisfactory completion of RLES 380  
Examination of appraisal process to determine property value on cost, sales comparison, and income basis. Consideration of neighborhood and site analysis, residential style and functional utility, three approaches to value, reconciliation of value indicators, and Uniform Standards of Professional Practice. Field trips may be required. Lecture.
RLES 392 — BASIC ESCROW PROCEDURES 3 UNITS
Prerequisite: Satisfactory completion of RLES 380 or 381.
Basic escrow elements and practices. Terms, phraseology, and documents. Preparation of instructions and statements and their use, legal descriptions; vesting of title, balancing, debits and credits, loan payoffs and dispensing funds. Lecture. Not offered every semester.

RSCR (Respiratory Care)
Dean: Maurice McKinnon, EdD
Division Office: John Muir Hall, Room 258-W
Phone: (209) 575-6373
Division website: www.mjc.edu/alliedhealth
Instructors: Bonnie Hunt, Philip Labrador

COURSES OFFERED

RSCR 220 — INTRODUCTION TO RESPIRATORY CARE PRINCIPLES 5 UNITS
Prerequisite: Satisfactory completion of CHEM 143 with a grade of "C" or .
Covers basic physical principles necessary for the practice of respiratory care to include the following: medical terminology, fundamentals of general bedside patient care skills, underlying physical principles of respiratory care equipment, indications for the use of oxygen and aerosol therapy and related equipment. Field trips may be required. Lecture/Laboratory. Materials fee required. (A-F Only) (Spring) Transfer: CSU

RSCR 222 — BASIC CARDIOPULMONARY ANATOMY AND PHYSIOLOGY
Formerly listed as RSCR 202
Prerequisites: Satisfactory completion of AP 150 or (ANAT 125 and PHYS 101)
Structure and functions of the pulmonary and cardiovascular systems. Application of laws of gas and fluid physics to the cardiopulmonary system. Field trips may be required. Lecture. (A-F Only) (Fall) Transfer: CSU

RSCR 224 — RESPIRATORY CARE THEORY 2 5 UNITS
Formerly listed as RSCR 203
Prerequisites: Satisfactory completion of RSCR 220.
Theoretical foundation for basic treatment modalities utilized in respiratory care. Topics covered include: hyper-inflation therapies, chest physical therapy, basic airway care and cardiopulmonary pharmacology. Associated equipment will be covered during scheduled labs. Field trips may be required. Lecture/Laboratory. Materials fee required. (Spring) (A-F Only) (Fall) Transfer: CSU

RSCR 230 — CLINICAL 1 1 UNIT
Formerly listed as RSCR 205
Concurrent Enrollment: RSCR 220
Clinical experience in oxygen therapy, aerosol-humidity therapy and other basic respiratory care modalities used in area hospitals. Two maximum completions. Field trips may be required. Laboratory. Materials fee required (items for infection control and/or malpractice liability insurance). (P/NP Only) (Spring, Summer: for those students with AP 150 during Spring) Transfer: CSU

RSCR 232 — CLINICAL 2 3½ UNITS
Formerly listed as RSCR 206
Prerequisites: Satisfactory completion of RSCR 230.
Concurrent Enrollment: RSCR 224
Clinical experience in the various routine respiratory care procedures and the equipment used in area hospitals. Attention is paid to the student performing critical evaluations of current therapy and the application of clinical practice guidelines. Field trips may be required. Two maximum completions. Laboratory. (Fall) (P/NP Only) Transfer: CSU

RSCR 240 — ADVANCED CARDIOPULMONARY PHYSIOLOGY AND DIAGNOSTICS 4½ UNITS
Prerequisites: Satisfactory completion of RSCR 222 and 224.
Advanced cardiopulmonary physiology and diagnostics for the second year respiratory care student. Includes advanced arterial blood gas analysis, indices of oxygenation, chest x-ray interpretation, hemodynamic monitoring, laboratory testing, capnography, and ECG interpretation with an emphasis on clinical setting application. Also includes discussion of various pathologies caused by cardiovascular conditions. Field trips may be required. Lecture. (A-F Only) (Spring) Transfer: CSU

RSCR 242 — CRITICAL CARE PROCEDURES 4½ UNITS
Formerly listed as RSCR 212
Prerequisites: Satisfactory completion of RSCR 222, 224 and MICRO 101.
Theory and application of critical care procedures for second year respiratory care students. This includes advanced theory and application of mechanical ventilators, associated pathophysiology and pharmacology, microbiological issues in respiratory care; application of ECG interpretation and chest x-ray interpretation. Field trips may be required. Lecture/Laboratory. (Spring) (A-F Only) Transfer: CSU

RSCR 244 — NEONATAL-PEDIATRIC RESPIRATORY CARE 2 UNITS
Formerly listed as RSCR 214
Prerequisites: Satisfactory completion of RSCR 240 and 242.
Introduction to respiratory care in the neonatal patient. Topics include fetal and neonatal development, resuscitation, pathophysiology, and neonatal and pediatric respiratory care procedures. Also open to those holding valid Respiratory Care Practitioner or Registered Nurse license. Field trips may be required. Lecture. (Summer) (A-F Only) Transfer: CSU

RSCR 246 — CURRENT ISSUES IN RESPIRATORY CARE 3 UNITS
Formerly listed as RSCR 215
Prerequisites: Satisfactory completion of RSCR 240 and 242.
Specialty areas in Respiratory Care: home care, skilled nursing facility care, management and administrative issues, pulmonary rehabilitation and education, metabolic studies, nutrition, sleep studies, assisting physicians in procedures, and blood gas analysis. Course also includes a comprehensive review to prepare students for state and national examination. Field trips may be required. Lecture. (A-F Only) (Fall) Transfer: CSU

RSCR 248 — SELF-DIRECTED STUDY ½ UNIT
Formerly listed as RSCR 218
Prerequisites: Satisfactory completion of RSCR 242.
Preparation for therapist level clinical simulation exam. Students spend 1½ hours per week on a self-directed basis completing computerized clinical teaching and testing simulations. Also open to those possessing a valid RCP license. Three maximum completions. Laboratory. Materials fee required. (P/NP Only) Transfer: CSU

RSCR 250 — CLINICAL 3 3½ UNITS
Formerly listed as RSCR 213
Concurrent Enrollment: RSCR 240 and 242.
Clinical experience in the various critical care respiratory procedures and the equipment used for these procedures in various area hospitals. Field trips may be required. Two maximum completions. Laboratory. Materials fee required. (P/NP Only) (Spring) Transfer: CSU

RSCR 251 — NEONATAL AND PEDIATRIC CLINICAL PRACTICE 1 ½ UNIT
Prerequisites: Satisfactory completion of RSCR 242
Concurrent Enrollment: RSCR 244
Introduction to respiratory care clinical practice in perinatal, neonatal and pediatric care. Field trips may be required. Laboratory. (Summer) (P/NP Only) Transfer: CSU

RSCR 252 — PHYSICIAN ROUNDS FOR RESPIRATORY CARE ½ UNIT
Formerly listed as RSCR 210
Concurrent Enrollment: RSCR 244 and 246.
Opportunity for interaction between physicians and respiratory care students to determine the appropriateness of a respiratory care plan; includes use of computer instruction in formulating adequate care plans and use of respiratory care protocols. Laboratory. (P/NP Only) (Fall) Transfer: CSU

RSCR 253 — NEONATAL AND PEDIATRIC CLINICAL PRACTICE 2 ½ UNIT
Prerequisites: Satisfactory completion of RSCR 242
Concurrent Enrollment: RSCR 244
Additional respiratory care clinical practice in perinatal, neonatal and pediatric care. Field trips may be required. Laboratory. (P/NP Only) Transfer: CSU

RSCR 255 — CLINICAL 4 4½ UNITS
Formerly listed as RSCR 254
Prerequisites: Satisfactory completion of RSCR 244
Concurrent Enrollment: RSCR 246
Continued clinical experience in critical care units and introduction to clinical care in the neonatal intensive care unit as well as alternative site respiratory care. Field trips may be required. Laboratory. Materials fee required (items for malpractice liability insurance). (Fall) (P/NP Only) Transfer: CSU

Division website: www.mjc.edu/alliedhealth
Phone: (209) 575-6373
Maurice McKinnon, EdD
Dean:
John Muir Hall, Room 258-W
Transfer: CSU
SIGN (Sign Language)
Dean: Patrick Bettencourt
Division Office: Journalism 180
Phone: (209) 575-6149
Division website: www.mjc.edu/prospective/programs/divdeps/litlang/
Instructors: Barbara Wells

SIGN 125—ASL: BEGINNING COMMUNICATION WITH THE DEAF 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50.
Introduction to American Sign Language, designed to provide basic conversational skill in the language used among Deaf people in the United States. This course is equivalent to the first two years of high school ASL. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC)
General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 6A)

SIGN 126—ASL: INTERMEDIATE COMMUNICATION WITH THE DEAF 3 UNITS
Prerequisite: Satisfactory completion of SIGN 125.
Communicating with and interpreting for the Deaf at an intermediate conversational level using American Sign Language. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC)
General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B, 6A)

SIGN 127—ASL: ADVANCED COMMUNICATION WITH THE DEAF 3 UNITS
Prerequisite: Satisfactory completion of SIGN 126.
Extensive development of and practice in American Sign Language for those who would like to interpret for the Deaf or for those want to become professionals working in the Deaf community. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC)
General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B, 6A)

SOCIO (Sociology)
Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: mjc.edu/prospective/programs/bbss/
Instructors: Richard Sweeney, Sandra Woodside

SSCIO 101—INTRODUCTION TO SOCIOLOGY 3 UNITS
The study of human social interaction, groups and societies with emphasis upon culture, social differences, institutions and change. Field trips may be required. Lecture. Transfer: (CSU, UC)(TCSU SOC 110)(CC SOCIO 1)(TCSU SOC 120) General Education: (MJC-GE: B)(CSU-GE: D0)(IGETC: 4I)

SOCIO 102—SOCIAL PROBLEMS IN THE UNITED STATES 3 UNITS
The experiences of caregivers and patients from several ethnic minority groups. The study of contemporary social problems within the American society emphasizing, among other topics, alcohol and drugs, crime and violence, family problems, power, race, and gender inequalities. Construction of possible solutions to social problems will also be discussed. Field trips may be required. Lecture. Transfer: (CSU, UC)(TCSU SOC 110)(CC SOCIO 1)(TCSU SOC 120) General Education: (MJC-GE: B)(CSU-GE: D0)(IGETC: 4I)

SOCIO 125—SOCIOLOGY OF THE FAMILY 3 UNITS
Comparative and historical treatment of the family. Analysis of kinship and family structure; roles and relationships within the family. Assessment of contemporary society on the family in America. Lecture. Transfer: (CSU, UC)(TCSU SOC 110)(CC SOCIO 1)(TCSU SOC 120) General Education: (CSU-GE: D0)(IGETC: 4I)
SOCIO 131—SOCIOLOGY OF MEDICINE: CROSS-CULTURAL PERSPECTIVES 3 UNITS
The experiences of caregivers and patients from several ethnic minority groups (Hispanic, African American and Southeast Asian) provide access to an understanding of some of the meanings and traditions of health in the U.S. Definitions of health and strategies of healing as well as the distribution of illness in our stratified, multicultural society are examined. The influence of Western biomedicine, its network of roles and relationships and the effects of economics and bioethics on health care delivery are evaluated. Field trips may be required. Lecture. Transfer: (CSU, UC).
General Education: (MJC-GE: B)

SOCIO 150—ETHNICITY AND CULTURE IN AMERICA 3 UNITS
A multidisciplinary study of ethnic and racial groups in the United States including Asian-Americans, African-Americans, Hispanics, among others. Emphasizes emergence, change, marginality, and integration of major ethnic groups in the United States. Field trips may be required. Lecture. Transfer: (CSU, UC)(IGETC 5)(General Education: (MJC-GE: B)(CSU-GE: D0, D3)(IGETC: 4J))

SOCIO 154—AFRICAN-AMERICAN CULTURES AND COMMUNITIES 3 UNITS
A sociological exploration of the social and historical forces shaping contemporary African-American experiences and their multiple statuses in American society. Effects of stratification, conflict and change as well as the historical and current roles of the family within dynamic communities are emphasized. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B)(CSU-GE: D0, D3)(IGETC: 4J)

SOCIO 156—MEXICAN CULTURE IN THE UNITED STATES 3 UNITS

SOCSC (Social Science)
Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: mjc.edu/prospective/programs/bbss/

SOCSC 58—STUDENT LEADERSHIP DEVELOPMENT 2 UNITS
Theory and practice of leadership. Prepares students for productive involvement in community service, college activities, and civic governance. Designed especially, but not exclusively, for students participating in student government and club activities. Field trips may be required. Two maximum completions. Lecture/Laboratory. Transfer: (CC GUIDE 115)

SOCSC 105—WOMEN’S STUDIES 3 UNITS
Recommended for Success: Satisfactory completion of ENGL 101
A multidisciplinary introduction to the origins, purpose, subject matter, and methods of feminist theory in the social sciences. This course explores political, economic, social, cultural and historical issues from a feminist perspective. The focus is on classic feminist texts: how they have changed gender roles in society, how feminism and politics have evolved, and how they have shaped contemporary world views. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B, C)(CSU-GE: D4)(IGETC: 4J)

SOCSC 109—INTRODUCTION TO EDUCATION - PRACTICUM IN TUTORING 2 UNITS
Orientation to the teaching profession. Designed for prospective elementary, secondary or college teachers but open to all. Students are required to observe and tutor in an appropriate educational setting. Partially meets field experience requirement for teaching credential program at CSU Stanislaus. Field trip clearance and TB clearance is required. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B)

SOCSC 110—INTRODUCTION TO EDUCATION 3 UNITS
Orientation to the teaching profession. Designed for prospective elementary, secondary or college teachers but open to all students. Students are required to observe and participate in community classrooms. Meets field experience requirements for teaching credential program. Field trip clearance and TB clearance is required. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: B)

SOCSC 120A, 120B, 120C—COMPUTER APPLICATIONS IN THE SOCIAL SCIENCES 1,2,3 UNITS
Application of computers to social sciences activities. Writing, research, data collection, simulations, survey and laboratory research. Field trips may be required. May be repeated to six units maximum. Lecture or Laboratory. Transfer: (CSU, UC)

SOCSC 154—MOVIES WITH A MESSAGE 3 UNITS
A thematic film course aimed at using the medium of film to broaden the awareness of current societal and global issues, focusing on different topics semester to semester. Selected sequences of feature films, documentaries, unusual foreign and domestic releases will explore how film makers depict aspects of history, culture, religion, race, gender, class, ideology and other issues in a global perspective. Course will cover related elements of film style and theory, such as the relationship of subject to style, form and function. Field trips may be required. Lecture. Transfer: (CSU, UC)

General Education: (MJC-GE: C)(CSU-GE: C1)

SPAN (Spanish)
Dean: Patrick Bennett
Division Office: Journalism 180
Phone: (209) 575-6149
Division website: mjc.edu/current/programs/divdepts/litlang/
Instructors: Laura Manzo, Marcos Contreras, PhD, Marion Franco, PhD

SPAN 45, A, B, C—PRACTICAL SPANISH FOR THE PROFESSIONS ½, 1, 2, 3 UNITS
Non-degree course.
Conversational Spanish for people working with the Spanish-speaking in the following areas: health, education, law enforcement, social work, agriculture, construction, public safety, and business. Occupational topics vary from semester to semester. May be repeated for credit as topic changes. Field trips may be required. Multiple completions not to exceed 9 units in any combination. Lecture.

SPAN 51—INTRODUCTORY SPANISH 1 3 UNITS
Slow-paced, non-transferable course designed for people who have never studied a foreign language before, especially Spanish. Basic Spanish grammar and pronunciation. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CC SPAN 1A) General Education: (MJC-GE: C)

SPAN 52—INTERMEDIATE SPANISH 2 3 UNITS
Formerly listed as SPAN 52 - Introduction to Practical Spanish 2
Slow-paced, non-transferable course designed for people who wish to continue from SPAN 51. Basic Spanish grammar and pronunciation. Field trips may be required. Lecture. General Education: (MJC-GE: C)

SPAN 101—SPANISH 1 5 UNITS
Fundamentals of spoken and written Spanish. Field trips may be required. (A-F or P/NP). Equivalent to the satisfactory completion of two years high school Spanish. Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC-6A)

SPAN 102—SPANISH 2 5 UNITS

SPAN 103—SPANISH 3 5 UNITS
Prerequisite: Satisfactory completion of SPAN 102. Continuation of Spanish 102. Includes Spanish grammar, conversation, reading, and composition. Also includes reading and discussion in Spanish of selections from literary works of Spanish and Latin American writers. Equivalent to the satisfactory completion of four years of high school Spanish. Lecture. (A-F or P/NP) Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C2)(IGETC: 3B, 6A)
SPAN 104 — SPANISH 4  
Prerequisite: Satisfactory completion of SPAN 103.  
Review and expansion of grammatical structures covered in Spanish 101-103. Includes a review of the uses of the subjunctive and the reading and discussion of literary works of Spanish and Latin American writers. (A-F or P/NP). Field trips may be required. Lecture. Transfer: (CSU, UC) (TCSU SPAN SEQ B, TCSU SPAN 140) (CC SPAN 2B) General Education: (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B, 6A)

SPAN 109 — SPANISH FOR SPANISH SPEAKERS 1  
Formerly listed as SPAN 109 - Spanish for Spanish Speakers: Fundamentals. Recommended for Success: Before enrolling in this course, students are strongly advised to understand and be able to communicate in Spanish with near-native fluency, but with some formal academic study in the language. The first of two courses intended for Native or Heritage Spanish speakers who already speak, read and write in Spanish at varying levels and with some academic study in the language. This course reviews major elements of Spanish grammar and focuses on improving oral and written communication skills. Students expand on their own experiences and explore other Spanish-speaking cultures through the study of selected readings. Equivalent to the satisfactory completion of two years high school Spanish. Taught in Spanish. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C2)

SPAN 110 — SPANISH FOR SPANISH SPEAKERS 2  
Prerequisite: Satisfactory completion of SPAN 109.  
A continuation of SPAN 109. This course is intended for Spanish-speaking students who seek to further improve their oral and written communication skills in standard Spanish through continued grammar review, vocabulary expansion and composition. Students will analyze and discuss topics about the diverse cultures of the Spanish-speaking world through selected readings. Equivalent to the satisfactory completion of three years of high school Spanish. Taught in Spanish. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C2) (IGETC: 6A)

SPAN 112 — INTRODUCTION TO CHICANO/A LITERATURE  
Formerly listed as SPAN 112 - Introduction to Chicano/a Literature  
Prerequisite: Satisfactory completion of SPAN 104 or SPAN 110.  
Overview of the historical development and current trends in Chicano/a literature, taught in Spanish. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B, 6A)

SPAN 173 — SURVEY OF LATIN AMERICAN LITERATURE  
Prerequisite: Satisfactory completion of SPAN 104 or SPAN 110.  
Introduction to Latin American literature from the Pre-Colombian Period to the present, a literary survey of major works from different literary movements and from various genres such as poetry, short story, essay, drama, and the novel. Taught in Spanish. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C2) (IGETC: 3B)

SPCOM 100 — FUNDAMENTALS OF PUBLIC SPEAKING  

SPCOM 101 — VOICE AND ARTICULATION  
Formerly listed as Basic Voice and Articulation  
Also offered as RATV 101 and THEIR 101.  
Training program in basic voice and articulation. Emphasis on critical listening, self-analysis and self-improvement in tone production and control, voice quality, articulation and pronunciation. Introduction to the International Phonetic Alphabet. This is not a class for persons with a major speech or language delay or disorder. (A-F or P/NP). Lecture. Transfer: (CSU, UC) (CC DRAMA/ SPCOM 18)

SPCOM 102 — INTRODUCTION TO HUMAN COMMUNICATION  
The study of human communication including verbal, nonverbal and listening skills. Effective oral participation in interpersonal contexts, group discussions, and individual presentations in public settings. Lecture. (A-F or P/NP). Transfer: (CSU, UC) (CC SPCOM 4) General Education: (MJC-GE: D2)(CSU-GE: A1)(IGETC: 1C)

SPCOM 103 — INTERPERSONAL COMMUNICATION  
Principles of interpersonal communication including perceptual, verbal and nonverbal elements. The study of theory, research findings, concepts and skills in interpersonal relationships as applied to various interactions, such as the male/female relationship, the family, and the workplace. (A-F or P/NP). Lecture. Transfer: (CSU, UC) (TCSU COMS 130) General Education: (MJC-GE: D2)(CSU-GE: A3)(IGETC: 46)

SPCOM 104 — ARGUMENTATION  
Prerequisite: Satisfactory completion of ENGL 101.  
Primary emphasis on argumentation as the study of analysis, evidence, reasoning, refutation and rebuttal, etc., in oral and written communication. Significant component of instruction in written argumentation, with special attention to the essay form. “Critical Thinking” approaches to commercial, legal, political, and academic argumentation and persuasion. Field trips may be required. (A-F or P/NP). Lecture. Transfer: (CSU, UC) (CC SPCOM 2) (TCSU SPAN 120) General Education: (MJC-GE: D2)(CSU-GE: A3)(IGETC: 1B)

SPCOM 105 — FORENSICS DEBATE  
Formerly listed as SPCOM 105 - Forensics Workshop.  
Principles of debate applied through participation in competitive debate. Students will participate in intercollegiate forensics. Competitive events include parliamentary, NFA Lincoln/Douglas and policy debate. Four completions allowed. Field trips are required. Laboratory (A-F or P/NP). MJC Activities. Transfer: (CSU, UC) (CC SPCOM 7)
SPCOM 106 — GROUP & ORGANIZATIONAL COMMUNICATION 3 UNITS
Formerly listed as SPCM 106 - Organizational Communication
Also offered as SRRP 106
Communication within and between groups and organizations while enhancing relevant individual communication skills. Emphasis on communication and organizational theory as basis for focus on such communication processes as interviewing, task-oriented discussion, problem solving, leadership, conflict resolution and negotiation, communication climate, and organizational culture. (A-F or P/NP) Lecture. Transfer: CSU (CSU COMS 140) General Education: (MJC-GE: D2)

SPCOM 107 — INTRODUCTION TO DEBATE 3 UNITS
Argumentation principles and the debate format. Emphasis on case construction, methods of attack and defense, communication strategies, and various forms of debate. Field trips may be required. (A-F or P/NP) Lecture. Transfer: (CSU, UC) General Education: (MJC-GE: D2) (CSU-GE: A3)

SPCOM 109 — WOMEN IN MANAGEMENT 3 UNITS
Formerly listed as SPCM 109 - Communication and Leadership Skills for Women in Management Communication and leadership skills for effective business management. Emphasis on the women's movement into management positions, effective communication strategies in organizations, building teams, supervising employees, interpersonal skills, assertiveness training and decision-making skills. (A-F or P/NP) Lecture. Transfer: CSU

SPCOM 110 — PERSUASION 3 UNITS
Development of abilities to plan and deliver persuasive presentations through a combination of methods involving the study of "real" communicative events; i.e., trials, sales presentations, political campaigns, sermons, etc., and the preparation and presentation of own works. Survey of recent research in attitude change and persuasive communication. Field trips may be required. Lecture. (A-F or P/NP) Transfer: (CSU, UC) General Education: (MJC-GE: D2)(CSU-GE: A1) (IGETC:1C)

SPCOM 115 — FORENSICS PLATFORM SPEECHES 2 UNITS
Principles of applied speech communication through participation in competitive speech performances. Students will participate in intercollegiate forensics. Competitive events include informative speaking, persuasive speaking, communication analysis, speech to entertain, after dinner speaking, extemporaneous speaking, and impromptu speaking. Field trips are required. Laboratory (A-F or P/NP) Four completions allowed. MJC Activities. Transfer: CSU

SPCOM 120 — ORAL READING AND INTERPRETATION 3 UNITS
Also offered as THEIR 120
Skills in oral interpretation of literature, choice of material, involvement with material, communication of author's thought, emotion and language; expanded knowledge of literature and literary forms. Credit given for either THEIR 120 or SPCM 120, but not both. Lecture. (A-F or P/NP) Transfer: (CSU, UC) General Education: (MJC-GE: C)(CSU-GE: C1)

SPCOM 122 — INTRODUCTION TO READERS' THEATRE 3 UNITS
Also offered as THEIR 122
Study of oral interpretation principles as they apply to group and choral reading. Emphasis will be placed upon the preparation and performance of Readers' Theatre productions. Students will be provided with the necessary theory, practice, and criticism to develop skills for organization and oral presentation of Readers' Theatre materials. Lecture. Field trips may be required. MJC Activities. Transfer: CSU (CSU-GE: C1)

STSK 78 — COLLEGE STUDY SKILLS 3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete ENGL 50 and satisfactorily complete READ 82. Introduction to educational, psychological and social factors necessary for college success. Topics include: goal setting, time management, note-taking, textbook reading, test-taking skills, memorization, concentration, motivation, writing and speaking, critical and creative thinking, learning styles, use of technology, diversity, health, relationships, finances, educational planning and career development. Acquaints students with the college, its curriculum, facilities, services, regulations, programs, degree and transfer requirements. Field trips are not required. (A-F Only) Lecture. MJC Guidance. Transfer: (CC GUIDE 100)
SUPR - THETR

SUPR
(Supervisory Management)

Dean: Vacant
Division Office: Journalism 150
Phone: (209) 575-6129
Division website: mjc.edu/prospective/programs/bbss/

SUPR 106—GROUP & ORGANIZATIONAL COMMUNICATION 3 UNITS
Formerly listed as SUPR 106 - Organizational Communication
Also offered as SPCOM 106.
Communication within and between groups and organizations while enhancing relevant individual communication skills. Emphasis on communication and organizational theory as basis for focus on such communication processes as interviewing, task-oriented discussion, problem solving, leadership, conflict resolution and negotiation, communication climate, and organizational culture. (A-F or P/NP) Lecture. Transfer: CSU General Education: (MJC-GE: D2)

SUPR 351—ELEMENTS OF SUPERVISION 3 UNITS
Nature and function of supervisor's role in business, industry and government. The skills and techniques of effective management will be examined and applied in terms of attaining maximum results through the cooperative efforts of others. Lecture.

SUPR 364—TOTAL QUALITY MANAGEMENT 3 UNITS
Recommended for Success: SUPR 351, BUSAD 240.
This course provides an introduction to W. Edward Deming's philosophy of Total Quality Management and its implications for improving the competitiveness of American business in the international economy. A variety of related management topics is also presented. Lecture.

THETR
(Theatre)

Dean: Michael Sundquist
Division Office: Performing and Media Arts Center, Room 205
Phone: (209) 575-6881
Division website: www.mjc.edu/arts
Instructors: Lori Bryhni, Lynette Borrelli, Michael Lynch

THETR 100—INTRODUCTION TO THEATRE ARTS 3 UNITS
Investigation of the process of the collective art of the theatre, the role of the actor, director, playwright, designer, technician and audience. Survey of the origins of the theatre, its development as an art form, and the social, political and cultural implications of this art form at various points in history. Attendance of MJC theatre productions required. Field trips may be required. (A-F or P/NP) Lecture. Transfer: CSU, UC (CC DRAMA 10) General Education: (CSU-GE: C1)(MJC-GE: C)

THETR 101—VOICE AND ARTICULATION 3 UNITS
Formerly listed as Basic Voice and Articulation
Also offered as RATV 101 and SPCOM 101
Training program in basic voice and articulation. Emphasis on critical listening, self-analysis and self-improvement in tone production and control, voice quality, articulation and pronunciation. Introduction to the International Phonetic Alphabet. This is not a class for persons with a major speech or language delay or disorder. (A-F or P/NP) Lecture. Transfer: CSU, UC, CC DRAMA/SPCOM 18

THETR 102—WORLD THEATRE 3 UNITS
Survey of world theatre and its development as an art form through social, political and cultural contexts. Investigation of cultural traditions and styles, values, aesthetics will be explored. Field trips required. Lecture. Transfer: CSU, UC General Education: (MJC-GE: C)(CSU-GE: C1)(IGETC: 3A)

THETR 103—DANCE REPERTORY REHEARSAL AND PERFORMANCE 2 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete THETR 192.
Preparation and presentation of a modern/contemporary dance performance for public viewing. Four completions allowed. Lecture/Lab. (A-F or P/NP) MJC Activities. Transfer: (CSU, UC)

THETR 120—ORAL READING AND INTERPRETATION 3 UNITS
Also offered as SPCOM 120
Skills in oral interpretation of literature; choice of material, involvement with material, communication of author's thought, emotion and language; expanded knowledge of literature and literary forms. Credit given for either THETR 120 or SPCOM 120, but not both. Lecture (A-F or P/NP) Transfer: CSU, UC (CC DRAMA 20) General Education: (MJC-GE: C)(CSU-GE: C1)

THETR 122—INTRODUCTION TO READER'S THEATRE 3 UNITS
Also offered as SPCOM 122
Study of oral interpretation principles as they apply to group and chor: reading. Emphasis will be placed upon the preparation and performance of Readers' Theatre productions. Students will be provided with the necessary theory, practice, and criticism to develop skills for organization and oral presentation of Readers' Theatre materials. Lecture. Field trips may be required. MJC Activities. Transfer: CSU, UC (CC DRAMA 22) General Education: (CSU-GE: C1)

THETR 123—STORYTELLING 3 UNITS
Formerly listed as SPCOM 123 - Storytelling: The Interpretation Of Children's Literature
Also offered as SPCOM 123
Introduction to the history of storytelling and the techniques of critical listening to, preparation and presentation of literature. Emphasis on sources, selection of materials, analysis, preparation and presentation of prose, verse, and drama. Designed to develop the adult reader's knowledge, critical ability, and appreciation of literature. Field trips may be required. Lecture. (A-F or P/NP) MJC Activities. Transfer: CSU, UC General Education: (MJC-GE: C)(CSU-GE: C1)

THETR 124—ADVANCED READER'S THEATRE 3 UNITS
Recommended for Success: Satisfactory completion of (SPCOM 120 or 122) or (THETR 120 or 122)
Also offered as SPCOM 124
Continued development of the construction and direction of Readers' Theatre performances suitable for public presentation. Emphasis on analysis of reading materials and helping others enhance communication skills through vocal control and physical expression. Field trips may be required. Lecture. Transfer: CSU, UC General Education: (MJC-GE: C)(CSU-GE: C1)

THETR 131—FUNDAMENTALS OF CHOREOGRAPHY 1 2 UNITS
Recommended for Success: Before enrolling in this course, 1 students are strongly advised to satisfactorily complete THETR 185 or satisfactorily complete PEC 122.
Introduction to the creative process of composing dance. Compositional components will be explored, crafted, and aesthetically analyzed. The elements of dance and performance qualities will be explored through technical practice, improvisation, and compositional studies. Four Maximum completions. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: CSU, UC

THETR 150—ELEMENTS OF PLAYWRITING 3 UNITS
Recommended for Success: Satisfactory completion of ENGL 101 & THETR 100.
Introduction to the writing of dramatic scripts for the stage, culminating in a staged reading of completed drafts with actors before an audience. Field trips required. Two maximum completions. Lecture/Laboratory. Transfer: CSU General Education: (MJC-GE: C)(CSU-GE: C1,2)

THETR 156—REHEARSAL AND PERFORMANCE IN COMEDY 2 UNITS
Limitations on Enrollment: Enrollment limited to students who successfully pass audition process.
Participation as actors in a fully supported theatre production. This course focuses on ensemble performance techniques that are essential for a comedic play production. Participation in rehearsals and public performances is required. Four Maximum completions. Field trips may be required. (A-F Only) Lab. MJC Activities. Transfer: CSU, UC

THETR 157—REHEARSAL AND PERFORMANCE IN DRAMA 2 UNITS
Limitations on Enrollment: Enrollment limited to students who successfully pass audition process.
Students participate as actors in a fully supported theatre production. This course focuses on individual and ensemble performance techniques that are essential for a modern dramatic, or tragic play production. Participation in rehearsals and public performances is required. Four Maximum completions. Field trips may be required. (A-F Only) Lab. MJC Activities. Transfer: CSU, UC

MJC Activities. Transfer: CSU, UC
THETR—158 REHEARSAL AND PERFORMANCE IN CLASSICAL THEATRE  2 UNITS
Limitations on Enrollment: Enrollment limited to students who successfully pass audition process.
Students participate as actors in a fully supported theatre production. Focuses on individual and ensemble performance techniques that are essential for a classical play production. Participation in rehearsals and public performance is required. Four Maximum completions. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

THETR—159 REHEARSAL AND PERFORMANCE IN MUSICAL THEATRE  2 UNITS
Limitations on Enrollment: Enrollment limited to students who successfully pass audition process.
Students participate as actors, singers, dancers in a fully supported musical theatre production. This course focuses on individual and ensemble performance techniques that are essential for a musical or opera production. Participation in rehearsals and public performances is required. Four Maximum completions. Field trips may be required. (A-F Only) Lab. MJC Activities. Transfer: (CSU, UC)

THETR—160 FUNDAMENTALS OF ACTING  3 UNITS
Survey of the various elements of an actor’s art leading to an understanding and appreciation of the physical, mental and emotional basic of performance. Reading, analysis of classic work. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC) (CC DRAMA 42) General Education: (CSU-GE:C1)

THETR—161 INTERMEDIATE ACTING  3 UNITS
Prerequisite: Satisfactory completion of THETR 160.
Intensive study of character and role development through reading scripts, group improvisations and analysis of theme, content and character. Scenes from published plays will be rehearsed and performed with a culminating final public performance. Includes preparation of dramatic/comedic material and acting dialogue for auditions and audience presentation. Eight Maximum completions. Field trips may be required. (A-F Only) Lecture/Lab. MJC Activities. Transfer: (CSU, UC) General Education: (CSU-GE:C1)

THETR 164—IMPROVISATIONAL ACTING  3 UNITS
Intensive study of the basic techniques of theatre games and improvisational acting with specific concentration on improvisational theatre formats. Course will culminate in a public improvisational performance. May be completed up to 3 times. Field trips may be required. (A-F or P/NP). MJC Activities. Transfer: (CSU, UC) (CC DRAMA 46)

THETR 165—HISTORY OF THE AMERICAN MUSICAL THEATRE  3 UNITS
The art of the American musical theater: the role of the performer, director, music director, book writer, composer, lyricist, choreographer, producer, designer, and audience. Survey of the origins of music theatre beginning with “The Black Crook” (1866) through the present, its development as an art form, and its relationship to other art forms and the audience. Attendance at musical theatre productions required. Lecture. Tickets fees are required. (P/NP Only) Transfer: (CSU, UC) General Education: (MJC-GE: C) (CSU-GE: C1) (IGETC:3A)

THETR 170 X,A—HIP HOP  ½,1 UNIT
Also listed as PEC 120X, A
Fundamental skills of hip hop dance derived from the current dance vernacular and culture. Dance movement education, exploration, and recreation. May be completed up to 4 times. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)

THETR—175 STAGE COSTUMING  3 UNITS
Principles and practice of theatrical costuming. Emphasis on the steps necessary to design costumes for a theatrical production based on a particular play and its characters. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

THETR—178 INTRODUCTION TO SCENERY DESIGN  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete THETR 100.
Introduction to the art and practice of scenery design for the stage. History, functions and process of scene design, choosing color and texture, and the importance of lighting. Practical application will include scene painting and model building. Field trips may be required. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

THETR 182—PRACTICAL STAGE LIGHTING  3 UNITS
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete THETR 100.
An introduction to the art and practice of lighting design for the stage. Lectures will include the use and control of stage lighting instruments, choosing color, basic electricity, the physical and psychological properties of light as applied to stage illumination. Practical application in lab work will include assisting in the lighting of a fully supported play, musical or dance production. Field trips may be required. (A-F or P/NP) Lecture/Lab. Transfer: (CSU, UC)

THETR 183—FUNDAMENTALS OF STAGE MAKE-UP 1  1 UNIT
Fundamentals of basic two-dimensional stage makeup: types of stage makeup, features of the face and proportions, highlights and shadow, stylized types of characters including Peking opera, animal, old, and fantasy. Materials fee required. Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

THETR 184—FUNDAMENTALS OF STAGE MAKE-UP 2  1 UNIT
Prerequisite: Satisfactory completion of THETR 183
Fundamental concepts of three-dimensional stage makeup and special effects. Topics include materials for special effects; negative and positive molds; aging techniques, and making latex pieces. Lecture/Laboratory. Three maximum completions. Materials fee required. MJC Activities.
Transfer: (CSU, UC)

THETR 185X,A—BEGINNING MODERN DANCE  ½,1 UNIT
Also offered as PEC 122 185X,A
Emphasis on basic modern dance technique, beginning composition, improvisation, dance history and philosophy. Dance as an art form and recreation. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

THETR 186 X,A—INTERMEDIATE MODERN DANCE  ½,1 UNIT
Also offered as PEC 123X, A
Recommended for Success: Before enrolling in this course, students are strongly advised to satisfactorily complete PEC 122X,A or THETR 185X,A.
Emphasis on intermediate modern dance technique, intermediate composition, improvisation, partnering, dance history and philosophy. Dance as art form and as recreation. Four completions allowed. (A-F or P/NP) Lecture/Lab. MJC Activities. Transfer: (CSU, UC)

THETR 187X,A—ADVANCED MODERN DANCE  ½,1 UNIT
Also offered as THETR 124X, A
Recommended for Success: PEC 123 or THETR 186 or equivalent.
Emphasis on composition, improvisation, expression, dance history and philosophy, an outlet for expressive movement ideas. Four completions allowed. (A-F or P/NP) Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

THETR 188—JAZZ DANCE  1 UNIT
Also offered as PEC 126
Technique, principles, terminology and the practice of jazz dance. Correct placement and execution of movements using a variety of styles and approaches within the jazz idiom. Four Maximum completions. Field trips may be required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

THETR 189X,A—BALLET 1  ½,1 UNIT
Also offered as PEC 133A
Fundamental ballet techniques and terminology. Four completions allowed. Lecture/Laboratory. MJC Activities. Transfer: (CSU, UC)

THETR 190A,B—THEATRE PRODUCTION WORKSHOP  1 - 2 UNITS
A repeatable, multi-technical, lab-only course focusing on the practical aspect of mounting and running a theatrical production. The class covers the following areas of construction and crew management: scenery, sound, lighting, properties, costumes, stage management, publicity, and house management. Four Maximum completions. Field trips are not required. (A-F or P/NP) Lab. MJC Activities. Transfer: (CSU, UC)

THETR 192—REHEARSAL & PERFORMANCE  2 UNITS
Recommended for Success: Satisfactory completion of THETR 100.
Participation and instruction in rehearsal and performance of a role in an MJC production. Required activities may include all aspects involved in the production of plays as well as rehearsal. Field trips required. Four completions allowed. Laboratory. MJC Activities. Transfer: (CSU, UC)
**TUTOR (Tutoring)**

**TUTOR 50 — TUTOR SEMINAR**  
2 UNITS  
Non-degree course.  
Designed for students to strengthen their effectiveness as tutors. Development of techniques of the tutoring process. Further development of strategies in the area of preparation, short and long-term planning, probing skills, critical thinking, study skills, and test-taking skills. Introduction to cultural understanding. Study of issues affecting tutors and students. Intended for students selected as tutors for the general campus. Lecture/Laboratory. (P/NP Only)

**NON-CREDIT COURSES**

**TUTOR 810 — TUTOR TRAINING**  
Designed as an introduction to the tutoring process. Introduction to preparation, expectations, probing skills, situations, and application of the learned techniques. Courses intended for students selected as tutors at MJC. Lecture/Laboratory.

**TUTOR 850 — SUPERVISED TUTORING**  
Provides for individual learning by students with expressed needs in study strategies, learning modes, and developmental materials. Learning experiences will be under instructional supervision. Repeatable. Field trips are not required. (Non-Graded course) Lab.

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**TV (Welding)**

For Television Production course offerings, please see RATV (Radio/Television)

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**VOCWE (Work Experience, Vocational)**

Modesto Junior College serves the needs of its students and those of the community through its Work Experience program. A program objective is to provide guidance and opportunity for career planning students in the real laboratory of the community's businesses, industries, and public agencies. Work experience education results when it encompasses a systematic plan whereby students, while in college, gain realistic employment experiences through work.

Two Work Experience programs are offered: General Work Experience and Vocational Work Experience. Employment may be on a paid or volunteer basis and may be at work sites on or off campus. For General Work Experience, please see WKEX (Work Experience, General).

Designed to provide extended learning opportunities in students' chosen occupational fields, Vocational Work Experience programs become practical laboratories for reinforcing in-school training. Students should consult their advisors to determine divisional practice on work experience units acceptable toward major requirements.

Vocational work experience classes are available in all discipline areas using the number 349 A,B,C,D (1-4 units) except Nursing (see Nursing Program). With the exception of Administration of Justice, Agriculture, Child Development and Nursing, Vocational Work Experience students must register for and attend VOCWE 349S. During the first lecture meeting, the instructor will assist the student in adding to his or her schedule the appropriate Vocational Work Experience class depending on the student's academic goals and employment setting.

**VOCWE 349S — VOCATIONAL WORK EXPERIENCE SEMINAR**  
0 UNITS  
Designed to accompany vocational work experience courses in all discipline areas (with the exception of Administration of Justice, Agriculture, Child Development and Nursing). Provides orientation to the structure of cooperative work experience education and develops specific knowledge and skills related to employment situations through the accomplishment of goals. Includes job applications, resumes, interpersonal relationships, career selection, and relevant employment laws, regulations and policies. Lecture. Non graded. Maximum completions as needed to accompany DIV 349 A,B,C,D. 

**VOCWE 349 A,B,C,D — WORK EXPERIENCE**  
1,2,3,4 UNITS  
Prerequisite: Enrollment in a minimum of 7 units which may include Cooperative Work Experience and completion of or concurrent enrollment in one core or elective course in designated program.

Designed for students who wish to combine classroom experience with an expansion of skills or knowledge acquired at a site of employment on a paid or volunteer basis. Work must directly relate to the student's area of study. Conversely, student should have a designated area of study demonstrated by completion of or concurrent enrollment in at least a minimal number of courses in that designated program. Sixteen maximum units in any combination of vocational work experience courses. Lecture. Lab. 75 paid hours or sixty unpaid hours of related work experience per semester equals 1 unit.
**WELD** (Welding)

Dean (Interim): Pedro Mendez  
Office: John Muir 258W  
Phone: (209) 575-6332  
Division website: www.mjc.edu/prospective/programs/techsed-sheetmetal/  
Instructors: Sonny Gumm

**WELD 200—ARC & GAS WELDING**  3 UNITS  
Introduction level course with a lecture/lab format of instruction. Activities and topics include oxyacetylene welding/cutting and shielded metal arc welding processes. Materials fee required. Field trips may be required. (A-F or P/NP) Lecture/Lab. **Transfer:** CSU

**WELD 204—GAS METAL ARC WELDING (G.M.A.W) & FLUX CORE ARC WELDING (F.C.A.W)**  3 UNITS  
Formerly listed as WELD 204 - Gas Metal Arc (MIG) Flux Core Arc (FCAW)  
Prerequisite: Satisfactory completion of WELD 200.  
Advanced occupational welding procedures for ferrous and non-ferrous metals, manual and automated oxyfuel cutting, carbon arc gouging. Includes the introduction of qualification testing procedures that meet the American Welding Society's structural steel code (D1-1) certification. Materials fee required. Field trips may be required. (A-F or P/NP) Lecture/Lab. **Transfer:** CSU

**WELD 206—GAS TUNGSTEN ARC WELDING (G.T.A.W.)**  3 UNITS  
Formerly listed as WELD 206 - Gas Tungsten Arc Welding (TIG)  
Prerequisite: Satisfactory completion of WELD 200.  
Advanced occupational course covering welding procedures for ferrous and non-ferrous sheet-metals and purge welding procedures for stainless steel tubing. Materials fee required. Field trips may be required. (A-F or P/NP) Lecture/Lab. **Transfer:** CSU

**WELD 300—INTERMEDIATE WELDING**  3 UNITS  
Prerequisite: Satisfactory completion of WELD 200.  
Intermediate level course that uses a lecture/lab format of instruction. Activities and topics cover the welding procedures for mild steel plate, manual and automated oxyfuel cutting, and carbon arc gouging. Qualification testing procedures that meet the American Welding Society's structural code (D1-1) will also be covered. Materials fee required. Field trips may be required. (A-F or P/NP) Lecture/Lab. **Transfer:** CSU

**WELD 325—DESIGN AND FABRICATION PROCESSES**  3 UNITS  
Prerequisite: Satisfactory completion of WELD 200.  
Theory of drawing to include techniques of sketching out ideas through the development of layout of final blueprints. Estimating cost including the selection of appropriate materials and fabrication processes. Projects are required. Field trips may be required. (A-F Only) Lecture/Lab.

**WELD 340—PIPE WELDING**  3 UNITS  
Prerequisite: Satisfactory completion of WELD 300.  
This course offers instruction (both lecture and laboratory) in mild steel pipe welding using the SMAW process. Activities and topics will include general pipe fitting, welding procedures, electrodes, applied layout, and fit-up, hangers, equipment, techniques. Practice in the certification procedure for the American Petroleum Institute (API 1104) code will also be covered. Materials fee required. Field trips are required. (A-F or P/NP) Lecture/Lab.

**WKFSK** (Workforce Skills)

Dean (Interim): Pedro Mendez  
Office: John Muir 258W  
Phone: (209) 575-6332

**WKFSK 801—INTRODUCTION TO WORKFORCE DEVELOPMENT SKILLS**  
Training for employees on how to achieve success in any career situation. Explores elements of communication, team building, active listening and job retention skills. Open entry/open exit. Lecture. Field trips may be required. Four completions allowed.

**WKFSK 802—THE ART OF ACTIVE LISTENING**  
Training for employees on maximizing the effectiveness of communication in the workplace and elsewhere. Explores helpful listening techniques, dealing with listening problems, and negotiating win-win situations. Open-entry/open-exit. Lecture. Field trips may be required. Four completions allowed.

**WKFSK 803—TROUBLESHOOTING ON THE JOB**  
Training for employees on an efficient and effective problem solving. Topics discussed include problem definition, finding the root cause, creating solutions, implementation of solutions and monitoring for success. Open-entry/open-exit. Lecture. Field trips may be required. Four completions allowed.

**WKFSK 804—THE ART OF TEAMWORK**  
Training for employees on becoming a true “team player.” Topics covered include: team roles, facilitation, team communication, reaching agreements, team goal-setting, and effective leadership. Open-entry/open-exit. Lecture. Field trips may be required. Four completions allowed.

**WKFSK 810—SKILLS FOR SUCCEEDING AT A NEW JOB**  
Intended for those just starting to work who are looking for skills to achieve success as a new employee. Explores in-depth job retention skills including job transition concepts, workplace expectations, customer service, attitude feedback and balancing work and personal life. Field trips may be required. Four completions allowed. Lecture.

**WKFSK 820—APPLIED MATHEMATICS FOR THE WORKPLACE**  
An easy-to-use, computerized, open-entry/open-exit applied mathematics course. Methods to solve one-step mathematical operations and utilize these skills with work-related problems. Examples and situations focus on applying problem-solving skills in real-world situations. Uses a variety of interactive exercises so that the learner can practice each concept. A calculator function and formula sheet are available to the learner with a simple mouse-click. Detailed solutions to the problems are explained, allowing students to analyze their mistakes. A full human-voice sound track and immediate feedback aid learning. Non-graded.

**WKFSK 821—LOCATING INFORMATION**  
An easy-to-use, computerized, open-entry/open-exit course. Develops skills in using information presented in workplace graphics such as memos, tables, charts, and graphs. Examples and situations focus on applying this ability in real-world situations. Uses a variety of interactive exercises so that the learner can practice each concept. A full human-voice sound track and immediate feedback aid learning. Non-graded.

**ZOOL** (Zoology)

Dean: Brian Sanders  
Division Office: Science Building, Room 126  
Phone: (209) 575-6173  
Division website: www.mjc.edu/current/programs/divdeps/sme  
Instructor: Teri Curtis

**ZOOL 101—GENERAL ZOOLOGY**  4 UNITS  
Prerequisite: BIO 101  
Principles of animal life and classification. Survey of major animal and protozoal phyla with emphasis on evolutionary relationships, structural and physiological adaptations and ecological importance. Field trips required. Lecture/Laboratory. **Transfer:** (CSU, UC)(CC BIOL 4) (MJC BIO 101 + BOT 101 + ZOOL 101 = CC BIO 2 4+4+6) SEQ A) **General Education:** (MJC-GE-A)(CSU-GE: B2, B3)(IGETC:SB)

**ZOOL 110—ANIMAL BIOLOGY**  3 UNITS  
A phylogenetic survey of animal life including structure and function, genetics, ecology, evolution, development and reproduction as they pertain to animals. Not open to students who have completed BIO 101. Not a substitute for ZOOL 101. Field trips may be required. Lecture/Laboratory. **Transfer:** (CSU, UC) **General Education:** (MJC-GE-A)(CSU-GE: B2B3)
Painting his way to a new career at MJC…

Corey thought he wanted to be a firefighter like his father. After graduating from Modesto High in 2005, he spent his first two years at MJC studying fire science and was only one class away from completion when he came to an important realization. His true passion was working on cars – especially body work, customizing and refinishing them. Corey made the agonizing decision to change his major and start over. He knew it meant several more years of hard work. He also knew it was the right choice and he followed his heart.

Cars had caught Corey’s interest at an early age. Long before he was old enough to drive them he was taking cars apart and putting them back together. However, it wasn’t until he was in college that he discovered refinishing cars. He was in the process of rebuilding his girlfriend’s Acura Integra when he decided he also wanted to paint the vehicle himself. It was the one thing he had not yet taught himself to do, so he registered for an auto refinishing class at MJC…and then another. “It’s pure fun for me. When I take English I arrive five minutes before class. But when I take a refinishing class I show up 45 minutes before class because I just can’t wait to get started.”

The flexible career options are also something about which Corey is enthusiastic. “A really cool thing about painting is that I can take it in a number of directions, including the refinishing business, paint sales, or even paint development.” He is also a fan of the transformational aspect of refinishing cars. “I love seeing something go from ugly to beautiful and knowing I made it happen. It’s exciting to see people’s reactions.”

Corey enjoyed his Automotive Refinishing course with Jan Pinckney, who recently retired, and he’s especially impressed with the teaching methods used by Jeff Beebe in his Auto Body class. “He’s a real hands-on instructor in the lab and he’s always up-to-date on the most recent auto repair methods.” Corey is also pleased to see MJC’s automotive program striving to be “green” by using more environment-friendly, water-based paint. “You might not think that people who work on cars care about things like going green, but we do.”

Corey earned a certificate in Auto Refinishing last spring and expects to achieve an Associate’s degree in Auto Body and Refinishing in April 2011. His dream is to own a business for auto body and refinishing, and for customizing and building race cars, and he is already making a name for himself in the industry. His work “shaving” the engine bay of a car driven by legendary drag racer Lisa Kubo was featured in the August 2010 Honda Tuning magazine. His complete paint jobs will be featured in upcoming issues. In the August article, the car owner, Chad Barber, called the team that worked on his race car, “the most intelligent and capable people in the business” and said, “only the best hands have touched this car.” Corey is honored to be included in his high praise and to have his name inscribed on a plate mounted in the engine bay. He has received offers for jobs on cars in Belgium and the Netherlands, which he has had to decline while finishing college.

The award-winning automotive designer Chip Foose is one of Corey’s heroes and he points to Foose’s dedication to detail as the source of his amazing products. Corey himself is a perfectionist with a driving determination to never settle for anything less than his best effort on every project he undertakes. This competitive young man is now in the process of building his own race car, which he hopes to drive in a front wheel drive challenge at Buttonwillow Raceway in January 2011.

When not working on cars, Corey goes bass fishing with friends and spends time with his girlfriend, a student in MJC’s Nursing Program. Does he ever regret the change in majors that cost him extra years of college? No. He’s too excited about his future and the opportunities ahead, now that he’s following his heart.

Corey Shaw

“My experience at MJC has taught me that when you are thinking about a career path, go with something you love. Painting and working on cars has never seemed like work to me. I do it for fun!”