

San Joaquin Delta College Catalog 98 - 99

Section III - Description of Courses G - M

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GEOGRAPHY

GEOG 1 Physical Geography **Units 3**

Prerequisites: Reading level II.
Limitations on Enrollment: None.
Advisories: None.

This course is designed as a study of the natural environment. Individual topics include maps, time zones, seasons, weather, climate, the hydrologic cycle, natural vegetation, soils and land forms. (UC, CSU, CAN GEOG 2, CAN GEOG 6 with both GEOG 1 and GEOG 1L)

GEOG 1L Physical Geography Laboratory **Units 1**

Prerequisites: Reading level II; concurrent enrollment or completion of GEOG 1.
Limitations on Enrollment: None.
Advisories: None.

This course is a series of laboratory exercises involving weather, climate, and land forms with emphasis on map reading, air photo interpretation, and basic cartography. It correlates with topics from GEOG 1. GEOG 1L plus GEOG 1 will satisfy the laboratory science requirement for general education requirements. (UC, CSU, CAN GEOG 6 with both GEOG 1 and GEOG 1L)

GEOG 2 Cultural Geography **Units 3**

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to cover the major systems of habitat use, their characteristics, origins, diffusion, and environmental impact. (UC, CSU, CAN GEOG 4)

GEOG 10 World Geography **Units 3**

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is an introduction to geography through a regional approach with an emphasis on understanding and evaluating world problems relating to man's physical and cultural environments. (UC, CSU)

GEOG 50H Special Studies: Geography **Units 1-2**

Prerequisites: Reading level II and completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to provide research opportunity for advanced students. Topics must be approved by the geography staff and the division chairperson. The course may be repeated for a maximum of four units. (UC, CSU)

GEOLOGY

GEOL 1A Physical Geology **Units 4**

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to introduce students to the composition, structure, and surface features of Earth. The processes of building up Earth and of those destroying it are studied. (UC, CSU, CAN GEOL 2)

GEOL 10 General Geology **Units 3**

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is an introduction to earth materials, processes involved in the development of land forms, a brief survey of the history of earth is included. (UC, CSU)

GEOL 50H Special Studies: Geology **Units 1-2**

Prerequisites: Reading level II and completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.
Limitations on Enrollment: None.
Advisories: None.

This course is open to all students qualified to do advanced work in the field. A course project is assigned which may include research, field work, or other advanced study, and the course may be repeated for a maximum of four units. (UC, CSU)

GERMAN

GERM 1 Elementary German **Units 5**

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is an introduction to the German language and the German culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. (UC, CSU, CAN GERM 2, CAN GERM Seq A with GERM 1 and 2)

GERM 2 Elementary German **Units 5**

Prerequisites: GERM 1 or 52.

Limitations on Enrollment: None.

Advisories: None.

This course is an introduction to the German language and the German culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. (UC, CSU, CAN GERM 4, CAN GERM Seq A with GERM 1 and 2)

GERM 3 Intermediate German **Units 5**

Prerequisites: GERM 2 or 54; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued study of the German language and the German culture. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU, CAN GERM 8, CAN GERM SEQ B with both GERM 3 and 4)

GERM 4 Intermediate German **Units 5**

Prerequisites: GERM 3; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued study of the German language and the German culture. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU, CAN GERM 10, CAN GERM SEQ B with both GERM 3 and 4)

GERM 36A Introductory German Conversation **Units 2**

Prerequisites: GERM 51 or GERM 52 or GERM 1; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to strengthen fundamental communication patterns based on typical daily situations. (CSU)

GERM 36B Beginning German Conversation **Units 2**

Prerequisites: Concurrent enrollment in or completion of GERM 53 or 54 or GERM 2; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to achieve conversational ability based on typical daily situations. (CSU)

GERM 36C Intermediate German Conversation **Units 2**

Prerequisites: Concurrent enrollment in or completion of GERM 3; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to refine conversational ability based on typical daily situations. (UC, CSU)

GERM 36D Advanced German Conversation **Units 2**

Prerequisites: Concurrent enrollment in or completion of GERM 4; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to produce proficiency in oral rhetoric based on typical daily situations. (UC, CSU)

GERM 38A Special Assignment: Listening **Units 2**

Prerequisites: Concurrent enrollment in or completion of GERM 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on listening. The course is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

GERM 38B Special Assignment: Pronunciation **Units 2**

Prerequisites: Concurrent enrollment in or completion of GERM 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on pronunciation. The course is adjusted to meet the special needs of students, and may be offered for individual or group study. (CSU)

GERM 38C Special Assignment: Reading **Units 2**

Prerequisites: Concurrent enrollment in or completion of GERM 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on reading. The course is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

GERM 38D Special Assignment: Writing **Units 2**

Prerequisites: Concurrent enrollment in or completion of GERM 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on writing. The course is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

GERM 50H Special Studies: German **Units 2**

Prerequisites: Reading level II; completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.

Limitations on Enrollment: None.

Advisories: None.

This course is open to students qualified to do advanced work in the field. The course includes research, directed reading, field work, or other advanced study, and the course may be repeated for a maximum of four units. (UC, CSU)

GERM 51 Elementary German **Units 2.5**

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a study and practice in speaking, listening, reading,

and writing the German language. Emphasis is placed on culture and civilization. The combined five units of GERM 51 and GERM 52 are equivalent to German 1. (UC, CSU, CAN GERM 2 with both GERM 51 and 52, CAN GERM SEQ A with GERM 51, 52, 53, and 54)

GERM 52 Elementary German Units 2.5

Prerequisites: Reading level II; GERM 51.

Limitations on Enrollment: None.

Advisories: None.

This course is a study and practice in speaking, listening, reading, and writing the German language. Emphasis is placed on culture and civilization. The combined five units of GERM 51 and GERM 52 are equivalent to German 1. (UC, CSU, CAN GERM 2 with both GERM 51 and 52, CAN GERM Seq A with GERM 51, 52, 53, and 54)

GERM 53 Elementary German Units 2.5

Prerequisites: Reading level II; GERM 52.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued practice in speaking, listening, reading, and writing the German language. Emphasis is placed on language speech patterns, culture, and civilization. The combined five units GERM 53 and GERM 54 are equivalent to German 2. (UC, CSU, CAN GERM 4 with both GERM 53 and 54, CAN GERM Seq A with GERM 51, 52, 53, and 54)

GERM 54 Elementary German Units 2.5

Prerequisites: Reading level II; GERM 53.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued practice in speaking, listening, reading, and writing the German language. Emphasis is placed on language speech patterns, culture, and civilization. The combined five units of GERM 53 and GERM 54 are equivalent to German 2. (UC, CSU, CAN GERM 4 with both GERM 53 and 54, CAN GERM Seq A with GERM 51, 52, 53, and 54)

GREEK

GREEK 36A Introductory Greek Conversation Units 2

Prerequisites: GREEK 51 or GREEK 52 or GREEK 1; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to strengthen fundamental communication patterns based on typical daily situations. (CSU)

GREEK 36B Beginning Greek Conversation Units 2

Prerequisites: Concurrent enrollment in or completion of GREEK 53 or 54 or GREEK 2; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to achieve conversational ability based on typical daily situations. (CSU)

GREEK 38A Special Assignment: Listening Units 2

Prerequisites: Concurrent enrollment in or completion of GREEK 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on listening. The course is adjusted to meet the special needs of students, and may be offered for individual or group study. (CSU)

GREEK 38B Special Assignment: Pronunciation Units 2

Prerequisites: Concurrent enrollment in or completion of GREEK 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on pronunciation. The course is adjusted to meet the special needs of students, and may be offered for individual or group study. (CSU)

GREEK 38C Special Assignment: Reading Units 2

Prerequisites: Concurrent enrollment in or completion of GREEK 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on reading. The course is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

GREEK 38D Special Assignment: Writing Units 2

Prerequisites: Concurrent enrollment in or completion of GREEK 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on writing. The course is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

GREEK 51 Elementary Greek Units 2.5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a study and practice in speaking, listening, reading, and writing the Greek language. Emphasis is placed on culture and civilization. The combined five units of Greek 51 and Greek 52 are equivalent to Greek 1. (UC, CSU)

GREEK 52 Elementary Greek Units 2.5

Prerequisites: Reading level II; GREEK 51.

Limitations on Enrollment: None.

Advisories: None.

This course is a study and practice in speaking, listening, reading, and writing the Greek language. Emphasis is placed on culture and civilization. The combined five units of Greek 51 and Greek 52 are equivalent Greek 1. (UC, CSU)

GREEK 53 Elementary Greek Units 2.5

Prerequisites: Reading level II; GREEK 52.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued practice in speaking, listening, reading, and writing the Greek language. Emphasis is placed on language speech patterns, culture, and civilization. The combined five units of Greek 53 and Greek 54 are equivalent to Greek 2. (UC, CSU)

GREEK 54 Elementary Greek Units 2.5

Prerequisites: Reading level II; GREEK 53.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued practice in speaking, listening, reading, and writing the Greek language. Emphasis is placed on language speech patterns, culture, and civilization. The combined five units in GREEK 53 and GREEK 54 are equivalent to Greek 2. (UC, CSU)

GUIDANCE

GUID 1 Enhancing Self-Esteem, Cultural Awareness, and College Success Units 3

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None. Advisories: None.

This course is designed to enable students to focus on the continued development of self-esteem and personal responsibility leading to college success. Discussion of cultural awareness and cultural diversity is included. (CSU)

GUID 2A Peer Advisor Training Units 1

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None. Advisories: None.

This course is designed to provide peer advisors with the necessary knowledge and skills to interact effectively with targeted populations. Skills include, but not limited to, advising current and potential students, processing student applications, and providing operational support to a specific program. (CSU)

GUID 10 Orientation to College Units 1

Prerequisites: Not open to students who have completed GUID 11A and GUID 11B. Limitations on Enrollment: None. Advisories: None.

This course is suggested for all newly entering and re-entry students. It provides orientation, counseling, and advisement. The course assists students in the development of an educational plan through individual and group counseling. GUID 10 is equivalent to the combined courses of GUID 11A and GUID 11B. (CSU)

GUID 10E Extended Activities Units 0.5-2

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None. Advisories: None.

This course is a series of presentations on timely topics ranging from one hour to eight hours in duration. Credit may be earned by attending a minimum of eight activity hours. A half unit of credit is given for each block of eight activity hours for a maximum total of two units. (CSU)

GUID 11A Orientation to College Units 0.5

Prerequisites: Not open to students who have completed GUID 10. Limitations on Enrollment: None. Advisories: None.

This course is suggested for all newly entering and re-entry students. It provides orientation, counseling, and advisement. The course assists students in researching and defining educational goals through individual and group counseling. The combination of GUID 11A and GUID 11B is equivalent to GUID 10. (CSU)

GUID 12 Education and Interpersonal Growth Units 3

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None.

Advisories: None.

This course is a planned instructional program to study the impact of values in decision making, self-awareness, changing lifestyles, and patterns of communication have upon educational growth while pursuing a career or vocation. The study of the relevant significance the educational contract has upon educational competency is discussed also. (CSU)

GUID 14 Orientation for Student Athletes Units 0.5

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None. Advisories: None.

This course is suggested for all entering students participating in intercollegiate sports. The course provides college orientation, counseling and advisement, and information on National Collegiate Athletic Association eligibility. Student athletes develop a Student Education Plan (SEP) through individual and group counseling. (CSU)

GUID 15 Selected Topics: Guidance Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None. Advisories: None.

This course is a concentrated study of a specific topic in guidance and counseling. Course requirements include a written report and, or a final examination. (CSU)

GUID 16 Orientation for International Students Units 1

Prerequisites: Reading Level II or concurrent enrollment in reading. Limitations on Enrollment: None. Advisories: None.

This course is suggested for all entering international students. The course acquaints students with the college, curriculum, facilities, services, academic regulations, vocational and certificate programs, degree, and transfer requirements. Information is provided concerning extra-curricular activities, personal adjustment, American customs, culture shock and survival techniques, and immigration regulations. (CSU)

GUID 17 People in Transition Units 1

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None. Advisories: None.

This course is designed to provide orientation, counseling information, and support to re-entry students whose formal education has been interrupted by family and, or job responsibilities. The course topics include building self-esteem, becoming more assertive, identifying values, skills and interests, and planning a career. (CSU)

GUID 18A Single Parents as Students: Codependency Issues Units 1

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None. Advisories: None.

This course is designed for Extended Opportunities Programs and Services (EOPS) students enrolled in Cooperative Agencies Resources for Education (CARE). The goal of this course is to provide orientation, self-awareness and support to Aid to Families with Depended Children (AFDC) and single parents wishing to gain independence through education. (CSU)

GUID 30 Career Self Assessment Units 1

Prerequisites: Reading level II or concurrent enrollment in reading. Limitations on Enrollment: None.

Advisories: None.

This course is an introduction to the career life planning process and concentrates on the first major step which is self assessment. Students explore career choices by identifying their strengths, skills, interests, values, and preferred lifestyle. (CSU)

GUID 31 Career Exploration Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; GUID 30 recommended.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to allow students to explore specific occupations of their choice through utilization of career center resources. The course includes investigation of job duties, training and educational requirements, desired employee characteristics, salary ranges, and future employment trends through printed and audio visual media. (CSU)

GUID 32 Career Information Interviewing Units 1

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist students to learn to obtain career information directly from people employed in areas of their career interest through an organized interviewing process. The course includes information on how to make the initial contact, interviewing question preparation, and how to analyze information obtained. (CSU)

GUID 33 Job Seeking Skills Units 1

Prerequisites: Reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist students with development of successful job search techniques, resume writing, and job interviewing skills. The course includes techniques on how to find and how to get the job you want, and information of the hidden job market. (CSU)

GUID 71D Student Leadership: Day Student Government Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; To qualify for registration a student must be a member of the Day Student Government.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide a survey of the theory and practice of parliamentary law, committee techniques, and democratic organization. Students will study some of the factors of successful leadership and effective group membership. Participation in student organization events such as lectures, leadership workshops, and conferences, is required.

GUID 80 Success in College Units 1

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a group counseling course designed to assist students who have academic difficulties to develop the necessary skills to succeed in college. The focus of the course is to provide information on practical strategies for achieving personal, educational, and career goals. The course is intended for students who have been dismissed from college, but who wish to continue their education at

this college. This course is a requirement for dismissed students who wish to enroll in any other courses.

HEALTH EDUCATION

H ED 1 Health Education Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to enhance students' knowledge in a variety of health related areas and to increase their motivation and desire to take personal responsibility to achieve high level wellness. (UC, CSU)

H ED 15 Selected Topics: Health Education Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer instruction in one of the specialized areas of health education not already covered by existing curricula. (CSU)

H ED 28 Community Health Units 2

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to study health related services and resources available in the college district and how they impact on current health issues and problems faced by the populace of the district. Particular emphasis is placed on substance abuse, mental health, AIDS, child abuse, HMOs (Health Maintenance Organizations), nontraditional medical treatment, family wellness, and cancer. (UC, CSU)

H ED 30 Community First Aid and Safety Units 2

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is the American National Red Cross course, Community First Aid and Safety. Students receive the Community First Aid and Safety and Community CPR certificates upon successful completion of the course. The course may be repeated for credit once every three years. (UC, CSU)

H ED 31 Emergency Response Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is the American Red Cross course, Emergency Response. Those who qualify receive the American Red Cross Emergency Response and CPR for the Professional Rescuer certificates. The course may be repeated for credit once every three years. (UC, CSU)

H ED 32 Cardiopulmonary Resuscitation (CPR) Units 0.5

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to prepare participants, through knowledge

and skill development, to meet the needs of most situations in which emergency first aid care for cardiopulmonary resuscitation is needed and medical assistance is not excessively delayed. The course may be repeated for credit once per year. This is an open entry, open exit course. (UC, CSU)

H ED 50H Special Studies: Health Education Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading; completion of survey course with a grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.

Limitations on Enrollment: None.

Advisories: None.

This course is open to all students qualified to do advanced work in the field. The course includes research, directed reading, field work, or other advanced study, and the course may be repeated for a maximum of four units. (UC, CSU)

H ED 80 Selected Topics: Health Education Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer instruction in one of the specialized areas of health education not already covered by existing curricula.

HEALTH SCIENCE

H S 11 Selected Topics: Health Science Units 1-2

Prerequisites: None; exempt from assessment testing.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer instruction in one of the specialized areas of Health Science not covered by existing curricula. (CSU)

H S 19 Human Development Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to integrate the biological, cognitive, and psychosocial aspects of human development throughout the lifespan. The course is a study of the developmental tasks facing individuals at various points in the life cycle and the ways social interaction and cultural institutions shape the development of the individual. It is designed as a foundation course for careers in educational, social service, psychological, and health fields. (CSU)

H S 34A Basic Electrocardiograph Reading Units 1

Prerequisites: Certification, licensure or employment in health care area; reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is an elementary course designed to introduce the basic concepts related to electrocardiography, such as the pertinent anatomy and physiology of the cardiovascular system, the systemic interpretation of tracings, and the recognition of normal and abnormal cardiac rhythms. (CSU)

H S 36 Medical Terminology and Speech Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop a basic medical vocabulary. Emphasis is placed on roots, prefixes, and suffixes that form medical terms. Basic anatomy and physiology are presented as each body system is introduced. (CSU)

H S 39 Survey of Health Careers Units 2

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey course designed to provide information about a variety of health careers. The course also introduces students to concepts which must be understood before engaging in the helping process. This course also assists students to identify strengths or weaknesses affecting admission into the health professions. Job functions, education and training, and employment opportunities are also included. (CSU)

H S 43 Nursing Synthesis Units 3

Prerequisites: Licensed Vocational Nurse; Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for licensed vocational nurses and psychiatric technicians preparing to enter the third semester nursing courses, consisting of nursing topics not covered in their LVN curriculum such as nursing process, therapeutic communication, role changes, decision making, as well as updating cognitive motor skills for nursing practice. (CSU)

H S 61 Intravenous Therapy for Health Care Providers Units 1.5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide learning experiences related to intravenous therapy for licensed health care providers and students in health services who may be required to have completed an intravenous tuberculin course for employment. This group may include registered nurses, licensed vocational nurses, and emergency medical technicians. The course meets the requirements for the licensed vocational nurse state certification in intravenous tuberculin. (CSU)

H S 67 First Responder Units 1.5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a training course designed for firefighters and other emergency personnel who routinely respond to medical emergencies to provide treatment and support until emergency medical services (EMS) support arrives. Topics include cardiac pulmonary resuscitation (CPR), cardiac and respiratory management, bleeding control, childbirth, splinting for fractures, and procedures for environment emergencies—burns, drownings, hypothermia, poisoning, etc. This course meets San Joaquin County's requirements for first responder. (CSU)

H S 68 First Responder: Short Course Units 0.5

Prerequisites: None; exempt from assessment testing.

Limitations on Enrollment: None.

Advisories: None.

This course is a training program designed for firefighters and other emergency medical aid personnel who routinely respond to medical

emergencies, and provide initial emergency medical treatment to the sick or injured victims of all ages until the arrival of emergency medical technicians and transporting units. Topics include decision making, bandaging and immobilization techniques, medical emergencies, cardiac and respiratory emergencies, traumatic emergencies, environmental emergencies, obstetrical emergencies, and musculoskeletal emergencies in victims of all ages. (CSU)

H S 70 Nurse Assistant Training Units 5

Prerequisites: None; exempt from assessment.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to prepare students to qualify for certification as a nurse assistant. The course's content follows the statewide approved curriculum designed to meet both federal and state regulations. The course focuses on the more common physical and psychological conditions found in the elderly and the nursing approaches to care of the elderly.

H S 72A Care Provider Training: Units 1
Mental Disabilities

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is for residential care home providers which is designed as an introductory course covering basic information of mental disabilities. Course topics include an overview of mental health care systems, symptoms, classifications of mental illness, etiology, treatment, mental health laws including client's bill of rights, hospital admissions, records, and county conservatorship. Units earned in this course do not count toward the associate degree.

H S 72B Care Provider Training: Units 1
Psychotropic Medication

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is for the development of basic medical vocabulary and an increased understanding of the psychotropic medications administered to mental patients and the effects of these medications on modifying psychotic activity or behavior. Selected modalities include major classifications, beneficial effects of medications, side effects and toxic reactions, dispensation of medication, and an elementary review of drug abuse as confined to "pot smoking" and "pill popping." Units earned in this course do not count toward the associate degree.

H S 72C Care Provider Training: Behavior Units 1

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to examine various behavior intervention techniques including working with the difficult resident, recognizing decompensated behaviors, reducing problem behavior, communications skills, and behavior modification through positive reinforcement. Units earned this course do not count toward the associate degree.

H S 72D Care Provider Training: Units 1
Normalization

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to help care providers examine and become more aware of their attitudes toward mentally disabled residents

through understanding of their individual differences and giving them techniques in increasing self-sufficiency and ways they can provide normalization experiences. Units earned in this course do not count toward the associate degree.

H S 72E Care Provider Training: Units 1
Pre-Independent Living

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to provide training in helping the client develop independent living skills by motivating the resident toward independency in hygiene, social skills and manners, care of clothing, use of public transportation, meal preparation, and shopping. The course also examines vocational opportunities and socialization. Units earned in this course do not count toward the associate degree.

H S 72F Care Provider Training: Units 1
Community Resources

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to familiarize careproviders with available community resources to utilize in helping them assess the social, emotional, and physical needs of the residents. Selected topics include group behavior, leadership skills, components of program operation, factors affecting patient participation, motivation, developing independent and group programs in the home. Units earned in this course do not count toward the associate degree.

H S 72G Care Provider Training: Units 1
Recognizing other Problems

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is a study of problems and needs of the aged client, reality orientation, death and dying. The course examines several behaviors and physical illnesses dealing with hearing, visual and speech impairments, seizure disorders, and physical handicaps. Units earned in this course do not count toward the associate degree.

H S 72H Care Provider Training: Units 1
Client Record Keeping

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is an implementation of a problem oriented record-keeping system setting realistic goals and objectives, familiarization with forms, bookkeeping, protection for liability, medical ethics, and state regulations. Units earned in this course do not toward the associate degree.

H S 72I Care Provider Training: Nutrition Units 1

Prerequisites: None; exempt from assessment testing.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to include topics of basic food categories, meal planning and preparation, special diets, snacks, holidays and special occasions, meeting residents' food preferences, serving attractive meals, and maintaining safe and sanitary conditions. Units earned in this course do not count toward the associate degree.

H S 75 First Responder Units 1.5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for emergency personnel who routinely respond to medical emergencies to provide treatment and support to sick or injured individuals until emergency medical services (EMS) support arrives. Topics include cardiac pulmonary resuscitation (CPR), cardiac and respiratory management, bleeding control, child-birth, splinting for fractures, and procedures for environmental emergencies, i.e., burns, drownings, hypothermia, poisoning, etc. Prior to completing this course, the student must provide proof of current CPR certification at health care provider level. This course meets San Joaquin County's requirements for first responder.

H S 76 First Responder Refresher Units 1

Prerequisites: Exempt from assessment; current First Responder certification; CPR certification at health care provider level.

Limitations on Enrollment: None.

Advisories: None.

This course is designed as a refresher course for certified first responders. The course focuses on recent changes in laws, policies and procedures pertaining to the treatment, support of sick or injured individuals, and provides a review of emergency medical treatments.

H S 77B Emergency Medical Technician 1 Units 4

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is for persons interested in pre-hospital emergency medical care. Successful completion of this course qualifies the student to take the certification examination for Emergency Medical Technician 1 (EMT-1). EMT 1 is the minimum training required by state and local agencies for employment in many fire and ambulance service industries. The course is a combination of classroom, skills, and clinical training. Current CPR certificate at health care provider level is required prior to enrolling in this course.

H S 81 Emergency Medical Technician I Refresher Units 1

Prerequisites: Exempt from assessment; current EMT I and CPR certificate at health care provider level.

Limitations on Enrollment: None.

Advisories: None.

This course is designed as a refresher course for certified Emergency Medical Technician 1. The course focuses on recent changes in laws and policies and procedures pertaining to pre-hospital emergency medical care. Successful completion of this course provides students with 24 hours of continuing education toward recertification as EMT I.

H S 81C Emergency Medical Technician I Review Units 1

Prerequisites: Current EMT I and CPR certification; reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is a review and update of topics and skills for the certified EMT I. The course prepares students to successfully pass EMT I written and skills examinations.

H S 90 Critical Thinking in the Nursing Process Units 2

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist the nursing student and the professional nurse in the development of critical thinking skills and the application of these skills to the nursing process. The use of analysis and synthesis in development of nursing diagnoses and interventions is included. Case studies and nursing situations are utilized in the application of these skills. Units in this course do not count toward the Associate of Arts Degree.

H S 91 Medical Nutrition Therapy Units 3

Prerequisites: Reading level II, FCS 6.

Corequisites: None.

Limitations on Enrollment: None.

This course is designed to increase the student's knowledge of the use of foods and nutrients for the prevention and treatment of diseases such as diabetes mellitus, hypertension, osteoporosis, vascular disease, and cancer. Enteral and parenteral delivery of nutrition are reviewed. Nutritional concerns related to maternal and child health are covered. Emphasis is placed on application of knowledge to patient care. This course is suited for students planning a career in nursing, other health professions, and food service in health care institutions.

H S 93V Work Experience: Health Science Units 1-8

Prerequisites: None.

Limitation on Enrollment: The student must enroll in a course that is directly related to the health care work experience. The student must enroll in a minimum of 7 units during the semester including work experience units. For summer session, the student must enroll in one related course in addition to work experience. The combined total number of units a student may take in internship, work experience, and occupational practice may not exceed a maximum of 16 units. Participation requires submission and approval of work experience program objectives and an employer work experience agreement.

Advisories: GUID 30, 31, 32, 33.

This course is designed to give students college credit for on-the-job experience when correlated with a course relating to that job. Students must demonstrate new and expanded learning experiences before being permitted to repeat work experience. To register, contact the work experience staff in the work experience office. The course may be repeated for a total of sixteen units.

H S 97V Work Experience: Health Science Units 1-4

Prerequisites: Reading level II or concurrent enrollment in reading; students must be enrolled in at least three units of class work, of which at least one course and also employment, must be related to major field of study.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to give students college credits for on-the-job experience related to their major study field. Students must demonstrate new and expanded learning experience before being

permitted to repeat the course. To register, contact work experience staff in Holt 140. The course may be repeated three times in sequence except for the summer alternate plan.

HISTORY

HIST 2A World History to 1600 Units 3

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is a survey of world societies from pre-historic times to 1600. Special emphasis is placed on the dynamic interaction and comparison of peoples and cultures. Focus is placed on tracing concurrent political, social, cultural, economic, and religious developments. The course examines the key elements of various cultures and their legacy for the global community today. (UC, CSU)

HIST 2B World History Since 1600 Units 3

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is a survey of world societies since 1600 with special emphasis on the dynamic interaction and comparison of peoples and cultures. Focus is placed on tracing concurrent political, social, cultural, economic, and religious developments. The course examines the key elements of various cultures and their legacy for the global community today. (UC, CSU)

HIST 4A History of Western Civilization Units 3

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is a survey of western civilization from pre-literate times through Reformation. Special emphasis is placed on the ancient Near East including Egypt and Mesopotamia, classical Greece and Rome, the Middle Ages, and the Renaissance and Reformation era. The approach concentrates on the highlights of each period which have shaped the destiny of western culture. HIST 4A is not a prerequisite to HIST 4B. (UC, CSU, CAN HIST 2, CAN HIST SEQ A with both HIST 4A and 4B)

HIST 4B History of Western Civilization Units 3

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is a survey of western civilization from the commercial revolution to the present. Special emphasis is on the rise of modern capitalism, the emergence of European superpowers, 18th century revolutionary thought, 19th century Colonialism, Imperialism, and Nationalism, and the dynamics of the Twentieth Century, including total war, totalitarianism, and the westernization of the entire world. (UC, CSU, CAN HIST 4, CAN HIST SEQ A with both HIST 4A and 4B)

HIST 6A History of Asian Civilization Units 3

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is an introductory survey of the histories, philosophies, and cultural characteristics of Asian societies. Attention is given to

the impact of the West on China, Japan, Korea, and Central Asia. (UC, CSU)

HIST 6B History of Asian Civilization Units 3

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is an introductory survey of the histories, philosophies, and cultural characteristics of Asian societies. Attention is given to the impact of the West on India, Iran, Southeast Asia, and the Near East. (UC, CSU)

HIST 15 Selected Topics: History Units 1-2

Prerequisites: Reading level II.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to offer instruction in one of the specialized areas of history not already covered by existing curricula. (UC, CSU)

HIST 17A History of the United States Units 3

Prerequisites: Reading level II.
Limitations on Enrollment: None.
Advisories: None.

This course is a survey of United States history from its colonial beginning through Civil War and Reconstruction. Students are encouraged to critically evaluate experiences from the nation's past. This course fulfills the Social Science Group A requirement for the associate degree, and it applies toward the completion of California state requirements in United States history and institutions. (UC, CSU, CAN HIST 8)

HIST 17B History of the United States Units 3

Prerequisites: None.
Limitations on Enrollment: None.
Advisories: None.

This course is a survey of United States history from reconstruction to the present. Emphasis is on the political, economic, intellectual, and social forces which have molded America. The course fulfills the Social Science Group A requirements for the associate degree and applies toward completion of the California state requirements in United States history and institutions. A study of California state and local government is included in this course. (UC, CSU, CAN HIST 10)

HIST 19 Selected Topics: Study and Travel Units 2

Prerequisites: Reading level II.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to combine travel with study experiences to enrich the curriculum. One or more aspects of the history of the area visited is stressed in this course. (CSU)

HIST 27 Women in History Units 3

Prerequisites: Reading level II.
Limitations on Enrollment: None.
Advisories: None.

This course is a review of the history of women in America with emphasis on achievements of women in traditional and non-traditional fields of work. The opportunities and limitations surrounding

women's roles in United States history are explored. (UC, CSU)

HIST 30A African-American History Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is an examination of African-American history from early west Africa to the Civil War. This course fulfills the Social Science Group A requirement for an associate degree and it applies toward completion of the California state requirements in United States history and institutions. (UC, CSU)

HIST 30B African-American History Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a study of the African-American experience from Reconstruction to the present. It fulfills the Social Science Group A requirement for the associate degree and applies toward completion of the California state requirements in United States history and institutions. A study of California state and local government is included in this course. (UC, CSU)

HIST 31 Mexican-American History Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey of the Mexican-American experience in America from colonial beginnings to the present. It fulfills the Social Science Group A requirements for the associate degree and it applies toward completion of the California state requirements in American history and institutions. (UC, CSU)

HIST 34 Asian Pacific American History Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey of the Asian Pacific American experience in America from the Gold Rush to the present. (UC, CSU)

HIST 37 California History Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey of California history from the period of exploration and discovery to the present. Emphasis is on Spanish and Mexican periods, American infiltration and conquest, the Gold Rush, statehood, and the formation of government, economic growth, and social development. (UC, CSU)

HIST 50H Special Studies: History Units 1-2

Prerequisites: Completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is open to students qualified to do advanced work in the field of history. The course includes research, directed reading, field work, or other advanced study, and the course may be repeated for

a maximum of four units. (UC, CSU)

HOME ECONOMICS

H EC 93V Work Experience: Home Economics Units 1-4

Prerequisites: Reading level II or concurrent enrollment in reading; students must be enrolled in at least seven units of course work including Work Experience units; one of the courses must be directly related to student's employment; students enrolling in summer intersession must be enrolled in one class directly related to their employment (no minimum unit requirement for this class).

Limitations on Enrollment: None.

Advisories: None.

This course is designed to give students college credit for on-the-job experience when correlated with a course relating to that job. Students must demonstrate new and expanded learning experiences before being permitted to repeat work experience. To register, contact the work experience staff in the work experience office. The course may be repeated for a total of sixteen units.

HUMANITIES

HUM 3 Autobiography of Civilization Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey of the written traditions of the western cultural heritage. Literature is studied as a vehicle of the search for meaning and value from the ancient world to modern times. (UC, CSU)

HUM 4 Introduction to Linguistics Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is an introduction to the study of language in theory and practice. Students explore what is known about human language including its uniqueness, its structure, its use, its diversity, and its universality. An effort is made to analyze the relationship between language, culture, and social levels. (UC, CSU)

HUM 14A Great Religions of the Eastern World Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey of the historical development and essential beliefs of the major religions of the Eastern world. Primary emphasis is on the major phases of development and comparative insights among the great religions of the world. Course work consists of readings, lectures, and discussions in the areas of Hinduism, Buddhism, Jainism, Confucianism, and Taoism.. (UC, CSU)

HUM 14B Great Religions of the Western World Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey of the historical development and essential beliefs of the major religions of the Western world. Primary emphasis is on the major phases of development and comparative insights among the great religions of the world. Course work consists of readings, lectures, and discussions in the areas of ancient near Eastern religious beliefs, Judaism, Christianity, Zoroastrianism and Islam. (UC, CSU)

HUM 15 Selected Topics: Humanities Units 0.5-2

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer instruction in one of the specialized areas of humanities not already covered by existing curricula. (UC, CSU)

HUM 19 Selected Topics: Study and Travel Units 2

Prerequisites: Reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to combine travel with study experiences to enrich the curriculum. One or more aspects of the culture of the area visited is stressed in the course. (CSU)

HUM 50H Special Studies: Humanities Units 1-2

Prerequisites: Completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson; Reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is open to students qualified to do advanced work in the field of humanities. The course may include research, directed reading, field work, or any other advanced study. A written report must be submitted to the division chairperson at the completion of the course. The course may be repeated for a maximum of four units. (UC, CSU)

INDUSTRIAL TECHNOLOGY

INDUS 1 Introduction to Technical Programs Units 2

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is a hands-on introduction to a variety of skilled trades including auto and diesel mechanics, carpentry, electrical wiring, electronics, sheet metal, computer-aided drafting, hydraulics, welding and HVAC (heating, ventilating and air-conditioning). Employers, apprenticeship representatives and experienced tradeswomen and tradesman provide practical information about working in technical occupations. Students are assisted in developing career goals and introduced to tool safety. (CSU)

INDUS 15 Selected Topics: Industrial Technology Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to enable the College to offer instruction in one of the specialized areas of industrial technology not already

covered by existing curriculum. (CSU)

INDUS 20 Industrial Safety and Health Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is an introduction to the principles of occupational safety and health covering the basic principles and techniques. Industrial safety and health technician training to meet the requirement of the occupational safety health act is included. (CSU)

INDUS 31 Hydraulics and Pneumatics Units 4

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop an understanding of the principles and mechanical applications of hydraulic, pneumatic and vacuum systems. Topics also include shop procedures, component disassembly, troubleshooting and certified procedures in re-assembly and installation. (CSU)

INDUS 35 Mobile Hydraulics Units 4

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the student to the use of hydraulics, pneumatics and vacuum in the automotive and mobile equipment industries. Laboratory skills develop competency in the analysis of trouble-shooting of circuits. Skills are developed in the recognition and construction of conduits (piping, tubing and hoses) and the rebuilding of pumps, motors and valves. (CSU)

INDUS 37 Industrial Pneumatics Units 4

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a study of the theory and application of pneumatic power and how they apply to pneumatic compression and distribution systems. An analysis of the properties of air and how air is compressed and distributed will be included. Methods of controlling pneumatic power are investigated by designing circuits and evaluating them in terms of their specific applications. (CSU)

INDUS 39 Total Quality Management Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide the fundamentals of total quality management (TQM), including analysis, strategies, design, implementation and continuous improvement. Emphasis is placed on a practical approach for implementation in manufacturing or service industries. (CSU)

INDUS 45 Industrial Technology Units 5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to cover the principles of matter and the basic laws and theories of Newtonian mechanics. Various forms and uses of energy and the laws governing them are explored. (CSU)

INDUS 50H Special Studies: Industrial Technology Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading; Completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.

Limitations on Enrollment: None.

Advisories: None.

This course is open to students qualified to do advanced work in the field. The program includes research, directed reading, field work or other advanced study, and the course may be repeated for a maximum of four units. (CSU)

INDUS 51 Private Pilot Ground School Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the student to the knowledge and skills required to be a competent and safe private pilot. The course also prepares the student to take the Federal Aviation Administration written examination for a private pilot certificate. (CSU)

INDUS 69V Internship: Industrial Technology Units 1-8

Prerequisites: None.

Limitations on Enrollment: The student must enroll in a course that is directly related to industrial technology. The student must enroll in a minimum of 7 units during the semester including internship units.

For the summer session, the student must enroll in one related course in addition to internship. The combined total number of units a student may take in internship, work experience, and occupational practice may not exceed a maximum of 16 units. Participation requires submission and approval of internship program objectives and an employer internship agreement.

Advisories: GUID 30, 31, 32, 33.

This course is designed for students participating in an occupational internship in industrial technology. Application of discipline-related skills and knowledge of Secretaries Commission on Achieving Necessary Skills (SCANS) competencies is emphasized. Each student is engaged in a specific research project or on-the-job learning activities under the supervision of a worksite supervisor and a college internship instructor. (CSU)

INDUS 76 Tools and Measurement Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the student to hand tools and measuring devices commonly used in industry. The proper use of tools is stressed. Topics to be covered include tool measurement, micrometers, vernier calipers and basic hand tools.

INDUS 94 Industrial Mathematics Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students enrolled in technical programs with emphasis placed on applying mathematical principles to technical problems. The course includes aspects of mathematics, algebra, plane geometry, measurement, and fundamentals of trigonometry.

INDUS 97 Industrial Relations Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to prepare students for industrial employment by providing experiences acquainting them with California laws affecting the employee. It also informs them of the economics of the industrial and manufacturing community and the importance of strong employer/employee understanding.

INDUSTRIAL TECHNOLOGY: APPRENTICESHIP

A-IND 72A Introduction to Apprenticeship Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is an introduction to the requirements of an apprenticeship program, State of California Division of Apprenticeship standards, role of the apprentice, general safety, general operating procedures, and documentation.

A-IND 72B Isolated Apprentices 1 Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of course covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued of a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 73B Isolated Apprentice 2 Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of course covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued of a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per

semester.

A-IND 74A Isolated Apprentices 3 Units 6

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of course covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued of a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 74B Isolated Apprentices 4 Units 0

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of course covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued of a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 76 Applied Technical Mathematics Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide a review of the computational and problem-solving skills needed for success in a plant maintenance and operations career. The topics include basic mathematical functions, manipulation of algebraic expressions, ratio, proportions, geometric calculations, and right-angle trigonometry.

A-IND 77A Mechanical Fundamentals Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to basic principles of physics including the laws of motion and fluid behavior.

A-IND 77B Bearings, Pumps, and Turbines Units 2

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the effects of friction, cavitation and vibration on bearings, pumps, and turbines. The course also identifies various types of pumps and their application.

A-IND 77C Motors and Generators Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to include the theory and advanced application of alternating current motors and three-phase generators. Topics of instruction include the principles of construction of large motors and generators rated up to 10,000 horsepower.

A-IND 77D Plant Auxiliary Equipment Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to include the study of auxiliary equipment used in hydro-electric plants. Emphasis is placed on the operation and application of valves, hydraulic controls, and pneumatic controls.

A-IND 77E Hydraulics Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students to apply schematic interpretation, troubleshooting, and problem solving techniques through the use of a hydraulics simulator.

A-IND 77F Pneumatics Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for the student to apply schematic interpretation, troubleshooting, and problem solving techniques through the use of a pneumatic simulator. Emphasis is placed on pressure and flow requirements.

A-IND 77G Governor Systems Units 2

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to include the function, operation, maintenance, and troubleshooting of governors utilized in a generating plant.

A-IND 77H Computers in Hydro-electric Plants Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the basic concepts of using a computer in hydro-electric power plants. The topics include (Microsoft) spreadsheets, word processing, reports, desktop accessories, and running commercial applications for plant operations and maintenance.

A-IND 77J Water Aqueduct Systems Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide the fundamentals of water measurement and water treatment for a statewide water system. Included are the procedures for monitoring water quality, water testing, water treatment, water management and water flow.

A-IND 77K Fundamentals of Thermodynamics Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the fundamentals of thermodynamics as it applies to air conditioning and refrigeration. The course includes the effects of heat on matter, methods of heat transfer, and properties of gases.

A-IND 77L Project Control and Power Contracts Units 2

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide a review of contracts related to the State Department of Water Resources; operation, power, and water contract specifications. Also included are be the study of documentation control, operation procedures and electronic communication systems.

A-IND 77M Air Conditioning Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the theory, application, and troubleshooting techniques for basic air conditioning systems.

A-IND 77N Electro-Mechanical Print Reading Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the theory and skills involved in reading and interpreting electrical drawings, schematics, and wiring diagrams.

A-IND 78A Defensive Driving Units 1

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to basic driving techniques in order to reduce the risk of being involved in a vehicular accident. The course includes the State of California vehicular code, defensive driving techniques, and State of California service vehicular operation and maintenance rules and regulations.

A-IND 78B Heavy Truck Operation Units 1

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the types of heavy trucks used by the California State Department of Water Resources, their maintenance, and their safe operation.

A-IND 78C Diesel and Small Gasoline Engines Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the basic types of small gasoline engines, diesel engines, and chain saws used by the California State Department of Water Resources.

A-IND 78D Surveying and Flood Control Systems Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to flood control systems, inspection, and major causes of levee and dam failure. The course also includes the fundamentals of surveying.

A-IND 78E Soils, Asphalt, and Concrete Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the various types of soil, asphalt, and concrete used by the California State Department of Water Resources, including their origin, composition, general description, and procedures for application.

A-IND 78F Environmental Awareness Units 1

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the federal, state, and local environmental requirements which apply to work performed by the California State Department of Water Resources.

A-IND 78G Power Lift and Four-Wheel Drive Units Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the various types of power lift and four-wheel drive units used by the California State Department of Water Resources, their maintenance, their inspection, and their safe operation.

A-IND 78H Protective Coatings Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to corrosion, painting, and protective coating control programs.

A-IND 78J Small Boat Handling Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the types of small boats used by the California State Departments of Water Resources and their transportation and safe operation.

A-IND 78K Mobile Cranes and Rigging Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the use of mobile cranes, their safe operation and maintenance, and approved methods of rigging for lifting work.

A-IND 78L Motor Grader Operation Units 2

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the components and operation of the types of motor graders used by the California State Department of Water Resources.

A-IND 78M Tractor Operations, Trenching, and Shoring Units 2

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to introduce students to the types of tractor, trenching, and shoring operations conducted within the civil maintenance units of the California State Department of Water Resources.

A-IND 78N Pesticides and Herbicides Units 2

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to introduce students to the types of pesticides and herbicides used by the California State Department of Water Resources, including uses, approved applications, and restrictions.

A-IND 78P Powder Actuated Equipment Units 1

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is designed to introduce students to the requirements and safe operation of the powder-actuated fastening tools and rotary hammer drills used by the California State Department of Water Resources.

A-IND 92A Sheet Metal 1 Units 4

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 92B Sheet Metal 1 Units 4

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture

laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 93A Sheet Metal 2 Units 4

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 93B Sheet Metal 2 Units 4

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 94A Sheet Metal 3 Units 4

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 94B Sheet Metal 3 Units 4

Prerequisites: Indentured Apprentice.
Limitations on Enrollment: None.
Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum

number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 95A Sheet Metal 4 Units 4

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-IND 95B Sheet Metal 4 Units 4

Prerequisites: Indentured Apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

ITALIAN

ITAL 1 Elementary Italian Units 5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the Italian language and the Italian culture. Emphasis is placed on listening, speaking, reading, and writing. (UC, CSU)

ITAL 2 Elementary Italian Units 5

Prerequisites: ITAL 1 or 52.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the Italian language and the Italian culture. Emphasis is placed on listening, speaking, reading, and writing. (UC, CSU)

ITAL 3 Intermediate Italian Units 5

Prerequisites: ITAL 2 or 54; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued study of the Italian language and the Italian culture. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU)

ITAL 4 Intermediate Italian Units 5

Prerequisites: ITAL 3; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued study of the Italian language and the Italian culture. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU)

ITAL 36A Introductory Italian Conversation Units 2

Prerequisites: ITAL 51 or ITAL 52 or ITAL 1; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to strengthen fundamental communication patterns based on typical daily situations. (CSU)

ITAL 36B Beginning Italian Conversation Units 2

Prerequisites: Concurrent enrollment in or completion of ITAL 53 or 54 or ITAL 2; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to achieve conversational ability based on typical daily situations. (CSU)

ITAL 36C Intermediate Italian Conversation Units 2

Prerequisites: ITAL 36B or concurrent enrollment in or completion of ITAL 3; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to refine conversational ability based on typical daily situations. (UC, CSU)

ITAL 36D Advanced Italian Conversation Units 2

Prerequisites: ITAL 36C or concurrent enrollment in or completion of ITAL 4; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to produce proficiency in oral rhetoric based on typical daily situations. (UC, CSU)

ITAL 38A Special Assignment: Listening Units 2

Prerequisites: Concurrent enrollment in or completion of ITAL 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on listening. This course is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

ITAL 38B Special Assignment: Pronunciation Units 2

Prerequisites: Concurrent enrollment in or completion of ITAL 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on pronunciation. This course is adjusted to meet the special needs of students, and it may be offered for individual group study. (CSU)

ITAL 38C Special Assignment: Reading Units 2

Prerequisites: Concurrent enrollment in or completion of ITAL 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on reading. The course is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

ITAL 38D Special Assignment: Writing Units 2

Prerequisites: Concurrent enrollment in or completion of ITAL 1 or 51; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course with an emphasis on writing. The course is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

ITAL 50H Special Studies: Italian Units 1-2

Prerequisites: Reading level II; completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.

Limitations on Enrollment: None.

Advisories: None.

This course is open to students qualified to do advanced work in the field. The course includes research, directed reading, field work, or other advanced study, and the course may be repeated for a maximum of four units. (UC, CSU)

ITAL 51 Elementary Italian Units 2.5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a study and practice in speaking, listening, reading, and writing the Italian language. Emphasis is placed on culture and civilization. The combined five units of ITAL 51 and ITAL 52 are equivalent to ITAL 1. (UC, CSU, CAN ITAL 2 with both ITAL 51 and 52)

ITAL 52 Elementary Italian Units 2.5

Prerequisites: Reading level II; ITAL 51.

Limitations on Enrollment: None.

Advisories: None.

This course is a study and practice in speaking, listening, reading, and writing the Italian language. Emphasis is placed on culture and civilization. The combined five units of ITAL 51 and ITAL 52 are equivalent to ITAL 1. (UC, CSU, CAN ITAL 2 with both ITAL 51 and 52)

ITAL 53 Elementary Italian Units 2.5

Prerequisites: Reading level II; ITAL 52.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued practice in speaking, listening, reading, and writing the Italian language. Emphasis is placed on language

speech patterns, culture, and civilization. The combined five units of ITAL 53 and ITAL 54 are equivalent to ITAL 2. (UC, CSU, CAN ITAL 4 with both ITAL 53 and 54)

ITAL 54 Elementary Italian Units 2.5

Prerequisites: Reading level II; ITAL 53.

Limitations on Enrollment: None.

Advisories: None.

This course is a continued practice in speaking, listening, reading, and writing the Italian language. Emphasis is placed on language speech patterns, culture, and civilization. The combined five units of ITAL 53 and ITAL 54 are equivalent to ITAL 2. (UC, CSU, CAN ITAL 4 with both ITAL 53 and 54)

JAPANESE

JAPAN 1 Elementary Japanese Units 5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce the Japanese language and the Japanese culture. Emphasis is placed on listening, speaking, reading, and writing. (UC, CSU)

JAPAN 2 Elementary Japanese Units 5

Prerequisites: JAPAN 1 or 52.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce to the Japanese language and the Japanese culture. Emphasis is placed on listening, speaking, reading, and writing. (UC, CSU)

JAPAN 3 Intermediate Japanese Units 5

Prerequisites: JAPAN 2 or 54; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer continued study of the Japanese language and the Japanese culture. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU)

JAPAN 4 Intermediate Japanese Units 5

Prerequisites: JAPAN 3; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer continued study of the Japanese language and the Japanese culture. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU)

JAPAN 36A Introductory Japanese Conversation Units 2

Prerequisites: JAPAN 51 or JAPAN 52 or JAPAN 1; reading level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a skill-building course designed to strengthen fundamental communication patterns based on typical daily situations.

(CSU)

JAPAN 36B Beginning Japanese Conversation Units 2*Prerequisites: Concurrent enrollment in or completion of JAPAN 53 or 54 or JAPAN 2; reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course designed to achieve conversational ability based on typical daily situations. (CSU)

JAPAN 36C Intermediate Japanese Conversation Units 2*Prerequisites: Concurrent enrollment in or completion of JAPAN 53 or 54 or JAPAN 2; reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course designed to achieve conversational ability based on typical daily situations. (UC, CSU)

JAPAN 36D Advanced Japanese Conversation Units 2*Prerequisites: Concurrent enrollment in or completion of JAPAN 53 and 54 or JAPAN 2; reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course designed to achieve conversational ability based on typical daily situations. (UC, CSU)

JAPAN 38A Special Assignment: Listening Units 2*Prerequisites: Concurrent enrollment in or completion of JAPAN 1 or 51; reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course with an emphasis on listening. It is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

JAPAN 38B Special Assignment: Pronunciation Units 2*Prerequisites: Concurrent enrollment in or completion of JAPAN 1 or 51; reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course with an emphasis on pronunciation. It is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

JAPAN 38C Special Assignment: Reading Units 2*Prerequisites: Concurrent enrollment in or completion of JAPAN 1 or 51; reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course with an emphasis on reading. It is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

JAPAN 38D Special Assignment: Writing Units 2*Prerequisites: Concurrent enrollment in or completion of JAPAN 1 or 51; reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course with an emphasis on writing. It is adjusted to meet the special needs of students, and it may be offered for individual or group study. (CSU)

JAPAN 50H Special Studies: Japanese Units 1-2*Prerequisites: Reading level II; completion of survey course with grade**of "B" or better and presentation of a project acceptable to the instructor and division chairperson.**Limitations on Enrollment: None.**Advisories: None.*

This course is open to students qualified to do advanced work in the field. The course includes research, directed reading, field work, or other advanced study, and the course may be repeated for a maximum of four units. (UC, CSU)

JAPAN 51 Elementary Japanese Units 2.5*Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is a study and practice in speaking, listening, reading, and writing the Japanese language. Emphasis is placed on culture and civilization. The combined five units of JAPAN 51 and JAPAN 52 are equivalent to Japanese 1. (UC, CSU)

JAPAN 52 Elementary Japanese Units 2.5*Prerequisites: Reading level II; JAPAN 51.**Limitations on Enrollment: None.**Advisories: None.*

This course is a study and practice in speaking, listening, reading, and writing the Japanese language. Emphasis is placed on culture and civilization. The combined five units of JAPAN 51 and JAPAN 52 are equivalent to Japanese 1. (UC, CSU)

JAPAN 53 Elementary Japanese Units 2.5*Prerequisites: Reading level II; JAPAN 52.**Limitations on Enrollment: None.**Advisories: None.*

This course is a continued practice in speaking, listening, reading, and writing the Japanese language. Emphasis is placed on language speech patterns, culture, and civilization. The combined five units of JAPAN 53 and JAPAN 54 are equivalent to Japanese 2. (UC, CSU)

JAPAN 54 Elementary Japanese Units 2.5*Prerequisites: Reading level II; JAPAN 53.**Limitations on Enrollment: None.**Advisories: None.*

This course is a continued practice in speaking, listening, reading, and writing the Japanese language. Emphasis is placed on language speech patterns, culture, and civilization. The combined five units of JAPAN 53 and JAPAN 54 are equivalent to Japanese 2. (UC, CSU)

JOURNALISM

JOURN 1 Survey of Journalism Units 3*Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is a study of American newspapers, magazines, radio, and television, emphasizing their function and obligation in a free society. The evening section is based on magazine writing and editing. (UC, CSU, CAN JOUR 4)

JOURN 2 Newswriting Units 2*Prerequisites: JOURN 1, and Reading level II or concurrent enrollment in reading.**Limitations on Enrollment: None.*

Advisories: None.

This course is designed to offer students technical instruction in journalistic writing. Emphasis is placed on the personal interview as a process in structuring the more personalized, yet objective, presentation of news and feature coverage. Accompanying the various areas of writing instruction is experience in headline writing and newspaper make-up. JOURN 2 could be taken concurrently with JOURN 3 and with one hour TBA lab on the College newspaper for one additional unit of credit. (UC, CSU, CAN JOURN 2)

JOURN 3 Reporting Units 3

Prerequisites: JOURN 1 and reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer training and practice of editorial and managerial involvement in the production of the Impact, the College newspaper. The student reviews business and advertising opportunities in the publications' field. (CSU)

JOURN 4 Editing Units 3

Prerequisites: JOURN 3 and reading Level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer technical training in copy editing, headline writing, page make-up, and general management of the Impact staff. (CSU)

JOURN 5 Managing Units 3

Prerequisites: JOURN 3 or 4.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer training for managing articulation between the editorial and printing staffs, mastering the interview, researching and reporting complex issues in an ethical manner, and learning to provide leadership in personnel matters. (CSU)

JOURN 6 Journalism Internship Units 3

Prerequisites: JOURN 1 and 2.

Limitations on Enrollment: None.

Advisories: None.

This course is offered to provide the advanced journalism student with the opportunity to work for either an off-campus print or electronic medium and to earn credit for such experience. (CSU)

JOURN 50H Special Studies: Journalism Units 2

Prerequisites: Reading level II or concurrent enrollment in reading; completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.

Limitations on Enrollment: None.

Advisories: None.

This course is open to any student qualified to do advanced work in the field. The program includes research, directed reading, field work or other advance study. May be repeated for a maximum of four units. (CSU)

JOURN 53 Freelance Writing Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist the students in pursuing the development and publication of original writings. These may consist of fiction and non-fiction, including magazine and newspa-

per articles, short stories, poems, novels, plays, screenplays, television scripts, and photojournalism. (CSU)

LEARNING DISABILITY

LD 70 College Awareness Units 2

Prerequisites: Admission into LD program.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to help students, acquire social, academic and vocational skills. Emphasis is placed on effective ways of coping with community and college life. Participation is inherent through a mutual development of the individual educational plan.

LD 78A Auditory Discrimination Training Units 0.5-2

Prerequisites: Diagnostic assessment; admission into the LD program.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist learning disabled students in acquiring auditory discrimination skills necessary for success in the college curriculum. Each student's program is prescribed based on individual needs. This course meets the level I reading requirement. Units earned in this course do not count toward the associate degree.

LD 78B Visual Perception Training Units 0.5-2

Prerequisites: Diagnostic assessment; admission into the LD program.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist learning disabled students in acquiring visual perception skills necessary for success in the college curriculum. Each student's program is prescribed based on individual needs. This course meets the level I reading requirement. Units earned in this course do not count toward the associate degree.

LD 78C Basic Modality Reading Program Units 0.5-2

Prerequisites: Diagnostic assessment; admission into the LD program.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist learning disabled students in acquiring basic modality reading skills necessary for success in the college curriculum. Each student's program is prescribed based on individual needs. This course meets the level I reading requirement. Units earned in this course do not count toward the associate degree.

LD 78D Modality Reading Program Units 0.5-2

Prerequisites: Diagnostic assessment; admission into the LD program.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist learning disabled students in acquiring modality reading skills necessary for success in the college curriculum. Each student's program is prescribed based on individual needs. This course meets the level I reading requirement.

Units earned in this course do not count toward the associate degree.

LD 78E Modality Spelling Program Units 0.5-2

Prerequisites: Diagnostic assessment; admission into the LD program.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist learning disabled students in acquiring modality spelling skills necessary for success in the college curriculum. Each student's program is prescribed based on individual needs. This course meets the level I reading requirement. Units earned in this course do not count toward the associate degree.

LD 78F Modality Vocabulary Program Units 0.5-2

Prerequisites: Diagnostic assessment; admission into the LD program.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist learning disabled students in acquiring modality vocabulary skills necessary for success in the college curriculum. Each student's program is prescribed based on individual needs. This course meets the level I reading requirement. Units earned in this course do not count toward the associate degree.

LD 78G Compensation Study Techniques Units 0.5-2

Prerequisites: Diagnostic assessment; admission into the LD program.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist learning disabled students in acquiring compensation study skills necessary for success in the college curriculum. Each student's program is prescribed based on individual needs. This course meets the level I reading requirement. Units earned in this course do not count toward the associate degree.

LIBRARY SKILLS

LIBRY 1 Library Skills Units 1

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a self-paced course designed to familiarize students with the variety of information resources available in academic libraries. Effective use of library services and resources is the primary objective. (UC, CSU)

LIBRY 2 Library Research Units 2

Prerequisites: LIBRY 1.

Limitations on Enrollment: None.

Advisories: None.

This course is a self-paced course designed to introduce students to general and specific library research tools and techniques, and it applies and elaborates on skills learned in LIBRY 1. (UC, CSU)

MATHEMATICS

MATH 1 Calculus Units 5

Prerequisites: MATH 36, or MATH 30 and MATH 31 with a grade of "C" or better in each.

Limitations on Enrollment: None.

Advisories: None.

This course is the first course in the three semester Calculus series which concentrates on an introduction to the Calculus of single variable functions. The course includes a computer laboratory component complementing the lecture component. Lecture and laboratory topics include an introduction to the concepts of numerical, graphical, and symbolic differentiation and integration of functions with an emphasis on applications. (UC, CSU, CAN MATH 18, CAN MATH SEQ C with both MATH 1, 2, and 3)

MATH 2 Calculus Units 4

Prerequisites: MATH 1 with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is the second course in the three semester Calculus series. Topics include techniques of integration, applications of the integral, an introduction to solutions of differential equations, and infinite series representations of functions. (UC, CSU, CAN MATH 20, CAN MATH SEQ C with both MATH 1, 2, and 3)

MATH 3 Vector Calculus Units 4

Prerequisites: Reading level II or concurrent enrollment in reading; MATH 2 with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is a first course in the study of Calculus of multivariate functions. The course includes a computer laboratory component complementing the lecture component. Lecture and laboratory topics include vectors, parametric curves, polar, cylindrical, and spherical coordinates, partial differentiation, multiple integrals, line and surface integrals, and the theorems of Gauss, Stokes, and Green. (UC, CSU, CAN, MATH 22, CAN MATH SEQ C with both MATH 1, 2, and 3)

MATH 4 Differential Equations Units 4

Prerequisites: Reading level II or concurrent enrollment in reading; MATH 2 with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is a first course in the study of elementary differential equations. The course includes a computer laboratory component complementing the lecture component. Lecture and laboratory topics include first and second order linear differential equations, non-linear differential equations, power series solution methods, the Laplace transform, solutions near ordinary and singular points, and systems of linear differential equations. (UC, CSU, CAN, MATH 24)

MATH 5 Linear Algebra Units 3

Prerequisites: MATH 2 with a grade of "C" or better; reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is an introduction to linear algebra for those students anticipating a career in mathematics, engineering, the physical sciences and some business curricula. Topics include geometrical vectors, matrices and linear equations, vector spaces, linear transformations, determinants, and inner product spaces. The course includes applications. (UC, CSU, CAN MATH 26)

MATH 10 Introduction to Contemporary Mathematics Units 3

Prerequisites: MATH 82 or MATH 84A and 84B with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is a one-semester introduction to the mathematical sciences. Contemporary applications of mathematics include concepts in the areas of management science, statistics, social choice, size and growth, and computer science. Real world applications of these topics are presented. This course is designed to satisfy mathematics requirements for the liberal arts non-science major. (CSU)

MATH 11 Introduction to Mathematica Units 2

Prerequisites: Reading level II or concurrent enrollment in reading; MATH 2 with a grade of "C" or better; or concurrent enrollment in MATH 2.

Limitations on Enrollment: None.

Advisories: None.

This course is an introduction to the mathematical software system Mathematica which is an advanced computer algebra system used widely in mathematics and the sciences. The course prepares students for upper division scientific course work requiring computer analysis. Topics include basic Mathematica constructs, such as built-in functions, graphics, and algorithmic solutions to mathematical problems, applied to topics from Calculus, Differential Equations, and Linear Algebra (depending on the level of the student). (CSU)

MATH 12 Introduction to Probability and Statistics Units 3

Prerequisites: MATH 82 or 84A and 84B with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to acquaint students to statistical methods. The purpose is to teach students to read research reports critically using elementary statistical techniques as in business administration, education, natural sciences, psychology, and social science. (UC, CSU, CAN STAT 2)

MATH 13 Survey of Calculus Units 3

Prerequisites: MATH 82, or MATH 84A and 84B, with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is intended primarily for students studying business, life science, social science, or engineering technology who wish an overview of the practical aspects of Calculus, rather than the more rigorous development found in the three semester sequential Calculus series (MATH 1, 2, 3). (UC, CSU, CAN MATH 30)

MATH 15 Selected Topics: Mathematics Units 0.5-2

Prerequisites: MATH 80 or MATH 83A and 83B with a grade of "C" or better; Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to enable the College to offer instruction in one of the specialized areas of mathematics not already covered by the existing curriculum. (UC, CSU)

MATH 17A Concepts and Structures of Mathematics Units 3

Prerequisites: MATH 82 or MATH 84B with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is one of two courses designed for the pre-service elementary teacher. Topics include the structure of the real number system, operations on the real numbers, and elementary number theory. (CSU)

MATH 17B Concepts and Structures of Mathematics Units 3

Prerequisites: MATH 82 or MATH 84B with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is one of two courses designed for the pre-service elementary teacher. Topics include problem solving, probability and statistics, the metric system, measurement, and geometry. (UC, CSU)

MATH 20 Finite Mathematics Units 3

Prerequisites: MATH 82 or MATH 84A and 84B with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to fulfill the finite mathematics requirements of students in business administration, management, life sciences, and the social sciences. The content includes review topics of algebra, matrices, linear programming, elementary probability theory, Markov chains, decision theory, mathematics of finance, and game theory. Graphing calculators are used extensively. Instructor demonstrations utilize the TI-82 calculator. (UC, CSU, CAN MATH 12)

MATH 30 College Algebra Units 4

Prerequisites: MATH 82, or MATH 84A and 84B, with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is a detailed study of algebraic functions and equations, including conic sections, at the college level. Graphing calculators are used extensively. Instructor demonstrations utilize the TI-82 calculator. Trigonometry (MATH 31) may be taken concurrently with MATH 30. MATH 30 and MATH 31 together are equivalent to MATH 36. Students may not receive credit for both MATH 30 and MATH 36. (UC, CSU)

MATH 31 Trigonometry Units 3

Prerequisites: MATH 82, or MATH 84A and 84B, with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is a detailed study of basic trigonometry and the trigonometric functions. Graphing calculators are used extensively. Instructor demonstrations utilize the TI-82 calculator. College Algebra (MATH 30) may be taken concurrently with MATH 31. MATH 30 and MATH 31 together are equivalent to MATH 36. Students may not receive credit for both MATH 31 and MATH 36. (CSU)

MATH 36 Pre-Calculus Units 5

Prerequisites: MATH 82, or MATH 84A and 84B, with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is a study of the algebra of polynomial and transcendental functions, the trigonometric functions and their applications, conic sections, and other topics necessary for success in calculus. Graphing calculators are used extensively. Instructor demonstrations utilize the TI-82 calculator. Students may not receive credit for both MATH 36 and MATH 30 or MATH 31. MATH 30 and MATH 31 are equivalent to MATH 36. (UC, CSU)

MATH 50H Special Studies: Mathematics Units 1-2

Prerequisites: MATH 1 or 12, with a grade of "B" or better; Reading Level II or concurrent enrollment in reading or permission of instructor.

Limitations on Enrollment: None.

Advisories: None.

This course is offered to any student qualified to do advanced work in mathematics. Projects and assignments must be arranged and approved by the instructor and the division chairperson before enrolling in the course, and the course may be repeated for a maximum of four units. (UC, CSU)

MATH 80 Elementary Algebra Units 4

Prerequisites: Reading level II and Math level II.

Limitations on Enrollment: None.

Advisories: None.

This course is a first course in algebra. Specific topics include polynomials, factoring of polynomials, rational expressions, ratio and proportion, solving linear and quadratic equations, elementary graphing in two dimensions, elementary systems of linear equations, square roots, and various application problems. Entering students need a satisfactory understanding of basic arithmetic, including fractions, decimals, and percentages. The course is equivalent to a first year algebra course.

MATH 80L Elementary Algebra Workshop Units 1

Prerequisites: Reading level II. Concurrent enrollment in MATH 80, MATH 83A or MATH 83B.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to supplement the lecture course Elementary Algebra (MATH 80). Students are instructed in the use of technical learning tools, such as videotapes and computer tutorial software, as well as instruction in various learning activities, such as seminars on group-study mathematics study skills, improving examination success, and conquering mathematics anxiety. Students practice these skills in application to their MATH 80 course work as part of the workshop sessions. Included is a review of arithmetic skills necessary for success in MATH 80.

MATH 81 Plane Geometry Units 3

Prerequisites: Reading level II or concurrent enrollment in reading; MATH 80 or MATH 83A and 83B with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to involve the fundamentals of Euclidean plane geometry necessary for understanding two dimensional spatial relationships. Logical thinking is stressed and formal proofs are required. The content includes reasoning, axiomatic foundations, basic theorems, numerical relationships, polygons and areas, circles, and surface and volume.

MATH 82 Intermediate Algebra Units 4

Prerequisites: Reading level II and Math level II; MATH 80 or equivalent with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is a second course in algebra. Specific topics include linear and quadratic inequalities, graphing of linear and quadratic functions, polynomial factoring, rational expressions, radicals, complex numbers, systems of linear equations using Cramer's Rule, conic sections, exponential and logarithmic functions, and arithmetic and geometric sequences and series.

MATH 82L Intermediate Algebra Workshop Units 1

Prerequisites: Reading level II. Concurrent enrollment in MATH 82, MATH 84A, or MATH 84B.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to supplement the lecture course Intermediate Algebra (MATH 82). Students are instructed in the use of technical learning tools such as videotapes and computer tutorial software, as well as instruction in various learning activities, such as seminars on group-study, mathematics study skills, improving examination success and conquering mathematics anxiety. Students practice these skills in application to their MATH 82 course work as part of the workshop sessions. Included is a review of arithmetic and elementary algebra skills necessary for success in MATH 82.

MATH 83A Elementary Algebra Units 2

Prerequisites: Reading level II and Math level II.

Limitations on Enrollment: None.

Advisories: None.

This course is equivalent to the first half of MATH 80 (Elementary Algebra) and it allows students more study time for the course topics. Completion of both MATH 83A and MATH 83B is equivalent to completion of MATH 80. Entering students need to have a satisfactory understanding of basic arithmetic, including fractions, decimals, and percents.

MATH 83B Elementary Algebra Units 2

Prerequisites: Reading level II or concurrent enrollment in reading; MATH 83A with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is equivalent to the second half of MATH 80 (Elementary Algebra) and it allows students more study time for the course topics. Completion of both MATH 83A and 83B is equivalent to completion of MATH 80.

MATH 84A Intermediate Algebra Units 2

Prerequisites: Reading level II and Math level II. MATH 80 or MATH 83A and 83B or equivalent, each with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is equivalent to the first half of a second course in algebra. This course is designed to allow students more time for the course topics. Completion of both MATH 84A and MATH 84B is equivalent to completion of MATH 82.

MATH 84B Intermediate Algebra Units 2

Prerequisites: Reading level II or concurrent enrollment in reading; Math level II; MATH 84A or equivalent with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is equivalent to the second half of a second course in algebra. This course is designed to allow students more time for the course topics. Completion of both MATH 84A and MATH 84B is equivalent to completion of MATH 82.

MATH 87 Technical Mathematics Units 5

Prerequisites: MATH 80; Reading Level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course includes the essentials of geometry, certain algebraic topics, trigonometry, and an exposure to calculus as needed by engineering aides, industrial arts students, and others whose courses do not demand the more complete sequence of mathematics courses. Emphasis is placed on applying mathematical principles to technical problems.

MATH 88 Pre-Algebra Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students needing to bridge the gap between arithmetic and algebra. Instruction is provided in the computational and problem-solving skills necessary for academic, vocational, and/or professional programs. Units earned in this course do not count toward the associate degree.

MATH 88L Pre-Algebra Laboratory Units 0.5-1

Prerequisites: Concurrent enrollment in MATH 88.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide students with individual diagnosis, prescription, and instruction in the pre-algebra topics covered in MATH 88. Units in this course do not apply toward the associate degree.

MECHANICAL TECHNOLOGY

MECH 10 Basic Welding for the Trades Units 4

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to serve students who need basic welding skills. The course covers basic theory, practice and application of metal joining processes, metal cutting, and welding for ferrous and nonferrous metals and alloys. Welding methods include shielded metal arc welding, oxy-acetylene, and an introduction to metal inert gas and tungsten inert gas. (CSU)

MECH 11A Basic Welding for the Trades Units 2

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide basic welding skills. The course covers basic theory, practice, and application of metal joining processes, metal cutting, shielded metal arc, and oxy-acetylene welding. MECH 11A and MECH 11B are equivalent to MECH 10. (CSU)

MECH 11B Welding for the Trades Units 2

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 11A or concurrent enrollment in MECH 1A.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide basic welding skills. The course covers basic theory, practice and application of metal joining processes including shielded metal arc, and an introduction to applications for non-ferrous metals and alloys using metal inert gas and tungsten inert gas. MECH 11A and MECH 11B are equivalent to MECH 10. (CSU)

MECH 15 Machine Tool Process Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students who plan to enter occupations in metals technology, manufacturing, engineering, and related fields. Students learn theory and operation of metal-working machines including lathes, grinding machines, milling machines, drill presses, and sawing machines. Topics include cutting tools, measuring tools and instruments, welding, casting, heat treatment of steel, production setups, and Computer Numerical Control (CNC) machines. A combined program of lecture and laboratory allows students to have hands-on experience with a variety of machinery processes. (CSU)

MECH 30A Refrigeration and Air Conditioning Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the proper skills required to maintain and service refrigeration and air conditioning systems. Students learn how to charge, evacuate, and recover refrigerants utilizing common equipment found in the industry. (CSU)

MECH 30B Intermediate Refrigeration Units 3

Prerequisites: MECH 30A.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop skills necessary to service and repair systems found in the refrigeration and air conditioning industry. (CSU)

MECH 30C Advanced Refrigeration Units 3

Prerequisites: MECH 30A.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop skills necessary to service and repair commercial and industrial refrigeration systems. Students work on industrial systems as well as other advanced projects. (CSU)

MECH 31A Basic Air Conditioning: Components and Circuits Units 6

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 30A.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students interested in learning the fundamentals of heating and air conditioning. Emphasis is placed on the electrical and mechanical theory of operation related to common heating and air conditioning equipment. The course covers basic electricity, basic circuits, and common electrical components and their applications to heating and air conditioning. (CSU)

MECH 31B Basic Air Conditioning: Troubleshooting Units 6

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 31A.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop skills necessary to properly install split systems and packaged air conditioning systems. Operation, maintenance, and repair procedures of various heating and air conditioning systems are covered. (CSU)

MECH 31C Heat Pumps and Air Conditioning Systems Units 6

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 31B.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to familiarize students with the electrical and mechanical operation of heat pumps and chilled water systems. Sequence of operation, temperature, pressure, and electrical analysis are covered. (CSU)

MECH 31D Commercial Air Conditioning Design and Operation Units 6

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 31C.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop skills necessary for calculating residential and commercial cooling loads and duct design. Boiler applications, operation, and controls are covered. (CSU)

MECH 32A Air Conditioning Control Circuit Analysis Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the selection, application, and maintenance of automatic controls generally found in the air conditioning field. The different types of controls found in residential, commercial, and industrial applications are covered. Schematics involving the various controls are used to analyze control problems. (CSU)

MECH 32B Refrigeration Control Circuit Analysis Units 3

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 32A.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce students to the basic refrigeration controls found in domestic refrigeration systems and advances up to industrial refrigeration controls. Control theory, application, and electrical trouble-shooting are stressed. (CSU)

MECH 32C Design and Troubleshooting Commercial Controls Units 3

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 32B.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to acquaint students with the basic commercial controls used in the heating and air conditioning industry. Students work with basic set-ups of both pneumatic and direct digital control systems. (CSU)

MECH 50A Introductory Machine Shop Units 8

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is based on the study of machine tool theory, blueprint reading, and related mathematics with hands-on shop experience. Topics include precision instruments, hand tools, layout, and the operation of drill presses, grinding machines, milling machines, lathes, sawing machines, with an emphasis on lathe. Students use computer software to retrieve and plot project blueprints. (CSU)

MECH 50B Beginning Machine Shop Units 8

Prerequisites: MECH 50A; reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is based on the skills and knowledge learned in MECH 50A, Introductory Machine Shop. The course combines the study of machine tool theory blueprint reading, and related mathematics with hands-on shop experience. Topics include advanced layout and use of precision instruments and hand tools, advanced operation of drill presses, grinding machines, lathes, sawing machines, with an

emphasis on the milling machine. Students use computer software to retrieve and plot project blueprints. (CSU)

MECH 50C Intermediate Machine Shop Units 8

Prerequisites: MECH 50B; reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is based on the skills and knowledge learned in MECH 50B, Beginning Machine Shop. The course combines the study of machine tool theory, blueprint reading, and related mathematics with hands-on shop experience. The major emphasis of the course is the programming of the Computer Numerical Control (CNC) lathe and the CNC milling machine. Students write programs in the "G" and "M" code format and use programs to operate the CNC machine tools. Programming topics include tapers, arcs, turning cycles, threading, drilling, grooving, parting off, and cutter radius compensation. (CSU)

MECH 50D Advanced Machine Shop Units 8

Prerequisites: MECH 50C; reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is based on the knowledge and skills learned in MECH 50C, Intermediate Machine Shop. The course combines the study of machine tool theory, blueprint reading, and related mathematics with hands-on shop experience. The emphasis of the course is Computer-Aided Drafting/Computer-Aided Manufacturing (CAD/CAM) using the CAD/CAM software. Students construct drawings on computers, add tooling information, define tool paths, generate Computer Numerical Control (CNC) code and use the CNC code to operate the CNC machine tools. (CSU)

MECH 52A Computer Numerical Control (CNC) Units 3

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 15, or MECH 50A, or MECH 77A, or MECH 78A.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce applications of computer numerical control programming for the areas of manufacturing, engineering, and machining. Topics covered include Cartesian coordinates, process planning, computer numerical control mathematics, tooling, speeds and feeds, and G and M Code programming for lathe and mill with emphasis on the lathe. (CSU)

MECH 52B Advanced CNC/Computer-Aided Manufacturing (CNC/CAM) Units 3

Prerequisites: MECH 52A; reading level II or concurrent enrollment in reading.

Limitation on Enrollment: None.

Advisories: None.

This course is designed to introduce topics in advanced computer numerical control programming for lathe and mill with emphasis on the mill. Computer Numerical Control (CNC) codes are generated also from existing data bases by using Computer Aided Manufacturing (CAM) computer software. (CSU)

MECH 60 Metal Trade Layout and Forming Units 5

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to teach skills in basic layout and forming to better prepare students for employment areas such as machine shop, heating and air conditioning, fabrication, and maintenance personnel. (CSU)

MECH 69V Internship: Machine Tool Technology Units 1-8

Prerequisites: None.

Limitations on Enrollment: The student must enroll in a course that is directly related in the machine tool technology internship. The student must enroll in a minimum of 7 units during the semester including internship units. For summer session, the student must enroll in one related course in addition to internship. The combined total number of units a student may take in internship, work experience, and occupational practice may not exceed a maximum of 16 units. Participation requires submission and approval of internship program objectives and an employer internship agreement.

Advisories: GUID 30, 31, 32, 33.

This course is designed for students participating in an occupational internship in machine tool technology. Application of discipline-related skills and knowledge of Secretaries Commission on Achieving Necessary Skills (SCANS) competencies is emphasized. Each student is engaged in a specific research project or on-the-job learning activities under the supervision of a worksite supervisor and a college internship instructor. (CSU)

MECH 77A Machine Shop: Basic Trade Extension Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for persons interested in the machinists trade. Lecture topics include math, blueprint reading, layout, precision measurements, materials and processes. Laboratory assignments are arranged according to needs of individuals.

MECH 77B Machine Shop: Basic Trade Extension Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students who desire a knowledge of machining processes for employment. Lecture topics include mathematics, blueprint reading, precision measurements, materials and processes. Laboratory assignments are arranged according to needs of individuals.

MECH 77C Machine Shop: Trade Extension Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students who desire a knowledge of machining processes for employment. Lecture topics include mathematics, blueprint reading, precision measurements, materials and processes. Laboratory assignments are arranged according to needs of individuals.

MECH 78A Machine Shop: Trade Extension Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is for persons employed in the machinist trade topics covered include milling machine, heat treating, grinding, drill press, shaper, assignments are arranged according to needs of individuals.

MECH 78B Machine Shop: Trade Extension Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students who desire a knowledge of machining processes for employment. Lecture topics include mathematics, blueprint reading, precision measurements, materials and processes. Laboratory assignments are arranged according to needs of individual.

MECH 78C Machine Shop: Trade Extension Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students who desire a knowledge of machining processes for employment. Lecture topics include mathematics, blueprint reading, precision measurements, materials and processes. Laboratory assignments are arranged according to needs of individuals.

MECH 81A Refrigeration and Heating Units 3 and Air Conditioning Specialization

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 31C.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist advanced students in gaining a greater knowledge of a specialized area of the refrigeration, heating, and air trade. The work covered is developed between the student and the instructor at the beginning of the course.

MECH 87A Machine Tool Technology Units 3-4 Specialization

Prerequisites: MECH 50C.

Limitations on Enrollment: This course requires instructor approval to enroll.

Advisories: None.

This course is designed for advanced students in machine technology. Students complete an advanced specialized project developed in consultation with the instructor.

MECH 87B Machine Tool Specialization Units 5

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 50C.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to assist advanced students in gaining a greater knowledge of a specialized area of machine tool technology. Student objectives are developed between the student and the instructor at the beginning of the course.

MECH 87C Air Conditioning, Units 2-3 Refrigeration, and Heating Specialization

Prerequisites: MECH 31C.

Limitations on Enrollment: This course requires instructor approval to enroll.

Advisories: None.

This course is designed for advanced students in air conditioning, refrigeration, and heating (HVAC). Students complete an advanced specialized project developed in consultation with the instructor.

MECH 88A Introductory Trade Welding Units 8

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to serve trade and industrial students as well as persons desiring the skills of welding for employment. The course covers theory and application of metal joining processes including metal cutting, arc welding, and joining of ferrous and nonferrous metals and alloys. Manipulative skills in the oxyacetylene process are stressed. Emphasis is placed on individualized student goals in their respective related skill area.

MECH 88B Beginning Trade Welding Units 8

Prerequisites: MECH 88A.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to serve trade and industrial students along with persons desiring the skills of welding for employment. The course covers theory and application of metal joining process, metal cutting and arc welding processes, and joining of ferrous and nonferrous metals and alloys. Manipulative skills in shielded metal arc welding processes are stressed. Emphasis is placed on individualized student goals in their respective related skill area.

MECH 88C Intermediate Trade Welding Units 8

Prerequisites: MECH 88B.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to serve trade and industrial students as well as persons desiring the skills of welding for employment. The course covers theory and application of metal joining process, metal cutting and arc welding processes, and joining of ferrous and nonferrous metals and alloys. Manipulative skills in tungsten inert gas (TIG) welding process are stressed.

MECH 88D Advanced Trade Welding Units 8

Prerequisites: Reading level II or concurrent enrollment in reading; MECH 88C.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to serve trade and industrial students as well as persons desiring the skills of welding for employment. The course covers theory and application of metal joining process, metal cutting and arc welding processes, and joining of ferrous and nonferrous metals and alloys. Manipulative skills in metal inert gas welding processes are stressed. Emphasis is placed on individualized student goals in their respective related skill area.

MECH 89A Stick Welding Units 2

Prerequisites: Consent of instructor; Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is an open-entry and open-exit course designed for students who wish to acquire skills in the Shielded Metal Arc welding (STICK) process.

MECH 89B Metal Inert Gas (MIG) Welding Units 2

Prerequisites: Consent of instructor; Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is an open-entry and open-exit course designed for students who wish to acquire skills in the Metal Inert Gas (MIG) welding process.

MECH 89C Tungsten Inert Gas (TIG) Welding Units 2

Prerequisites: Consent of instructor; Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is an open-entry and open-exit course designed for students who wish to acquire skills in the Tungsten Inert Gas (TIG) welding process.

MECHANICAL TECHNOLOGY: APPRENTICESHIP

A-MEC 70A Machine Shop 1 Units 4

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-MEC 70B Machine Shop 1 Units 4

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-MEC 71A Machine Shop 2 Units 4

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum

number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-MEC 71B Machine Shop 2 Units 4

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-MEC 72A Machine Shop 3 Units 4

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-MEC 72B Machine Shop 3 Units 4

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-MEC 73A Machine Shop 4 Units 4

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture

laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-MEC 73B Machine Shop 4 Units 4

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is intended for indentured apprentices and it is a course among a sequential number of courses covering the discipline. The theory portion of the sequential courses include mathematics, safety, tools, machines, blueprint reading, material, and estimating as applied to electricity. The course may be pursued for a maximum number of units in accordance with the number of class hours per semester. Students may opt for a three-hour or a six-hour lecture laboratory per week course. In addition to the one night per week class meeting, an additional 18 hours outside of class is required per semester.

A-MEC 74A Basic Welding Units 2

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce basic welding skills. The course includes the basic theory, practice and application of arc welding and of oxy-acetylene cutting and welding.

A-MEC 74B Machine Shop Units 2

Prerequisites: Indentured apprentice.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to introduce fundamental machine shop practices. The course includes safety procedures, lathe operation, mill operation, drilling operations, and print reading.

A-MEC 81 Plumbing and Welding Units 4

Course description not available.

MICROBIOLOGY

MICRO 2 Introduction to Medical Microbiology Units 4

Prerequisites: CHEM 3A with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is a study of microorganisms with the main emphasis on bacteria and the disease process. Laboratory work includes cultural, morphological, growth requirements, biochemical characteristics of microorganisms, and field trips to demonstrate practical applications. Basic laboratory skills of the microbiologist are emphasized. This course is recommended for students planning to enroll in San Joaquin Delta College's Nursing Program. Students who plan to transfer to a college or university which requires a five-unit course in bacteriology or microbiology are advised to enroll in general microbiology. (CSU, CAN BIOL 14)

MICRO 3 General Microbiology Units 5

Prerequisites: CHEM 3A with a grade of "C" or better.

Limitations on Enrollment: None.

Advisories: None.

This course is the study of nature and activities of microorganisms and their relationships to human life and human interest. The laboratory activities include bacteriology and mycological techniques, demonstration of physiological activities, isolation and identification of microorganisms, some standard methods employed in water and milk analysis, and field trips to demonstrate practical applications. The course meets introductory requirements for majors in microbiology and for other students requiring knowledge of microbiology. (UC, CSU)

MUSIC

MUSIC 1 Music Fundamentals Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students who want a beginning background in the theory of music. No knowledge of music or music theory is assumed. The course includes: basic musical notation, rhythm and meter, major and minor scales, major and minor key signatures, intervals and inversions, triads (major, minor, diminished and augmented), some seventh chords, inversions of triads and seventh chords, elementary formal and harmonic analysis, and ear training for all of the above, plus some sight reading and melodic dictation. Some knowledge of keyboard will be included. This is NOT a music major course. (UC, CSU)

MUSIC 2A Music History from Antiquity to 1750 Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey dealing with the history of Western music from its antiquity to 1750. Students learn to compare and contrast musical genres of the medieval, renaissance, and baroque periods. (UC, CSU)

MUSIC 2B Music History Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey dealing with the history of Western music from 1750 to present. Student will learn to compare and contrast musical genres of the classical, romantic, and contemporary periods. (UC, CSU)

MUSIC 3A Introduction to Theory and Musicianship Units 4

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is the study of the intervals, major and minor triads, their connections and applications to simple diatonic melodies, the dominant seventh chord and its resolutions, the common chord modulations, ear training, interval recognition, and melodic and rhythmic dictation. (UC, CSU, CAN MUS 2)

MUSIC 3B Beginning Theory and Musicianship Units 4

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 3A.

Limitations on Enrollment: None.

Advisories: None.

This course is the study of a four-part writing in common practice style including primary and secondary triads and their inversions and resolutions. Included is simple chromatic sevenths and modulation to the near key. Keyboard and aural training is included. (UC, CSU, CAN MUSIC 4)

MUSIC 3C Intermediate Theory and Musicianship Units 4

Prerequisites: Reading level II or concurrent enrollment in reading and MUSIC 3B.

Limitations on Enrollment: None.

Advisories: None.

This course is a theoretical and aural study of Bach two-part interventions, chromatic harmony and modulation, augmented sixth chords, Neapolitan sixth, chromatic sevenths, and enharmonic diminished seventh chords. Included is keyboard harmony with a minimum keyboard Bach invention and four-part harmony. (UC, CSU)

MUSIC 3D Advanced Theory and Musicianship Units 4

Prerequisites: Reading level II or concurrent enrollment in reading and MUSIC 3C.

Limitations on Enrollment: None.

Advisories: None.

This course is a theoretical and aural study of advanced chromatic theory, the fugue, impressionistic techniques, and early 20th century harmonic techniques. It also includes a study of the basic two- and three-part forms, the Rondo forms, and the Sonata Allegro from the classical period to the present. (UC, CSU)

MUSIC 4 Exploring Music Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is an exploration of growth and development of music from the 17th Century to the present. This course includes forms and styles used in Western art and surveys those factors influencing popular, rock, and commercial music as well as music used for live theater and in films. This is not a music major course. (UC, CSU)

MUSIC 5 Selected Topics: Music Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer instruction in one of the specialized areas of music not already covered by existing curricula. (UC, CSU)

MUSIC 8 Exploring Jazz, Ragtime, and Blues Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is a survey of musical history and literature of jazz, ragtime, and blues in the United States. The course pursues an in-depth study of the genres, styles, and musical personalities involved in this unique American art form from the late nineteenth-century to the present. (UC, CSU)

MUSIC 12A Class Voice Units 1

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is the development of techniques for the solo voice. The principles of posture, breathing, diction, vocal anatomy, tone production, and presentation of one's self in public performances are stressed. Individual performance in class is a requirement. (UC, CSU)

MUSIC 12B Class Voice Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 12A.

Limitations on Enrollment: None.

Advisories: None.

This course is the development of techniques for the solo voice. The principles of posture, breathing, diction, vocal anatomy, tone production, and presentation of one's self in public performances are stressed. Individual performance in class is a requirement. (UC, CSU)

MUSIC 12C Class Voice Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 12B.

Limitations on Enrollment: None.

Advisories: None.

This course is the development of techniques for the solo voice. The principles of posture, breathing, diction, vocal anatomy, tone production, and presentation of one's self in public performances are stressed. Individual performance in class is a requirement. (UC, CSU)

MUSIC 12D Class Voice Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 12C.

Limitations on Enrollment: None.

Advisories: None.

This course is the development of techniques for the solo voice. The principles of posture, breathing, diction, vocal anatomy, tone production, and presentation of one's self in public performances are stressed. Individual performance in class is a requirement. (UC, CSU)

MUSIC 15 Delta Singers Units 1

Prerequisites: Concurrent enrollment in MUSIC 17 or 17M; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop the art of singing in the small choral ensemble. The choir will consist of 20-30 members and will include the singing of choral masterworks from all historical periods for the chamber choir. Sight-reading and proper vocal technique will also be stressed. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 15M Delta Singers Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; concurrent enrollment in MUSIC 17 or 17M; concurrent enrollment in MUSIC 40 or 40M; completion of four semesters of MUSIC 15; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop the art of singing in the small choral ensemble. The choir consists of 20-30 members and includes the singing of choral masterworks from all historical periods for the chamber choir. Sight-reading and proper vocal techniques are also stressed. Students may receive credit in this course for a maximum of two semesters. (UC, CSU)

MUSIC 16 Early Music Ensemble Units 1

Prerequisites: Qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is the study and performance of choral and instrumental music of the Medieval, Renaissance, and Baroque periods. The course provides an opportunity for both singers and instrumentalists to learn about and perform early music. The course utilizes the College's extensive collection of early music instruments. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 17 Concert Choir Units 1

Prerequisites: Qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop the art of singing in the large choral ensemble. This ensemble stresses singing of choral masterworks for the large choir from all historical periods. Sight-reading and proper vocal technique are also stressed. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 17M Concert Choir Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; concurrent enrollment in MUSIC 40 or 40M; completion of four semesters of MUSIC 17; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop the art of singing in the large choral ensemble. This ensemble stresses the singing of choral masterworks for the large choir from all historical periods. Sight-reading and proper vocal technique are also stressed. Students may receive credit in this course for a maximum of two semesters. (UC, CSU)

MUSIC 18 Delta Chorale Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is a choral ensemble for the community singer wishing to further knowledge of choral repertoire and vocal technique, and to enhance ensemble singing skills. The course stresses the study

and performance of major works from the standard choral repertoire. Students may receive credit in this course for a maximum of four semesters. (CSU)

MUSIC 19 Concert Handbell Choir Units 1

Prerequisites: MUSIC 14 or equivalent; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is a study of ensemble musicianship using handbells as the performing medium. Students learn ringing techniques, sight-reading, musicianship, and rhythmic accuracy. Ensemble performances are scheduled during the semester. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 20 College Orchestra Units 3

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is a full and complete performance of an opera, operetta, or other staged musical works which requires trained voices to perform. The course is designed as an introduction for aspiring singers, chorus, and technical assistance personnel who are interested in refining and furthering their performance and/or technical skills. Coaching assistance is given in diction and role interpretation along with musical and vocal coaching. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 26 Symphonic Band Units 1-2

Prerequisites: Qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to the rehearsal and performance of symphonic band literature with emphasis on sight reading and public performance. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 26M Symphonic Band Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading; concurrent enrollment in MUSIC 40 or 40M; completion of four semesters of MUSIC 26; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to the rehearsal and performance of symphonic band literature with emphasis on sight reading and public performance. Students may receive credit in this course for a maximum of two semesters. (UC, CSU)

MUSIC 27 Orchestra Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to the rehearsal and performance of orchestral literature with emphasis on sight reading and public performance. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 29 Jazz Band Units 1-2

Prerequisites: Qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to the rehearsal and performance of jazz band literature with the emphasis on sight reading and public performance. The course includes concentration on the techniques and styles of jazz, jazz-rock, and improvisation. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 29M Jazz Band Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading; concurrent enrollment in MUSIC 40 or 40M; completion of four semesters of MUSIC 29; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to the rehearsal and performance of jazz band literature with emphasis on sight reading and public performance. The course includes concentration on the techniques and styles of jazz, jazz-rock, and improvisation. Students may receive credit for this course for a maximum of two semesters. (UC, CSU)

MUSIC 30A Class Guitar Units 1

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is a first course in development of techniques for the guitar. There is an emphasis on building chord vocabulary sufficient to accompany wide vocal ranges and learning to read music. (UC, CSU)

MUSIC 30B Class Guitar Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 30A.

Limitations on Enrollment: None.

Advisories: None.

This course is a second course in guitar. The course includes upper position chord routines, transposition, notation, solo playing, and essentials of the classic guitar. (UC, CSU)

MUSIC 32 Studio Arts Ensemble Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students interested in the field of commercial music and entertainment. The ensemble consists of singer, backup instrumentalists, and technical crew who work together to study and perform selected musical arrangements. Opportunity for solo singing is frequent. The course stresses the study and performance of the unique American idioms of vocal jazz and songs of the American Musical Theater. The study of proper vocal technique, stage presence, and stage movement are also stressed. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 36A Class Piano Units 1

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed for students who wish to play the piano for enjoyment and pleasure or who need to use the instrument as a future elementary school teacher. (UC, CSU)

MUSIC 36B Class Piano Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 36A.

Limitations on Enrollment: None.

Advisories: None.

This course is the continuation of study for students who wish to continue to play the piano for enjoyment and pleasure or who need to use the instrument as a future elementary school teacher. (UC, CSU)

MUSIC 36C Class Piano Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 36B.

Limitations on Enrollment: None.

Advisories: None.

This course is the continuation of study for students who wish to play the piano for enjoyment and pleasure, or who need to use the instrument as a future elementary classroom teacher. (UC, CSU)

MUSIC 36D Class Piano Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 36C.

Limitations on Enrollment: None.

Advisories: None.

This course is the continuation of study for students who wish to play the piano for enjoyment and pleasure, or who will to use the instrument as a future elementary classroom teacher. (UC, CSU)

MUSIC 38A Class Piano for Music Majors Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; concurrent enrollment in MUSIC 3.

Limitations on Enrollment: None.

Advisories: None.

This course is a first course for the music major which is designed to teach the skills necessary for satisfactory completion of the piano proficiency examination. (UC, CSU)

MUSIC 38B Class Piano for Music Majors Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 38A; Concurrent enrollment in MUSIC 3.

Limitations on Enrollment: None.

Advisories: None.

This course is a second course for the music major which is designed to teach the skills necessary for satisfactory completion of the piano proficiency examination. (UC, CSU)

MUSIC 38C Class Piano for Music Majors Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 38B; concurrent enrollment in MUSIC 3.

Limitations on Enrollment: None.

Advisories: None.

This course is a third course for the music major which is designed to teach the skills necessary for satisfactory completion of the piano proficiency examination. (UC, CSU)

MUSIC 38D Class Piano for Music Majors Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 38C; concurrent enrollment in MUSIC 3.

Limitations on Enrollment: None.

Advisories: None.

This course is a fourth course for the music major which is designed to teach the skills necessary for satisfactory completion of the piano proficiency examination. (UC, CSU)

MUSIC 40A Applied Music Units 2

Prerequisites: Reading level II or concurrent enrollment in reading; completion of MUSIC 3D or concurrent enrollment in MUSIC 3A, or

3B, or 3C, or 3D; concurrent enrollment in MUSIC 15, or 17, or 26, or 29; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is an applied study of the student's principal performing medium and is an integral component for the developing musician. The course focuses on development of individual performance skill, as well as solo, and orchestral repertoire of the first-semester music major. Students complete a minimum of fifteen private lessons per semester and one hour of class instruction per week. (UC, CSU)

MUSIC 40B Applied Music Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 40A; completion of MUSIC 3D or concurrent enrollment in MUSIC 3A, or 3B, or 3C, or 3D; concurrent enrollment in MUSIC 15, or 17, or 26, or 29; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is an applied study of the student's principal performing medium and is an integral component for the developing musician. The course focuses on development of individual performance skills, as well as solo, and orchestral repertoire for the second-semester music major. Students complete a minimum of fifteen private lessons per semester and one hour of class instruction per week. (UC, CSU)

MUSIC 40C Applied Music Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 40B; completion of MUSIC 3D or concurrent enrollment in MUSIC 3A, or 3B, or 3C, or 3D; concurrent enrollment in MUSIC 15, or 17, or 26, or 29; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is an applied study of the student's principal performing medium and is an integral component for the developing musician. The course focuses on development of individual performance skills, as well as solo, and orchestral repertoire for the third-semester music major. Students complete a minimum of fifteen private lessons per semester and one hour of class instruction per week. (UC, CSU)

MUSIC 40D Applied Music Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 40C; completion of MUSIC 3D or concurrent enrollment in MUSIC 3A, or 3B, or 3C, or 3D; concurrent enrollment in MUSIC 15, or 17, or 26, or 27, or 29; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is an applied study of the student's principal performing medium and is an integral component for the developing musician. The course focuses on development of individual performance skills, as well as solo, and orchestral repertoire for the fourth-semester music major. Students complete a minimum of fifteen private lessons per semester and one hour of class instruction per week. (UC, CSU)

MUSIC 50H Special Studies: Music Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading; completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.

Limitations on Enrollment: None.

Advisories: None.

This course is open to all students qualified to do advanced work in the field. The course includes research, directed reading, field work or other advanced study, and the course may be repeated for a maximum of four units. (UC, CSU)

MUSIC 51 Woodwind Ensemble Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to the rehearsal and performance of woodwind literature for various combinations of chamber ensembles such as duets, trios, and quartets. Emphasis includes sight reading and public performance. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 52 Brass Ensemble Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to rehearsal and performance of brass literature for various combinations of chamber ensembles such as duets, trios, and quartets. Emphasis includes sight reading and public performance. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 53 Percussion Ensemble Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to rehearsal and performance of percussion literature for various combinations of chamber ensembles such as duets, trios, and quartets. Emphasis includes sight reading and public performance. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 54 Chamber Ensemble Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop ensembles of mixed instrumentation which include piano, string and wind players. Students experience various types of chamber music combinations. Emphasis includes sight reading and public performance. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 55 Piano Ensemble Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to develop skills in the performance of piano ensembles. Students are given experience in various types of piano ensemble literature with emphasis on repertoire development, sight reading, and public performance. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 58 String Ensemble Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to rehearsal and performance of string literature for various combinations of chamber ensembles such as duets, trios, and quartets. Emphasis includes sight reading and public performance. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 61 Studio Band Units 1

Prerequisites: None.

Limitations on Enrollment: Qualified performer.

Advisories: None.

This course is dedicated to the rehearsal and performance of commercial band literature with emphasis on sight reading and public performance. Students may receive credit in this course for a maximum of four semesters. (UC, CSU)

MUSIC 62 Stage Music Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to provide an experience in the performance of stage musicals. Students provide instrumental or vocal accompaniment for the presentation of a full and complete theatrical production in cooperation with the drama department. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 63A Jazz Improvisation Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is a first course dedicated to the theory and practice of the fundamentals of jazz improvisation. Emphasis includes development of performance skills, musicianship, jazz styles, and musical creativity. (UC, CSU)

MUSIC 63B Jazz Improvisation Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 63A; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is a second course dedicated to the theory and practice of the fundamentals of jazz improvisation. Emphasis includes development of performance skills, musicianship, jazz styles, and musical creativity. (UC, CSU)

MUSIC 63C Jazz Improvisation Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 63B; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is a third course dedicated to the theory and practice of the fundamentals of jazz improvisation. Emphasis includes development of performance skills, musicianship, jazz styles, and musical creativity. (UC, CSU)

MUSIC 63D Jazz Improvisation Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; MUSIC 63C; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is a fourth course dedicated to the theory and practice of the fundamentals of jazz improvisation. Emphasis includes development of performance skills, musicianship, jazz styles, and musical creativity. (UC, CSU)

MUSIC 64 Jazz Combo Units 1

Prerequisites: Reading level II or concurrent enrollment in reading; qualified performer.

Limitations on Enrollment: None.

Advisories: None.

This course is dedicated to rehearsal and performance of literature for small jazz combo. Included in the jazz combo are piano, bass, and drums as well as various other solo instruments. Emphasis includes improvisation, sight-reading, and performance. Students may receive credit for this course for a maximum of four semesters. (UC, CSU)

MUSIC 80 Selected Topics: Music Units 1-2

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer instruction in one of the specialized areas of music not covered by existing curricula.

NATURAL RESOURCES

N R 1 Introduction to Forestry Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to acquaint students with the history of forestry and the lumber industry. Forest resources, management, and legislation are covered. Students study tree identification, timber use, mapping, cruising, and surveying. Career opportunities in forestry are emphasized. (UC, CSU)

N R 2 Conservation of Natural Resources Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to cover the intelligent use and protection of

natural resources in soil, water, forest, mineral, plant, and animal life. The course includes the role of ecology, history of the conservation movement, modern problems in resource use, and the citizen's role in conservation. (UC, CSU)

N R 6 Introduction to Wildlife Management Units 4

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to cover the principles and techniques used in the production and management of waterfowl, big game, upland game, small game, and fish including selected identification, life histories, ecology, and wildlife philosophy. (CSU)

N R 10 Introduction to Water Resources Units 3

Prerequisites: None.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to cover the intelligent use of water conservation. Water development in California is emphasized along with supply and distribution problems. Fresh and waste water treatments are introduced. (CSU)

N R 50H Special Studies: Natural Resources Units 1-2

Prerequisites: Reading Level II or concurrent enrollment in reading; completion of survey course with grade of "B" or better and presentation of a project acceptable to the instructor and division chairperson.

Limitations on Enrollment: None.

Advisories: None.

This course is open to students qualified to do advanced work in the field. The course includes research, directed reading, field work, or other advanced study, and the course may be repeated for a maximum of four units. (CSU)

N R 68 Applied Aquaculture Units 3

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to enable students to understand the principles associated with rearing and marketing aquatic organisms and their relationship with small scale farming. Laboratory exercises provide students with hands on experiences. Specific areas covered include site selection, species selection, water quality and treatment, aquatic biology and ecology, nutrition, disease, stocking, harvesting, processing, marketing, and record keeping. (CSU)

N R 69 Introduction to Aquaculture Units 1.5

Prerequisites: Reading level II or concurrent enrollment in reading.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to enable students to understand the basic concepts of aquaculture and how they can be adapted to small scale farming. Specific areas covered are site, site development, water quality, fish selection, diseases, harvesting, and marketing. (CSU)

N R 75 Selected Topics: Natural Resources Units 1-2

Prerequisites: None; exempt from assessment testing.

Limitations on Enrollment: None.

Advisories: None.

This course is designed to offer instruction in one of the specialized areas of natural resources not already covered by the existing curricula.