

## GRAPHIC ARTS

### GRART 001A Digital Imaging Units 2

*Prerequisites: None.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is the introductory-level study of concepts and techniques utilized in the design, manipulation, and integration of images in a digital format. The student creates images using electronic media including computer software, scanners, and printers. (UC, CSU)

### GRART 001B Digital Imaging Units 2

*Prerequisites: GRART 001A with a grade of "C" or better.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is the beginning-level study of concepts and techniques utilized in the design, manipulation, and integration of images in a digital format. The student creates images using electronic media including computer software, scanners, and printers. (UC, CSU)

### GRART 002A Layout Design Units 3

*Prerequisites: None.*

*Limitations on Enrollment: None.*

*Advisories: BIM 23M or BIM 23P.*

This course is the introductory-level study of concepts and techniques utilized in the design of publication layouts. Topics include typography, use of color, use of graphics, and the process of concept design. The student creates publication layouts using electronic media including computer software and printers. (UC, CSU)

### GRART 002B Layout Design Units 3

*Prerequisites: GRART 002A with a grade of "C" or better.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is the beginning-level study of concepts and techniques utilized in the design of publication layouts. Topics include typography, use of color, use of graphics, and the process of concept design. The student creates publication layouts using electronic media including computer software and printers. (UC, CSU)

### GRART 003A Computer Art Units 2

*Prerequisites: None.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is the introductory-level study of concepts and techniques utilized in the design of graphic art in a digital format. The course stresses the aesthetics of color, composition, and message in the design process. The student creates art using electronic media including computer software and printers. (UC, CSU)

### GRART 003B Computer Art Units 2

*Prerequisites: GRART 003A with a grade of "C" or better.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is the beginning-level study of concepts and techniques utilized in the design of graphic art in a digital format. The course stresses the aesthetics of color, composition, and message in the design process. The student creates art using electronic media including computer software and printers. (UC, CSU)

### GRART 004A Graphic Design for the World Wide Web Units 2

*Prerequisites: None.*

*Limitations on Enrollment: None.*

*Advisories: C S 036 or C S 039.*

This course is the introductory-level study of concepts and techniques utilized in the aesthetic development, design, and layout of World Wide Web pages. The student creates web designs using electronic media including Hypertext Markup Language (HTML) editor and other design-based computer software. This is not a course in HTML. (CSU)

### GRART 004B Graphic Design for the World Wide Web Units 2

*Prerequisites: GRART 004A with a grade of "C" or better.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is the beginning-level study of concepts and techniques utilized in the aesthetic development, design, and layout of World Wide Web pages. The student creates web page designs using electronic media including Hypertext Markup Language (HTML) editor and other design-based computer software. This is not a course in HTML. (CSU)

### GRART 005 Selected Topics: Graphics Arts 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 graphic arts not already covered by the existing curriculum. (CSU)

### GRART 006A Publication Design Units 4

*Prerequisites: None.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is the introductory-level study and design development of pre-press print topics. Topics include color theory as applied to graphic design; color management in digital pre-press and commercial processes; integration of digital imaging and design graphics; color separations; and paper selection. The student creates publications using electronic media. (CSU)

### GRART 006B Publication Design Units 4

*Prerequisites: GRART 006A with a grade of "C" or better.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is the beginning-level study and design development of pre-press print projects. Topics include color theory as applied to graphic design; color management in digital pre-press and commercial processes; integration of digital imaging and design graphics; color separations; and paper selection. The student creates publications using electronic media. (CSU)

### GRART 050H Special Studies: Graphic Arts Units 1-2

*Prerequisites: GRART 001A, or GRART 002A, or GRART 003A, or GRART 004A, or GRART 006A, with a grade of "B" or better.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is designed to allow a qualified student to do advanced work in the field of graphic arts. The course includes research, directed reading, field work, and/or other advanced study. This course may be repeated for a maximum of 4 units. (CSU)

**GRART 080 Selected Topics: Graphic Arts Units 0.5-3***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer instruction in one or more of the specialized areas of graphic arts not already covered by the existing curriculum. Units in this course do not count toward an associate degree.

## GUIDANCE

**GUID 001 Education and Interpersonal Growth Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to foster personal development through a decision-making process which includes self-awareness, value systems, patterns of communication, changing lifestyles and how these factors impact on the student's education, growth, and goals. (CSU)

**GUID 002 Enhancing Self-Esteem, Cultural Awareness, and College Success Units 3***Prerequisites: None. Limitations on Enrollment: None.**Advisories: None.*

This course is designed to enable the student to focus on the development of self-esteem and personal responsibility leading to college success. The course includes discussion of cultural awareness and diversity. (CSU)

**GUID 002A Peer Advisor Training Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to train the peer advisor and to provide the knowledge and skills to interact and communicate effectively with targeted student populations. The student develops helping skills that include active listening, basic problem-solving, completion of college forms, and appropriate referral to campus support offices. This course is designed for the student who is employed as a peer advisor. (CSU)

**GUID 010E Extended Activities Units 0.5-2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed for the student who seeks individualized career exploration, educational investigation, and decision-making assistance. The student meets with a counselor to plan activities that may include assessment of skills, interests, and values; utilization of Career Development/Transfer Center resources; participation in approved workshops, connection to community resource network; and follow-up meetings with the counselor to develop a career or educational goal and plan. The student also must attend an orientation session. The course may be taken for a maximum of 2 units. (CSU)

**GUID 011 New Student Orientation Units 0.5***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This is an eight-hour course designed to provide orientation to new and re-entering students. The matriculation process, certificate, associate degree and transfer requirements are discussed. This course is an overview of the registration process, student services and the campus. Students create a first semester course list with a counselor. (CSU)

**GUID 012 Introduction to College and Educational Planning Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the college experience and the educational planning process through counseling and advising. This course assists students in the development of a comprehensive Student Education Plan (SEP). The course topics include identifying values, making decisions and establishing academic and career goals. (CSU)

**GUID 014 Orientation for Student Athletes Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed for the entering student participating in intercollegiate sports. The course provides college orientation, advisement, counseling, and information on National Collegiate Athletic Association (NCAA) eligibility. The student athlete develops a Student Education Plan (SEP) through individual and group counseling. (CSU)

**GUID 016 Orientation for International Students Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to assist the student enrolled in the International Student Program. The course addresses many aspects of the college experience, including: curriculum, facilities, services, academic regulations, certificate and degree programs, and transfer requirements. Information is provided concerning scholarship assistance, extra-curricular activities, and personal and social adjustment to American customs. Special emphasis is given to immigration regulations. (CSU)

**GUID 017 Introduction to College & Educational Planning for Re-entry Students Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to provide orientation, counseling information, and support to the re-entry student whose formal education has been interrupted by family and/or job responsibilities. The course topics include building self-esteem, becoming more assertive, exploring concerns relative to the student in transition, and introducing the career life planning process. (CSU)

**GUID 018A Single Parents as Students: Codependency Issues Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed for Extended Opportunities Programs and Services (EOPS) student enrolled in Cooperative Agencies Resources for Education (CARE). The goal of this course is to provide information on gaining self-awareness by understanding the roots of codependency and the movement toward personal recovery. (CSU)

**GUID 018B Single Parents as Students: Campus and Community Resources Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed for the Extended Opportunity Programs and Services (EOPS) student enrolled in Cooperative Agencies Resources for Education (CARE). The student obtains educational support information through a series of campus and community presentations. The goal of this course is to empower the student to access the necessary resources needed to be successful in college. (CSU)

**GUID 018C Single Parents as Students: Stress Reduction Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed for the Extended Opportunity Programs and Services (EOPS) student enrolled in Cooperative Agencies Resources for Education (CARE). The goal of this course is to assist the student in lowering his/her level of stress by understanding, recognizing, and managing interpersonal stressors. (CSU)

**GUID 020 Transition to University Life Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to assist community college students with transferring to a four-year university. Students explore transfer options from academic, financial, and personal development perspectives. The course provides students with information on private and public universities such as the University of California (UC) and California State University (CSU). Topics include identifying majors, understanding admission processes, identifying financial aid resources, and housing options. Students will build an individual Student Education Plan (SEP) based on their educational and career goals. (CSU)

**GUID 030 Career Self-Assessment Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to introduce the student to the career life planning process. The course emphasizes self-assessment as the first major step in the career life planning process. The student explores career choices by identifying his/her personality, strengths, skills, interests, values, and preferred lifestyle. (CSU)

**GUID 031 Career Exploration Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to provide the student with opportunities to explore specific occupations of his/her 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. (CSU)

**GUID 032 Career Information Interviewing Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to assist the student in obtaining career information directly from individuals employed in areas of his/her career interest by conducting informational interviewing. The course includes information on how to create a networking system, make the initial contacts, prepare interview questions, direct the information interview, and analyze information obtained. (CSU)

**GUID 033 Job Seeking Skills Units 1***Prerequisites: Reading level II.**Limitations on Enrollment: None.**Advisories: None.*

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

**GUID 064 Helping Skills for the Early Childhood Educator Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the development of effective helping skills for the early childhood educator. Learning is facilitated through small group interaction and intensive role-playing. (CSU)

**GUID 071 Student Leadership Units 1-3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to allow the student to identify important aspects of leadership. The course acquaints the student with models of leadership through readings, observation, and participation. The student is able to identify and utilize through participatory exercises at least two models of leadership.

**GUID 075 Selected Topics: Guidance Units 0.5-3***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer instruction in one or more of the specialized areas of guidance not already covered by the existing curriculum. Units in this course do not count toward an associate degree.

**GUID 080 Success in College Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is a group counseling practicum designed to assist the student who is having difficulty succeeding in college. The focus of the course is to provide practical strategies for achieving personal, educational, and career goals. This course is required for the student who is on third semester academic probation. Units earned in this course do not count toward an associate degree.

**GUID 085 Orientation for English As a Second Language (ESL) Students Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to provide orientation and counseling and to assist the English As a Second Language (ESL) student in establishing a strong relationship with instructional and student services. The course is designed for the student who writes and speaks English as a second language.

## HEALTH EDUCATION

### H ED 001 Health Education Units 3

*Prerequisites: None.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is designed to enhance the student's knowledge of a variety of health-related concepts and increase motivation and desire to take personal responsibility to achieve high level wellness. (UC, CSU)

### H ED 015 Selected Topics: Health Education Units 1-2

*Prerequisites: None.*

*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 028 Community Health Units 2

*Prerequisites: Reading level II.*

*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 030 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. The student receives 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 031 Emergency Response Units 3

*Prerequisites: None.*

*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. (CSU)

### H ED 032 Cardiopulmonary Resuscitation (CPR) Units 0.5

*Prerequisites: None.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is designed to prepare participant, 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. (CSU)

### H ED 050H Special Studies: Health Education Units 1-2

*Prerequisites: 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 the student 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 total of four units. (CSU)

### H ED 080 Selected Topics: Health Education Units 0.5-3

*Prerequisites: None; exempt from assessment testing.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is designed to offer instruction in one or more of the specialized areas of health education not already covered by the existing curriculum. Units in this course do not count toward an associate degree.

## HEALTH SCIENCE

### H S 003 Administration of Medication Units 3

*Prerequisites: BIOL 033, or BIOL 031 and BIOL 032, BIOL 022, FCS 006, ENG 001A.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is designed to present guidelines for current medication administration practices for the individual throughout the health-illness continuum. The course utilizes the nursing process to present a wholistic approach to medication-related patient care and teaching through the adult years of the life cycle. Ethical and legal aspects of medication administration in the community and society are included. The role of the nurse in drug dosage calculation is emphasized. (CSU)

### H S 011 Selected Topics: Health Science Units 0.5-3

*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 019 Human Development Units 3

*Prerequisites: Reading level II.*

*Limitations on Enrollment: None.*

*Advisories: None.*

This course is an integration of 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. The course is designed as a foundation course for careers in educational, social service, psychological, and health fields. (UC, CSU)

**H S 034A Basic Electrocardiograph Reading Units 1**

*Prerequisites:* Certification, licensure or employment in health care area.

*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 036 Medical Terminology and Speech Units 3**

*Prerequisites:* Reading level II.

*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 is presented as each body system is introduced. (CSU)

**H S 039 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 the student 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 043 Nursing Synthesis Units 3**

*Prerequisites:* None.

*Limitations on Enrollment:* Licensed Vocational Nurse, Psychiatric Technician or graduate of an accredited vocational nursing or psychiatric technician program.

*Advisories:* None.

This course is designed to prepare the licensed vocational nurse, psychiatric technician, and graduate of vocational nursing and psychiatric technician programs for entry into an associate degree nursing (ADN) program. The course includes topics not included in vocational nursing (VN) and psychiatric technician (PT) programs: nursing process, role change, research skills, teaching-learning principles and development of the teaching role. The course also includes reviews of medical-surgical nursing, pharmacology, and medication calculation to prepare the student for success in an ADN program. (CSU)

**H S 061 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 the licensed health care provider and student in health services who may be required to have completed an intravenous tuberculin course for employment. This group may include the registered nurse, licensed vocational nurse, and emergency medical technician. The course meets the requirements for the licensed vocational nurse state certification in intravenous tuberculin. (CSU)

**H S 070 Nurse Assistant Training Units 5**

*Prerequisites:* None; exempt from assessment.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to prepare the student to qualify for certification as a nurse assistant. The course's content follows the state-wide 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 071 Home Health Aide Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* Possess Nurse Assistant Certification or be enrolled in Nursing Assistant Program.

This course is designed to prepare the student to be a certified home health aide. The content follows the approved curriculum specific to federal and California state training regulations. The focus of this course is on the entry-level skills needed for employment as a home health aide.

**H S 075 First Responder Units 1.5**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed for the emergency worker who routinely responds 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, childbirth, 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 requirements for First Responder.

**H S 076 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 the certified first responder. 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 077B Emergency Medical Technician Basic Units 7**

*Prerequisites:* None.

*Prerequisite Skills:* None.

*Corequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* Number of Students.

This course is designed to prepare the student to provide pre-hospital emergency medical care at a basic life support level. Content includes patient assessment and management of medical-surgical, trauma, obstetrical, and pediatric emergencies. The course is a combination of classroom instruction, skills training, and clinical observation. Successful completion qualifies the student to take the certification examination for Emergency Medical Technician-Basic (EMT-Basic).

**H S 080 Selected Topics: Health Science Units 0.5-3***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer instruction in one or more of the specialized areas of health sciences of already covered by the existing curriculum. Units in this course do not count toward an associate degree.

**H S 081 Emergency Medical Technician 1 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 the 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 the student with 24 hours of continuing education toward recertification as an EMT I.

**H S 090 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 091 Medical Nutrition Therapy Units 3***Prerequisites: FCS 006.**Limitations on Enrollment: None.**Advisories: 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 for the student planning a career in nursing, other health professions, and food service in health care institutions.

**H S 093V Work Experience: Health Science Units 1-8***Prerequisites: None.*

*Limitations 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 030, 031, 032, 033.*

This course is designed to give the student college credit for on-the-job experience when correlated with a course relating to that job. The student must demonstrate new and expanded learning experiences before being permitted to repeat work experience. To register, complete an application form available at the Applied Science and Technology Division Office, Holt 140. The course may be repeated for a maximum total of sixteen units.

**H S 094A Care Provider Training: Mental Disabilities Units 1***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.*

This course is designed to provide information on mental disabilities. Course topics include an overview of mental health care systems, classifications of mental illnesses, etiology, symptoms, treatments, admissions, and conservatorships. Units earned in this course do not count toward an associate degree.

**H S 094B Care Provider Training: Psychotropic Medications Units 1***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to teach basic medical vocabulary and increase understanding of the psychotropic medications administered to the mental patient. The effects of these medications on modifying psychotic activity and behavior are examined. Selected topics include: major classifications of psychotropic medications, administration of medications, toxic reactions, medication non-compliance, benefits and side effects of such medications. Units earned in this course do not count toward an associate degree.

**H S 094C Care Provider Training: Behavior Management Units 1***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to examine various behavior management techniques which include working with the difficult resident, recognizing decompensated behaviors, reducing problem behaviors, and exercising effective communication skills. Selected topics include anger, stress, suicide, and assertiveness. Units earned in this course do not count toward an associate degree.

**H S 094D Care Provider Training: Normalization Units 1***Prerequisites: None; exempt from assessment testing. Limitations on enrollment: None.**Advisories: None.*

This course is designed to help the care provider become more aware of his/her attitude toward the mentally disabled resident and the importance of understanding individual differences. The student develops skills for increasing self-sufficiency and normalization experiences of the resident. Topics include: attitudes, listening, loneliness, self-esteem, and reducing dependency of the resident. Units earned in this course do not count toward an associate degree.

**H S 094E Care Provider Training: Pre-Independent Living Units 1***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to help the care provider understand areas that are vital to the development of independent living skills needed by the mentally ill client. The student develops techniques for use with the client to increase his/her independence. Topics include socialization, money management, coping skills, activities of daily living, and Community Re-Entry Program. Units earned in this course do not count toward an associate degree.

**H S 094F Care Provider Training: Community Resources**      **Units 1**

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

This course is designed to familiarize the care provider with available community resources. These resources are used to help the caretaker assess the social, emotional, and physical needs of the client. Topics include community resources, therapeutic recreation, motivation, and factors affecting client participation. Units earned in this course do not count toward an associate degree.

**H S 094G Care Provider Training: Recognizing Other Needs**      **Units 1**

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

This course is designed to familiarize the student with the problems of the aged client, including reality orientation and death, and dying. Specific topics include: Alzheimer's Disease, diabetes, stroke, death, and dying. Units earned in this course do not count toward an associate degree.

**H S 094H Care Provider Training: Client Record Keeping**      **Units 1**

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

This course is designed to focus on developing and implementing a problem-oriented record-keeping system for board and care homes. The student becomes familiar with state and county forms, client's rights, confidentiality, and ethics. Units earned in this course do not count toward an associate degree.

**H S 094I Care Provider Training: Nutrition**      **Units 1**

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

This course is designed to give the student basic knowledge of nutrition, including the special needs of mentally ill clients. Topics include basic food categories, preparing safe and sanitary meals, maintaining safe and sanitary conditions, special diets, cultural foods requirements, and snacks. Units earned in this course do not count toward an associate degree.

## HISTORY

**HIST 002A World History to 1600**      **Units 3**

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

This course is a survey of world societies from prehistoric 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 002B World History Since 1600**      **Units 3**

*Prerequisites: Reading level II.*  
*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 004A History of Western Civilization**      **Units 3**

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

This course is a survey of Western Civilization from its origins in the Ancient Middle East to the Renaissance and Reformation, emphasizing the social, economic, political, intellectual, and cultural forces that have shaped the West. Emphasis is on the contributions of the Ancient Middle East, Greece, Rome, and the Middle Ages. (UC, CSU, CAN HIST 002, CAN HIST SEQ A with both HIST 004A and 004B)

**HIST 004B History of Western Civilization**      **Units 3**

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

This course is a survey of Western Civilization from the Renaissance and Reformation to the present, emphasizing the social, political, economic, intellectual, and cultural forces that have shaped the modern West. Emphasis is on the impact of science, technology, industrialization, the modern state, and modern ideologies on the development and influence of the West. (UC, CSU, CAN HIST 004, CAN HIST SEQ A with both HIST 004A and 004B)

**HIST 006A History of Asian Civilization**      **Units 3**

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

This course is an introductory survey of East Asian civilization from the ancient times to the present. Emphasis is placed on history, religion, art, and literature of China, Japan, and Korea. Perspectives on East Asia's modern transformation are provided. (UC, CSU)

**HIST 006B History of South and Southeast Asian Civilization**      **Units 3**

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

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

**HIST 006C History of the Middle East**      **Units 3**

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

This course is a survey of Middle Eastern history from its origins to the present. Topics emphasized include the political, cultural, social, and economic developments: the pre-Islamic period, the rise of Islam, its expansion, imperialism, nationalism, independence, the Arabic world in conflict, religious revival, and the problems of modernizations. (UC, CSU)

**HIST 007 History Through Film Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is a study of films to explore subjects and themes relevant to modern United States history since the end of the Civil War. The student views, discusses, and writes about selected films. The course emphasizes a historical analysis of how films as cultural and historical documents convey meaning. The student examines how film as a mass medium and art form has shaped, reflected, and commented upon historical events, institutions, and values. The student examines the various ways films reveal their relationship to the political, social, and cultural developments that marked the times in which they were made. (CSU)

**HIST 015 Selected Topics: History Units 0.5-1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This topics course is designed to offer instruction in one of the specialization areas of History not already covered by existing curriculum. (CSU)

**HIST 017A 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 pre-colonial beginnings through Civil War and Reconstruction. The course covers significant persons, events, and issues from our nation's past. Covered topics include all geographical regions ultimately encompassed by the United States, initial cultural contact, European settlements, racial, class, religious, and gender conflicts, immigration, the development of a national identity and American institutions, as well as sectionalism and trans-continental expansion. This course fulfills the Social Science (group A) requirement for the AA degree and it applies toward the completion of California State requirements in United States history and institutions. (UC, CSU, CAN HIST 008, CAN HIST SEQ B with both HIST 017A and HIST 017B)

**HIST 017B History of the United States Units 3***Prerequisites: r Reading level II.**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 modern America. The course covers significant persons, events, and issues from our nation's past. Covered topics include all geographical regions ultimately encompassed by the United States, racial, class, religious, and gender conflicts, immigration, politics, economics, culture, the development of a national identity and American institutions, as well as the United States's rise as a major world power. The course fulfills the Social Science (group A) requirement for AA 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 History 017B. (UC, CSU, CAN HIST 010, CAN HIST SEQ B with both HIST 017A and HIST 017B)

**HIST 019 Selected Topics: Study and Travel Units 2***Prerequisites: None.**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 027 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 covering the period from 1600 to the present. The emphasis of the course is on a multicultural and multi-class approach, examining the problems of women of various ethnicities, races and classes in America. The formation or gender roles is discussed along with an analysis of women's political and economic status across the period. The course will analyze women's struggle for equal rights, the impact of women's participation in significant events in American history, and regional and cultural differences in the way women are treated in society. Emphasis will be on the California state and local governments, their operations and how women have politically participated in California. (UC, CSU)

**HIST 030A African-American History to 1877 Units 3***Prerequisites: Reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is an examination of African American history from its origins in early West Africa through Reconstruction. Topics emphasized include the contributions of African Americans to colonial economic growth; the role of African Americans in the American Revolution and the impact of revolutionary ideology on the issue of slavery; slavery in the antebellum South; the rise of the abolitionist movement; and the Civil War and Reconstruction. This course fulfills the Social Science (group A) requirement for the AA and AS degrees and applies toward the completion of California state requirements in U.S. History and Institutions. (Title 5, Section 40404). (UC, CSU)

**HIST 030B African-American History since 1877 Units 3***Prerequisites: Reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is an examination of African American history from Reconstruction to the present. Topics emphasized include the "Jim Crow" period; the careers of Booker T. Washington and W.E.B. DuBois; the Spanish-American War; the Progressive era, World War I, and the Harlem Renaissance; the Depression and New Deal; World War II; the post-war Civil Rights Movement; and African Americans in contemporary America. This course fulfills the Social Science (group A) requirement for the AA and AS degrees and applies toward the completion of California state requirements in U.S. History and Institutions and California State and Local Government. (Title 5, Section 40404). (UC, CSU)

**HIST 031 Mexican-American History Units 3***Prerequisites: Reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This is designed as a lecture survey course on the historical development of the Mexican American people from their Pre-Columbian roots through the Spanish-European conquest (1520-50) and “colonial” era (1550-1820), on through the birth of Mexico (1810-20) as an example of colonial independence movements. The transition from “Mexican” Southwest to the “American” Southwest (1848-1900) includes the role played by Mexican Americans as one of many ethnic and European minority/immigrants groups in the making of modern America from 1850-1900, through the roaring 20’s, the Depression, W.W. II, into the 1960’s to the present. The course fulfills the Social Science - (Group A) requirement for a Delta College AA Degree and applies toward the completion of the General Education CSU/UC transfer requirement. This course must be taken together with the United States History 017A or the American Government and Institutions (POLSC 001) course to meet the General Education CSU/UC transfer requirement. (UC, CSU)

**HIST 034 Asian Pacific American History Units 3***Prerequisites: Reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed as a survey of the Asian American experience in America from the California Gold Rush to the present. Both United States and California historical contexts are placed on the anti-Asian laws passed after the Civil War, the Japanese American internment during World War II. Asian involvement in the union and civil rights movements, and the socio-political changes in the post-Vietnam War era. It fulfills the Social Science (group A) requirements for the AA degree and applies toward the completion of the California state requirements in American History and Institutions. (UC, CSU)

**HIST 037 California History Units 3***Prerequisites: Reading level II.**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 050H Special Studies: History Units 1-2**

*Prerequisites: Presentation of a project acceptable to the instructor and the division chairperson in one of the following with a grade of “B” or better: HIST 002A, 002B, 004A, 004B, 006A, 006B, 017A, 017B, 027, 030A, 030B, 031, or 037.*

*Limitations on Enrollment: None.**Advisories: None.*

This course is open to the student 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 total of four units. (CSU)

**HIST 075 Selected Topics: History Units 0.5-3***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer instruction in one or more of the specialized areas of history not covered by the existing curriculum. Units in this course do not count toward an associate degree.

**HOSPITALITY  
MANAGEMENT****HMG 001 Service Management Units 2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to provide complete guidelines of service basics: duties before guest arrival, initiating service, selling techniques, serving the meal, responsibilities to the guest, special amenities, handling unusual circumstances, and exceeding guests expectations. Additionally, this course explores major concepts in providing leadership and service in the hospitality industry. Study and analysis of service delivery systems for the hospitality industry with particular emphasis on implementing a consumer driven, top-down, policy oriented, quality service program. Principles of Total Quality Management (TQM) will be integrated throughout the course. (CSU)

**HMG 002 Hotel/Motel Desk Procedures Units 2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an exploration of the flow of activities and functions performed in today’s lodging operation, with a comparison of manual, machine assisted, and computer based methods for each front file function. The course provides an examination of basic operational systems and problems related to the industry. This course provides practical knowledge of how all facts of the front office interact and intersect. (CSU)

**HMG 004 Housekeeping Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer future industry professionals the tools they need to be competitive in this new era: the skills to manage resources, administer assets, and manage all of the technical operations of a busy housekeeping department. The course presents a systematic approach to managing housekeeping operations and provides a thorough overview, from the big picture of maintaining a quality staff, planning, and organizing, to the technical details of cleaning each area of a hospitality facility. (CSU)

**HMG 006 Hospitality Law Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to inform and educate future hoteliers, restaurateurs, and others in the hospitality industry about the legal aspects of the business. It provides the essential information that managers need to comply with the law and to develop preventative tactics to avoid lawsuits. (CSU)

**HMG 008 Hospitality Human Resources  
Management Units 2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to explore major concepts in human resources and provides a thorough look at training programs for non-management and management employees. The course focuses on the evaluation and development of pre-opening, ongoing, and management training programs. Topics include job analysis and development, principles and concepts of learning, individualized and group training methods, and the use of audiovisual aids. (CSU)

**HMG 010 Hospitality Marketing and Sales      Units 2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to service marketing and its application to the hospitality industry. Basic marketing concepts and research methods will be presented. The design and delivery of a marketing plan based on customer service to achieve guest satisfaction and competitive distinctiveness will be emphasized. (CSU)

**HMG 012 Hospitality Facilities Management      Units 2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to building layout, design, and operation combining customer comfort, efficient facilities operation, and fundamental knowledge of engineered systems. Emphasis is on how to plan and manage the operation and maintenance aspects keeping in mind customer health, safety, and satisfaction. (CSU)

**HMG 014 Hospitality Financial Management      Units 2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to financial management in the hospitality industry. Specialized accounting for hotel revenue and expenses, periodic inventory for food and beverage areas, payroll, intangible assets, and general inventory including property and equipment are presented. Emphasis is placed on the analysis of financial information systems, statements and reports. Optional certification through American Hotel and Lodging Association (AH&LA). (CSU)

**HMG 016 Hospitality Practicum      Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the hotel management student of the front of the house and back of the house activities in the lodging industry. The student in the Hotel Management program is required to complete a hospitality practicum before graduating with a degree in Hotel Management. This practicum experience must be a structured and supervised industry experience in which the student is compensated and rotated through a minimum of three functional areas. (CSU)

**HMG 018 Introduction to Tourism      Units 2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an exploration of major concepts in tourism, what makes tourism possible, and how tourism can become an important factor in the wealth of any nation. Broad global terms, setting forth principles, practices, and philosophies of tourism that have been found to be advantageous are reviewed. The importance, history, careers, organization, economics, planning and development, and elements of demand and supply of tourism as well as study approaches, marketing, research, consumerism and some hypotheses for the future are presented. (CSU)

**HMG 020 Tourism and Travel Industry      Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an exploration of the major concepts in the travel and tourist industry. Tourism as a system consisting of the interrelated parts of the travel, marketing, and shape of travel demand is presented. The relationship of tourism and the travel industry to the hospitality industry as a whole is examined. (CSU)

**HMG 022 Meeting Planning      Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an exploration of major concepts in meeting planning and tourism. It is designed to provide the student with the practical and theoretical intensive study of meeting planning and generating tourism business as it relates to the travel, tourism, and convention sectors of the hospitality industry. Planning, developing, and managing meetings including travel and catering procedures, and locating facilities to house visitors on a major scale will be presented. (CSU)

**HMG 024 Event Management      Units 2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an exploration of major concepts in event management and examines the number and variety of special events, festivals, celebrations, and fund-raisers sponsored by profit and not-for-profit organizations. Management practices and trends, and the motivations of individuals who attend events will be presented. (CSU)

**HMG 026 Hospitality Tourism Marketing      Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an exploration of tourism as a product and examines the nature of tourist businesses with an emphasis on planning for tourism development. Guidelines for optimal planning and marketing of tourism, particularly at regional and community levels, are presented. (CSU)

**HMG 028 Mixology      Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to provide the student with the knowledge for a full-time or part-time career in the bartending field. Upon successful completion of this course, the student will be able to identify, select, purchase, prepare and serve alcoholic beverages in an intelligent and professional manner. Students will learn the proper procedures for storage and handling inventory, bar operations, merchandising and effective bar control. Successful completion of this course will equip the student with the necessary skills to handle the majority of areas relative to bar operations. Alcoholic substitutes will be used. (CSU)

## HUMANITIES

**HUM 003 Autobiography of Civilization      Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is a survey of the artistic traditions of our western cultural heritage. The arts including painting, sculpture, architecture, music, dance, drama, and literature are studied as vehicles in the search for meaning and value from the ancient world to modern times. (UC, CSU)

**HUM 004 Introduction to Linguistics Units 3**

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

This course is an introduction to the study of language in theory and practice. The student explores 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 005 Southeast-Asian Cultures Units 3**

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

This course is designed to offer the student or participant an overview of the cultures of Southeast Asians living in America (Cambodians, Hmong, Laotians, Lao-Khmu, Vietnamese). Emphasis is placed on the historical and geographical backgrounds of the native lands, and on the traditional cultural heritage -customs, beliefs, legends, folk songs, values, attitudes, foods, clothes, communication styles, etc. Even though the countries of origin share some common territorial or geographical borders, each of these groups are unique. Comparisons are utilized to bring out of highlight similarities and differences in order to promote cultural understanding, awareness, tolerance, and sensitivity. (UC, CSU)

**HUM 014A 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 014B 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 religious beliefs, Mesopotamian religions, Graeco-Roman religions, Teutonic religion, Zoroastrianism, Judaism, Christianity, and Islam. (UC, CSU)

**HUM 015 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. (CSU)

**HUM 019 Selected Topics: Study and Travel Units 0.5-3**

*Prerequisites: None.*  
*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 019A Selected Topics: Mexican Culture - Travel in Mexico Units 2**

*Prerequisites: None.*  
*Limitations on Enrollment: None.*

This topic course is designed to provide the student with an introduction to Mexican culture, history, architecture and geography. The student experiences total immersion in the culture through travel and the experience living with a Mexican family. This course is designed to enable the student to combine travel with study. (CSU)

**HUM 050H Special Studies: Humanities Units 1-2**

*Prerequisites: Presentation of a project acceptable to the instructor and the division chairperson; HUM 003, 014A or 014B with a grade of "B" or better.*

*Limitations on Enrollment: None.*  
*Advisories: None.*

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

**HUM 075 Selected Topics: Humanities Units 0.5-3**

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

This course is designed to offer instruction in one or more of the specialized areas of humanities not covered by the existing curriculum. Units in this course do not count toward an associate degree.

## INDUSTRIAL TECHNOLOGY

**INDUS 015 Selected Topics: Industrial Technology Units 1-2**

*Prerequisites: None.*  
*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 020 Industrial Safety and Health Units 3**

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

This course is designed to introduce principles of occupational safety and health for the work-site. The course includes Occupational Safety and Health Act (OSHA) regulations, employee training, accident investigation, and safety considerations. (CSU)

**INDUS 031 Industrial Hydraulics 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 industrial hydraulics. Topics include shop procedures, component disassembly, troubleshooting, reassembly, and installation. (CSU)

**INDUS 032 Total Quality Management Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the fundamentals of total quality management (TQM). The course includes the analysis, design, and implementation of quality management principles to achieve continuous management of organizational processes. (CSU)

**INDUS 035 Mobile Hydraulics Units 4***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

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

**INDUS 037 Industrial Pneumatics Units 4***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is a study in 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 is included. Methods of controlling pneumatic power are investigated by designing circuits and evaluating them in terms of their specific applications. (CSU)

**INDUS 041 Instrumentation and Process Control Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is structured to provide knowledge and skill development in process control and instrumentation used in industries such as food processing, manufacturing, warehousing, and agriculture. (CSU)

**INDUS 043 Electrohydraulics Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the concepts of electrical and electronic controls of hydraulic system pressure, flow, direction, and pump displacement as well as equipment position, velocity, and force magnitude. Operation of on-off solenoid valves, proportional valves, and servo valves are presented. Open loop and closed loop control system concepts, various sensors, and feedback devices used in modern hydraulic control circuits are included. (CSU)

**INDUS 045 Industrial Technology Units 5***Prerequisites: Noner.**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: 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 the student 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 total of four units. (CSU)

**INDUS 069V 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 030, 031, 032, 033.*

This course is designed for the student 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 075 Selected Topics: Industrial Technology Units 0.5-3***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer instruction in one or more of the specialized areas of industrial technology not already covered by the existing curriculum. Units in this course do not count toward an associate degree.

**INDUS 076 Tools and Measurement Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to introduce hand tools and measuring devices commonly used in industry. The proper and safe use of tools is stressed. Some of the measurement tools include micrometers, vernier calipers, and steel rules.

**INDUS 094 Industrial Mathematics Units 3***Prerequisites: Reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to introduce applied mathematical principles to technical problems. The course includes aspects of arithmetic, algebra, plane geometry, measurement, and fundamentals of trigonometry. Units in this course do not count towards the associate degree.

**INDUS 095 Principles of Technology Units 3***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to introduce the principles of applied physics. The course includes theoretical and practical applications of force, work, rate, resistance, energy, power, and force transformers.

## INDUSTRIAL TECHNOLOGY: APPRENTICESHIP

**A-IND 072A Introduction to Apprenticeship Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured Apprentice.**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 072B Isolated Apprentices Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**Advisories: None.*

This course is intended for the indentured apprentice 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.

**A-IND 076 Applied Technical Mathematics Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**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 077A Mechanical Fundamentals Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**Advisories: None.*

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

**A-IND 077B 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 077C Motors and Generators Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**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 077D Plant Auxiliary Equipment Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**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 077E Hydraulics Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**Advisories: None.*

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

**A-IND 077F Pneumatics Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**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 077G 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 077H Computers in Hydro-Electric Plants Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**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 077J Water Aqueduct Systems Units 2***Prerequisites: None.**Limitations on Enrollment: Indentured apprentice.**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 077K Fundamentals of Thermodynamics Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured apprentice.*

*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 077L Project Control and Power Contracts Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured apprentice.*

*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 the study of documentation control, operation procedures and electronic communication systems.

**A-IND 077M Air Conditioning Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured apprentice.*

*Advisories: None.*

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

**A-IND 077N Electro-Mechanical Print Reading Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured apprentice.*

*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 078A Defensive Driving Units 1**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

This course is designed to introduce the student 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 078B Heavy Truck Operation Units 1**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

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

**A-IND 078C Diesel and Small Gasoline Engines Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

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

**A-IND 078D Surveying and Flood Control Systems Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

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

**A-IND 078E Soils, Asphalt, and Concrete Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

This course is designed to introduce the student 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 078F Environmental Awareness Units 1**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

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

**A-IND 078G Power Lift and Four-Wheel Drive Units Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

This course is designed to introduce the student 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 078H Protective Coatings Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

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

**A-IND 078J Small Boat Handling Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

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

**A-IND 078K Mobile Cranes and Rigging Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

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

**A-IND 078L Motor Grader Operation Units 2**

*Prerequisites: None.*

*Limitations on Enrollment: Indentured Apprentice.*

*Advisories: None.*

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

**A-IND 078M Tractor Operations, Trenching, and Shoring Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured Apprentice.

*Advisories:* None.

This course is designed to introduce the student 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 078N Pesticides and Herbicides Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured Apprentice.

*Advisories:* None.

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

**A-IND 078P Power Actuated Equipment Units 1**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured Apprentice.

*Advisories:* None.

This course is designed to introduce the student 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.

## ITALIAN

**ITAL 001 Elementary Italian Units 5**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is an introduction to the Italian language and Italian cultures. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. (UC, CSU, CAN ITAL 002, CAN ITAL SEQ A)

**ITAL 002 Elementary Italian Units 5**

*Prerequisites:* Successful completion of ITAL 001 or 052.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is an introduction to the Italian language and Italian cultures. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. (UC, CSU, CAN ITAL 004, CAN ITAL SEQ A)

**ITAL 003 Intermediate Italian Units 5**

*Prerequisites:* Successful completion of ITAL 002 or 054.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to offer continued study of the Italian language and Italian cultures. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU, CAN ITAL 008)

**ITAL 004 Intermediate Italian Units 5**

*Prerequisites:* Successful completion of ITAL 3.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to offer continued study of the Italian language and Italian cultures. Efforts to improve reading and composition skills are based on both contemporary and traditional selection. (UC, CSU, CAN ITAL 010)

**ITAL 036A Introductory Italian Conversation Units 2**

*Prerequisites:* Successful completion of ITAL 001 or 051e.

*Limitations on Enrollment:* None.

*Advisories:* None.

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

**ITAL 036B Beginning Italian Conversation Units 2**

*Prerequisites:* Successful completion of ITAL 002 or 053.

*Limitations on Enrollment:* None.

*Advisories:* None.

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

**ITAL 038A Special Assignment: Listening Units 2**

*Prerequisites:* Concurrent enrollment in or completion of ITAL 001 or ITAL 051.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is a skill-building course with an emphasis on listening. The course is designed to meet the special need of the student. The course is offered for individual or group study. (CSU)

**ITAL 038B Special Assignment: Pronunciation Units 2**

*Prerequisites:* Concurrent enrollment in or completion of ITAL 001 or ITAL 051.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is a skill-building course with an emphasis on pronunciation. The course is designed to meet the special need of student. The course is offered for individual or group study. (CSU)

**ITAL 038C Special Assignment: Reading Units 2**

*Prerequisites:* Concurrent enrollment in or completion of ITAL 001 or ITAL 051.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is a skill-building course with an emphasis on reading. The course is designed to meet the special need of student. The course is offered for individual or group study. (CSU)

**ITAL 038D Special Assignment: Writing Units 2**

*Prerequisites:* Concurrent enrollment in or completion of ITAL 001 or ITAL 051.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is a skill-building course with an emphasis on writing. The course is designed to meet the special need of student. This course is offered for individual or group study. (CSU)

**ITAL 050H Special Studies: Italian Units 1-2**

*Prerequisites:* Presentation of a project acceptable to the instructor and the division chairperson; ITAL 004 with grade of "B" or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to allow the student to do advanced work in the language. The course includes research, directed reading, field work, or other advanced study. The course may be repeated for a maximum total of 4 units. (CSU)

**ITAL 051 Elementary Italian Units 2.5***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the Italian language and Italian culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. The combined five units of ITAL 051 and 052 are equivalent to ITAL 001. (UC, CSU, CAN ITAL 002 with both ITAL 051 and 052, CAN ITAL SEQ A with both ITAL 051, ITAL 052, ITAL 053 and ITAL 054)

**ITAL 052 Elementary Italian Units 2.5***Prerequisites: Successful completion of ITAL 051 with a grade of "C" or better.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the Italian language and Italian culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. The combined five units of ITAL 051 and 052 are equivalent to ITAL 001. (UC, CSU, CAN ITAL 002 with both ITAL 051 and 052, CAN ITAL SEQ A with both ITAL 051, ITAL 052, ITAL 053, and ITAL 054)

**ITAL 053 Elementary Italian Units 2.5***Prerequisites: Successful completion of ITAL 001 or ITAL 052 with a grade of "C" or better.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the Italian language and Italian culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. The combined five units of ITAL 053 and 054 are equivalent to ITAL 002. (UC, CSU, CAN ITAL 004 with both ITAL 053 and 054, CAN ITAL SEQ A with both ITAL 051, ITAL 052, ITAL 053, and ITAL 054)

**ITAL 054 Elementary Italian Units 2.5***Prerequisites: Successful completion of ITAL 053 with a grade of "C" or better.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the Italian language and Italian culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. The combined five units of ITAL 053 and 054 are equivalent to ITAL 002. (UC, CSU, CAN ITAL 004 with both ITAL 053 and 054, CAN ITAL SEQ A with both ITAL 051, ITAL 052, ITAL 053, and ITAL 054)

**ITAL 075 Selected Topics: Italian Units 0.5-3***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer instruction in one or more of the specialized areas of Italian not covered by the existing curriculum. Units in this course do not count toward an associate degree.

## JAPANESE

**JAPAN 001 Elementary Japanese Units 5***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the Japanese language and Japanese cultures. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. (UC, CSU, CAN JAPN SEQ A)

**JAPAN 002 Elementary Japanese Units 5***Prerequisites: Successful completion of JAPAN 001 or 052.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to the Japanese language and Japanese cultures. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. (UC, CSU, CAN JAPN 004, CAN JAPN SEQ A)

**JAPAN 003 Intermediate Japanese Units 5***Prerequisites: Successful completion of JAPAN 002 or 054.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer continued study of the Japanese language and the Japanese cultures. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU, CAN JAPN 008)

**JAPAN 004 Intermediate Japanese Units 5***Prerequisites: Successful completion of JAPAN 003.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer continued study of the Japanese language and the Japanese cultures. Efforts to improve reading and composition skills are based on both contemporary and traditional selections. (UC, CSU, CAN JAPN 010)

**JAPAN 036A Introductory Japanese Conversation Units 2***Prerequisites: Successful completion of JAPAN 001 or 051.**Limitations on Enrollment: None.**Advisories: None.*

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

**JAPAN 036B Beginning Japanese Conversation Units 2***Prerequisites: Successful completion of JAPAN 003 or 053.**Limitations on Enrollment: None.**Advisories: None.*

This course designed to achieve conversational ability based on typical daily situations. (CSU)

**JAPAN 038A Special Assignment: Listening Units 2***Prerequisites: Concurrent enrollment in or completion of JAPAN 001 or JAPAN 051.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course with an emphasis on listening. The course is designed to meet the special need of the student. The course may be offered for individual or group study. (CSU)

**JAPAN 038B Special Assignment: Pronunciation Units 2***Prerequisites: Concurrent enrollment in or completion of JAPAN 001 or JAPAN 051.**Limitations on Enrollment: None.**Advisories: None.*

This course is a skill-building course with an emphasis on pronunciation. The course is designed to meet the special need of the student. The course is offered for individual or group study. (CSU)

**JAPAN 038C Special Assignment: Reading Units 2**

*Prerequisites:* Concurrent enrollment in or completion of JAPAN 001 or JAPAN 051.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is a skill-building course with an emphasis on reading. The course is designed to meet the special need of the student. The course is offered for individual or group study. (CSU)

**JAPAN 038D Special Assignment: Writing Units 2**

*Prerequisites:* Concurrent enrollment in or completion of JAPAN 001 or JAPAN 051.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is a skill-building course with an emphasis on writing. This course is designed to meet the special need of the student. The course is offered for individual or group study. (CSU)

**JAPAN 050H Special Studies: Japanese Units 1-2**

*Prerequisites:* Presentation of a project acceptable to the instructor and the division chairperson; JAPAN 004 with a grade of "B" or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to allow the student to do advanced work in the language. The course includes research, directed reading, field work, or other advanced study. The course may be repeated for a maximum total of four units. (CSU)

**JAPAN 051 Elementary Japanese Units 2.5**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is an introduction to the Japanese language and Japanese culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. The combined five units of JAPAN 051 and 052 are equivalent to JAPAN 001. (UC, CSU)

**JAPAN 052 Elementary Japanese Units 2.5**

*Prerequisites:* Successful completion of JAPAN 051 with a grade of "C" or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is an introduction to the Japanese language and Japanese culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. The combined five units of JAPAN 051 and 052 are equivalent to JAPAN 001. (UC, CSU)

**JAPAN 053 Elementary Japanese Units 2.5**

*Prerequisites:* Successful completion of JAPAN 001 or 052 with a grade of "C" or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is an introduction to the Japanese language and Japanese culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. The combined five units of JAPAN 053 and 054 are equivalent to JAPAN 002. (UC, CSU)

**JAPAN 054 Elementary Japanese Units 2.5**

*Prerequisites:* Successful completion of JAPAN 053 with a grade of "C" or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is an introduction to the Japanese language and Japanese culture. Emphasis is placed on the following skills in the order given: listening, speaking, reading, and writing. The combined five units of JAPAN 053 and 054 are equivalent to JAPAN 002. (UC, CSU)

**JAPAN 075 Selected Topics: Japanese Units 0.5-3**

*Prerequisites:* None; exempt from assessment testing.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to offer instruction in one or more of the specialized areas of Japanese not covered by the existing curriculum. Units in this course do not count toward an associate degree.

## JOURNALISM

**JOURN 002 Newswriting Units 3**

*Prerequisites:* MCOM 001 Fundamentals of Media Arts each with a grade of "C" or better.

*Prerequisite Skills:* None.

*Corequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to offer the student instruction in fundamental journalistic writing. Emphasis is placed on the personal interview as a vital process in structuring an objective presentation of news and feature stories. Accompanying the various areas of writing instruction is an introduction to the basics of photojournalism for the reporter. As a component of the course, the student prepares news and feature stories for the college newspaper. The role of the reporter and the legal and ethical issues related to reporting are also examined. (CSU, CAN JOUR 002)

**JOURN 003 Reporting for the Media Units 3**

*Prerequisites:* MCOM 001 Fundamentals of Media Arts each with a grade of "C" or better.

*Prerequisite Skills:* None.

*Corequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to offer the student advanced concepts of news gathering, interviewing, and writing, including in-depth and investigative reporting. The student serves as a staff reporter for the college newspaper. As a component of the course, the student prepares news and feature stories for the college newspaper. (CSU)

**JOURN 004 Editing for the Media Units 3**

*Prerequisites:* JOURN 003 with a grade of "C" or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to emphasize editing and newspaper design. Topics include copy editing, headline writing, page makeup and design, digital photography and production methods. Editorial writing, press ethics and legal issues are also discussed. The student serves as an editor on the college newspaper. (CSU)

**JOURN 005 Publication Management Units 3**

*Prerequisites:* JOURN 003 or JOURN 004 with a grade of "C" or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to train the prospective print editor on all aspects of operating a publication, including developing a publishing schedule and story assignments, coordinating a writing staff, designing a page, writing headlines and outlines, sizing photographs, understanding the business side of print journalism, working with other editors and printers, and developing editorial and management policies. (CSU)

**JOURN 006 Media Internship Units 1-8**

*Prerequisites:* JOURN 002 or 003.

*Limitations on Enrollment:* None.

*Advisories:* None.

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

**JOURN 008 Mass Media and Critical Thinking Units 3**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to introduce reasoning skills useful to the journalism major and general education student alike in interpreting and analyzing news, entertainment and advertising in the mass media. Emphasis is on assessing the quality of mass media messages and on how to think critically about the effects of mass media. The course focuses on analysis of current events. (UC, CSU)

**JOURN 009 Photojournalism Units 3**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to offer the student instruction in the use of digital photojournalism as a tool for reporting and interpreting news for print and Internet mass media. The course includes instruction in operation of digital cameras, composition, processing of digital images and photo page design. Instruction is also provided in techniques of covering specific categories of news events, including spot news, fires, crime, disasters, sports, and features. Legal and ethical issues related to photojournalism are also examined. (CSU)

**JOURN 050H Special Studies: Mass Media Units 1-2**

*Prerequisites:* MCOM 001, *Fundamentals of Media Arts*, 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 designed for the student qualified to do advanced work in mass media. The course includes research, directed reading, fieldwork or other advanced study. The course may be repeated for a maximum of four units. (CSU)

**JOURN 053 Freelance Writing Units 3**

*Prerequisites:* Reading level II.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to assist the student in pursuing the writing and publication of original works. These works may consist of fiction and non-fiction, including magazine and newspaper articles, short stories, poems, novels, plays, screenplays, television scripts, and photojournalism. (CSU)

**JOURN 069V Internship: Media Units 1-8**

*Prerequisites:* None.

*Prerequisite Skills:* Ability to assess personal interests, values, and skills. Ability to research careers, and to make decisions relative to career planning and goal setting. Ability to conduct a job search, write a resume, and interview for employment.

*Limitations on Enrollment:* The student must enroll in a course that is directly related to the media internship. The student must enroll in a minimum of 7 units, including internship units during the semester. For summer session, the student must enroll in one related course in addition to internship. The combined total numbers 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 030, 031, 032, 033.

This course is designed for the student participating in an occupational internship in Journalism and other media. Application of discipline-related skills and knowledge to the 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. To register, complete an application form available at the Applied Science and Technology Division office, Holt 140.

**JOURN 075 Selected Topics: Journalism Units 0.5-3**

*Prerequisites:* None; exempt from assessment testing.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to offer instruction in one or more of the specialized areas of journalism not already covered by the existing curriculum. Units in this course do not count toward an associate degree.

## LEARNING DISABILITY

**L D 070 College Awareness Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to help the student with disabilities to acquire academic, social, and vocational skills. The course offers compensatory strategies needed to be successful in college. The student participates in the mutual development of the individual education plan. Units earned in this course do not count toward the associate degree.

**L D 077 Assessment and Prescription Units 1**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to help the student to complete the Learning Disabilities Assessment Process. Individual Education Plans are based on individual needs according to the assessment process. In addition to the individualized assessment and prescriptive process, the student receives an introduction to the College and to the Learning Disabilities program. Units earned in this course do not count toward the associate degree.

**L D 078A Auditory Discrimination and Word Attack Skills Units 0.5-2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to help the student with disabilities to improve spelling, reading, and word attack skills by improving the knowledge and use of sound-symbol correspondence, syllabification, and whole word analysis. Units earned in this course do not count toward the associate degree.

**L D 078B Spelling Skills Units 0.5-2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to help the student with disabilities to improve his/her spelling skills. Based on individual diagnosis, appropriate spelling approaches are determined for each student. Units earned in this course do not count toward the associate degree.

**L D 078C Modality Vocabulary Units 0.5-2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to help the student with disabilities to improve his/her college level vocabulary in order to speak more effectively, write efficiently, and read and understand key academic terms associated with college subjects. Units earned in this course do not count toward the associate degree.

**L D 078D Writing Skills Units 0.5-2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to help the student qualifying with disabilities with writing skills necessary for success in the college curriculum. The purpose of this course is to guide the student through a process of writing well-organized, logical paragraphs based on his or her learning modality strength. Units earned in this course do not count toward the associate degree.

**L D 078E Modality and Study Skills Units 0.5-2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to help the student with disabilities with directed practice in developing reading and study skills. Units earned in this course do not count toward the associate degree.

**L D 078F Applied Compensatory Strategies Units 0.5-2***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to provide information and coping skills to the student with learning disabilities or attention deficits who is experiencing academic difficulties. This course enhances skills in the areas of learning strategies, personal growth, and self-advocacy to minimize the obstacles presented by disabilities that directly impact the student's success in the educational process. Units earned in this course do not count toward the associate degree.

**L D 078G 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 the learning disabled student 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.

**L D 078H Exploration into the World of Computers Units 1***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to introduce basic computer exploration and assistive technology programs to the student with disabilities. The course includes how a computer works, computer terminology, introduction to keyboarding, introduction to windows, introduction to the Internet, and exploration of assistive technology equipment and programs. The course is self-paced and requires no previous computer knowledge of experience. Units earned in this course do not apply toward the associate degree.

## LIBRARY SKILLS

**LIBRY 001 Library Information Literacy Units 1***Prerequisites: Reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to allow the student to develop information literacy skills and to introduce the variety of information resources and information retrieval tools available in academic libraries. The student learns how to develop research strategies and how to utilize library resources and services to effectively retrieve information in this self-paced course. (UC, CSU)

**LIBRY 002 Advanced Library Information Literacy Units 2***Prerequisites: LIBRY 001.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to further develop the student's information literacy and critical thinking skills learned in Library Information Literacy. In this self-paced course, special emphasis is given to the Internet as a research tool, online databases, online searching strategies, general and specialized reference books, law reference sources, and career information. (UC, CSU)

**LIBRY 003 Information Competency Units 3***Prerequisites: Reading level II.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to empower the student with information literacy skills and enable the student to identify the need for information, develop research strategies, and find, evaluate, use, and communicate information in various formats. The course promotes consideration of ethical and legal use of information as well as the application of both critical thinking and communication skills. The course combines instruction, hands-on learning and applications, forum discussions, analysis and evaluation of information, learning assessment, and research project. (UC, CSU)

## MASS COMMUNICATION

### MCOM 001 Fundamentals of Media Arts Units 3

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

This course is a comprehensive study of the history, development, and current state of the mass media, including newspapers, magazines, television, radio, on-line services, public relations, advertising, and photojournalism, emphasizing their function and obligations in a free society. The course also addresses controls on the media, including mass media law and ethics. The constitutional basis for a free press is extensively explored. (UC, CSU)

### MCOM 002 Writing for the Media Units 3

*Prerequisites:* MCOM 001.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is designed to offer the student fundamental instruction in writing for the mass media. The course includes instruction in writing techniques for newspapers, magazines, radio, television, and other news and information media. Also covered is the application of journalistic principles in writing columns, features, and editorials; corporate communications; publicity, public information, advertising and related areas. The treatment of news by both print and broadcast media is analyzed and evaluated. Legal and ethical issues related to writing for the media are also examined. Extensive instruction is offered in standard styles, grammar, copy editing, and proofreading. The course is particularly recommended for English, communications, business and advertising majors, as well as for any field in which the student would benefit from theoretical and practical enhancement of writing skills. (CSU)

### MCOM 003 Media Management Units 3

*Prerequisites:* MCOM 001 with a grade of "C" or better.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is designed to train the prospective mass communicator in all aspects of operating a medium, including developing budgets, schedules and assignments, human resource management, team building, quality control, long- and short-term planning, policy development and implementation, advertising, marketing, distribution, and audience research. Legal and ethical issues affecting media management are examined. (CSU)

## MATHEMATICS

### MATH 001 Calculus Units 5

*Prerequisites:* MATH 036, or MATH 030 and MATH 031 each with a grade of "C" or better.  
*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 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 018, CAN MATH SEQ B with both MATH 001 and 002, CAN MATH SEQ C with both MATH 001, MATH 002, and MATH 003)

### MATH 001L Calculus Computer Laboratory Units 1

*Prerequisites:* MATH 001 or concurrent enrollment in MATH 001.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is designed to enhance the student's understanding of calculus through the use of a Computer Algebra System. The course is based on computer laboratory experimentation centering around graphical, numerical, and algebraic analysis of topics of calculus. (CSU)

### MATH 002 Calculus Units 4

*Prerequisites:* MATH 001 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 020, CAN MATH SEQ B with both MATH 001 and 002, CAN MATH SEQ C with both MATH 001, MATH 002, and MATH 003)

### MATH 003 Vector Calculus Units 4

*Prerequisites:* MATH 002 with a grade of "C" or better.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is an introductory 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 022, CAN MATH SEQ C with both MATH 001, 002, and 003)

### MATH 004 Differential Equations Units 4

*Prerequisites:* MATH 002 Calculus each with a grade of "C" or better.  
*Prerequisite Skills:* None.  
*Corequisites:* None.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course provides an introduction to 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, nonlinear differential equations, power series solution methods including solutions near ordinary and singular points, the Laplace transform, and systems of linear differential equations. (UC, CSU, CAN, MATH 024)

### MATH 005 Linear Algebra Units 3

*Prerequisites:* MATH 002 with a grade of "C" or better.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is an introduction to linear algebra for the student anticipating a career in mathematics, engineering, physical science 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 026)

**MATH 010 Introduction to Contemporary Mathematics Units 3**

*Prerequisites:* MATH 082 or MATH 084A and 084B 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 012 Introduction to Probability and Statistics Units 4**

*Prerequisites:* MATH 082 or 084A and 084B with a grade of “C” or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to acquaint the student with elementary techniques used in statistical methods. Emphasis is on descriptive statistics, elementary probability concepts, probability distributions, statistical inference, and simple linear regression analysis, with applications in business administration, education, natural sciences, psychology, and social science. A graphing calculator is recommended. Instructor demonstrations utilize the TI-83 calculator. (UC, CSU, CAN STAT 002)

**MATH 013 Survey of Calculus Units 4**

*Prerequisites:* MATH 082 Intermediate Algebra each with a grade of “C” or better or MATH 084A Intermediate Algebra each with a grade of “C” or better and MATH 084B Intermediate Algebra each with a grade of “C” or better.

*Prerequisite Skills:* None.

*Corequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed primarily for the student studying business, life science, social science, or engineering technology who wishes an overview of the practical aspects of Calculus, rather than the more rigorous development found in the three semester sequential Calculus series (MATH 001, 002, 003). (UC, CSU, CAN MATH 030)

**MATH 015 Selected Topics: Mathematics Units 0.5-2**

*Prerequisites:* Reading level II or concurrent enrollment in reading; MATH 080 or MATH 083A and 083B with a grade of “C” or better.

*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 017A Concepts and Structures of Mathematics Units 3**

*Prerequisites:* MATH 082 Intermediate Algebra each with a grade of “C” or better or MATH 084B Intermediate Algebra each with a grade of “C” or better.

*Prerequisite Skills:* None.

*Corequisites:* MATH 082 Intermediate Algebra each 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. (UC, CSU)

**MATH 017B Concepts and Structures of Mathematics Units 3**

*Prerequisites:* MATH 082 or MATH 084B 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 020 Finite Mathematics Units 3**

*Prerequisites:* MATH 082 or MATH 084A and 84B with a grade of “C” or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to fulfill the mathematics requirements of the student in business administration, management, life sciences, and social sciences. The course includes review topics in algebra, matrices, linear programming, elementary probability theory, Markov chains, decision theory, mathematics of finance, and game theory. Graphing calculators are used extensively. The TI-82 is used for instructor demonstrations. (UC, CSU, CAN MATH 012)

**MATH 030 College Algebra Units 4**

*Prerequisites:* Reading level II; MATH 082, or MATH 084A and 84B, each 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 031) may be taken concurrently with College Algebra (MATH 030). College Algebra and Trigonometry together are equivalent to Pre-Calculus (MATH 036). The student may not receive credit for both MATH 030 and MATH 036. (UC, CSU)

**MATH 031 Trigonometry Units 3**

*Prerequisites:* MATH 082, or MATH 084A 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 of trigonometric functions. Graphing calculators are used extensively. The TI-82 is used for instructor demonstrations. MATH 030 (College Algebra) and MATH 031 (Trigonometry) together are equivalent to MATH 036. The student may not receive credit for both MATH 031 and MATH 036. (CSU)

**MATH 036 Pre-Calculus Units 5**

*Prerequisites:* MATH 082, or MATH 084A and 084B, with a grade of “C” or better.

*Limitations on Enrollment:* None.

*Advisories:* MATH 81 (Geometry) is recommended.

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. The TI-82 is used for instructor demonstrations. The student may not receive credit for both MATH 036 (Precalculus) or, MATH 030 (College Algebra) and MATH 031 (Trigonometry). MATH 030 and MATH 031 are equivalent to MATH 036. (UC, CSU, CAN MATH 016)

**MATH 050H Special Studies: Mathematics Units 1-2**

*Prerequisites:* MATH 001 or 012, with a grade of “B” or better; 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. (CSU)

**MATH 072 Review of Arithmetic Units 3**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed as a review of basic arithmetic. The course includes whole numbers, fractions, decimals, ration and proportion, percents, and systems of measurement. Units earned in this course do not count toward an associate degree.

**MATH 075 Selected Topics: Mathematics Units 0.5-3**

*Prerequisites:* None; exempt from assessment testing.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to offer instruction in one or more of the specialized areas of mathematics not already covered by the existing curriculum. Units in this course do not count toward an associate degree.

**MATH 080 Elementary Algebra Units 4**

*Prerequisites:* Reading level II and Math level II.

*Limitations on Enrollment:* None.

*Advisories:* MATH 080L.

This course is a first course in algebra. Specific topics include polynomials, factoring of polynomials, rational expressions, ratio and proportionality, solving linear and quadratic equations, elementary graphing in two dimensions, elementary systems of linear equations, square roots, and various application problems. The course is comparable to a first year algebra course in local K-12 schools.

**MATH 080L Elementary Algebra Workshop Units 1**

*Prerequisites:* Reading level II and Math level II; concurrent enrollment in MATH 080, MATH 083A or MATH 083B.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to supplement the lecture course Elementary Algebra (MATH 080). The student is 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. The student practices these skills in application to MATH 080 course work as part of the workshop sessions. Included is a review of arithmetic skills necessary for success in MATH 080.

**MATH 081 Plane Geometry Units 3**

*Prerequisites:* Reading level II or concurrent enrollment in reading; MATH 080 or MATH 083A and 83B with a grade of “C” or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to present 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 082 Intermediate Algebra Units 4**

*Prerequisites:* Reading level II and Math level II; MATH 080 with a grade of “C” or better.

*Limitations on Enrollment:* None.

*Advisories:* Concurrent enrollment in MATH 082L is recommended.

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, solving systems of linear equations using Cramer’s Rule, conic sections, and exponential and logarithmic functions.

**MATH 082L Intermediate Algebra Workshop Units 1**

*Prerequisites:* Reading level II and Math level II; concurrent enrollment in MATH 082, MATH 084A, or MATH 084B.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to supplement the lecture course Intermediate Algebra (MATH 082). The student is 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. The student practices these skills in application to MATH 082 course work as part of the workshop sessions. Included is a review of arithmetic and elementary algebra skills necessary for success in MATH 082.

**MATH 083A 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 080 (Elementary Algebra) and it allows the student more study time for the course topics. Completion of both MATH 083A and MATH 083B is equivalent to completion of MATH 080. The entering student needs to have a satisfactory understanding of basic arithmetic, including fractions, decimals, and percents.

**MATH 083B Elementary Algebra Units 2**

*Prerequisites:* Reading level II and Math level II; MATH 083A with a grade of “C” or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is equivalent to the second half of MATH 080 (Elementary Algebra) and it allows the student more study time for the course topics. Completion of both MATH 083A and MATH 083B is equivalent to completion of a first course in algebra.

**MATH 084A Intermediate Algebra Units 2**

*Prerequisites:* Reading level II and Math level II; MATH 080 or MATH 083A 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 the student more time for the course topics. Completion of both MATH 084A and MATH 084B is equivalent to completion of a second course in algebra.

**MATH 084B Intermediate Algebra Units 2**

*Prerequisites:* Reading level II and Math level II; MATH 084A 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 the student more time for the course topics. Completion of both MATH 084A and MATH 084B is equivalent to completion of a second course in algebra.

**MATH 085A Mathematics Laboratory Techniques: Mathematica Units 1-3**

*Prerequisites:* MATH 036 or combination of MATH 030 and MATH 031 with a grade of “B” or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to prepare the student to serve as a laboratory assistant and to aid other students using the Mathematics Laboratory. The student serves as a laboratory assistant.

**MATH 088 Prealgebra Units 3**

*Prerequisites:* Math level II.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed for the student 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 088L Prealgebra Laboratory Units 0.5-1**

*Prerequisites:* Math level II.

*Limitations on Enrollment:* None.

*Advisories:* Concurrent enrollment in MATH 088.

This course is designed to provide the student with individual diagnosis, prescription, and instruction in the prealgebra topics covered in MATH 088 in the laboratory setting. Units in this course do not apply toward the associate degree.

## MECHANICAL TECHNOLOGY

**MECH 010 Basic Welding for the Trades Units 4**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to provide the student who 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: oxy-acetylene, shielded metal arc welding, and metal inert gas (MIG) welding. (CSU)

**MECH 011A Basic Welding for the Trades Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to provide basic welding skills. The course includes basic theory, practice and application of metal joining processes, metal cutting, shielded metal arc, and oxy-acetylene welding. MECH 011A and MECH 011B are equivalent to MECH 010. (CSU)

**MECH 011B Welding for the Trades Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to provide basic welding skills. The course includes 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 (MIG) welding and tungsten inert gas (TIG) welding. MECH 011A and MECH 011B are equivalent to MECH 010. (CSU)

**MECH 015 Machine Tool Process Units 3**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed for the student who plans to enter occupations in metals technology, manufacturing, engineering, and related fields. The student learns 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 the student to have hands-on experience with a variety of machinery processes. (CSU)

**MECH 030A Refrigeration and Air Conditioning Units 3**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

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

**MECH 030B Refrigeration and Air Conditioning Units 3**

*Prerequisites:* MECH 030A with a grade of “C” or better.

*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 030C Advanced Refrigeration Units 3**

*Prerequisites:* MECH 030B with a grade of “C” or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

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

**MECH 031A Air Conditioning Components and Circuits Units 6**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to provide the student with the fundamentals of heating and air conditioning. Emphasis is placed on the electrical and mechanical theories of operation related to common heating and air conditioning equipment. The course includes basic electricity, basic circuits, common electrical components, and applications to heating and air conditioning. (CSU)

**MECH 031B Air Conditioning Troubleshooting Units 6**

*Prerequisites:* MECH 031A with a grade of “C” or better.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to enable the student to develop skills necessary to properly install split and packaged air conditioning systems. This course includes operation, maintenance, and repair procedures for various heating and air conditioning systems. (CSU)

**MECH 031C Air Conditioning Systems and Heat Pumps Units 6**

*Prerequisites:* MECH 031B with a grade of "C" or better.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is designed to provide the fundamentals of electrical and mechanical operation of heat pumps and chilled water systems. The course includes sequence of operation, temperature, pressure, and electrical analysis. (CSU)

**MECH 031D Commercial Air Conditioning Design and Operation Units 6**

*Prerequisites:* MECH 031C with "C" or better.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is designed to develop skills necessary for calculating residential and commercial cooling loads and duct design. The course includes chiller operation and maintenance. (CSU)

**MECH 032A Air Conditioning Control Circuit Analysis Units 3**

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

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

**MECH 032B Refrigeration Control Circuit Analysis Units 3**

*Prerequisites:* MECH 032A with a grade of "C" or better.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is designed to introduce the student to basic refrigeration controls found in domestic and industrial refrigeration systems and progresses up to industrial refrigeration controls. Instruction includes introduction to control theory, application, and electrical trouble-shooting. (CSU)

**MECH 032C Heating and Air Conditioning Commercial Controls Units 3**

*Prerequisites:* MECH 032B with a grade of "C" or better.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is designed to introduce the student to the basic commercial controls used in the heating and air conditioning industry. The student works with basic set-ups of both pneumatic and direct digital control systems. (CSU)

**MECH 050A Introductory Machine Shop Units 8**

*Prerequisites:* None.  
*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. The student uses computer software to retrieve and plot project blueprints. (CSU)

**MECH 050B Beginning Machine Shop Units 8**

*Prerequisites:* MECH 050A.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is based on the skills and knowledge learned in MECH 050A, 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. The student uses computer software to retrieve and plot project blueprints. (CSU)

**MECH 050C Intermediate Machine Shop Units 8**

*Prerequisites:* MECH 050B.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is based on the skills and knowledge learned in MECH 050B, 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. The student writes programs in the "G" and "M" code format and uses 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 050D Advanced Machine Shop Units 8**

*Prerequisites:* MECH 050C.  
*Limitations on Enrollment:* None.  
*Advisories:* None.

This course is based on the knowledge and skills learned in MECH 050C, 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. The student constructs drawings on computers, adds tooling information, defines tool paths, generates Computer Numerical Control (CNC) code and uses the CNC code to operate the CNC machine tools. (CSU)

**MECH 052A Computer Numerical Control (CNC) Units 3**

*Prerequisites:* MECH 015, or MECH 050A, or MECH 077A, or MECH 078A.  
*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 052B Advanced CNC/Computer-Aided Manufacturing (CNC/CAM) Units 3**

*Prerequisites:* MECH 052A.  
*Limitations 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 060 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 the student for employment areas such as: machine shop, heating and air conditioning, fabrication and maintenance personnel in metal trade industries. (CSU)

**MECH 067A Elementary Machine Shop Units 4***Prerequisites: None.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to machine tool theory, blueprint reading, and related mathematics with hands-on shop experience. Subjects include precision instruments, hand tools, layout and the operation of stationary power tools with an emphasis on the lathe. The student uses computer software to retrieve and plot project blueprints. Elementary Machine Shop (MECH 067A and MECH 067B) is equivalent to Introductory Machine Shop (MECH 050A). The student who successfully completes MECH 067A or MECH 067B may not receive credit for MECH 050A. (CSU)

**MECH 067B Elementary Machine Shop Units 4***Prerequisites: MECH 067A with a grade of "C" or better.**Limitations on Enrollment: None.**Advisories: None.*

This course is an introduction to machine tool theory, blueprint reading, and related mathematics with hands-on shop experience. Subjects include precision instruments, hand tools, layout and the operation of lathes and portable power tools. The student uses computer software to retrieve and plot project blueprints. Elementary Machine Shop (MECH 067A and MECH 067B) is equivalent to Introductory Machine Shop (MECH 050A). The student who successfully completes MECH 067A or MECH 067B may not receive credit for MECH 050A. (CSU)

**MECH 067C Machine Shop Units 4***Prerequisites: MECH 050A or MECH 067B; with a grade of "C" or better.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to provide general machine tool theory, blueprint reading, and related mathematics for the manufacturing of machine parts. Subjects include advanced layout, uses of precision measuring instruments, and operation of drill presses, grinding machines, lathes, vertical milling machines, and saws. The student uses computer software to retrieve and plot project blueprints. Machine Shop (MECH 067C and MECH 067D) is equivalent to Beginning Machine Shop (MECH 050B). The student who successfully completes MECH 067C or MECH 067D may not receive credit for MECH 050B. (CSU)

**MECH 067D Machine Shop Units 4***Prerequisites: MECH 067C with a grade of "C" or better.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to provide students with theory and applications of advanced machine tool operations. Subjects include advanced lathe, vertical mill, horizontal mill, dividing head and rotary table applications. The student uses computer software to retrieve and plot project blueprints. Machine Shop (MECH 067C and MECH 067D) is equivalent to Beginning Machine Shop (MECH 050B). The student who successfully completes MECH 067C or MECH 067D may not receive credit for MECH 050B. (CSU)

**MECH 069V 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 030, 031, 032, 033.*

This course is designed for the student 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 075 Selected Topics: Mechanical Technology Units 0.5-3***Prerequisites: None; exempt from assessment testing.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to offer instruction in one or more of the specialized areas of mechanical technology not already covered by the existing curriculum. Units in this course do not count toward an associate degree.

**MECH 081A Refrigeration, Heating, and Air Conditioning Specialization Units 3***Prerequisites: MECH 031C.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to assist the advanced student 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 087A Machine Tool Technology Specialization Units 3-4***Prerequisites: MECH 050C.**Limitations on Enrollment: This course requires instructor approval to enroll.**Advisories: None.*

This course is designed for the advanced student in machine technology. The student completes an advanced specialized project developed in consultation with the instructor.

**MECH 087B Machine Tool Specialization Units 5***Prerequisites: MECH 050C.**Limitations on Enrollment: None.**Advisories: None.*

This course is designed to assist the advanced student 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 087C Air Conditioning, Refrigeration, and Heating Specialization Units 2-3**

*Prerequisites:* MECH 031C.

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

*Advisories:* None.

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

**MECH 088A Introductory Trade Welding Units 8**

*Prerequisites:* Math level II.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to introduce the theory and application of metal joining and cutting processes in ferrous and nonferrous metals. Shielded metal arc welding (STICK) and oxy-acetylene cutting, welding and brazing processes are included.

**MECH 088B Beginning Trade Welding Units 8**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to introduce the theory and application of metal joining process, metal cutting and arc welding processes, and joining for ferrous and nonferrous metals and alloys. Manipulative skills in shielded metal arc welding processes are stressed. Emphasis is placed on individual student goals in his/her related skill area.

**MECH 088C Intermediate Trade Welding Units 8**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to introduce the theory and application of metal joining and cutting processes in ferrous and nonferrous metals. Manipulative skills in metal inert gas (MIG) welding are stressed.

**MECH 088D Advanced Trade Welding Units 8**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to the theory and application of metal joining and cutting processes in ferrous and nonferrous materials. Manipulative skills in tungsten inert gas (TIG) welding are stressed.

**MECH 089A Stick Welding Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is an open entry/exit course designed for the student who wishes to acquire skills in the shielded metal arc welding (STICK) process.

**MECH 089B Metal Inert Gas (MIG) Welding Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is designed to emphasize the application of the Gas Metal (MIG) Welding. The course includes theory and practical application of welding in a variety of positions on ferrous materials.

**MECH 089C Tungsten Inert Gas (TIG) Welding Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* None.

*Advisories:* None.

This course is an open entry/exit course designed for the student who wishes to acquire skills in the tungsten inert gas (TIG) welding process.

# MECHANICAL TECHNOLOGY: APPRENTICESHIP

**A-MEC 067A Elementary Machine Shop Units 4**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured Apprentice.

*Advisories:* None.

This course is an introduction to machine tool theory, blueprint reading, and related mathematics with hands-on shop experience. Subjects include precision instruments, hand tools, layout and the operation of stationary power tools with an emphasis on the lathe. The student uses compute software to retrieve and plot project blueprints. (CSU)

**A-MEC 067B Elementary Machine Shop Units 4**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured apprentice.

*Advisories:* None.

This course is designed to apply machine tool theory, blueprint reading, and related mathematics to lab exercises. Subjects include precision instruments, hand tools, layout and the operation of lathes and portable power tools. The student uses computer software to retrieve and plot project blueprints. (CSU)

**A-MEC 067C Machine Shop Units 4**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured Apprentice.

*Advisories:* None.

This course is designed to provide general machine tool theory, blueprint reading, and related mathematics for the manufacturing of machine parts. Subjects include advanced layout, use of precision measuring instruments, operation of drill presses, grinding machines, lathes, vertical milling machines, and saws. The student uses compute software to retrieve and plot project blueprints. (CSU)

**A-MEC 067D Machine Shop Units 4**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured Apprentice.

*Advisories:* None.

This course is designed to provide the student with theory and application of advanced machine tool operations. Subjects include advanced lathe, vertical mill, horizontal mill, dividing head and rotary table applications. The student uses compute software to retrieve and plot project blueprints. (CSU)

**A-MEC 074A Basic Welding Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured Apprentice.

*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 074B Machine Shop Units 2**

*Prerequisites:* None.

*Limitations on Enrollment:* Indentured Apprentice.

*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.