

## Interpreting Course Descriptions

The courses listed in this catalog are an indication of what may be offered within any given semester. The College reserves the right to make additions or deletions to the list of offerings during the year and to withdraw courses for which adequate enrollment cannot be maintained. Students should consult the official list of courses offered each semester published in the Semester Class Schedule.

## Undergraduate Course Prerequisites

Courses beyond the freshman year usually have "prerequisites." This means that certain lower-level courses must be taken before the student may register for the advanced course.

The prerequisite for undergraduate courses may be "consent of instructor." The student must secure the consent of the instructor of the course before registering for it. Consent of instructor is usually required for courses in which there is limited laboratory space or equipment, or in which specific skills are required.

Unless otherwise specified, prerequisite courses must be completed with a grade of "C-" or better. In some cases, students must demonstrate competency at a specific placement level on placement examination(s).

## Numbering of Courses

Courses numbered 1000 to 1999 are introductory courses suitable for freshman students. Courses from 2000 to 2999 are primarily intended for sophomore students.

Courses numbered under 1000 may or may not be transferable to other colleges or universities. They *do not meet degree requirements* at Northwest College.

## Subject Area Designators

The three (3) or four (4) letters preceding the course number indicate the subject area the course is in. Course descriptions are arranged alphabetically by the following designators:

<b>Agriculture</b>	AGRI
Agriculture Economics	AGEC
Agroecology	AECL
Animal Science	ANSC
Crop Science	CROP
Entomology	ENTO
Food Science	FDSC
Horticulture	HORT
Range Management	RGMG
<b>American Studies</b>	AMST
<b>Anthropology</b>	ANTH
<b>Art</b>	ART
<b>Astronomy</b>	ASTR
<b>Aviation</b>	AVTN
<b>Biology</b>	BIOL
<b>Botany</b>	BOT
<b>Business</b>	BUSN
Accounting	ACCT
Business Administration	BADM
Business Office Technology	BOTK
Finance	FIN
Management	MGT
Management Information Systems	BMIS
Marketing	MKT
Statistics	STAT
<b>Chemistry</b>	CHEM
<b>CISCO Academy Codes</b>	CSCO
<b>Communication and Mass Media</b>	CO/M
<b>Computer Applications</b>	CMAP
<b>Computer Science</b>	COSC
<b>Criminal Justice</b>	CRMJ
<b>Developmental Studies</b>	DVST
<b>Economics</b>	ECON
<b>Education</b>	EDUC
Curriculum & Instruction	EDCI
Early Childhood	EDEC
Educational Foundations	EDFD
Exceptional Children	EDEX
Library Science	LIBS
<b>Electrical Apprenticeship</b>	ELAP
<b>Emergency Medical Technology</b>	EMT
<b>Engineering Science</b>	ES
<b>Engineering Technology</b>	ENTK
<b>English</b>	ENGL
<b>Equine Studies</b>	EQST
<b>Family and Consumer Science</b>	FCSC
<b>Geography and Recreation</b>	G&R
<b>Geology</b>	GEOL
<b>Graphic Arts</b>	GRAR
<b>History</b>	HIST
<b>Human Development</b>	HMDV
<b>Humanities</b>	HUMN
<b>Internet Education</b>	INET
<b>Information Management</b>	IMGT
<b>Journalism</b>	JOUR
<b>Kinesiology</b>	KIN
<b>Languages</b>	
French	FREN
Greek	GRK
Hebrew	HEBR
Spanish	SPAN
<b>Mathematics</b>	MATH
Statistics	STAT
<b>Molecular Biology</b>	MOLB
<b>Music</b>	MUSC
<b>Nursing Studies</b>	NRST
<b>Outdoor Education</b>	
Activity	OEAC
Professional	OEPR
<b>Philosophy</b>	PHIL
<b>Photographic Communications</b>	PHTO
<b>Physical &amp; Health Education</b>	HLED
PE Activities & Dance	PEAC
Varsity Athletics	PEAT
Professional PE	PEPR
<b>Physics</b>	PHYS
<b>Political Science</b>	POLS
<b>Psychology</b>	PSYC
<b>Quick Start</b>	QSCS
<b>Social Science</b>	SOSC
<b>Sociology</b>	SOC
<b>Theatre</b>	THEA
<b>Welding Technology</b>	WELD
<b>Zoology</b>	ZOO

## Special Course Numbers

The following courses may be offered in transfer or vocational fields

**1460 or 2460 (transfer); 1960 or 2960 (vocational):**

### Field Studies (1-4)

A combination of classroom instruction with participation in the actual field being studied.

**1465 or 2465 (transfer); 1965 or 2965 (vocational):**

### Directed Studies/Research Problems (1-3)

Special projects and research carried out under the direction of faculty.

**1470 or 2470 (transfer); 1970 or 2970 (vocational):**

### \* Internship/Practicum (1-6)

Work experience related to a chosen field of study. (approximately 30 hrs work experience equates to 1 credit hour)

**1475 or 2475 (transfer); 1975 or 2975 (vocational):**

[0975 (below college-level)]

### \* Independent Studies (1-4)

A course designed and taken under a special contract with a faculty member.

**1480 or 2480 (transfer); 1980 or 2980 (vocational):**

### \* Cooperative Education (1-6)

A planned academic program allowing students to blend classroom theory with related work experience. *Prerequisite: Consent of Cooperative Education Director and approval of appropriate faculty member.*

(6.5 hours lecture per student, 70 hours work experience equates to 1 credit hour)

**1485 or 2485 (transfer); 1985 or 2985 (vocational):**

### Seminar (1-3)

In-depth examination of a specific issue or subject.

**1490 or 2490 (transfer); 1990 or 2990 (vocational):**

### Topics (1-4)

Courses that are not part of the regular catalog curriculum. Designed to meet special needs or interests.

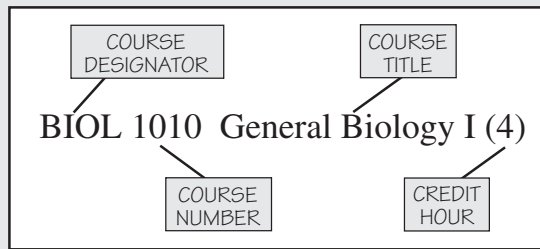
**1495 or 2495 (transfer); 1995 or 2995 (vocational):**

### Workshop (1-3)

Specific training or instruction with the emphasis on skills development. Involves interactive participation among class members and instructors.

*\* A maximum of 12 hours of independent study, cooperative education, and internship credits may be used to fulfill requirements for AA, AS, or AAS degrees at Northwest College. Not more than 6 of these hours may be in any one of the 3 areas (exception for AAS in Travel and Tourism). These courses normally will count as elective credit.*

These descriptions of each course offered at Northwest College include the course designator, number, title, and credit hours (in parentheses) for the course. Course descriptions are followed by the number of hours spent in class lecture or labs. Some courses have prerequisites. A prerequisite is a specific requirement that must be fulfilled by the student before he/she will be allowed to enroll in that course.



## ACCOUNTING (ACCT)

### ACCT-1050 Practical Accounting (3)

Students acquire a basic understanding of accounting principles and procedures used to record, classify, summarize, and report financial data. Students also gain a foundation to perform accounting tasks as well as assist with making business decisions. Prior knowledge of accounting is not necessary. (3 hrs lec)

### ACCT-2010 Principles of Accounting I (4)

Students learn the assumptions, principles, and conventions upon which a sound accounting system is based with an emphasis on formation and communication of financial information found on income statements, balance sheets, and statements of cash flow. Students consider use of financial information for decision making purposes and become conversant in the basic language of business. Emphasizes problem solving analysis both manually and on the computer. No prior knowledge of accounting is required. BMIS 2000 is recommended. (3 hrs lec, 2 hrs lab)

### ACCT-2020 Principles of Accounting II (4)

A continuation of ACCT 2010. Students advance their accounting knowledge and skills with an emphasis on presentation and analysis of corporate financial statements; management accounting concepts and practices used in operations planning and control; and short-term and long-range management decision making. **Prerequisite:** ACCT 2010. (3 hrs lec, 2 hrs lab)

### ACCT-2110 Microcomputer Accounting (2)

Introduces students to computerized integrated accounting software using individual modules for general ledger, accounts receivable, accounts payable, payroll, inventory, and job costs. Reinforces each module with practical applications. Course culminates with a comprehensive accounting simulation. **Prerequisite:** ACCT 1050 or ACCT 2010 with a "C-" or better. (1 hr lec, 2 hrs lab)

### ACCT-2410 Intermediate Accounting I (3)

Covers accounting principles pertaining to income determination and the balance sheet with underlying conceptual framework for development of

generally accepted accounting principles. Topics include proper presentation of financial statements, present value concepts, recognition, and measurement of assets, liabilities, and stockholder equity. (3 hrs lec, 1 hr lab)

## AGROECOLOGY (AECL)

### AECL-1000 Agroecology (4)

Students acquire introductory understanding of the interactions that affect agricultural systems. Comparisons are made between developed and developing countries. Students explore challenges and opportunities facing food production and our global society. (3 hrs lec, 2 hrs lab)

### AECL-2010 Ecological Web: Soil (4)

Students develop introductory understanding of soil properties as components of natural and managed ecosystems. They apply knowledge of biological, chemical, morphological, and physical properties of soil to land management issues in wildland and agriculture ecosystems. (3 hrs lec, 2 hrs lab)

### AECL-2020 Ecological Web: Agronomic and Horticulture Plant Biology (4)

This course covers the importance of plant life to the agriculture community. It is an in-depth study of botany and plant physiology, providing a basis for understanding plant growth, reproduction, and response to environmental factors. Commercial crop production, marketing, land use planning, government programs, research achievements, and research needs are addressed. **Prerequisite:** BIOL 1010 and successful completion of at least 30 credit hours. (3 hrs lec, 2 hrs lab) *Capstone Course*

## AGRICULTURE ECONOMICS (AGEC)

### AGEC-1010 Agricultural Economics I (3)

Introduction of basic economic principles and reasoning, emphasizing agriculture. (3 hrs lec)

### AGEC-1020 Agricultural Economics II (3)

Students learn economic principles as they apply to agricultural production and marketing. Covers

relation of agriculture to the general economy of the country. (3 hrs lec)

### AGEC-2010 Farm and Ranch Business Records (3)

Explores fundamentals of farm and ranch business accounting, analysis, and budgets. Covers the development of effective decision-making methods using records, financial statements, and tax reporting. Includes case farm record-keeping exercise. (2 hrs lec, 2 hrs lab)

### AGEC-2020 Farm and Ranch Business Management (4)

Students learn economic principles, business methods and science applied to organization and operation. Explores measurements of size of business and rate and efficiency of operations. **Prerequisite:** Successful completion of at least 30 credit hours. (3 hrs lec, 2 hrs lab) *Capstone Course*

### AGEC-2100 Advanced Computer Ag Records Management (2)

Students learn about advanced computerized financial records and analysis, computerized production records, and computerized crops production records. Students work within a self-paced format and select one of the three areas of concentration for study. Actual business records of the student are used and entered into the computer for more effective analysis and decision making. **Prerequisite:** AGECE 2010. (1 hr lec, 2 hrs lab)

### AGEC-2300 Agricultural Marketing (3)

Covers the role of agricultural products in the national economy and trade including costs, margins, marketing alternatives, transportation, governmental influence, and competition. **Prerequisite:** ECON 1010, AGECE 1010, or equivalent. (3 hrs lec)

### AGEC-2400 Farm Credit and Finance (2)

Covers various financial agencies available to the manager; responsibilities, liabilities, and rewards of using credit; interest calculations; discounting and investments. **Prerequisite:** AGECE 1010 or AGECE 2010. (2 hrs lec)

## AGRICULTURE (AGRI)

### AGRI-1010 Computers in Agriculture (3)

Designed to familiarize the student with computer applications related to agricultural situations. Provides the student opportunities to use computers to solve a variety of problems using an assortment of software programs. **Prerequisite:** Keyboarding skills recommended. (2 hrs lec, 2 hrs lab)

### AGRI-2385 Agriculture Communication/Leadership (2)

Students will explore the occupation of agriculture communications through activities that will allow them hands-on experience. Students explore challenges and opportunities facing food production and our global society. Students will develop an appreciation for leadership training and communicating ideas to a community audience. **Prerequisite:** Consent of instructor and successful completion of 30 credit hours. (2 hrs lec)

**AGRI-2390 Agriculture Literacy/Leadership(2)**  
Students acquire skills necessary for developing an agriculture literacy program for the campus as well as the community. Students will assist the Agriculture Department in many tasks throughout the semester including such things as recruiting potential students and educating the community about the Agriculture Department at Northwest College. **Prerequisite:** Consent of instructor and successful completion of at least 30 credit hours. (2 hrs lec)

**AGRI-2400 Agriculture Operations Studies (2)**  
Students will develop and plan a tour, identifying and selecting agricultural operations to visit. Students will also plan the itinerary and make necessary contacts and reservations. After the tour, students will compile a portfolio analyzing their experience. May be repeated once for credit. (1 hr lec, 2 hrs lab)

## AMERICAN STUDIES (AMST)

**AMST-2010 Introduction to American Studies (3)**  
Introduces the interdisciplinary study of American culture. Focuses on themes, values, and ideas which historically have defined the cultural experience of the United States. Examines the cultural meanings of aspects of everyday American life that may include work, clothing, food, family, gender, buildings, bodies, media entertainment, advertising, and education. (3 hrs lec)

**AMST-2370 Rock and Roll - Its History and Culture (3)**  
This capstone course is designed to allow students to learn about and participate in one of the dominant dialogues in American culture: rock and roll music. That is, during the course of the semester, we will examine American culture through the lens of rock and roll and explore the ramifications of this relationship. Students will listen to music, read relevant social texts, and synthesize this material in written and spoken forms, culminating in a public presentation. This course is the same as HUMN 2370 and MUSC 2370. **Prerequisite:** Successful completion of at least 30 credit hours. (3hrs lec) *Capstone Course*

## ANIMAL SCIENCE (ANSC)

**ANSC-1022 Animal Science I (4)**  
Provides an overview of opportunities associated with the production of domestic animals for food, clothing, power, and recreation. Students become familiar with breeds and management of beef cattle, dairy cattle, sheep, swine, horses, and poultry. (3 hrs lec, 2 hrs lab)

**ANSC-1024 Animal Science II (4)**  
Enables students to become familiar with the biological functions of farm-ranch animals. Analyzes products produced by farm-ranch animals. (3 hrs lec, 2 hrs lab)

**ANSC-1100 Artificial Insemination (2)**  
Anatomy of the male and female reproductive system and the physiology of the endocrine and

reproductive systems as they relate to a successful artificial insemination program. Labs cover actual practice and techniques in insemination, collecting, handling, storing, and evaluation of semen. (1 hr lec, 2 hrs lab)

**ANSC-1210 Livestock Judging I (2)**  
Fall semester judging of all types of livestock. Emphasizes individual breed characteristics covering strong and weak points of each. (.5 hr lec, 3 hrs lab)

**ANSC-1220 Livestock Judging II (2)**  
Spring semester judging of all types of livestock. Emphasizes individual breed characteristics covering strong and weak points of each. **Prerequisite:** ANSC 1210. (.5 hr lec, 3 hrs lab)

**ANSC-1250 Field Experience: Livestock Exhibition (3)**  
Designed to give the student experience in exhibiting animals at open class fairs and in preparation of livestock for shows and sales. Class time includes duties and responsibilities of a herdsman in preparation, care, and exhibiting livestock. A practicum deals with actual showing experience. **Prerequisite:** ANSC 1022. (.5 hr lec, 5 hrs lab)

**ANSC-2020 Feeds and Feeding (4)**  
Covers the importance of livestock nutrition, physiology of digestion, types of feeds, and determinations of rations for all classes of livestock. **Prerequisite:** CHEM 1000 recommended. (3 hrs lec, 2 hrs lab)

**ANSC-2230 Livestock Judging III (2)**  
Fall semester competitive livestock judging. Selected students represent the college in local, regional, and national contests. Students participate in the fall semester. **Prerequisite:** ANSC 1220 and written consent of instructor. (1 hr lec, 2 hrs lab)

**ANSC-2240 Livestock Judging IV (1)**  
Spring semester competitive livestock judging. Selected students represent the college in local, regional, and national contests. Students participate in the spring semester. **Prerequisite:** ANSC 2230 and written consent of instructor. (.5 hr lec, 1 hr lab)

**ANSC-2320 Livestock Health and Management (2)**  
A basic review of the major diseases that affect bovine, ovine, and swine. A portion of the class covers specific anatomy affected by diseases, a review of appropriate pharmacology, and the development of a general herd health management program that agriculture producers can adapt to their own operation. (2 hrs lec)

**ANSC-2430 Comparative Anatomy/Physiology Domestic Animals (4)**  
Covers comparative anatomy and the physiology of digestion, circulation, nervous system, reproduction and urinary systems, muscular and skeletal systems, and environment of farm animals. (3 hrs lec, 2 hrs lab)

**ANSC-2550 Public Speaking for Livestock Judges (1)**  
Designed to improve speaking skills used in judging livestock. Subject matter includes organization, delivery, and speaking skills involved in providing oral critiques of different groups of livestock. (.5 hr lec, 1 hr lab)

## ANTHROPOLOGY (ANTH)

**ANTH-1100 Physical Anthropology (3)**  
Commonly referred to as Biological Anthropology, Physical Anthropology studies the biological basis of humankind. Addresses questions regarding human origins and human variation. Course seeks answers to these questions by analyzing evolutionary theory, cell biology, human genetics, race and human diversity, primate evolution, primate social behavior, and ecology and human origins. (3 hrs lec)

**ANTH-1105 Physical Anthropology Lab (1)**  
Optional lab operates in conjunction with ANTH 1100. Lab is advised for those specializing in anthropology and transferring to schools having a four-credit anthropology course with lab. **Prerequisite:** Previous or concurrent enrollment in ANTH 1100. (2 hrs lab)

**ANTH-1200 Introduction to Cultural Anthropology (3)**  
Provides a wide perspective for the understanding of humankind, language, food-getting strategies, social and economic systems, political organization, marital and family structure, religion, art, music, etc. Accomplished in part by the study and comparison of a variety of cultures. (3 hrs lec)

**ANTH-1250 Archaeology of Wyoming (3)**  
An overview of the hunting and gathering lifeways and adaptations of past human groups in Wyoming including subsistence and settlement patterns, stone tool technologies and chronology, key sites, rock art, and historical archaeology. Also methodologies, law and ethics, and curation procedures. (3 hrs lec)

**ANTH-1300 Introduction to Archaeology (3)**  
Introduces the theory and method of archaeological science, with an overview of cultural evolution in the Old World up to the development of early civilization. Includes a summary of Wyoming archaeology. (3 hrs lec)

**ANTH-2200 World Ethnography: (3)**  
Provides an understanding of cultural behavior of peoples in various geographical areas of the world. Indicates the specific geographic area for each semester offered, such as Middle East, Africa, South America, South Pacific, Mediterranean, American Southwest. A student may take this course twice. (3 hrs lec)

**ANTH-2210 North American Indian Cultures (3)**  
A survey of the origin and development of Native American cultures in North America, examining briefly each cultural zone or area. (3 hrs lec)

**ANTH-2300 Archaeological Methods (3)**

A study of the history and methods of archaeological excavation. Includes selection of sites, excavation techniques and technologies, and report writing.  
(2 hrs lec, 2 hrs lab)

**ANTH-2310 Archaeological Field Methods(1-6)**

Field experiences in archaeology in the United States or outside the United States. Field schools present instruction in mapping, stratigraphy, excavation techniques and technology, photography, record keeping, regional survey, artifact storage, and preservation. Some excavation sites located in Wyoming and in Israel.  
(2 hrs lab per credit hour)

**ANTH-2350 Biblical Archaeology (3)**

A study of the archaeological context of the Bible lands, relating Syro-Palestinian archaeology to the cultures of the ancient Mediterranean and Near East.  
(3 hrs lec)

**ANTH-2390 Archaeological Tour of Arizona and Grand Canyon Area (1)**

Camping tour of archaeological sites and museums in Arizona. Sites vary, from northern cliff dwellings, to pueblo, to desert abode. Opportunity to see the Grand Canyon.  
(1 hr lec)

**ANTH-2470 Internship: Anthropology (1-6)**

Available to the serious student who desires to observe and participate in a demanding and rewarding professional off-campus experience.  
(1-6 hrs lec per credit hour)

**ART (ART)****ART-1010 Introduction to Art (3)**

Students undertake an introductory exploration of major art and artifacts of western civilization. Discussion addresses aesthetics, craft, and art from non-western cultures and the importance of art in society. Through hands-on art appreciation activities, students experiment with different media including drawing, sculpture, ceramics, and mixed media. Museum and gallery tours scheduled. Only for students not specializing in art.  
(3 hrs lec)

**ART-1050 Drawing I (3)**

An introduction to the vocabulary and skill of drawing for both the experienced and inexperienced student. Emphasis placed on mastering traditional drawing techniques, along with increasing the student's confidence in his or her skill and visual literacy.  
(2 hrs lec, 4 hrs lab)

**ART-1060 Drawing II (3)**

A continuation and expansion of ART 1050. Emphasis placed on continued development of strength in observational skills and visual thinking abilities. Stress placed on expanded approaches to drawing through incorporation of design concepts, exploration of a broad range of ideas, and experimentation with a variety of media. *Prerequisite:* ART 1050.  
(2 hrs lec, 4 hrs lab)

**ART-1110 Design: 2-D (3)**

A foundation course which introduces the student

to the processes of visual perception and how these processes function as a basis for understanding and creating two-dimensional works. Requires no art background.  
(2 hrs lec, 4 hrs lab)

**ART-1120 Design: 3-D (3)**

Students address formal constructions and aspects of visual thinking associated with the three-dimensional form such as structure, organization, metaphor, and spatial quality. They explore various media, techniques, and concepts through a series of projects. Students examine conceptual issues while learning about contemporary and historical art movements.  
(2 hrs lec, 4 hrs lab)

**ART-1130 Design: Color (3)**

An introduction to and an intensive exploration of the phenomena and operation of light/color. Investigation of the four properties of color, additive and subtractive color, color phenomena, color interaction, the spatial capabilities of color, color operations, and the graphic structures required for certain color operations; color systems including the Munsell System; color composition and some of the associative/psychological aspects of color through a series of structured exercises using acrylic paint/mixed media.  
(2 hrs lec, 4 hrs lab)

**ART-1250 Beginning Water-Based Media I (3)**

A basic course in transparent watercolor, which will concentrate on the understanding of color, various approaches to handling the watercolor medium, and observational studies emphasizing the shapes of light and dark.  
(2 hrs lec, 4 hrs lab)

**ART-2010 Art History I (3)**

An introduction to the major arts of the world with emphasis on painting, sculpture, and architecture. From prehistoric times to approximately 1500 A.D.  
(3 hrs lec)

**ART-2020 Art History II (3)**

An introduction to the major arts of the world with an emphasis on painting, sculpture, and architecture. This course covers the period from 1500 to the present.  
(3 hrs lec)

**ART-2050 Life Drawing I (3)**

A continuation of drawing courses, with emphasis on the human figure. Emphasizes physiology of the body through study of skeletal structure and muscular organization. *Prerequisite:* ART 1050.  
(2 hrs lec, 4 hrs lab)

**ART-2055 Art in the Wild (3)**

This is a weekend intensive seminar exploring "ways of seeing" by responding to and recording the landscape of the Greater Yellowstone Basin. Working on-site in a back-country setting, the course includes an on-campus introductory lecture and post-seminar final critique. Generally, this course will be taught in conjunction with "Writing in the Wild," a three-credit course offered by the English Department. Course fee will be charged to cover transportation, fees, and lodging. *Prerequisite:* ART 1050 or consent of instructor.  
(3 hrs lec)

**ART-2060 Life Drawing II (3)**

Continuation of ART 2050, with further study of the anatomical factor and emphasis on the expressive factor. *Prerequisite:* ART 2050.  
(2 hrs lec, 4 hrs lab)

**ART-2090 Printmaking I (3)**

Investigation and experimentation with processes and properties of print media, including intaglio, photo intaglio, relief, and monoprint employing safe, non-toxic methods. *Prerequisite:* ART 1050.  
(2 hrs lec, 4 hrs lab)

**ART-2092 Printmaking II: Serigraphy I (3)**

An introduction to block-out methods. Includes use of paper, touse, hand-cut and photographic films, and techniques used for printing on various substrates. Uses water-based inks and covers processes for gathering and preparing inks from plant materials and plant-based powdered pigments. Uses water-based commercial inks for fabric printing.  
(2 hrs lec, 4 hrs lab)

**ART-2100 Computer Graphics I (3)**

This course will emphasize proficiency in Adobe Illustrator and understanding the role of digital tools in the realm of design. Students will study design theory, image creation, and production issues. Students will construct complex illustrations and prepare them for export to graphics software, to the Web, and for offset printing.  
(2hrs lec, 4 hrs lab)

**ART-2105 Computer Graphics II (3)**

A continuation of ART 2100 emphasizing more advanced graphic design programs on the computer. Includes applied problems in editorial, promotional, and layout graphics. *Prerequisite:* ART 1110, ART 2120, and ART 2100.  
(2 hrs lec, 2 hrs lab)

**ART-2110 Typography (3)**

The craft of typography is introduced, including terminology, type specification, copy fitting and kerning. Emphasis is placed on the development of a full understanding of typographic history, classification, characteristics, and use of type in the field of graphic design. Students learn to work with type intelligently and creatively. *Prerequisite:* GRAR 1810 or GRAR 1820.  
(2 hrs lec, 4 hrs lab)

**ART-2120 Graphic Design I (3)**

Introductory graphic design course encourages conceptual thinking and problem solving in relation to design development. Emphasis is placed on application of design principles, understanding and evaluating information, learning the value of research, and the appropriate materials, tools and techniques needed to show effective idea development. Students begin with techniques for rough conceptual sketches and progress through finished presentations of comprehensive layouts. Students will study design history, design theory and solve design problems using a combination of type, image, color, and format. *Prerequisite:* ART 1110.  
(2 hrs lec, 4 hrs lab)

**ART-2130 Graphic Design II (3)**

A continuation of ART 2120. Includes applied problems in editorial and promotional graphics, advertising, and editorial layout. *Prerequisite:* ART 2120.  
(2 hrs lec, 4 hrs lab)

**ART-2135 Fundamentals of Art for Teachers (2-3)**

This course is designed for K-8 education candidates, currently certified teachers, or for students who want to explore an education methods class. This is a hands-on class which emphasizes the State and National Art Standard expectations for K-8 students. This course is the same as EDUC 2135. (2-3 hrs lec)

**ART-2165 Issues in Web Design (3)**

Lectures, research, and discourse in designing for the web. Topics include planning, design principles, site architecture, site design, web typography, editorial style and references, color and graphic formats, multimedia applications, data-driven graphics, publishing, publicizing, and maintaining a website. Homework will include designing a web site which illustrates these concepts. This course will benefit anyone who currently produces web pages, from the dabbler to the professional. This course is the same as PHTO 2165. (3 hrs lec)

**ART-2210 Painting I (3)**

A basic painting course using the oil medium. Stresses a thorough understanding of color, observation, and analysis of subject matter and design of the two-dimensional surface. Technical information on pigments, building supports, grounds, mediums, and basic painting techniques covered. **Prerequisite:** ART 1050 and ART 1110 or ART 1130. (2 hrs lec, 4 hrs lab)

**ART-2220 Painting II (3)**

A continuation of ART 2210. Further exploration of shape and color relationships and more concentrated consideration of the organization and structure of the two-dimensional surface. **Prerequisite:** ART 2210. (2 hrs lec, 4 hrs lab)

**ART-2400 Advanced Studio (2-3)**

A unique living and learning experience for students specializing in graphic design and studio art. Students develop and deliver after-school art programs for community elementary schools while also pursuing individual creative work in the studio. Students not residing in the Art House are eligible to participate in the after-school art teaching program for 2 credits. May be repeated once for credit. **Prerequisite:** ART 1050, ART 1110, or ART 2120 and successful completion of at least 30 credit hours. (2 hrs lec, 2-4 hrs lab)

**ART-2410 Ceramics I (3)**

An introductory course in hand building, glazing, and firing clay objects. Coil, slab, pinch, and wheel construction methods covered. Emphasis on forming methods and understanding design. (2 hrs lec, 4 hrs lab)

**ART-2420 Ceramics II (3)**

Advanced methods of clay construction, glazing, firing, and form analysis. Wheel throwing, glaze mixing, equipment construction, kiln stacking, and utility in form construction emphasized. (2 hrs lec, 4 hrs lab)

**ART-2430 Advanced Ceramics (3)**

Studies development of ceramic form involving work in hand building and wheel techniques.

Introduces surface treatment and glaze testing. Emphasizes design and conceptual development. Includes historical research. **Prerequisite:** ART 2410 or ART 2420. (2 hrs lec, 4 hrs lab)

**ART-2465 Art Portfolio (2)**

Students learn about portfolios: how to plan and design them; how to display art work by reproducing it both graphically and photographically; how to organize and physically assemble; and finally, how to use them as an integral portion of their resume for interview. **Prerequisite:** Consent of instructor and successful completion of at least 30 credit hours. (2 hrs lec) *Capstone Course*

**ART-2479 Special Projects: (3)**

Students demonstrate advanced skills in applied projects. Emphasis is on research, collaboration, planning, making presentations, and incorporating professional feedback. Students will be required to turn in work logs or journals regarding the experience. This is an advanced class for design and art students who desire real-world application of their craft. **Prerequisite:** Student must complete application and interview with instructor for admission. Successful completion of at least 30 credit hours. (2 hrs lec, 4 hrs lab) *Capstone Course*

**ASTRONOMY (ASTR)****ASTR-1002 Observational Astronomy (1)**

A hands-on observational course for education and enjoyment. Students compare telescopes, learn how to use different telescopes, and learn where to point them in the sky. Some constellation identification done to build a repertory of interesting objects to observe. Opportunity for astrophotography available for those who are interested. Some discussion of the celestial objects observed. (1 hr lec, 1 hr lab)

**ASTR-1005 Introduction to Astronomy (4)**

A description of the general principles, objects, recent developments, theories, and speculation in astronomy, as well as the methods and equipment by which astronomy is studied. Observations of the sun, moon, planets, stars, groups of stars, and deep-sky objects made, conditions permitting. Some computer simulations included. **Prerequisite:** Placement at math level 2. (3 hrs lec, 2 hrs lab)

**ASTR-1050 Survey of Astronomy (4)**

An algebra-based course in observational and laboratory astronomy. Topics covered include light, gravity, optical instruments, frame of reference, the sun, planets, satellites, comets, stars, groups of stars, and cosmology. Experiments include spectroscopy, comparison of optical instruments, Kepler's Laws, and observations of as many different astronomical phenomena as possible, including planets, asteroids, comets, deep sky objects, and the sun in white and hydrogen-alpha light. No more than 4 hours credit can be earned in ASTR 1005 and ASTR 1050. **Prerequisite:** Placement at math level 3 or above. (3 hrs lec, 2 hrs lab)

**AVIATION (AVTN)****AVTN-2500 Basic Aeronautics (3)**

A course in aerodynamics and theory of flight, aircraft structures and power plants, meteorology, dead reckoning and radio navigation, air traffic control, flight planning and safety, and FAA regulations. (3 hrs lec)

**BUSINESS ADMINISTRATION (BADM)****BADM-1000 Introduction to Business (3)**

A general introduction to principal business activities and the functions of management in planning, operating, organizing, and controlling an enterprise. (3 hrs lec)

**BADM-1005 Business Mathematics (3)**

Course enables students to apply basic mathematic and problem-solving skills with selected business/consumer situations encountered in business and personal lives. Major topics include areas of banking, marketing, retailing, taxes, finance, insurance, and basic statistics. This course fulfills math requirement only for the AAS degree. **Prerequisite:** Completion of MATH 0900 or placement at math level 1 within one year prior to enrollment. (3 hrs lec)

**BADM-1020 Business Communication (3)**

Applies principles of written and spoken business communication in business environments through reviewing case studies; writing specific types of business letters, memos, and reports; and delivering oral presentations. **Prerequisite:** A grade of "C-" or better in ENGL 1010. (3 hrs lec)

**BADM-1045 e-Commerce for Managers (3)**

Students acquire a comprehensive overview of building and managing an e-Business and explore topics such as the decision to being an online business, choosing a business model, accepting payment, marketing strategies, and security issues. (3 hrs lec)

**BADM-1050 Introduction to Travel and Tourism (3)**

Introduction to the travel and tourism industry. Covers transportation, hospitality management, marketing, tour packaging, recreation, leisure studies, and other topics related to tourism and travel in the Rocky Mountain area. (3 hrs lec)

**BADM-1060 Centralized Reservation System(2)**

Provides an understanding of computerization common within travel and hospitality industries. Emphasizes microcomputer skills and develops familiarity with a commonly used travel software program. **Prerequisite:** CMAP 1800 or BMIS 2000. (1 hr lec, 2 hrs lab)

**BADM-1400 Introduction to Hospitality (3)**

An introduction to management of food, beverage, and lodging, with an emphasis on maximizing visitor satisfaction. **Prerequisite:** BADM 1000 or BADM 1050. (3 hrs lec)

**BADM-1500 Students in Free Enterprise (1)**

Opportunity for experiential learning and development as a future business team player and leader. Students work in teams to implement projects that promote business education, entrepreneurship, communication and networking. Regional and national competition further develop teamwork and leadership skills. **Prerequisite:** Member of SIFE and leadership skills. (.5 hr lec, 1 hr lab)

**BADM-2010 Business Law (3)**

Provides an overview of business-related legal topics including the legal environment of businesses, contracts, the Uniform Commercial Code, property rights, and social responsibility. (3 hrs lec)

**BADM-2030 Business Ethics (3)**

Students learn how business and society interact through the study of consumerism, technology, ethical and moral conviction. Introduces the concept of business ethics, an overview of major ethical issues that face business today, and discusses moral philosophy through an understanding of classical and contemporary ethical theories. (3 hrs lec)

**BADM-2100 Small Business Practices (3)**

Offers basic principles of marketing, production, operations, finance, accounting, and personnel required to operate any small business. Employs a problem-solving methodology within a case study orientation that integrates course material and requires students to apply knowledge to situational problems. **Prerequisite:** Completion of BADM 1005 or MATH 0930 or above. (3 hrs lec)

**BADM-2395 Capstone in Business (1)**

Students demonstrate their level of achievement by integrating the skills and knowledge they have developed throughout their course of study into a comprehensive report and presentation. The final project is a case study that requires students to integrate what they have learned in all aspects of their business study along with quantitative and communication skills. **Prerequisite:** Successful completion of at least 30 credit hours. (1 hr lec) **Capstone Course**

**BADM-2970 Internship/Practicum Travel & Tourism: (1-6)**

Seminars and experiences related to travel agencies, airlines, cruises, Yellowstone National Park, and AmFac Resorts, attractions, and visitor centers. This course will be a supervised on-site experiential learning course. **Prerequisite:** Successful completion of at least 30 credit hours. (2 hrs lec/lab per credit hour)

**BIOLOGY (BIOL)****BIOL-1000 Principles of Biology (4)**

Students learn principles that are important for achieving sound scientific reasoning and methodology. Students study the following topics: cell biology, physiology, genetics, evolution, ecology, and the interactions of humans with their environment. All topics are considered within the context of the human experience. This course will fulfill the lab science general education requirement for students not specializing in the biological or physi-

cal sciences or health and physical education. (3 hrs lec, 2 hrs lab)

**BIOL-1010 General Biology I (4)**

Students study the following topics: ecology, evolution, genetics, the chemistry of life, cell structure and function, respiration, and photosynthesis. This introductory biology course is designed for students specializing in the biological or physical sciences or health and physical education. (3 hrs lec, 2 hrs lab)

**BIOL-1080 Environmental Science (3)**

Intended to attract students interested in the environment. Concerns conservation of natural resources. Course focuses upon modern environmental problems. (3 hrs lec)

**BIOL-2020 General Biology II (4)**

A phylogenetic survey of living organisms which includes the study of kingdoms *animalia*, *plantae*, *protista*, *fungi*, and *monera*. Emphasizes evolution of structure and function. **Prerequisite:** BIOL 1010. (3 hrs lec, 2 hrs lab)

**BIOL-2200 Genetics (3)**

A study of the principles of heredity. Includes basic Mendelian genetics, nature and function of genetic material, population genetics, and evolution. Emphasizes practical application to artificial selection in plant and animal breeding, as well as human genetics. **Prerequisite:** BIOL 1010. (3 hrs lec)

**BIOL-2310 Introduction to Geographic Information Systems (3)**

Students acquire an introductory-level understanding of the principles and practices of geographic information systems (GIS), both as an interactive spatial database and as a powerful analytical tool. Students learn the theory of mapping and spatial data analysis as well as learn to use GIS software through exercises and projects. (2 hrs lec, 2 hrs lab)

**BIOL-2385 Research in the Life and Physical Sciences (3)**

Research in the Life and Physical Sciences offers students the opportunity to work with other students interested in science disciplines. Students will develop individual projects within their discipline, and with fellow students, exchange ideas and develop an appreciation for the commonality between scientific disciplines and the role of science in society. Students will be expected to make a public presentation of their work. **Prerequisite:** Successful completion of at least 30 credit hours. (3 hrs lec) **Capstone Course**

**BIOL-2395 Biological Research (1)**

Students have the opportunity to design biological experiments and to organize, analyze, and interpret data. Students write a scientific paper and orally present their results to both peers and faculty. **Prerequisite:** BIOL 1010 and successful completion of at least 30 credit hours. (1 hr lec) **Capstone Course**

**BIOL-2400 Ecology (3)**

A study of ecosystems, energy flows, habitats, natural cycles, environmental influences, succession, population, and speciation. **Prerequisite:** One

semester of biological science. (3 hrs lec)

**BIOL-2410 Field Ecology Lab (1)**

Gives students the opportunity to investigate natural communities and actively participate in study and analysis of water, soil, climate, and organisms associated with characteristic habitats. **Prerequisite:** BIOL 2400 or concurrent enrollment. (2 hrs lab)

**BIOL-2465 Research Problems in Biology (1-6)**

Introduces various methodologies employed in biologic research. Includes literature searches, data collection and analysis, and research report writing. **Prerequisite:** Consent of instructor. (2-6 hrs lab)

**BUSINESS MANAGEMENT INFORMATION SYSTEMS (BMIS)****BMIS-2000 Computer Information Systems (3)**

Introduction to computer and information systems. Course content includes study of hardware, software, computer architecture, information processing, data communications, information management, and social issues in computing. Incorporates application experiences in operating system, word processing, spreadsheet, and database software. (2 hrs lec, 2 hrs lab)

**BOTANY (BOT)****BOT-2050 Taxonomy of Flowering Plants (4)**

Designed to give students an understanding of the principles and techniques of plant taxonomy and biosystematics. Laboratories review the characteristics of major plant families and acquaint students with local flowering plants, methods of identifying them, and their distributions. **Prerequisite:** BIOL 1010. (3 hrs lec, 2 hrs lab)

**BOT-2100 Forest Management (3)**

An introduction to the principles and goals of forestry. Includes biology of trees and forest ecosystems, management objectives and methods, and commercial aspects of the forest industry. (3 hrs lec)

**BUSINESS TECHNOLOGY (BOTK)****BOTK-1500 Ten-Key Mastery (1)**

Designed to develop data entry skills by touch on the microcomputer ten-key pad. Students develop speed and accuracy necessary for a variety of data entry situations. Useful for students in accounting and business technology programs. (.5 hr lec, 1 hr lab)

**BOTK-1640 Keyboarding Applications I (2)**

Designed for students with little or no prior keyboarding or word processing experience. Students become proficient in data entry by touch on the standard QWERTY keyboard of microcomputers, learn basic word processing commands, and apply these skills to produce basic documents for personal use, college course work, or on the job.

Individually tailored, computerized instruction enables students at any level of keyboarding ability to increase their speed and accuracy.  
(1 hr lec, 2 hrs lab)

**BOTK-1955 Professional Development (2)**

Designed to help students develop the professional image and attitude needed for success in any career. Includes consideration of nutrition and health, dressing for success, interview skills, communication skills, presentation skills, business ethics and etiquette, stress and time management, and human relations. Ideal for students planning to work in public jobs such as banking, teaching, and all areas of business.  
(2 hrs lec)

**BOTK-2510 Legal Terminology (1)**

A study of definitions of legal terms and procedures, designed primarily for students wishing to become legal stenographers and secretaries. *Prerequisite:* BOTK 1640 or equivalent.  
(1 hr lec)

**BOTK-2600 Medical Transcription (3)**

Combines keyboarding, word processing, and machine transcription to transcribe realistic medical dictation. Emphasizes vocabulary and terms of the medical profession by using medical tapes and supplementary materials. *Prerequisite:* BOTK 1640 and NRST 1200.  
(2 hrs lec, 2 hrs lab)

**BOTK-2620 Medical Coding (2)**

An introduction to medical coding. Demonstrates to students interested in the medical secretary and medical records fields how to classify diseases and procedures from the three-volume Classification of Diseases books used by hospitals and the Current Procedural Terminology books used in doctors' offices. *Prerequisite:* NRST 1200.  
(2 hrs lec)

**BOTK-2700 Shorthand: Speedwriting (3)**

Using alphabetic and/or symbolic outlines, students develop the listening and psychomotor skills needed for taking notes for business and/or personal use. Presents theory and focuses on developing speed and accuracy in dictation and transcription. Language arts skills reviewed and stressed. *Prerequisite:* BOTK 1640.  
(2 hrs lec, 2 hrs lab)

**BOTK-2750 Records and Information Management (1)**

Designed to develop knowledge and application of alphabetic, numeric, geographic, and subject filing rules; the life cycle of records; and manual and electronic records management. *Prerequisite:* BMIS 2000 or consent of instructor.  
(.5 hr lec, 1 hr lab)

**BOTK-2950 Employment Orientation (1)**

Students acquire information regarding self-evaluation, career fields, and job acquisition skills. Students gain practical experience in preparing cover letters, job application letters, resumes, and application forms. Mock interviews help students sharpen interview skills. *Prerequisite:* Successful completion of at least 30 credit hours recommended.  
(1 hr lec)

**BUSINESS (BUSN)****BUSN-2000 Introduction to International Business (3)**

A broad survey of the field of international business which introduces the basic concepts of international business activity and theory. Reviews major foreign environmental forces (financial, economic and socioeconomic, physical, socio-cultural, political, legal, labor, competitive, and distributive) within the context of strategic management issues.  
(3 hrs lec)

**CHEMISTRY (CHEM)****CHEM-1000 Introduction to Chemistry (5)**

Principles of chemistry with some inorganic applications. Chemistry for life science students and other students not requiring a rigorous preparation in theories and principles. CHEM 1000 and CHEM 2300 satisfy full-year requirements for general, organic, and biochemistry. *Prerequisite:* Placement at math level 3 or above or concurrent enrollment in MATH 0930.  
(5 hrs lec, 2 hrs lab)

**CHEM-1002 Integrated Sciences (4)**

An introduction to the concepts and methodologies of science, which integrates basic principles from the physical, geological, and biological sciences. The idea behind each of the concepts is also treated in its historical context, with special attention to its importance in understanding of the nature of the universe. The course is intended for nonscience majors and uses little mathematics.  
(3 hrs lec, 2 hrs lab)

**CHEM-1010 Principles of Chemistry (4)**

A one-semester course which covers the development of the fundamental ideas and methods of chemistry as applied to scientific and social problems. Credit cannot be earned in both CHEM 1000 and CHEM 1010. *Prerequisite:* Placement at math level 2 within one year prior to enrollment.  
(3 hrs lec, 2 hrs lab)

**CHEM-1020 General Chemistry I (5)**

Principles and theories of chemistry, designed for science and related concentrations. Students acquire knowledge of atomic and molecular structures; periodic law; ionic theory; behavior and properties of gaseous, liquid, and solid states of matter; plus some study of nonmetallic elements. *Prerequisite:* High school chemistry preferred. Concurrent enrollment in MATH 1400 or above or equivalent math background, or completion of CHEM 1000.  
(4 hrs lec, 3 hrs lab)

**CHEM-1030 General Chemistry II (4)**

Continues CHEM 1020. Students acquire knowledge of oxidation-reduction reactions, additional nonmetals, groups on the periodic chart, radioactivity, nuclear chemistry, and organic chemistry. *Prerequisite:* CHEM 1020.  
(3 hrs lec, 3 hrs lab)

**CHEM-1090 Fundamentals of the Physical Universe (4)**

Applies fundamental principles of chemistry and physics to real life situations. Designed primarily for students specializing in elementary educa-

tion. Equivalent to PHYS 1090. *Prerequisite:* Placement at math level 3 within one year prior to enrollment.  
(3 hrs lec, 2 hrs lab)

**CHEM-2149 Nuclear Century (3)**

Students acquire an understanding and appreciation for the development of nuclear energy and the social, psychological, political, and environmental issues associated with it. This course is team taught by a historian with a chemist or a physicist. Credit cannot be earned in both CHEM 2149 and PHYS 2149 or HIST 2149. All students who satisfactorily complete this course receive Honor's credit.  
(3 hrs lec)

**CHEM-2230 Quantitative Analysis (4)**

Fundamental concepts of quantitative analysis, application, and techniques of gravimetric, volumetric, and instrumental analysis. *Prerequisite:* MATH 1400 or equivalent, CHEM 1000 or CHEM 1030.  
(2 hrs lec, 6 hrs lab)

**CHEM-2300 Introduction to Organic Chemistry (4)**

Students learn basic principles and methods of organic chemistry including nomenclature, structure, reactions, reaction mechanisms, and stereochemistry. They also acquire introductory knowledge of nuclear magnetic resonance, infrared, ultraviolet, and mass spectral analysis of organic compounds. *Prerequisite:* CHEM 1000 or CHEM 1020. Not for students who have taken CHEM 2320 or CHEM 2340.  
(4 hrs lec)

**CHEM-2320 Organic Chemistry I (4)**

The first semester of a continuing course studying aliphatic compounds of carbon. Includes nomenclature, structure, preparation, reactions, reaction mechanisms, and stereo chemistry. Introduces nuclear magnetic resonance, ultraviolet, infrared, and mass spectral analysis of organic compounds. *Prerequisite:* CHEM 1030 or equivalent.  
(3 hrs lec, 3 hrs lab)

**CHEM-2340 Organic Chemistry II (4)**

Aromatic compounds stressed. Emphasizes functional groups of compounds covered first semester along with others. Covers fats, carbohydrates, and proteins in the latter part of course as background for biochemistry. *Prerequisite:* CHEM 2320.  
(3 hrs lec, 3 hrs lab)

**CHEM-2385 Research in the Life and Physical Sciences (3)**

Research in the Life and Physical Sciences offers students the opportunity to work with other students interested in science disciplines. Students will develop individual projects within their discipline, and with fellow students, exchange ideas and develop an appreciation for the commonality between scientific disciplines and the role of science in society. Students will be expected to make a public presentation of their work. *Prerequisite:* Successful completion of at least 30 credit hours.  
(3 hrs lec) *Capstone Course*

**CHEM-2465 Introduction to Chemical Research (1-3)**

Introduces various methodologies employed in chemical research. Includes literature searches,

data collection and analysis, and research report writing. **Prerequisite:** Consent of instructor. (1-2 hrs lec, 2-6 hrs lab)

**CHEM-2485 Chemistry Capstone Seminar (1)**  
Students design and implement an independent laboratory project involving either chemical synthesis or chemical analysis. Students are evaluated on their ability to organize their laboratory notebook, integrate scientific literature into their project, provide a thirty-minute project-based presentation before the Physical Science Division faculty and respond to questions about their work. **Prerequisite:** Concurrent enrollment in CHEM 2340 and successful completion of at least 30 credit hours. (.5 hr lec, 1 hr lab) *Capstone Course*

## COMPUTER APPLICATIONS (CMAP)

**CMAP-1610 Windows I (1)**  
Provides the student with basic understanding of the Microsoft Windows operating environment. Students master the basic concepts of Windows, including multitasking, memory, disk, program and file management, icons, pull-down menus, pointing devices, and printing. (.5 hr lec, 1 hr lab)

**CMAP-1615 Operating Systems (3)**  
Students become versed in various operating systems. Students will acquire the basic skills necessary in the use of multi-user, multitasking operating systems. Topics include user accounts, the file system, directories, the editor, a mail system, I/O commands, file commands, and scripting. **Prerequisite:** BMIS 2000 or CMAP 1920. (2 hrs lec, 2 hrs lab)

**CMAP-1635 Visual Basics for Applications: (3)**  
Students learn programming language and become familiar with input/output, comparisons, introductory concepts, and report formats. Skills in problem analysis, using design tools, coding, testing, and documentation are also developed. This course may be repeated for credit when the programming language used changes. **Prerequisite:** BMIS 2000 and a grade of "C-" or better in BADM 1005 or MATH 0930 or placement at math level 3 within one year prior to enrollment. (2 hrs lec, 2 hrs lab)

**CMAP-1650 Local Area Networks I (3)**  
Students enhance their skills with computer networking technologies. Course is designed to serve the needs of information systems professionals and other individuals, as well as those who are interested in obtaining Microsoft or Novell certification on this topic. **Prerequisite:** BMIS 2000. (2 hrs lec, 2 hrs lab)

**CMAP-1680 Microcomputer Applications: (1-3)**  
Specialized studies in microcomputer applications. Students acquire knowledge and skills regarding new and current software application packages. (.5 lec, 1 hr lab for one-credit hour, 2 hrs lab for each additional hour)

**CMAP-1700 Word Processing I: (1)**  
Students apply basic word processing theory and applications in creating personal and professional documents. Course does not apply toward an AAS

degree in Business Technology. (.5 hr lec, 1 hr lab)

**CMAP-1705 Word Processing II: (1)**  
A study of word processing advanced applications and their uses for personal and professional opportunities. Course does not apply toward an AAS degree in Business Technology. **Prerequisite:** CMAP 1700 or equivalent. (.5 hr lec, 1 hr lab)

**CMAP-1715 Word Processing: (2)**  
Students apply intermediate and advanced word processing theory and applications in creating and formatting complex documents. May prepare students to take popular certification exams. **Prerequisite:** BMIS 2000 or equivalent and keyboarding skill of 30 wpm or better. (1 hr lec, 2 hrs lab)

**CMAP-1750 Spreadsheet Applications I: (1)**  
Students apply basic electronic spreadsheet theory and applications in creating, formatting, and charting simple spreadsheets. Course does not apply toward an AAS degree in Business Technology. **Prerequisite:** CMAP 1610 or equivalent and keyboarding skill of 30 wpm or better. (.5 hr lec, 1 hr lab)

**CMAP-1765 Spreadsheet Applications: (2)**  
Students apply intermediate and advanced electronic spreadsheet theory and applications in creating, formatting, and charting complex spreadsheets. May prepare students to take popular certification exams. **Prerequisite:** BMIS 2000 or equivalent and keyboarding skill of 30 wpm or better. (1 hr lec, 2 hrs lab)

**CMAP-1800 Database Applications I: (1)**  
Students apply basic electronic database theory and applications in creating, formatting, and querying simple databases. Course does not apply toward an AAS degree in Business Technology. **Prerequisite:** CMAP 1610 or equivalent and keyboarding skill of 30 wpm or better. (.5 hr lec, 1 hr lab)

**CMAP-1815 Database Applications: (2)**  
Students apply intermediate and advanced electronic theory and applications in creating, formatting, and querying databases. May prepare students to take popular certification exams. **Prerequisite:** BMIS 2000 or equivalent and keyboarding skill of 30 wpm or better. (1 hr lec, 2 hrs lab)

**CMAP-1850 Desktop Publishing I: (3)**  
Students enhance ability to prepare professional documents using desktop publishing software. They explore graphic design techniques, principles of page layout, terminology, and applications in a Windows environment. Students create fliers, brochures, newsletters, and business cards, plus build skill in using style sheets, templates, and the importation of data created in other software programs. **Prerequisite:** BMIS 2000. (2 hrs lec, 2 hrs lab)

**CMAP-1910 Integrated Applications III (3)**  
An advanced course in computer and information systems. Introduces advanced concepts in hardware, software, computer architecture, information processing, data communications, and information

management. Incorporates advanced integrated application experiences in operating system, word processing, spreadsheet, database, and presentation graphics software. **Prerequisite:** BMIS 2000. (2 hrs lec, 2 hrs lab)

**CMAP-1920 Computer Hardware Maintenance (3)**  
Students engage in a comprehensive study of how to maintain, manage, and troubleshoot the PC computer. Students learn to diagnose and solve problems that occur in the hardware and software operations. Preparation for the industry recognized A+ technician certification is emphasized. (2 hrs lec, 2 hrs lab)

**CMAP-1930 LAN Wiring and Network Technology (3)**  
Students gain the necessary background and skills to physically connect network topologies. An in-depth study of the OSI 7-layer model of network communications is accomplished. Topics include basic transmission media, network computing, different network services and parts, and various protocols. (2 hrs lec, 2 hrs lab)

**CMAP-1940 LAN Server Installation and Configuration (3)**  
Students learn to install the chosen LAN server software, configure it to given specifications, and how to operate a server on a day-to-day basis. Will cover security, system management, and system configuration. **Prerequisite:** CMAP 1930 or consent of instructor. (2 hrs lec, 2 hrs lab)

**CMAP-1950 LAN Services and Support (3)**  
Students learn to install network-related hardware in a hands-on format. Skills include prevention, diagnosis, and resolution of hardware-related problems, as well as network management and design. **Prerequisite:** CMAP 1930. (2 hrs lec, 2 hrs lab)

**CMAP-2540 Introduction to Help Desk Management (2)**  
This course provides students with a broad understanding of help desk and support service, business practices and the tools and technology most frequently used to support those business practices. This course focuses on a generic description of software that might be used, also teaches students to retrieve the most up-to-date information about general IT and support business practices by using the Internet as a resource for white papers, product demonstrations, and trial versions of software. **Prerequisite:** Successful completion of at least 30 credit hours and CMAP 2825. (1 hr lec, 2 hrs lab)

**CMAP-2575 Wireless Network Administration (3)**  
Students learn to install wireless network-related hardware in a hands on format. Skills include prevention, diagnosis, and resolution of problems as well as network management. **Prerequisite:** CMAP 1950. (2 hrs lec, 2 hrs lab)

**CMAP-2630 Presentation Graphics: (2)**  
Students acquire skills necessary to make effective visual presentations for agriculture, business, education, communication, or other fields where



electronic presentations may be used to accomplish or enhance a task. Some previous experience using computers is helpful.  
(1 hr lec, 2 hrs lab)

#### **CMAP-2720 Systems Management (3)**

Students learn to analyze the design and implementation of various online business systems. Each student will be required to do a case analysis and presentation to demonstrate acquired skill.

**Prerequisite:** CMAP 1940, CMAP 1950, and successful completion of at least 30 credit hours.  
(2 hrs lec, 2 hrs lab)

*Capstone Course*

#### **CMAP-2825 Help Desk Fundamentals (4)**

A course designed to help students gain the knowledge and skills necessary to set up and manage a help desk. Topics include help desk operations, examining tools and technologies used to track and log work requests, prioritizing work load, delivering quality technical customer service, and developing troubleshooting and problem solving techniques. **Prerequisite:** BMIS 2000.  
(3 hrs lec, 2 hrs lab)

#### **CMAP-2840 Network Documentation (2)**

Introduces the tools and concepts of creating technical documentation. Course offers an overview of network documentation, and the creating of different types of documentation as well as tools to create the documents. **Prerequisite:** ENGL-1010.  
(2 hrs lec)

#### **CMAP-2970 Internship: (3-6)**

Students acquire hands-on work experience in a business setting related to the area of study they are specializing in. Students apply their knowledge to real-world problems, receive guidance from on and off campus professionals, and gain an assessment of their professional competencies. **Prerequisite:** Successful completion of at least 30 credit hours in an appropriate option.  
(2 hrs lab per credit hour)

## **COMMUNICATION AND MASS MEDIA (CO/M)**

#### **CO/M-1010 Public Speaking (3)**

An introductory course with emphasis on oral communication theory and practice. Provides a basic understanding of the significance of oral communication as well as instruction and practice in the basic skills of public speaking.  
(3 hrs lec)

#### **CO/M-1025 Communication for Health Care Professionals (2)**

Focuses on interactions of people involved in the health care process, and the dissemination and interpretation of health-related messages. Explores the communication demands of health care. Examines communication issues and problems in modern health care systems. Emphasis is on provided-recipient communication, communication in health concerns, and application strategies for the implementation of effective communication.  
(2 hrs lec)

#### **CO/M-1030 Interpersonal Communication (3)**

Concerned with communication on a person-to-person and small group level. Considers verbal and nonverbal areas, with instruction designed to provide insight into improving com-

munication with others through discovery and relevant theory.  
(3 hrs lec)

#### **CO/M-1040 Introduction to Human Communication (3)**

Explores significant aspects of human communication. Focuses on the role of communication in current affairs, business, and personal relations. Discusses practical application of theory to communication problems in everyday life.  
(3 hrs lec)

#### **CO/M-1200 Beginning Sign Language-SEE II (2)**

Focuses on acquisition of basic vocabulary using Signing Exact English (SEE II). Emphasis on accuracy, finger spelling, expressiveness, as well as understanding of language principles and systems, deaf culture, and philosophy of signing. Includes an introduction to transliteration.  
(2 hrs lec)

#### **CO/M-1220 Intermediate Sign Language-SEE II (2)**

Emphasis on clear expressive signing, reversal skills, enhanced vocabulary, signing principles, and philosophy related to the method known as Signing Exact English. Some review of CO/M 1200 vocabulary. **Prerequisite:** CO/M 1200.  
(2 hrs lec)

#### **CO/M-1260 Early Intervention for Deaf (2)**

Explores early identification of hearing loss, the importance of early intervention, early intervention methods, how hearing loss affects understanding of language and speech, and deaf culture.  
(2 hrs lec)

#### **CO/M-2010 Leadership Skills: (1-3)**

This course is designed to educate specified groups in effective leadership skills. Includes discussion and practice in teamwork, communication, critical thinking and problem solving, planning, conflict management, and social responsibility. **Prerequisite:** consent of instructor.  
(.5 hr lec, 1 hr lab)

#### **CO/M-2020 Advanced Sign Language (2)**

Course focuses on enhancement of interpreting/transliterating skills. Additional sign language vocabulary learned through knowledge of Sign Language Families of Signs. Students learn appropriate facial and body expression, enhancement of receptive and expressive sign language skills, increased understanding of sign language principles, various sign language systems, deaf culture, and the philosophy of signing. **Prerequisite:** CO/M 1220.  
(2 hrs lec)

#### **CO/M-2060 Forensics (1)**

Develops basic skills in contest and public service speaking by refining the speaking and thinking competence of students. Requires attendance at two competitive tournaments per semester in debate and/or individual events. May be repeated three times for credit.  
(2 hrs lab)

#### **CO/M-2070 Introduction to Forensic Tournament Administration (1)**

A practical application course for students interested in the administration of forensics tournaments. Students learn through instruction

and hands-on application of procedures designed to run both computerized individual events and computerized debate programs. Students receive information that includes specific procedures, ethical considerations, and financial applications. May be repeated once for credit.  
(1 hr lec)

#### **CO/M-2080 Introduction to Forensic Research (1)**

Designed to introduce students to materials used to prepare speeches for competitive purposes and provide opportunities for students to develop skills necessary to analyze, synthesize, and utilize information from a variety of sources. May be repeated once for credit.  
(1 hr lec)

#### **CO/M-2090 Introduction to Persuasion (3)**

Introduces rhetorical theory and communication practices related to the field of persuasion. Emphasizes persuasive campaigns, techniques, psychological factors, and persuasive applications in our society.  
(3 hrs lec)

#### **CO/M-2110 Nonverbal Communication (3)**

This course is designed to acquaint students with the non-linguistic aspects of communication. Since much nonverbal communication is culture-bound, this course will focus on the cultural aspects of nonverbal communication and of the understanding of cross-cultural differences in communication. Also, behavioral and environmental factors will be given emphasis in the context of understanding communication behaviors among various groups of people. **Prerequisite:** CO/M 1030.  
(3 hrs lec)

#### **CO/M-2120 Small Group Communication (3)**

Instruction and practice in group communication and problem solving. Provides the format of study for understanding dynamics of group discussion with leadership, interpersonal relations procedures, and creative and critical thinking.  
(3 hrs lec)

#### **CO/M-2125 Family Communication (3)**

Designed to explore the patterns of communication in family relationships. Uses a systems approach which provides a perspective for describing family interaction patterns and processes and considers external influences on the development of family relationships. Descriptive, not prescriptive, in nature. Not designed as a counseling or therapy class. Information presented assists understanding of the vitality of communication in the development of functional and dysfunctional family relationships.  
(3 hrs lec)

#### **CO/M-2150 Argumentation (3)**

Instruction in the principles of argumentative speaking. Practices various types of debate with emphasis on analysis, evidence, reasoning, case construction, and delivery.  
(3 hrs lec)

#### **CO/M-2485 Sophomore Seminar: Communication (3)**

Student integrates knowledge from courses in the student's area of specialization and skills from the general education program. The focus for students is an intermediate view of the field, its history,

current developments, and future directions. Student completes and presents a significant project that reflects the chosen career area or discipline.

**Prerequisite:** Successful completion of at least 30 credit hours.

(3 hrs lec)

*Capstone Course*

## COMPUTER SCIENCE (COSC)

### COSC-1010 Introduction to Computer Science (4)

An introduction to problem solving and programming using structured program development techniques. The course introduces programming in Java, a high-level programming language. Experimentation with software in a closed laboratory supplements the discussion. **Prerequisite:** Concurrent enrollment or placement at math level 2 or higher one year prior to enrollment.

(3 hrs lec, 2 hrs lab)

### COSC-1030 Computer Science I (4)

Algorithmic problem solving using principles of structured programming and object oriented design. Algorithms are implemented in a high level object oriented programming language. Graphical user interfaces are used to motivate the object approach. Programming exercises and experimentation with software in a closed laboratory supplement the discussion. **Prerequisite:** Concurrent enrollment in Math 2200 or COSC 1010 or equivalent experience.

(3 hrs lec, 2 hrs lab)

### COSC-2030 Computer Science II (4)

Use of and implementation of abstract data structures in an object oriented programming environment. Topics include lists, stacks, queues, tables, binary trees, graphs, space and time complexity, recursion and recursive data types. Programming exercises and experimentation with software in a closed laboratory supplement the discussion. **Prerequisite:** COSC 1030.

(3 hrs lec, 2 hrs lab)

## CRIMINAL JUSTICE (CRMJ)

### CRMJ-2120 Introduction to Criminal Justice (3)

An exploration of the police, courts, and correctional agencies that oversee American justice. Examines process and philosophies that underlie the establishment of the modern criminal justice system. This course is the same as POLS 2120.

(3 hrs lec)

### CRMJ-2210 Criminal Law (3)

A survey of the basic fundamental principles of American substantive criminal law. Topics include the nature and origin of criminal law, Constitutional limitations, criminal liability, criminal defenses and excuses, and exploration into the elements of criminal offenses. This course is the same as POLS 2210.

(3 hrs lec)

### CRMJ-2400 Criminology (3)

Introduction to the field of criminology describing the nature and extent of crime in the United States. Topics include theories on crime causation, classifications of crime, collection of crime statistics, and the Criminal Justice System's response to

controlling crime. This course is the same as SOC 2400.

(3 hrs lec)

## CROP SCIENCE (CROP)

### CROP-2200 Forage Crop Science (3)

Studies major forage grasses and legumes with emphasis on production practices, harvest, storage, utilization, and pasture management.

(2 hrs lec, 2 hrs lab)

## DEVELOPMENTAL STUDIES (DVST)

### DVST-0510 Fundamentals of Reading I (1-3)

A reading course designed to improve the student's overall reading ability. Addresses specific weaknesses in skills-vocabulary, reading for the main idea, and word attack skills. May be repeated to a maximum of 4 credit hours. **Prerequisite:** Placement at reading level 1.

(1-3 hrs lec)

### DVST-0520 Fundamentals of Reading II (1-3)

Designed for students who need improvement in mastering basic reading skills. Areas of need determined and individual/small group instruction provided. Course goals promote individual achievement, create positive attitudes toward reading, and demonstrate practical application of learned skills and techniques. **Prerequisite:** DVST 0510 or placement at reading level 2.

(1-3 hrs lec)

### DVST-0600 Basic Writing I (3)

For students whose background in English has not prepared them for regular college English classes. Emphasizes grammar and mechanics. **Prerequisite:** Placement at English level 1.

(3 hrs lec)

### DVST-0610 Basic Writing II (3)

A continuation of DVST 0600. Designed for students whose background in English has not prepared them for college-level writing. Course covers instruction and provides writing practice in the organization of short compositions. Reviews sentence elements and usage as necessary. **Prerequisite:** Successful completion of DVST 0600 or placement at English level 2.

(3 hrs lec)

## ECONOMICS (ECON)

### ECON-1010 Macroeconomics (3)

The study of how economic society is organized and uses scarce resources to provide for its material wants. National income analysis, business cycles, the banking system, and monetary and fiscal policy.

(3 hrs lec)

### ECON-1020 Microeconomics (3)

Course emphasizes value and price theory, monopoly and public policy, markets for productive goods and services, labor economics, alternative forms of economic organization, and international trade.

(3 hrs lec)

## EDUCATION - CURRICULUM/ INSTRUCTION (EDCI)

### EDCI-1010 Field Experience: Prospective Teachers (1)

Provides an overview of teaching. Requires observation, interview, and reflection on teaching as a profession. Observations and interviews may be conducted in the student's hometown during semester breaks. Pass/Fail only.

(.5 hr lec, 1 hr lab)

### EDCI-1410 Elementary School Math Seminar I (1)

A hands-on application course designed to examine some of the methods used to teach mathematics topics covered in MATH 1100. **Prerequisite:** Previous or concurrent enrollment in MATH 1100.

(1 hr lec)

### EDCI-1420 Elementary School Math Seminar II (1)

A hands-on application course designed to accompany MATH 1105. Topics mirror those taught in MATH 1105 and focus on the NCTM Professional Standards for Teaching Mathematics. **Prerequisite:** previous or concurrent enrollment in MATH 1105.

(1 hr lec)

### EDCI-1430 Life Science in the Elementary School (1)

Course provides material, curricula, and teaching strategies in life science appropriate for elementary school. **Prerequisite:** Previous or concurrent enrollment in BIOL 1000 or BIOL 1010.

(1 hr lec)

### EDCI-1440 Physical Science in the Elementary School (1)

Designed to cover a selection of basic physical science concepts, materials, and curricula appropriate for elementary school. Requires observation and participation in an assigned elementary classroom during science teaching activities. **Prerequisite:** Previous or concurrent enrollment in CHEM 1090 or PHYS 1090.

(1 hr lec)

### EDCI-1450 Earth Science in the Elementary School (1)

Designed to cover a selection of basic earth science concepts, materials, and curricula appropriate for elementary schools. Emphasizes methods and materials to facilitate elementary students' exploration of the earth and human interaction with it. **Prerequisite:** GEOL 1100, ASTR 1005 or ASTR 1050.

(1 hr lec)

### EDCI-2110 NOLS Rocky Mountain Outdoor Education (4)

The NOLS Rocky Mountain Outdoor Education course prepares graduates to demonstrate safe, competent, responsible, and ethical outdoor leadership skills. These skills include outdoor teaching techniques, wilderness camping and travel, safety management planning, expedition behavior modeling, providing effective oral and written feedback, and expedition planning. This course is taught by National Outdoor Leadership faculty and requires 21 continuous days in the field. Students must register both at Northwest College and at the National Outdoor Leadership School in Lander. This course is not approved for wellness credit.

(2 hrs lec, 4 hrs lab)

**EDCI-2200 Early Childhood Practicum (3-5)**

Students observe and participate in programs and settings with young children. Students learn through lecture and practical applications in a supervised experience. **Prerequisite:** EDEC 1020, FCSC 2121, and successful completion of at least 30 credit hours.

(1.5 hrs lec, 6-12 hrs lab) *Capstone Course*

**EDCI-2340 Using Computer Technology in Teaching (2)**

Designed to equip teachers and prospective teachers with information, skills, and insights necessary for successful integration of computer-based technologies into classroom teaching. Includes modeling of techniques, teacher strategies, appropriate applications of computer-based technologies in specific content areas, and consideration of computer-based issues facing educators. A course approved by the State of Wyoming's Professional Teaching Standards Board for teacher certification credit. **Prerequisite:** Wyoming teacher certification.

(2 hrs lec)

**EDCI-2415 Integrating Reading Methods in the Content Area (2)**

Course provides teachers with expanded knowledge of reading and writing procedures relating to a variety of disciplines. Includes estimating students' reading abilities, developing techniques for vocabulary enhancement, creating new writing strategies, and developing reading-related study skills. A course approved by the State of Wyoming's Professional Teaching Standards Board for teacher certification credit. **Prerequisite:** Wyoming teacher certification.

(2 hrs lec)

**EDCI-2450 Adventure Education for Public School Teachers (2)**

Provides training in the philosophy, skills, applications, and programming of Adventure Education in the public school setting. Includes one full day lab devoted to the presentation of an adventure education activity for a specific audience. One credit may be used to fulfill Wellness Education requirements. This course is the same as OEPR 2450.

(2 hrs lec, .5 hr lab)

**EDUCATION – EARLY CHILDHOOD (EDEC)****EDEC-1020 Introduction to Childhood Education (3)**

An introduction to the field of early childhood education. Emphasizes developmentally appropriate practices and basic skills for working with young children. Focuses on professional opportunities and programs.

(3 hrs lec)

**EDEC-1030 Infant Toddler Care (3)**

This course provides information on growth and development of children under the age of three along with curriculum implications; defines the interactive role of the caregiver, and explores other components of infant toddler care including implementation of quality programming and adult interactions. It will include a field experience.

(3 hrs lec)

**EDEC-1300 Curriculum Planning and Development For Young Children (3)**

Students will develop skills in planning, implementing, and evaluating developmentally appropriate experiences to encourage the intellectual, physical, social, emotional and creative growth in young children with the focus on the whole child. This course will include field experience for the student. **Prerequisite:** EDEC 1020.

(3 hrs lec)

**EDEC-2020 Observation and Child Guidance (3)**

A study of the principles of guidance and the development of skills to meet children's needs individually and in groups, with an emphasis on promoting a positive and constructive climate in the early childhood setting. Classroom management techniques including organizing environments, scheduling, assessments, parent-teacher communication and related areas will be covered in class as well as during the field experience. Course offered Fall semester.

(3 hrs lec)

**EDEC-2485 Seminar: Operating Early Childhood Programs (3)**

This course studies information and procedures relating to organizing and administering family and/or group child care programs. This course includes guidelines for developmentally appropriate practices for caregivers and programs. Grant writing and funding options will be discussed along with licensing requirements and record keeping strategies.

(3 hrs lec)

**EDUCATION – EXCEPTIONAL CHILDREN (EDEX)****EDEX-2190 Gifted Students (2)**

Students learn the means to identify gifted and talented students. Studies the history and philosophy of gifted education, curriculum models and strategies for the classroom, and differentiated instruction. A course approved by the State of Wyoming's Professional Teaching Standards Board for teacher certification credit. **Prerequisite:** Wyoming teacher certification.

(2 hrs lec)

**EDEX-2320 Introduction to Teaching Special Learners (3)**

An introduction to special education. Considers characteristics of children with special learning needs. Examines services required to meet the needs of these children with an emphasis on services in the least restrictive environment. Includes at least 15 hours of field experience. **Prerequisite:** PSYC 1000.

(2.5 hrs lec, 1 hr lab)

**EDEX-2330 Integrating Exceptional Children (2)**

Reviews information a teacher needs to help provide an individualized, appropriate program of education for a handicapped learner and to meet the unique needs of the learner in the regular classroom. Emphasis placed on new rules and regulations governing services for handicapped children and implications of these for the classroom teacher. A course approved by the State of Wyoming's Professional Teaching Standards

Board for teacher certification credit. **Prerequisite:** Wyoming teacher certification.  
(2 hrs lec)

**EDUCATIONAL FOUNDATIONS (EDFD)****EDFD-2020 Foundations of Education (3)**

Historic, philosophic, and social foundations of American education explored in relation to contemporary curricular organization and instructional approaches. Emphasizes the nature of teacher and learner, the nature of knowledge, the relationship of government to education, and the roles of government in society. **Prerequisite:** Second semester standing and grade of "C-" or better in ENGL 1010 or equivalent.

(3 hrs lec)

**EDFD-2100 Educational Psychology (3)**

Focuses on principles of learning applied to the instructional process for K-12 students. Provides comprehensive coverage of concepts of behavioral, cognitive, and developmental paradigms. Topics include conditioning, information processing, cognitive development, social learning, motivation, and management strategies applied to the teaching and learning process. **Prerequisite:** Grade of "C-" or better in PSYC 1000.

(3 hrs lec)

**EDUCATION (EDUC)****EDUC-1501 Effective Substitute Teaching (2)**

This course provides the training needed for a permit to substitute teach in the state of Wyoming as regulated by the Wyoming Professional Teaching Standards Board. Students will work to demonstrate competency in the required outcomes designated by the WPTSB which include: age level communication skills, use and application of lesson plans, use of instructional technology, and professional attitudes and behaviors. The course requires 24 clock hours of classroom instruction time and 30 hours of observation in the schools. **Prerequisite:** Completion of DVST 0610 with a "C-" or better or placement at English level 3.

(2 hrs lec)

**EDUC-2100 Public School Practicum (3-6)**

Provides an extensive practicum experience for prospective educators. The instructional process includes lesson planning, evaluation, classroom dynamics, management, and communication. Opportunities for students to implement course content by working as an assistant to a classroom teacher in the public schools. **Prerequisite:** Must have completed either EDFD 2020, or EDFD 2100, and/or be concurrently enrolled in the other, and written consent of instructor and successful completion of at least 30 credit hours.

(1.5 hrs lec, 6-12 hrs lab) *Capstone Course*

**EDUC-2135 Fundamentals of Art for Teachers (2-3)**

This course is designed for K-8 education candidates, currently certified teachers, or for students who want to explore an education methods class. This is a hands-on class which emphasizes the National and State Art Standard expectations for K-8 students. This course is the same as ART 2135.

(2-3 hrs lec)

## ELECTRICAL APPRENTICESHIP (ELAP)

### ELAP-1515 Electrical Apprenticeship I (5)

Provides the beginning electrical apprentice with necessary skills and knowledge to ensure safe and efficient work practices on the job. Topics include safety, introduction to the National Electrical Code, basic electrical theory, lighting and appliance circuits, and wiring methods. First course in a series of eight. **Prerequisite:** Status as a first-year Electrical Apprentice with an Independent Electrical Contractor and registration with the State of Wyoming Electrical Board of the Department of Fire Prevention and Electrical Safety as an apprentice electrician. (5 hrs lec)

### ELAP-1525 Electrical Apprenticeship II (5)

Provides the first year electrical apprentice with necessary skills and knowledge to ensure safe and efficient work practices on the job. Topics include series and parallel circuits, electric power, electrical theorems, special outlets, service calculations, and applications of the National Electrical Code. Second course in a series of eight. **Prerequisite:** ELAP 1515, status as a first-year Electrical Apprentice with an Independent Electrical Contractor and registration with the State of Wyoming Electrical Board of the Department of Fire Prevention and Electrical Safety as an apprentice electrician. (5 hrs lec)

### ELAP-1535 Electrical Apprenticeship III (5)

Provides the second-year electrical apprentice with necessary skills and knowledge to ensure safe and efficient work practices on the job. Topics include safety, AC electricity, inductance, capacitance, transformers, motors, and applications of the National Electrical Code. Third course in a series of eight. **Prerequisite:** ELAP 1525, status as a second-year Electrical Apprentice with an Independent Electrical Contractor and registration with the State of Wyoming Electrical Board of the Department of Fire Prevention and Electrical Safety as an apprentice electrician. (5 hrs lec)

### ELAP-1545 Electrical Apprenticeship IV (5)

Provides the second-year electrical apprentice with necessary skills and knowledge to ensure safe and efficient work practices on the job. Topics include wiring methods, branch and feeder circuits, motor calculations, transformer sizing, and applications of the National Electrical Code. Fourth course in a series of eight. **Prerequisite:** ELAP 1535, status as a second-year Electrical Apprentice with an Independent Electrical Contractor and registration with the State of Wyoming Electrical Board of the Department of Fire Prevention and Electrical Safety as an apprentice electrician. (5 hrs lec)

### ELAP-1555 Electrical Apprenticeship V (5)

Provides the third-year electrical apprentice with necessary skills and knowledge to ensure safe and efficient work practices on the job. Topics include safety, blueprint reading, construction procedures, grounding and ground fault calculations, and service calculations based on the National Electrical Code. Fifth course in a series of eight. **Prerequisite:** ELAP 1545, status as a third-year Electrical Apprentice with an Independent Electrician.

cal Contractor and registration with the State of Wyoming Electrical Board of the Department of Fire Prevention and Electrical Safety as an apprentice electrician. (5 hrs lec)

### ELAP-1565 Electrical Apprenticeship VI (5)

Provides the third-year electrical apprentice with necessary skills and knowledge to ensure safe and efficient work practices on the job. Topics include industrial and commercial services, alarm systems, hazardous locations, and applications of the National Electrical Code. Sixth course in a series of eight. **Prerequisite:** ELAP 1555, status as a third-year Electrical Apprentice with an Independent Electrical Contractor, and registration with the State of Wyoming Electrical Board of the Department of Fire Prevention and Electrical Safety as an apprentice electrician. (5 hrs lec)

### ELAP-1575 Electrical Apprenticeship VII (5)

Provides the fourth-year electrical apprentice with necessary skills and knowledge to ensure safe and efficient work practices on the job. Topics include safety, motor controls, power distribution, solid state controls, and programmable controllers. Seventh course in a series of eight. **Prerequisite:** ELAP 1565, status as a fourth-year Electrical Apprentice with an Independent Electrical Contractor, and registration with the State of Wyoming Electrical Board of the Department of Fire Prevention and Electrical Safety as an apprentice electrician. (5 hrs lec)

### ELAP-1585 Electrical Apprenticeship VIII (5)

Provides the fourth-year electrical apprentice with necessary skills and knowledge to ensure safe and efficient work practices on the job. Topics include advanced motor controls, branch and feeder circuits, service entrance and grounding calculations based on the National Electrical Code, and review for the State Journeyman Exam. Eighth course in a series of eight. **Prerequisite:** ELAP 1575, status as a fourth-year Electrical Apprentice with an Independent Electrical Contractor, and registration with the State of Wyoming Electrical Board of the Department of Fire Prevention and Electrical Safety as an apprentice electrician. (5 hrs lec)

## EMERGENCY MEDICAL TECHNOLOGY (EMT)

### EMT-1500 Emergency Medical Technician - Basic (5)

This course is designed for preparation of the Emergency Medical Technician. Includes anatomy and physiology of the human body, techniques of emergency treatment for various injuries and emergency situations, and other topics related to emergency medical and first aid practices. Minimum of 165 hours of classroom and laboratory instruction is required. In addition, the student is required to spend 16 hours riding in the ambulance and 24 hours in the emergency room. This course meets the U.S. Department of Transportation (DOT) curriculum standards. Successful completion of the course prepares students to take the national registry written examination and the state practical assessment. Students need to understand that in order to sit for the national registry exam,

they must pass the three state written exams with a 70% or better and be able to read and write English. There are certain physical requirements that must be met in order to take the state practical assessment tests. **Prerequisite:** HLED 1225, NLED 1660 or NRST 1660, or consent of instructor. (3 hrs lec, 4 hrs lab)

### EMT-2530 Emergency Medical Technician - Intermediate (4)

Students will acquire advanced preparation of the Basic Emergency Medical Technician teaching the student how to think, not what to think. This course includes: advanced patient assessment, cardiovascular emergencies, advanced cardiac life support techniques, manual defibrillation, medical emergency medication, cardiac medication administration, intravenous therapy, multi-lumen intubation, pain medication, and pain management medication. Minimum of 80 hours of classroom and laboratory instruction is required. In addition, the student is required to spend 30 hours in a prehospital setting. **Prerequisite:** Student must possess current certification as a Wyoming Ambulance Attendant; show evidence of 12 months of active affiliation with a Wyoming licensed ambulance service as an attendant prior to enrollment; demonstrate competency in basic emergency medical technician skills through verification of a performance review by the physician medical director; and score a minimum of 80% on the State EMS Office precourse written exam. (The exam may not be taken sooner than 30 days prior to the scheduled start of this EMT-Intermediate course.) (3 hrs lec, 1 hr lab)

## ENGLISH (ENGL)

### ENGL-1010 English I: Introduction to Composition (3)

Emphasizes the writing of personal, informative, persuasive, and argumentative prose. Includes critical reading and class discussion. **Prerequisite:** Completion of DVST 0610 with a "C-" or better or placement at English level 3. (3 hrs lec)

### ENGL-1020 English II: Introduction to Literature (3)

Designed as a reading and writing course devoted to the study of the content and technique involved in poems, short stories, plays, and occasionally novels. **Prerequisite:** Completion of ENGL 1010 with a "C-" or better. (When designated as an Honors section, the **Prerequisite** is: Acceptance into the Honors Program or completion of ENGL 1010 with an "A-" or better. All students who satisfactorily complete the Honors section will receive Honors credit.) (3 hrs lec)

### ENGL-1210 English as a Second Language (3)

Provides non-native speakers of English with instruction in this area. The course is designed for students from other countries who are attending school in the United States for the first time. Students will cultivate speaking, listening, reading, and writing skills using individual learning styles. **Prerequisite:** TOEFL score of 500 or consent of instructor. (3 hrs lec)

**ENGL-2000 Introduction to Language (3)**

A practical introduction to the study of language, including history and structure of the language, the study of meaning, the relationship between language and thought, and the relationship between language and social interaction. (3 hrs lec)

**ENGL-2010 Technical Writing (3)**

Designed to familiarize students with job-related writing, emphasizing the roles audience and environment play in successful communication. Includes correspondence, document design, and report writing. **Prerequisite:** Completion of ENGL 1010 with a “C-” or better. (3 hrs lec)

**ENGL-2017 Introduction to Research (3)**

Designed to provide students with a variety of research skills and methods. Includes primary and secondary research. Introduces various documentation styles, including APA and MLA. **Prerequisite:** Completion of ENGL 1010 with a “C-” or better. (3 hrs lec)

**ENGL-2030 Critical Reading and Writing (3)**

Focuses upon the twin skills of analytical reading and interpretive writing. The connection between reading and writing is the ability to use critical thinking, and a study of critical thinking within the course provides the foundation for the other two skills. **Prerequisite:** Completion of ENGL 1010 with a “C-” or better. (3 hrs lec)

**ENGL-2050 Creative Writing: Prose I (3)**

Emphasizes the writing of fiction and nonfiction prose. (3 hrs lec)

**ENGL-2055 Creative Writing III: Writing in the Wild (3)**

This is an on-site, nature writing course set primarily in the Greater Yellowstone Basin. Equipped with writing journals, students will explore the landscape of back-country trails, wildlife viewing areas, geyser walks, etc. Emphasis will be on observation and writing, utilizing techniques culled from representative nature writers. The course includes an on-campus introductory lecture and post-seminar final. Generally, this course will be taught in conjunction with “Art in the Wild,” a three-credit visual art course offered by the Art Department. **Prerequisite:** Completion of ENGL 1010 with a “C-” or better or consent of instructor. (3 hrs lec)

**ENGL-2060 Creative Writing II: Writers’ House (3)**

Offers students a living and working space in which they can develop individual writing projects, participate in collaborative public service projects (including teaching in a public school workshop), and present public readings/ exhibitions. Emphasizes engagement in a student writing and learning community. **Prerequisite:** Completion of 12 hours of college-level work including at least one ENGL course and consent of instructor. (3 hrs lec)

**ENGL-2080 Creative Writing: Poetry I (3)**

Emphasizes the writing of poetry, with attention to various poetic forms. (3 hrs lec)

**ENGL-2170 The Bible as Literature (3)**

Examines portions of the Revised Standard version of the Bible in terms of literary form, including some of the history of writing and translation. (3 hrs lec)

**ENGL-2210 English Literature I (3)**

Covers English literature from Anglo-Saxon times to the Age of Reason. Stresses in-depth study of authors and periods. (3 hrs lec)

**ENGL-2220 English Literature II (3)**

Covers English literature from Romanticism to the present. Stresses in-depth study of authors and periods. (3 hrs lec)

**ENGL-2230 Introduction to Shakespeare (3)**

Introduces selected Shakespearean sonnets, comedies, histories, and tragedies, placing them in their historical context. (3 hrs lec)

**ENGL-2280 Introduction to Mythology (3)**

Gives an understanding of the meaning of mythology and its impact on literature. Uses readings of mythological interest in Greek and Roman literature and examines the use of mythological names and ideas for analogy or allusion in general literature. (3 hrs lec)

**ENGL-2310 American Literature I (3)**

Surveys the history of literature of the United States through the Colonial, National, and Romantic periods. (3 hrs lec)

**ENGL-2320 American Literature II (3)**

Surveys the history of literature of the United States from the rise of Realism to the present. (3 hrs lec)

**ENGL-2340 Native American Culture and Literature (3)**

Students acquire a broad cultural understanding of Native Americans, past and present. Emphasizes folklore and literature. (3 hrs lec)

**ENGL-2400 Introduction to Folklore (3)**

Surveys the areas of folklore and studies folklore’s importance to history, literature, and everyday life. Credit cannot be earned in both HUMN 2030 and ENGL 2400. (3 hrs lec)

**ENGL-2410 Literary Genres: (3)**

Attempts to impart an understanding and appreciation of either prose fiction, poetry, drama, or nonfiction prose as a genre. Includes an examination of the history and development of each literary type. Not confined to any era or country. May be repeated for a maximum of 12 credit hours. (3 hrs lec)

**ENGINEERING TECHNOLOGY (ENTK)****ENTK-1510 Drafting I (3)**

A beginning class in mechanical drawing. Students learn drafting principles and acquire practice with

drawing equipment. Skills learned include care and use of drafting equipment, free-hand lettering, multi-view and isometric projections, auxiliary views dimensioning, assembly drawings, threads, and sections. (2 hrs lec, 2 hrs lab)

**ENTK-1520 Drafting II (3)**

A continuation of ENTK 1510. Includes gears, cam, assembly drawings, intersections and developments, and electronic diagrams. **Prerequisite:** ENTK 1510 and concurrent enrollment in ENTK 2500. (2 hrs lec, 2 hrs lab)

**ENTK-1530 CAD Applications: (3)**

A beginning course using the computer as a drawing tool. Includes instruction in the use of computers, plotters, digitizers, etc. Subject areas include orthographic and isometric projection, dimensioning, sketching, and plotting. This course may not be substituted for ENTK 2500. (2 hrs lec, 2 hrs lab)

**ENTK-1710 Architectural Drafting I (3)**

Students acquire the skills and knowledge necessary for drawing residential floor plans. Building upon basic skills of freehand line technique and lettering, students will develop complete plot plans, foundation plans, and floor plans. **Prerequisite:** ENTK 1510. (2 hrs lec, 2 hrs lab)

**ENTK-1720 Architectural Drafting II (3)**

A continuation of ENTK 1710. Advanced technical topics include foundation, electrical, framing, plot plans, air conditioning, and solar. **Prerequisite:** ENTK 1710. (2 hrs lec, 2 hrs lab)

**ENTK-1750 Commercial Architectural Drafting (3)**

Instruction and practice in commercial design and construction. Includes plot, foundation, and floor plans. Emphasizes work with schedules, specifications, and design presentation drawings. **Prerequisite:** ENTK 1710. (2 hrs lec, 2 hrs lab)

**ENTK-1800 Cartography I (3)**

Drafting instruction relative to reading and creating topographical maps for surveying and construction industries. **Prerequisite:** ENTK 1510 and MATH 1450. (2 hrs lec, 2 hrs lab)

**ENTK-2070 Engineering Surveying (3)**

Principles of surveying and map making. Operation and use of surveying instruments, including Total Station and Data Collector. Measurement of distances, horizontal and vertical curves, open and closed traverse, area and volume calculations, and land subdivisions. Conversion of field data to electronic formats such as Geographic Information Systems (GIS) and Computer Aided Drafting (CAD) programs. **Prerequisite:** MATH 1405 or MATH 1450. (2 hrs lec, 3 hrs lab)

**ENTK-2500 Computer Aided Drafting I (3)**

Provides a general understanding of and basic skill development for using Computer Aided Drafting (CAD) equipment. Includes an introduction to computer graphics, graphic commands, plotting,

three-dimension graphics, isometric plotting, axonometric plotting, and perspective drawing. (2 hrs lec, 2 hrs lab)

### ENTK-2505 Computer Aided Drafting II (3)

A continuation of ENTK 2500. Emphasizes intermediate CAD techniques, including methods of improving productivity, customizing CAD, and three-dimensional concepts. *Prerequisite:* ENTK 2500. (2 hrs lec, 2 hrs lab)

### ENTK-2510 Computer Aided Drafting III (3)

Designed to acquaint the user with AutoCAD's programming language, terminology, and programming techniques. Macros covered. *Prerequisite:* ENTK 2505. (2 hrs lec, 2 hrs lab)

### ENTK-2530 Computer Aided Drafting 3-D (3)

In this advanced course, students work with presentation graphics. They develop knowledge and skills related to constructing three-dimensional objects through experience with applying surfaces plus rendering and creating 3-D and animated presentations, logos, and walk-throughs. In conjunction with daily assignments, students complete and present a final capstone project. *Prerequisite:* ENTK 2500, ENTK 2505, and successful completion of at least 30 credit hours. (2 hrs lec, 2 hrs lab) *Capstone Course*

### ENTK-2615 MicroStation Fundamentals (3)

For the new MicroStation user, this course builds a solid foundation in the concepts, tools and features found in the MicroStation drawing environment. Starting with setting up a drawing and concluding with plotting, the participant is walked through a typical workflow using the tools and features of the latest version of MicroStation. *Prerequisite:* ENTK 2500. (2 hrs lec, 2 hrs lab)

### ENTK-2625 Advanced MicroStation (3)

For the experienced MicroStation user, this course focuses on the features of MicroStation designed to improve user productivity. Providing lecture, demonstration and hands-on exercises, Advanced MicroStation begins with a thorough examination of AccuDraw and ends with an introduction to importing and exporting CADD data from/to other CADD programs. *Prerequisite:* ENTK 2600. (2 hrs lec, 2 hrs lab)

### ENTK-2650 Introduction to Computer Animation-Fundamentals of 3ds Max (3)

The 3ds max(TM) Fundamentals Course teaches the fundamentals of 3ds max. The course contains both informational material and practical exercises that go beyond the basic functionality of the software and explains techniques used by production artists including animation, modeling, materials, lighting, rendering, and scene creation. *Prerequisite:* CMAP 1635, CMAP 1680, CMAP 1850, CMAP 1890, ENTK 1530, or ENTK 2500, or consent of instructor. (2 hrs lec, 2 hrs lab)

## ENTOMOLOGY (ENTO)

### ENTO-1001 Insect Biology (4)

Designed to provide students with an introduction to insects and related arthropods. Introduces

aspects of insect biology, behavior, life history, and diversity in relation to various ways insects affect humans.

(3 hrs lec, 2 hrs lab)

## EQUINE STUDIES (EQST)

### EQST-1505 Basic Horsemanship (1)

For those with little riding experience or those who wish to improve riding skills. Covers leading, grooming, bridling, saddling, and stable management plus use of seat, hands, and legs to influence control of horse. Uses either English or western tack. *Prerequisite:* Consent of instructor. (.5 hr lec, 1 hr lab)

### EQST-1510 Equine Nutrition (2)

Includes study of essential nutrients, digestive physiology, and the varying nutrient requirements from birth to maturity. (2 hrs lec)

### EQST-1520 Horse Production I (3)

A study of health care, common health problems, and preventing and treating illness. Includes the mechanics of movement, learning theory, behavior, and equine limitations. (3 hrs lec)

### EQST-1525 Horse Production II (3)

A study of stable design and maintenance. This course examines breeds, genetics, safety factors, record management, and legal aspects of the horse industry. *Prerequisite:* EQST 1520. (3 hrs lec)

### EQST-1530 Saddlery (1)

A course for equestrians designed to answer questions about what makes saddlery function, saddle manufacture, and what to look for in buying saddles and tack. Covers both English and western using live models, slides, and demonstrations. (1 hr lec)

### EQST-1540 Applied Horse and Stall Care I (1)

Students responsible for twice daily feeding and stall care. Covers proper watering, grooming, foot and veterinary care; aisleway, arena, and tack maintenance; and specific adherence to rules and procedures concerning horses in the Equine Center. Emphasizes basic health and horse care records; types of feed, composition, and evaluation of additives and supplements; and safe handling of horses. (2 hrs lab)

### EQST-1545 Applied Horse and Stall Care II (1)

Students responsible for twice daily feedings and stall care. Covers proper watering, grooming, foot and veterinary care; aisleway, arena, and tack maintenance; and specific adherence to rules and procedures concerning housing horses in the Equine Center. Emphasizes stable designs, geographic locations, space needs, costs, operational needs, long-term planning, and records. *Prerequisite:* EQST 1540 with a "C-" or better. (2 hrs lab)

### EQST-1550 Equine Evaluation I (2)

Anatomy and conformation of the horse as related to various breeds judged. Specific rules and regulations of breed associations. Includes lecture, visual appraisal, judging terminology, and preparation of

oral reasons.

(1 hr lec, 2 hrs lab)

### EQST-1560 Equine Artificial Insemination (2)

Discussion of the anatomy of the reproductive systems and physiology of the reproductive and endocrine systems as they relate to successful artificial insemination. Labs involve practice of collection, evaluation, and insemination techniques. (1 hr lec, 2 hrs lab)

### EQST-1645 Tack, Fit, and Function (3)

Students will learn the correct use of Western and English tack including conformation of the horse as it relates to tack usage and how to fit tack to the horse and rider. Includes hands-on experience using training devices and learning how to identify and fit tack for jobs in sales, training, and riding stable operations. (2 hrs lec, 2 hrs lab)

### EQST-1650 Equine Evaluation II: Competitive (2)

Designed for students who have completed EQST 1550 and who are second-year level judges. All classes of horses judged with emphasis on competitive judging. Oral reasons presentation stressed. *Prerequisite:* EQST 1550. (1 hr lec, 2 hrs lab)

### EQST-1660 Equine Evaluation (2)

Continued instruction in the development of skills needed to become knowledgeable with the specific rules and regulations of breed associations in regards to performance classes. Lecture, as well as visual appraisal, judging terminology and scoring of classes will be the objective of this course. *Prerequisite:* EQST 1550. (3 hrs lec)

### EQST-1680 Horse Handling and Behavior (2)

Management of the horse on the ground. Topics include foal/stallion handling, restraints, behavior of horses, and general management of a horse facility. (1 hr lec, 2 hrs lab)

### EQST-1805 Farrier Science I (2)

Course covers proper methods of trimming and shoeing to promote equine soundness and performance. Students learn to understand and recognize good basic foot care. Prepares students for understanding and performing correct, corrective, and therapeutic shoeing taught in more advanced classes. (1 hr lec, 2 hrs lab)

### EQST-1810 Farrier Science II (3)

Studies conformation and gaits. Introduces corrective and therapeutic shoeing. Students learn to balance and shoe straight, gentle horses. *Prerequisite:* EQST 1805. (1.5 hrs lec, 3 hrs lab)

### EQST-1815 Production Shoeing I (3)

Designed to provide students with information and skills in basic forge work, trimming, and shoeing. *Prerequisite:* EQST 1805 or concurrent enrollment. (1 hr lec, 4 hrs lab)

### EQST-1820 Production Shoeing II (3)

A continuation of EQST 1815. Course provides more advanced information and skills in forge work, trimming, and shoeing. *Prerequisite:* EQST

1815, EQST 1810, or concurrent enrollment. (1 hr lec, 4 hrs lab)

#### **EQST-1825 Production Shoeing III (3)**

A continuation of EQST 1820. Students will acquire more advanced information and skills in forge work, trimming, and shoeing. This course further prepares students for the AFA certified examination. *Prerequisite:* EQST 1820. (1 hr lec, 4 hrs lab)

#### **EQST-1830 Production Shoeing IV (3)**

A continuation of EQST 1825. Students will acquire mastery of the essential information and skills in forge work, trimming, and shoeing necessary to pass the AFA certified examination. *Prerequisite:* EQST 1825. (1 hr lec, 4 hrs lab)

#### **EQST-1960 Special Applications in Equine Studies (1-3)**

Course addresses a diversity of equine subjects. Topics vary and may be drawn from areas within the equine field. Utilizes lecture, lab, or clinic format for student instruction. Jumping, dressage, western riding, veterinary care, stable management, and other related subjects exemplify areas of instruction. Course may be repeated using different topic titles. A maximum of 6 credits may apply toward the Equine Riding and Training degree. (1 hr lec or 2 hrs lab per credit hour)

#### **EQST-2500 Equine Health Management (2)**

A basic review of the major diseases that affect equine. A portion of the class covers specific anatomy affected by diseases, a review of appropriate pharmacology, and the development of a general herd health management program that agriculture producers can adapt to their own operation. (2 hrs lec)

#### **EQST-2510 Competitive Equine Judging (2)**

Designed for students who have completed EQST 1550 and EQST 1650. Students compete in intercollegiate horse judging. *Prerequisite:* EQST 1550 and EQST 1650. (2 hrs lec)

#### **EQST-2515 Horse Show/Clinic/Event Management (2)**

Emphasis will be placed on the management skills needed to preside over the setup and operation of an open or breed horse show and/or clinics or other events. These skills may include but will not be limited to making flyers, advertising, hiring judges or clinicians, preparing the arena for the scheduled event, analyzing arena footing for the different events, finding ring stewards, announcers, show secretaries, bookkeeping, gate people, ordering ribbons and numbers, making arrangements for stalling, keeping track of year end award points, and hiring concessions if needed. Students in the course will have hands on experiences running two open shows and/or one show and one clinic/event. (.5 hr lec, 3 hrs lab)

#### **EQST-2520 Equine Breeding (3)**

Management of the stallion and the mare in breeding. Topics include types of breeding practices, behavior and psychology of handling stallions, the mare in the breeding role, hormone cycles, artificial aids such as light and drug therapy, actual foaling of a mare, growth of the foal in the uterus, recognition of foaling problems, and care of the

newborn foal and mare. *Prerequisite:* ANSC 2430. (2 hrs lec, 2 hrs lab)

#### **EQST-2540 Applied Horse and Stall Care III(1)**

Students responsible for twice daily feeding and stall care. Covers proper watering, grooming, foot and veterinary care; aisleway, arena, and tack maintenance; and specific adherence to rules and procedures concerning housing horses in the Equine Center. Emphasizes budgets, marketing, records, available computer programs, total management of facilities, and stable record for horse. *Prerequisite:* EQST 1540 and EQST 1545 with a "C-" or better. (2 hrs lab)

#### **EQST-2545 Applied Horse and Stall Care IV(1)**

Students responsible for twice daily feedings and stall care. Covers proper watering, grooming, foot and veterinary care; aisleway, arena, and tack maintenance; and specific adherence to rules and procedures concerning housing horses in the Equine Center. Emphasizes design and budget of stable facility, justified designs and budgets, and stable record for horse. *Prerequisite:* EQST 1540, EQST 1545, and EQST 2540 with a "C-" or better. (2 hrs lab)

#### **EQST-2550 Training the Young Horse I (2)**

For the student desiring further knowledge in colt breaking including theory and techniques used in training a young horse, lunging, ground driving, problems that occur in riding a horse the first time, and the training sequence for achieving a "green broke" horse. Class limited to 6 students. *Prerequisite:* EQST 2680, EQST 2690 with a "C-" or better, and successful completion of at least 30 credit hours. (1 hr lec, 2 hrs lab)

#### **EQST-2555 Training the Young Horse II (2)**

Preparation of green broke horse for advancement to a level appropriate for showing at futurities or preparation for marketing of young broke horses. Class limited to 6 students. *Prerequisite:* EQST 2550 with a "C-" or better and successful completion of at least 30 credit hours. (1 hr lec, 2 hrs lab)

#### **EQST-2665 Outdoor Guide Skills (7)**

In this intense and highly physical field course, students will gain practical hands-on experience in the following skills: camp construction and management, horse and mule packing, big game guiding, livestock care and handling, basic horsemanship, backcountry survival and first aid, weapons safety, food preparation, and effective customer relations and service. Students will reside in a camp setting. Course requires heavy lifting. (4 hrs lec, 6 hrs lab)

#### **EQST-2680 Western Horsemanship (3)**

An introduction to the beginning and intermediate theories of correct western horsemanship including centered riding and correct aids and balance in the western saddle. Students will practice beginning and intermediate training exercises for the horse, emphasizing equine safety and health. To pass this course, students must attend a minimum of two weekend clinics or horse shows. *Prerequisite:* Admittance to the Equine Riding and Training Program. (1 hr lec, 3 hrs lab, 1 hr arr lab)

#### **EQST-2690 Hunt Seat Equitation (3)**

An introduction to the beginning and intermediate theories of correct Hunt Seat Equitation including centered riding and correct aids and balance in the Hunt Seat Saddle. Students will practice beginning and intermediate training exercises for the horse, emphasizing equine safety and health. *Prerequisite:* Admittance to the Equine Riding and Training Program. (1 hr lec, 3 hrs lab, 1 hr arr lab)

#### **EQST-2800 Fundamentals of Teaching Riding (3)**

A methods course to prepare the prospective riding teacher. Includes knowledge of seat and its application to dressage, jumping, western riding, class control, and lunge line work; kinesiology of riding; and psychological problems. Students must attend a minimum of three weekend (Saturdays and/or Sundays, specific dates noted on course syllabus) clinics or horse shows to pass this course. (2 hrs lec, 2 hrs arr lab)

#### **EQST-2810 Training and Development of the Western Horse I (3)**

Includes specialized training techniques in developing the flying lead, change, spins, and the sliding stop. Students must attend a minimum of three weekend (Saturdays and/or Sundays, specific dates noted on course syllabus) clinics or horse shows to pass this course. *Prerequisite:* EQST 2680 with a "C-" or better. (1 hr lec, 3 hrs lab, 1 hr arr lab)

#### **EQST-2820 Training and Development of the Western Horse II (3)**

Continuing emphasis will be placed on the beginning and intermediate training techniques needed to develop a flying lead change, spins, and the sliding stop. Emphasis will also be placed on the intermediate training techniques needed for the trail horse (side passing, turn on haunches, turn on forehand, backing, loping, jogging, and walking over poles, working the gate, and bridge). Lecture and lab will cover exercises and theory for correct equitation and frame of the horse and rider in the areas of reining, trail, and pleasure. Students must attend a minimum of three weekend (Saturdays and/or Sundays, specific dates noted on course syllabus) clinics or horse shows to pass this course. *Prerequisite:* EQST 2810 with a "C-" or better and successful completion of at least 30 credit hours. (1 hr lec, 3 hrs lab, 1 hr arr lab) *Capstone Course*

#### **EQST-2830 Training and Development of the English Horse I (3)**

Course work includes schooling the horse in areas of dressage and jumping. Includes riding training level tests and jump courses. Students must attend a minimum of three weekend (Saturdays and/or Sundays, specific dates noted on course syllabus) clinics or horse shows to pass this course. *Prerequisite:* EQST 2690 with a "C-" or better. (1 hr lec, 3 hrs lab, 1 hr arr lab)

#### **EQST-2840 Training and Development of the English Horse II (3)**

This course is designed to prepare students and their horse to compete in jumping, Hunter under Saddle, or dressage at recognized shows. Will include correct attire for horse and rider, study of the rules for each discipline, training skills necessary to compete and show successfully, proper tack selection and how to prepare mentally and physi-

cally for the rigors of competition. Students must attend a minimum of three weekend (Saturdays and/or Sundays, specific dates noted on course syllabus)clinics or horse shows to pass this course. **Prerequisite:** EQST 2830 with a “C-” or better and successful completion of at least 30 credit hours. (1 hr lec, 3 hrs lab, 1 hr arr lab) *Capstone Course*

## ENGINEERING SCIENCE (ES)

**ES-1000 Orientation to Engineering (1)**  
Introduction to skills and professional development related to engineering. Includes the engineering method, ethics, how to think and communicate visually, and the history and design of engineering. Provides activities to help the student transition to the rigorous engineering curriculum. Recommended for all entering freshmen engineering students. (.5 hr lec, 1 hr lab)

**ES-1060 Introduction to Engineering Computing (3)**  
Introduces the use of computers in solving a wide variety of engineering and science-oriented problems. Includes documentation and report writing, computing tools for writing reports and presenting data in graphical form, equation solving, and manipulation of tabular data. **Prerequisite:** Previous or concurrent enrollment in MATH 2200. (2 hrs lec, 2 hrs lab)

**ES-2110 Statics (3)**  
A vector approach to mechanics of stationary particles and rigid bodies. Considers external forces, moments, frictional forces, and fluid statics. **Prerequisite:** MATH 2200. (3 hrs lec)

**ES-2120 Dynamics (3)**  
Principles of particles and rigid body motion developed in vector form and applied to engineering problems, emphasizing force-mass acceleration, work-energy, and impulse-momentum. **Prerequisite:** Previous or concurrent enrollment in MATH 2205 and PHYS 1310. (3 hrs lec)

**ES-2210 Electrical Circuit Theory (4)**  
Basic concepts of electric circuit theory including dependent sources, network theorems, first and second order circuits and phasors. **Prerequisite:** Previous or concurrent enrollment in MATH 2205 and PHYS 1320. (3 hrs lec, 3 hrs lab)

**ES-2310 Thermodynamics (4)**  
Introductions of thermodynamic variables, processes, and laws, followed by derivation of thermodynamics relations applied to real physical problems. Concepts include mass, energy, and entropy balances; availability; reversible and irreversible processes. **Prerequisite:** MATH 2205 and ES 2120 or PHYS 1310. (4 hrs lec)

**ES-2330 Fluid Dynamics/Mechanics (3)**  
Students study incompressible flow of ideal and real fluids at rest and in motion. Fluids may be liquids, vapors, gases, or combinations of these. The effects of static forces and compressibility are given special attention. Kinematics, dynamics, flow, flow resistance, and physical effects of

flow are considered in detail for moving fluids. Potential and stream functions and similitude and dimensional analysis are also studied. **Prerequisite:** ES 2110 and previous or concurrent enrollment in ES 2310. (3 hrs lec)

**ES-2385 Research in the Life and Physical Sciences (3)**  
Research in the Life and Physical Sciences offers students the opportunity to work with other students interested in science disciplines. Students will develop individual projects within their discipline, and with fellow students, exchange ideas and develop and appreciation for the commonality between scientific disciplines and the role of science in society. Students will be expected to make a public presentation of their work. **Prerequisite:** Successful completion of at least 30 credit hours. (3 hrs lec) *Capstone Course*

**ES-2410 Mechanics of Materials (3)**  
Analysis of design of members subjected to various types of loadings. Includes the mechanics of deformable bodies. **Prerequisite:** ES 2110. (3 hrs lec)

## FAMILY AND CONSUMER SCIENCE (FCSC)

**FCSC-1140 Nutrition (2)**  
This course is intended for students preparing for careers in health care. Students learn the foundations of nutrition and then apply those foundations to nutritional needs throughout the life cycle, to nutrition in clinical settings and in specific disease states. (2 hrs lec)

**FCSC-1141 Principles of Nutrition (3)**  
Emphasizes the relationship of food to maintenance of health. Includes the human needs for energy and nutrients and their importance to the individual and society. Also stresses the importance of diet throughout the life cycle. (3 hrs lec)

**FCSC-2121 Child Development (4)**  
Covers growth and developmental patterns in physical, social, intellectual, and emotional areas in relation to children ages birth through eight. Includes opportunities to observe principles of growth in children through an assignment in a field experience setting and identifies developmentally appropriate activities to foster development of the whole child. (3 hrs lec, 2 hrs lab)

## FOOD SCIENCE (FDSC)

**FDSC-2060 Fresh Meat Processing (3)**  
Provides study of the fabrication of carcasses into cuts, associated processing techniques, selection, preparation, and utilization of meat. Explores concerns and opportunities of the producer, packer, processor, retailer, and food service. **Prerequisite:** Consent of instructor. (1.5 hrs lec, 3 hrs lab)

**FDSC-2160 Meat, Poultry, and Game Products (2)**  
Designed to enable students to properly care for

and process game carcasses. Covers field care and aging; preparing sausage, and jerky; and curing/smoking poultry, fish, and wild game. (1 hr lec, 2 hrs lab)

## FINANCE (FIN)

**FIN-2000 Principles of Banking (3)**  
Provides an insight into U.S. commercial banking and financial activities. Presents a broad overview of the history, functions, and regulations concerning the U.S. monetary system. (3 hrs lec)

**FIN-2075 Banking Applications (1-3)**  
Specialized studies from the American Institute of Banking designed to address topics relevant to banking professions. Meets guidelines established by the American Institute of Banking for advanced credit. (1-3 hrs lec)

**FIN-2100 Managerial Finance (3)**  
Students study the theory of corporate finance and the management of capital within a corporation or business. Time value of money, cash flow analysis, stock and bond valuations, risk and return, capital budgeting, capital structure, the cost of capital and dividend policy are also examined. **Prerequisite:** ACCT 2010 and STAT 2010. (3 hrs lec)

## FRENCH (FREN)

**FREN-1010 First Year French I (4)**  
Introduces the essentials of French necessary for oral and written communication. Uses *French in Action*, an interactive, multimedia course which combines video, audio, and text to help students use real, unsimplified French in the context of actual communication in French. (4 hrs lec)

**FREN-1020 First Year French II (4)**  
Continuation of FREN 1010 employing the *French in Action* method. **Prerequisite:** One year of high school French or completion of FREN 1010 with a “C-” or better. (4 hrs lec)

**FREN-1050 Conversational French I (1-2)**  
Primarily for those who want to develop and enhance their ability to speak French. Provides a setting where useful vocabulary is incorporated into learned and spontaneous conversations and where cultural differences can be discussed as they pertain to everyday situations. Intended for students who have minimal proficiency or no previous French language experience. Not intended for transfer credit. (1-2 hrs lec)

**FREN-2030 Second Year French I (4)**  
Continues the interactive, video-based *French in Action* method of teaching French (see FREN 1010). More advanced grammar and vocabulary are integrated into increasingly sophisticated cultural situations. Strong emphasis on verbal and written proficiency. **Prerequisite:** Two years of high school French or completion of FREN 1020 with a “C-” or better. (4 hrs lec)



**FREN-2040 Second Year French II (4)**

Final semester of two-year *French in Action* sequence. Includes comprehensive review of grammar as well as language and cultural expansion. **Prerequisite:** Three years of high school French or completion of FREN 2030 with a "C-" or better. (4 hrs lec)

**FREN-2210 Intermediate Conversation and Composition I (3)**

Continues the study of oral and written skills in French. Prepares students for upper division courses in advanced composition and conversation. **Prerequisite:** Four years high school French or FREN 2040. (3 hrs lec)

**FREN-2460 French Field Studies: (1-3)**

Course offers students the opportunity to travel in a French-speaking country. On-campus portion of course focuses on language, culture, and practical travel considerations. Students electing three credits will select one aspect of the host culture to study and evaluate during the field experience. **Prerequisite:** Consent of instructor. (1-3 hrs lec)

**GEOGRAPHY AND RECREATION (G&R)****G&R-1000 Introduction to Geography (3)**

A regional geography approach used, involving an intensive, systematic consideration of the regions and countries of the world. Studies the physical and cultural dimensions of each region. (3 hrs lec)

**G&R-1250 Geography of Travel and Tourism (3)**

Describes the world in terms of travel destinations and physical, cultural, and economic geographical knowledge. Provides information on international travel requirements and air and surface travel abroad. Emphasis on common tourist destinations throughout the world. (3 hrs lec)

**GEOLOGY (GEOL)****GEOL-1030 Geology of Northern Wyoming (3)**

A survey of the physical features, processes, and history of the mountains of northern Wyoming. Emphasis on Big Horn Basin and Mountains, Absaroka and Beartooth Mountains, and Yellowstone and Grand Teton National Parks. For the non-geologist; does not fulfill lab science requirement. Two required Saturday field trips. (3 hrs lec)

**GEOL-1035 Geology of Yellowstone National Park (1)**

Introduction to the rocks, landscapes, and thermal features of the Park. Emphasis placed upon hot springs and geysers, volcanic activity, glaciations, and stream erosion. Material covered during a two-day field trip through the Park. For the non-geologist; does not fulfill lab science requirement. Limited enrollment. (2 hrs lab delivered through 24 clock hours in the field)

**GEOL-1100 Physical Geology (4)**

Modern concepts of the earth's physical makeup

including materials (minerals and rocks), topography, and crustal structure, as well as processes and forces acting on the earth including continents' motions, earthquakes, volcanoes, mountain building, and erosion. Required field trips emphasize local geology. **Prerequisite:** Placement at math level 2. (3 hrs lec, 2 hrs lab)

**GEOL-1200 Historical Geology (4)**

A survey of the physical and biological history of the earth as an evolving system interpreted from the sequence of rocks and fossil remains. Required field trips emphasize local geology and illustrate methods of historical reconstruction. **Prerequisite:** Placement at math level 2. (3 hrs lec, 2 hrs lab)

**GEOL-1235 History and Geology of the Yellowstone Area (3)**

This course is an intensive, hands-on, mountain-site short course on the geology and history of Yellowstone National Park and surrounding areas and is intended primarily for K-12 teachers. (3 hrs lec)

**GEOL-1546 Rocks and Minerals (1)**

Students acquire a broad understanding of survey of common and economically important rocks and minerals of Northern Wyoming. This course provides an overview of the rock cycle and plate tectonics. For the non-geologist. Optional Saturday field trip. (1 hr lec)

**GEOL-1547 Heart Mountain, Volcanoes and the Rockies (1)**

Students will acquire a broad understanding of mountain building, volcanism, and plate tectonics. Examples focus on the geology of the Wyoming Rockies; the origin of Heart Mountain and Absaroka volcanism; and the Yellowstone hot spot. For the non-geologist. Optional Saturday field trip. (1 hr lec)

**GEOL-1548 Shallow Seas and Changing Climate (1)**

Students acquire a broad understanding of survey of Wyoming focusing on rock and fossil evidence for how Wyoming's landscape, geography, and climate have changed through time from early Earth history to the present. For the non-geologist. Optional Saturday field trip. (1 hr lec)

**GEOL-2325 Dinosaurs of Wyoming (2)**

Designed to familiarize students with dinosaurs that once inhabited Wyoming and other western states. Explores the paleontological research in and near Wyoming, dinosaur taxonomy, the Mesozoic environment, theories concerning lifestyles and extinction of dinosaurs, and the relationship of dinosaurs to the human race. Field trip required. (2 hrs lec)

**GEOL-2385 Research in the Life and Physical Sciences (3)**

Research in the Life and Physical Sciences offers students the opportunity to work with other students interested in science disciplines. Students will develop individual projects within their discipline, and with fellow students, exchange ideas and develop an appreciation for the commonality between scientific disciplines and the role of sci-

ence in society. Students will be expected to make a public presentation of their work. **Prerequisite:** Successful completion of at least 30 credit hours. (3 hrs lec) *Capstone Course*

**GRAPHIC ARTS (GRAR)****GRAR-1510 Introduction to Graphic Arts (3)**

A study of the basic principles and processes of the printing industry. Begins with an overview of the four major printing processes and uses a lecture/lab method of instruction to familiarize the student with layout and design, electronic publishing, camera, image assembly, platemaking, presswork, and bindery operations. (2 hrs lec, 2 hrs lab)

**GRAR-1610 Offset Production I (3)**

Students refine their skills with the process of offset lithography. Projects provide opportunities to apply their skills and understanding of image concept and design, image assembly, film conversion (including both process camera and imagesetter output), platemaking, duplicator presswork, and bindery operations. Course prepares students for GRAR 1620 where students may produce materials for NWC. (2 hrs lec, 2 hrs lab)

**GRAR-1620 Offset Production II (4)**

A continuation of GRAR 1610. Allows concentration in the following areas: art and copy preparation, process camera, image assembly, offset duplicator presswork, and bindery. Course stresses the production of quality materials. **Prerequisite:** GRAR 1610 and GRAR 1720. (2 hrs lec, 4 hrs arranged lab)

**GRAR-1720 Imaging for Print Reproduction (3)**

Students acquire essential information and experience to employ either photomechanical imaging or electronic digital imaging processes. Skills learned include graphic arts photography, some special effects camera work, photographic and digital half-toning, electronic scanning, PostScript via a film imagesetter, imaging applications, and production of color separations. **Prerequisite:** GRAR 1510. (3 hrs lec)

**GRAR-1800 Introduction to Macintosh (3)**

Course offers practice and useful experience on the Macintosh computer system. Provides a firm foundation in the basics of the Macintosh operating system and various word processing, graphics, and page layout program software. Encourages students to work on the Macintosh in areas of individual interest. Students gain a solid understanding of the Macintosh and related computer hardware. (3 hrs lec)

**GRAR-1810 Electronic Publishing: PageMaker (3)**

Students come to understand the impact of the microcomputer on the publishing industry. Students will use PageMaker 6.5, Adobe Table, Photoshop (scanning and file touch up), and a variety of peripherals including color scanners, color printers, and imagesetters. Projects enable students to explore various capabilities and reinforce concepts learned in lecture and demonstrations. (3 hrs lec)

**GRAR-1820 Electronic Publishing: QuarkX-Press (3)**

Students gain first-hand experience with current applications, techniques, and equipment used in the generation of type and images in the area of electronic publishing. Additional skill and knowledge is gained regarding QuarkXPress, font installation and management, building a type library, typography, mark-up, methods to speed up design and productions work, preflighting for service bureaus, and imagesetting to film. **Prerequisite:** GRAR 1510 and GRAR 1800. (3 hrs lec)

**GRAR-1850 Advanced Electronic Publishing (3)**

Advanced publishing procedures utilizing Adobe Photoshop and Luminous Trapwise computer applications. Explores digital image manipulation, scanning digital images and saving in appropriate file formats, manual and digital trapping techniques, and integration of multiple file formats into a single electronic graphics file. **Prerequisite:** GRAR 1510, GRAR 1800, and GRAR 1810. (3 hrs lec)

**GRAR-1950 Preflighting/Image Assembly (3)**

Students become familiar with preflighting electronic files for imagesetting and image assembly (stripping) techniques employed in today's prepress field. Discussions and activities will help students learn advanced stripping techniques, composite films, imposition considerations related to press and bindery, electronic imposition software, trapping software, and imagesetting. **Prerequisite:** GRAR 1510. (3 hrs lec)

**GRAR-2650 Magazine Production (3)**

A practical introduction to the design and production of a magazine. Includes critical examination of magazines from colleges, universities, and independent presses from throughout the nation. Culminates in a student-generated, student-edited, and student-published magazine. **Prerequisite:** Student must complete application for admission. (3 hrs lec)

**GRAR-2710 Estimating (3)**

Provides experience in estimating offset printed materials using pricing catalogs, computer estimation programs, and student developed BHRs (budgeted hourly rates) for various printing equipment and associated processes. Students analyze proposed print jobs to determine required operations and supplies, proper pricing routines, and estimate time needed for completion of each stage of the job. **Prerequisite:** GRAR 1620. (3 hrs lec)

**GRAR-2750 Magazine Editing and Management (3)**

Provides practical experience in editing and managing the production of a student magazine. Includes planning, decision-making, personnel management, and networking. **Prerequisite:** Student must complete application and interview for admission. Successful completion of at least 30 credit hours. (3 hrs lec)

*Capstone Course***GRAR-2810 Advanced Press (3)**

Designed to give the student hands-on experience with a Heidelberg SORD offset press. Emphasizes

inter-working and mechanics of the press, sheet control, signature printing, and the four-color process. **Prerequisite:** GRAR 1620 and consent of instructor. (6 hrs lab)

**GREEK (GRK)****GRK-1015 Elementary Biblical Greek I (4)**

Introduces the essentials of grammar and vocabulary necessary for reading Greek. Gives practice in reading, understanding, writing, and pronouncing Greek. (4 hrs lec)

**GRK-1025 Elementary Biblical Greek II (4)**

Continuation of GRK 1015. **Prerequisite:** GRK 1015. (4 hrs lec)

**GRK-2035 Intermediate Biblical Greek (4)**

Readings in Biblical and Hellenistic Greek. **Prerequisite:** GRK 1025. (4 hrs lec)

**GRK-2150 Selected Readings in Biblical Greek (1)**

Designed for students who have completed at least GRK 1025 and would like to continue reading a variety of Greek texts on a regular basis. May be taken for credit even after completion of GRK 2035. Different Greek texts read each time the course is offered in order to avoid repetition. May be repeated once for credit. **Prerequisite:** GRK 1015 and GRK 1025 or equivalent. (1 hr lec)

**HEBREW (HEBR)****HEBR-1010 First Year Hebrew I (4)**

A brief course which provides the essentials for reading and translating Biblical Hebrew. Emphasizes fundamentals of grammar and reading. (4 hrs lec)

**HEBR-1020 First Year Hebrew II (4)**

A continuation of HEBR 1010. **Prerequisite:** HEBR 1010. (4 hrs lec)

**HEBR-2030 Second Year Hebrew I (4)**

Readings in Biblical and inscriptional Hebrew. Students read from the Hebrew Bible and ancient Hebrew inscriptions from the Biblical era. (4 hrs lec)

**HEBR-2150 Selected Readings in Hebrew (1)**

Designed for students who have completed HEBR 1020 and would like to continue reading a variety of Hebrew texts on a regular basis. Different Hebrew texts will be read each time the course is offered in order to avoid repetition. May be repeated once for credit. **Prerequisite:** HEBR 1020. (1 hr lec)

**HISTORY (HIST)****HIST-1110 Western Civilization I (3)**

A survey of Western Civilization that examines contributions of the Near East and Greece to Roman civilization as a foundation for the further study of the Byzantine, Islamic, Medieval and

Early Modern Eras of the Euro-Mediterranean world, featuring a strong emphasis on the intellectual, religious, socio-economic and political history of the many peoples involved. (3 hrs lec)

**HIST-1120 Western Civilization II (3)**

A historical survey of Western Civilization from the Early Modern era in the Euro-Mediterranean region through the 20th Century, including the onset of colonialism, the rise of global empires, the emergence of the modern political and social ideologies, the impact of industrial and technological transformation, the role of Europe's "outposts" such as the United States, Canada, and other former imperial possessions, as well as the major events of European significance like the French Revolution, revolutionary movements of the 19th century, the world wars, and the Cold War. Features strong emphasis on the intellectual, cultural or spiritual currents of all the peoples involved. (3 hrs lec)

**HIST-1210 United States History I (3)**

A foundation course for programs in American history. Surveys the history and culture of the United States from before discovery to approximately the time of the Civil War. Emphasizes the historical and constitutional roots of American values and beliefs. Along with HIST 1250, this course meets statutory requirements for instruction in principles and provisions of the constitutions of the U.S. and Wyoming. (3 hrs lec)

**HIST-1221 The United States from 1865 (3)**

Surveys American history from approximately the time of the Civil War to the present. Emphasis on the development of constitutional, socio-political, cultural, and economic factors that explain the emergence of the United States as a global power. Meets statutory requirements for instruction in principles and provisions of the constitutions of the United States and Wyoming. (3 hrs lec)

**HIST-1229 History of Yellowstone (3)**

Course examines the historical development of Yellowstone National Park from prehistoric times to the present. Students learn how Yellowstone's historical development paved the way towards the current issues it faces today. Students explore what makes Yellowstone unique as a national park and as an ecosystem. Examines how various people expressed their feelings towards Yellowstone through art, photography, and literature. (3 hrs lec)

**HIST-1235 History and Geology of the Yellowstone Area (3)**

This course is an intensive, hands-on, mountain-site short course on the geology and history of Yellowstone National Park and surrounding areas and is intended primarily for K-12 teachers. (3 hrs lec)

**HIST-1250 History of Wyoming (3)**

The history and politics of a western state, exploring its physical environment, culture, constitution, and prospects from its beginning to the present. Along with HIST 1210, this course meets statutory requirements for instruction in principles and provisions of the constitutions of the United States and Wyoming. (3 hrs lec)

**HIST-1280 History of Montana (3)**

A survey of Montana history. Covers the development of the territory and state and examines the social, economic, cultural, and political patterns in its relations to the nation. (3 hrs lec)

**HIST-1290 History of United States West (3)**

A history of the changing frontier in the United States, its native peoples, and the westward movement of Americans from colonial times to the 20th century. Special focus on the trans-Mississippi west, the role of physical geography, and the interaction of various cultures. (3 hrs lec)

**HIST-2050 Introduction to Public History (3)**

Introduces the student to the non-teaching, professional uses of history. Topics for consideration include archival preservation, museum management, public information, publications, historic site development, oral history, and historical programming. The class will also examine a variety of political, financial, and ethical issues that impact the interpretation of history to the general public. (3 hrs lec)

**HIST-2070 The Holocaust: A Survey (3)**

Examines the Nazi campaign to persecute and exterminate European Jews. Includes the broader dimensions of Nazi racial policies aimed at gypsies, Slavs, the disabled, and other groups. Explores the complicity of nations and governments throughout the world, as well as the verdicts at Nuremberg. Seeks to apply the lessons of the Holocaust to current discussions of intolerance, racism, and genocide. All students who satisfactorily complete this course receive Honor's credit. (3 hrs lec)

**HIST-2112 Revolutionary Europe (3)**

Students analyze the major revolutionary movements and upheavals from the French Revolution of 1789 through the Russian, German, and Austrian Revolutions of 1917-19. **Prerequisite:** Completion of ENGL 1010 with a "C" or better. (3 hrs lec)

**HIST-2115 20th Century Europe (3)**

Social, economic, political, and intellectual history of Europe from the First World War to Gorbachev and the Soviet collapse, including the relationship of developments to physical, political, and cultural geography. **Prerequisite:** Completion of ENGL 1010 with a "C" or better. (3 hrs lec)

**HIST-2120 Ancient Greece (3)**

Study begins with prehistoric times, traces the rise of the Greeks, the Dark Ages, the Age of Expansion, the Classical Period, the Hellenistic Age, and the arrival of the Romans. Topics include language, literature, religion and mythology, athletics, warfare, law and democracy, theatre, education, science, philosophy, and political history. **Prerequisite:** English level 3 or consent of instructor. (3 hrs lec)

**HIST-2130 Ancient Rome (3)**

Students examine the Rise of the Roman State, the character of Roman culture and social development, as well as the impact of Roman imperialism on the Euro-Mediterranean World. Students also analyze the Roman decline and the extension of

Rome's legacy into the Byzantine Era. **Prerequisite:** English level 3 or consent of instructor. (3 hrs lec)

**HIST-2140 Ancient Near East (3)**

Course encompasses the rise and development of civilization in Mesopotamia, Syria, Palestine, Anatolia, Egypt, and Arabia from prehistory to Alexander the Great. Topics include religion, literature, art, architecture, language, and political history. (3 hrs lec)

**HIST-2149 Nuclear Century (3)**

Students acquire an understanding and appreciation for the development of the nuclear energy and the social, psychological, political, and environmental issues associated with it. This course is team taught by a historian with a chemist or a physicist. Credit cannot be earned in both HIST 2149 and PHYS 2149 or CHEM 2149. All students who satisfactorily complete this course receive Honor's credit. (3 hrs lec)

**HIST-2290 North American Indians (3)**

Presents the history of North American Indians starting with the pre-Columbian era and tracing developments through the Colonial Period, the revolutionary independence struggles, and the problems of native people under national regimes through the 19th and 20th centuries. Special emphasis on the experiences of Indians in the United States and Canada, including cultures of the eastern woodlands, plains, Rocky Mountain and Pacific areas, and the Arctic. (3 hrs lec)

**HIST-2420 History of Crime and Justice (3)**

This course examines the historic evolution of American crime and the American justice system from the early Colonial Period through the Twenty-first Century. The course studies philosophical shifts in correctional strategies, criminal activities, and law enforcement techniques and their impact on crime and the American judicial system. Credit cannot be earned in both HIST 2420 and SOC 2420. All students who satisfactorily complete this course receive Honor's credit. (3 hrs lec)

**HIST-2471 Internship: History (1-6)**

Available to the serious student who desires to observe and participate in a demanding and rewarding professional off-campus experience. **Prerequisite:** Permission of the on-campus instructor. (1-6 hrs lec per credit hour)

**HEALTH EDUCATION (HLED)****HLED-1005 Risky Behaviors (3)**

Designed to increase a student's awareness of the social influence of drugs, alcohol, STDs, and sexual assault from a multi-disciplinary perspective (health, physiological, and sociological). Presents in logical form accurate, current information from the biological, health, and sociological sciences essential for making sound decisions regarding lifestyle choices. Course fulfills one credit of non-activity based wellness education or three credits of social science. This course is the same as SOC 1005. (3 hrs lec)

**HLED-1006 Personal Health (3)**

Presents in logical form a body of knowledge from biological and social sciences essential for sound decisions in health maintenance and a proper sense of health values. (3 hrs lec)

**HLED-1225 Standard First Aid and CPR (2)**

This course prepares students to cope when emergency care is needed. Studies accident prevention, examination procedures and first aid care for victims of accidents or sudden illness before medical assistance is available. Current Red Cross or American Heart Association materials are used for First Aid and CPR, and upon successful completion of the course, students will receive either Red Cross or American Heart Association certification dependent on the certification credentials of the instructor. (Note: Certification information included in the semester class schedule.) (2 hrs lec)

**HLED-1270 Wellness (3)**

Explores the relationship between diet, exercise, and health in a lecture/lab format. A transdisciplinary approach emphasizing the integration of concepts and processes relevant to the pursuit of optimal well-being. (3 hrs lec)

**HLED-1271 Diet and Exercise (2)**

Introduces an understanding of basic nutrition and exercise facts relating to weight loss and fitness. Encourages development and use of a total physical fitness program. (2 hrs lec)

**HLED-1660 Basic Emergency Care (3)**

Students receive training in fundamentals of emergency care. This course follows the U.S. Department of Transportation (DOT) and advanced first aid outlines for the First Responder. This is an excellent course for students desiring to enter an Emergency Medical Technician Program. Students may not receive credit in both HLED 1660 and NRST 1660. (3 hrs lec)

**HUMAN DEVELOPMENT (HMDV)****HMDV-1000 College Studies (1)**

A suggested course for all new students. Students learn skills for success in college. Students practice study skills, determine their learning style, and become acquainted with services available at Northwest College. Also, students learn basic library research skills, how to use campus computers, and critical thinking skills. (1 hr lec)

**HMDV-1010 College Studies II (1)**

Students refine and expand skills for success in college. Skills include time management, interpersonal communication, relationship building, and academic and career planning. This course complements HMDV 1000 and offers a student study-skills help for an entire semester. (1 hr lec)

**HMDV-1200 Academic and Career Orientation (1)**

Designed to assist students in determining

strengths, abilities, interests, personality type, and values in relation to making mature and realistic career decisions. Involves individual counseling to aid in setting personal, educational, and vocational goals.

(1 hr lec)

#### **HMDV-2000 Tutor Training (1)**

A recommended course for student tutors and students planning to tutor in the Student Success Center. Successful completion of the course allows the student to become eligible for Tutor Certification through the College Reading and Learning Association. **Prerequisite:** Consent of instructor.

(1 hr lec)

## **HORTICULTURE (HORT)**

### **HORT-1100 Introduction to Horticulture (3)**

Exposes the student to the far-reaching aspects of horticulture and provides a working knowledge of the basic principles of horticultural practices.

(3 hrs lec)

### **HORT-1150 Plant Propagation (3)**

Provides general information pertaining to the types of propagation, equipment, and supplies. Covers propagation of horticultural plants including grafting, cutting, bulb division, and direct seeding. **Prerequisite:** BIOL 1010 and HORT 1100.

(2 hrs lec, 2 hrs lab)

### **HORT-1550 Plant Materials (3)**

Selection of plant material in the landscape including the identification, physical characteristics, habitat requirements, maintenance characteristics, and ornamental value of trees, shrubs, and flowers. Emphasis on plants adaptive to the Big Horn Basin.

(2 hrs lec, 2 hrs lab)

### **HORT-1600 Special Applications: (1-3)**

Course addresses a diversity of subjects within the field of horticulture. Areas of emphasis vary and may be selected from topics of interest to practitioners within the field or to new and evolving issues. Utilizes lecture, lab, and seminar format for student instruction. Course may be repeated using different topic titles.

(1 hr lec, 4 hrs lab for 3 hr course)

## **HUMANITIES (HUMN)**

### **HUMN-2030 Introduction to Folklore (3)**

Surveys the areas of folklore and studies folklore's importance to history, literature, and everyday life. Credit cannot be earned in both ENGL 2400 and HUMN 2030.

(3 hrs lec)

### **HUMN-2360 "Born to Lose": The Cultural Narrative of Country Music (3)**

In this team-taught course, students examine American culture through the lens of country music. Course surveys country music history from its roots to the present by examining recordings and music videos, attending concerts, reading and discussing essays, presenting reviews, and synthesizing material in written reviews, essays, and final projects. This course is the same as MUSC 2360. All students who satisfactorily complete this

course receive Honors credit.

(3 hrs lec)

### **HUMN-2370 Rock and Roll - Its History and Culture (3)**

This capstone course is designed to allow students to learn about and participate in one of the dominant dialogues in American culture: rock and roll music. That is, during the course of the semester, we will examine American culture through the lens of rock and roll and explore the ramifications of this relationship. Students will listen to music, read relevant social texts, and synthesize this material in written and spoken forms, culminating in a public presentation. This course is the same as MUSC 2370 and AMST 2370. **Prerequisite:** Successful completion of at least 30 credit hours.

(3 hrs lec)

*Capstone Course*

### **HUMN-2380 Popular Culture (3)**

A study of film, music, print and broadcast media, and other forms of popular cultural expression. Emphasizes popular arts of the last two centuries, especially in the United States. Discusses distinctions between popular and "elite" arts and explores rationales and critical bases for the study of popular culture.

(3 hrs lec)

### **HUMN-2385 Cyberculture - Cultural Impact of Information Technology (3)**

Surveys the impact of information technology upon American society by examining the ways in which the Internet and other communication technologies are changing our sense of culture—our definition of self in relation to others; our sense of community (shared history, interest, values, and goals); our pursuit of intellectual inquiry; and our perception of the workplace. An online capstone course. Successful completion of at least 30 credit hours.

(3 hrs lec)

*Capstone Course*

### **HUMN-2420 Introduction to Cross - Cultural Study (3)**

An interdisciplinary course that draws upon the humanities, the arts, the social sciences, and personal experience to illustrate cultural diversity throughout the world and to explore processes of international communication.

(3 hrs lec)

### **HUMN-2440 Dialogues in the Humanities (3)**

Through interdisciplinary methods, students compare defining moments in human experience. Students examine how particular individuals and cultures redefine and express recurrent historical themes. Students integrate multiple disciplinary methods as a way of exploring traditional concerns in the humanities. Themes will vary from semester to semester. **Prerequisite:** Successful completion of at least 30 credit hours.

(3 hrs lec)

*Capstone Course*

### **HUMN-2445 US Culture and Language for Foreign Students (3)**

Designed to give English speaking and listening experience to beginning students whose first language is not English. Course content surveys United States values and behaviors and their sources. **Prerequisite:** 500 TOEFL score.

(3 hrs lec)

### **HUMN-2450 Introduction to Film (3)**

Introduces the study of film as a modern form of

art, providing an historical overview of themes and techniques. Examines cinema as an expression of both personal and social values.

(3 hrs lec)

### **HUMN-2455 Television and American Culture (3)**

Students examine American television chronologically from the late 1940s to the present. This course analyzes how television programming both reflects and influences American culture.

(3 hrs lec)

### **HUMN-2460 Humanities Field Studies: (1-3)**

Course offers students the opportunity to travel to various destinations (i.e., Great Britain, Hawaii, etc.) to explore the cultures of those sites. The on-campus portion of the course focuses on the destination's history, culture, and travel peculiarities. **Prerequisite:** Consent of instructor.

(1 hr lec, 4 hrs lab)

## **INFORMATION MANAGEMENT (IMGT)**

### **IMGT-2400 Introduction to Information Management (3)**

Concerned with the role of information systems in managing organizations to make them more competitive and efficient. Specific topics include organizational and technical foundation of information systems and building and managing systems. **Prerequisite:** Successful completion of 30 credit hours.

(3 hrs lec)

## **INTERNET EDUCATION (INET)**

### **INET-1590 Web Page Design (1)**

Students develop preliminary skills to plan, create, and maintain a Web page. Skills include links, graphics, animation, tables, forms, and other enhancements for sites on the World Wide Web.

**Prerequisite:** CMAP 1610.

(.5 hr lec, 1 hr lab)

### **INET-2010 Database Driven Web Sites (3)**

Students acquire the skills necessary to build and maintain dynamic web pages. Topics include data sources, record sets, dynamic content and database use. **Prerequisite:** CMAP 1635 or PHTO 2660.

(2 hrs lec, 2 hrs lab)

## **JOURNALISM (JOUR)**

### **JOUR-1000 Introduction to Mass Media (3)**

An overview of mass media, newspapers, magazines, books, radio, television, and films. A study of their historical development with emphasis on understanding the techniques of expression and impact on American culture. A survey of the content of mass media and consideration of contemporary problems and trends.

(3 hrs lec)

### **JOUR-1010 Publications Production I (1-2)**

Consists of production of the campus newspaper. Class members given staff positions on the basis of application and experience. May be repeated once for credit.

(2-4 hrs lab)

**JOUR-1020 Webcasting Practicum I (1-2)**

Students acquire webcasting skills through producing and maintaining a campus news Web site that uses text, photographs, audio and video components as well as animation and multimedia elements. Class members staff an online campus radio and TV station for webcasting, including live coverage of campus events. Class members are given staff positions on the basis of application and experience. (2-4 hrs lab)

**JOUR-1100 Reporting and Newswriting I (3)**

Covers writing hard news stories with emphasis on news sources, news gathering techniques, and in-depth reporting. (3 hrs lec)

**JOUR-1220 Introductory Digital Video (3)**

This class provides an introduction to the use of video camcorders and digital video editing. Students will learn about basic use of the camcorder, taping techniques, composition, lighting, audio and how to edit tapes using introductory editing software. (3 hrs lec)

**JOUR-1240 Agriculture Communications Practicum (2)**

This class provides participants with a hands-on learning experience in communicating agriculture issues and information through radio, television, Web print and media. (2 hrs lab)

**JOUR-1320 Movie Production (3)**

Students gain hands-on experience in creating and producing a movie script. Students will perform a student-produced script, engage in pre-production planning, videotaping, lighting, sound and post-production editing. Students will develop an interface for a DVD of the movie and present the movie to the public. (1 hr lec, 4 hrs lab)

**JOUR-2000 Broadcast Production (3)**

Students acquire an introduction to fundamental technical production concepts in radio, television, and motion pictures. Students learn video and audio production techniques, including handling digital video cameras; lighting; sound; basic announcing; pre-production planning; set construction; production of music, radio drama, news, sports, public affairs, and related programming; and editing and effects using non-linear computer editing systems and related software. Students will produce projects for webcasting. **Prerequisite:** JOUR 1100. (3 hrs lec)

**JOUR-2010 Publications Production II (1-2)**

Students refine newspaper production skills through production of the campus newspaper. Class members are given staff positions on the basis of application and experience. **Prerequisite:** JOUR 1010. (2-4 hrs lab)

**JOUR-2020 Webcasting Practicum II (1-2)**

Students produce campus news Web sites using text, photographs, audio and video components, as well as animation and multimedia elements. Class members staff an on-line campus radio and TV station for webcasting including live coverage

of campus events. Class members are given staff positions on the basis of application and experience. **Prerequisite:** JOUR 1020 (2-4 hrs lab)

**JOUR-2100 Reporting and Newswriting II (3)**

Intermediate newswriting, applying skills learned in JOUR 1100. Special emphasis on public affairs reporting. **Prerequisite:** JOUR 1100. (3 hrs lec)

**JOUR-2140 News Editing (3)**

An advanced course concerned with evaluation and preparation of news for placement on page makeup, headline writing, and actual makeup of dummy pages. Covers correct procedure for checking and correcting final page proofs. (3 hrs lec)

**JOUR-2250 Magazine Production (3)**

A practical introduction to the design and production of a magazine. Includes critical examination of magazines from colleges, universities, and independent presses from throughout the nation. Culminates in a student-generated, student-edited, and student-published magazine. **Prerequisite:** Student must complete application for admission. (3 hrs lec)

**JOUR-2270 Magazine Editing and Management (3)**

Provides practical experience in editing and managing the production of a student magazine. Includes planning, decision making, personnel management, and networking. **Prerequisite:** Student must complete application and interview for admission. Successful completion of at least 30 credit hours. (3 hrs lec)

*Capstone Course***JOUR-2320 Publications Production for High School Advisors (3)**

This course centers on publication of a newspaper during the week of the Journalism Jump Start summer workshop. We will also work with video and audio production. (6 hrs lab)

**KINESIOLOGY (KIN)****KIN-1020 Fundamentals of Taping and Wrapping Athletic Injuries (1)**

Students study and practice supportive wrapping and taping techniques. There is emphasis on proper techniques and appropriate injury situations requiring added support. This course is ideal for students interested in careers in medicine, coaching, athletic training, physical therapy, massage therapy, chiropractic, and other sports medicine and allied health-related fields. (1 hr lec)

**KIN-1035 Introduction to Sports Medicine (3)**

Students explore a wide variety of sports careers, including physical therapist, chiropractor, orthopedist, massage therapist, athletic trainer, EMT/paramedic, etc. Students hear from a variety of professionals in the field and will understand the inter-professional relationships in preventing injuries and caring for athletes. In the course of their study, students also learn common sports injuries, how to prevent them, and initial treatment. (3 hrs lec)

**KIN-1052 Prevention of Athletic Injuries (3)**

The purpose of this course is to provide the prospective athletic trainer with the skill and knowledge necessary to implement a risk management and preventative program for athletes and others involved in physical activity. **Prerequisite:** Consent of Instructor. (3 hrs lec)

**KIN-1058 Emergency Management of Athletic Injury and Illness (3)**

The purpose of this course is to provide the prospective athletic trainer with the skill and knowledge necessary to provide for emergency care, triage, and management of emergencies and life-threatening situations for the physically active. **Prerequisite:** KIN 1052. (3 hrs lec)

**KIN-2057 Assessment and Evaluation of Athletic Injury/Illness I (3)**

The purpose of this course is to provide the prospective athletic trainer with the knowledge and skill necessary to evaluate and recognize upper extremity, cervical spine and head injuries that occur to the athlete and the physically active. Concurrent enrollment in KIN 2068 required. **Prerequisite:** KIN 1057 and KIN 1058. (3 hrs lec, add'l lab hrs arr.)

**KIN-2058 Assessment and Evaluation of Athletic Injury/Illness II (3)**

The purpose of this course is to provide the prospective athletic trainer with the knowledge and skill necessary to evaluate and recognize lower extremity and spine injuries that occur to the athlete and the physically active. Concurrent enrollment in KIN 2078 required. **Prerequisite:** KIN 2057 and KIN 2068, and successful completion of at least 30 credit hours. (3 hrs lec, add'l lab hrs arr)

**KIN-2068 Athletic Training Clinical I (1)**

Provides clinical and field experience for the athletic training student. Skills and knowledge learned in KIN 1052 and 1058 are applied in the clinical and field setting. Concurrent enrollment in KIN 2057 required. **Prerequisite:** KIN 1052 and KIN 1058. (3 hrs clinical)

**KIN-2078 Athletic Training Clinical II (1)**

Provides clinical and field experience for the athletic training student. Skills and knowledge learned in KIN 1052, KIN 1058, and KIN 2057 are applied in the clinical and field setting. Concurrent enrollment in KIN 2058 required. **Prerequisite:** KIN 2057 and KIN 2068. (3 hrs clinical)

**LIBRARY SCIENCE (LIBS)****LIBS-2280 Literature for Children (3)**

Surveys children's literature for concentrations in elementary education, library science, and other disciplines interested in evaluating and using children's books according to needs, interests, and abilities of children. (3 hrs lec)

## MATHEMATICS (MATH)

### MATH-0900 Prealgebra (3)

A course in basic skills including addition, subtraction, multiplication, division of whole numbers, fractions, decimals, averages, exponents and roots, percentages, ratios and proportions, and basic algebra. (3 hrs lec)

### MATH-0920 Beginning Algebra (5)

Designed to provide a comprehensive review of the basic operations of algebra. Covers such topics as signed numbers, laws of exponents, linear equations, and quadratic equations. **Prerequisite:** A grade of "C-" or better in MATH 0900 or placement at math level 1 within one year prior to enrollment. (5 hrs lec)

### MATH-0930 Intermediate Algebra (5)

Emphasis on algebraic manipulation. Covers such topics as linear and quadratic equations and inequalities; graphs and functions; polynomial, rational, and radical expressions; logarithms, and exponentials. **Prerequisite:** A grade of "C-" or better in MATH 0920 or placement at math level 2 within one year prior to enrollment. (5 hrs lec)

### MATH-1000 Problem Solving (3)

Designed to acquaint the student with the usefulness of mathematics. Accomplished by an in-depth exploration of a variety of applied problems and the methods, models, and strategies used to solve them. Primarily for students who do not intend to take calculus. **Prerequisite:** A grade of "C-" or better in MATH 0930 or placement at math level 3 within one year prior to enrollment. (3 hrs lec)

### MATH-1050 Finite Mathematics (3)

Designed for business, social science, and behavioral science students. Introduces the student to sets, logic, probability, matrices, and linear programming. Stresses applications to the disciplines mentioned. **Prerequisite:** A grade of "C-" or better in MATH 0930 or placement at math level 3 within one year prior to enrollment. (3 hrs lec)

### MATH-1100 Theory of Arithmetic I (3)

Designed primarily for prospective elementary teachers. Students acquire conceptual background for the operations and algorithms of arithmetic. Includes study of whole numbers, rational numbers, integers, and real numbers. Logic and problem solving skills incorporated throughout. **Prerequisite:** A grade of "C-" or better in MATH 0930 or placement at math level 3 within one year prior to enrollment. (3 hrs lec)

### MATH-1105 Theory of Arithmetic II (3)

A continuation of MATH 1100 presenting an exploration of various aspects of mathematics including algebra, geometry, statistics, and probability. **Prerequisite:** A grade of "C-" or better in MATH 1100. (3 hrs lec)

### MATH-1400 College Algebra (4)

Course covers functions, matrices, polynomials, logarithms, conic sections, counting, probability,

and series. Credit cannot be earned in both MATH 1400 and MATH 1450. **Prerequisite:** A grade of "C-" or better in MATH 0930 or placement at math level 3 within one year prior to enrollment. (4 hrs lec)

### MATH-1405 Precalculus Trigonometry (3)

Course uses the functional approach to trigonometry and covers computation, applications, identities, inverse functions, complex numbers, and the analytic geometry of trigonometric functions. Credit cannot be earned in both MATH 1405 and MATH 1450. **Prerequisite:** A grade of "C-" or better in MATH 1400 or placement at math level 4 within one year prior to enrollment. (3 hrs lec)

### MATH-1450 Precalculus Algebra and Trigonometry (5)

Designed primarily for those students intending to take the MATH 2200-MATH 2210 sequence. This course covers the topics from college algebra and precalculus trigonometry in one semester. Student cannot receive credit in both MATH 1450 and MATH 1400 or both MATH 1450 and MATH 1405. **Prerequisite:** A grade of "C-" or better in MATH 0930 or placement at math level 3 within one year prior to enrollment. (5 hrs lec)

### MATH-1510 Technical Mathematics I (3)

A comprehensive review of mathematic fundamentals and applications of algebra and trigonometry to technology. Does not fulfill the mathematics requirement for the AA and AS degrees. **Prerequisite:** A grade of "C-" or better in MATH 0900 or placement at math level 1 within one year prior to enrollment. (3 hrs lec)

### MATH-2200 Calculus I (5)

Introduces the calculus and analytic geometry of algebraic functions of one variable. The first semester of a three-semester sequence course. **Prerequisite:** A grade of "C-" or better in MATH 1405 or MATH 1450 or placement at math level 5 within one year prior to enrollment. (5 hrs lec)

### MATH-2205 Calculus II (5)

The second of three courses in the calculus sequence. Covers the calculus of transcendental functions, techniques of integration, and isolated topics which may include infinite series, analytic geometry, indeterminate forms, and polar coordinates. **Prerequisite:** A grade of "C-" or better in MATH 2200 or equivalent. (5 hrs lec)

### MATH-2210 Calculus III (5)

The last of three courses in the calculus sequence. Covers vectors, functions of two or more variables, and any of the topics not covered in MATH 2205. **Prerequisite:** A grade of "C-" or better in MATH 2205. (5 hrs lec)

### MATH-2250 Elementary Linear Algebra (3)

A theory course which introduces the algebra of matrices followed by a study of vector spaces. **Prerequisite:** A grade of "C-" or better in MATH 2210. (3 hrs lec)

### MATH-2300 Discrete Structures (3)

An introductory course covering the mathematics most used in the analysis of algorithms. Logic and proof covered with some emphasis on proof by induction. Counting, combinatorics, probability, relations, discrete functions, and Boolean algebras with applications to switching circuits covered. Graph theory, machine arithmetic, and finite differencing techniques also introduced. **Prerequisite:** A grade of "C-" or better in MATH 2200 or MATH 2350. (3 hrs lec)

### MATH-2310 Applied Differential Equations I (3)

Students show mastery of solutions and applications of ordinary differential equations including a brief look at Laplace transforms. Students complete their understanding by completing a group project and presenting their results to Physical Science Division faculty. For students specializing in Engineering, Physical Science, and Mathematics. **Prerequisite:** A grade of "C-" or better in MATH 2205 and successful completion of at least 30 credit hours. (3 hrs lec) *Capstone Course*

### MATH-2345 Survey of Calculus (5)

Students develop introductory level tools to apply calculus to the sciences. Students address limits, derivatives, and integrals of functions of one or more variables with applications throughout. Students may not receive credit in both MATH 2350 and MATH 2351 or MATH 2200. **Prerequisite:** A grade of "C-" or better in MATH 1400, or MATH 1450, or placement at math level 4 within one year prior to enrollment. (5 hrs lec)

### MATH-2350 Business Calculus (5)

Students develop introductory level tools to apply calculus to business. Students address limits, derivatives, and integrals of functions of one or more variables with applications throughout. Students may not receive credit in both MATH 2350 and MATH 2200. **Prerequisite:** A grade of "C-" or better in MATH 1400, or MATH 1450 or placement at math level 4 within one year prior to enrollment. (5 hrs lec)

### MATH-2355 Math Applications for Business (4)

Students develop more advanced mastery of business and economic applications of mathematics based on techniques covered in MATH 2350. Students work with linear equations and programming, probability and statistics, Markov processes and game theory, plus complete a mandatory computer-based spreadsheet component. Student cannot receive credit for both MATH 1050 and MATH 2355. **Prerequisite:** A grade of "C-" or better in MATH 2350. (4 hrs lec)

### MATH-2385 Research in the Life and Physical Sciences (3)

Research in the Life and Physical Sciences offers students the opportunity to work with other students interested in science disciplines. Students will develop individual projects within their discipline, and with fellow students, exchange ideas and develop an appreciation for the commonality between scientific disciplines and the role of science in society. Students will be expected to make a public presentation of their work. **Prerequisite:**

Successful completion of at least 30 credit hours.  
(3 hrs lec) *Capstone Course*

## MANAGEMENT (MGT)

### MGT-1000 Introduction to Supervision (3)

Students acquire knowledge and skills used in supervision, organization, time management, decision-making, and information management. Students work with practical applications that reinforce the theory. Through comprehensive cases and illustrations, students examine the interrelationship of key supervisory management principles.  
(3 hrs lec)

### MGT-2100 Principles of Management (3)

Covers objectives, planning, organization of resources, human relations, coping with change and conflict, and controlling as management responsibilities. Includes appropriate behavioral and management science applications to the management process. **Prerequisite:** BADM 1000 or six hours of business-related courses.  
(3 hrs lec)

### MGT-2470 Internship: Management (3)

Students acquire management experience through internships with businesses in the Big Horn Basin. Students receive guidance from college and internship-site supervisors plus receive a structured assessment of their work performance. Designed for students in the last semester of the management program. **Prerequisite:** Recommended enrollment in MGT 2100 or MKT 2100 and successful completion of at least 30 credit hours.  
(1 hr lec, 6 hrs lab)

## MARKETING (MKT)

### MKT-1000 Sales (3)

Covers fundamentals of selling, emphasizing the sales agent's personal responsibilities and obligations to a company and its customers.  
(3 hrs lec)

### MKT-1300 Advertising (3)

An introduction to the role and use of advertising. Basic processes of planning, implementing, and controlling the advertising effort studied. Consumer analysis, promotional objectives, media selection, and evaluation represent major areas of study.  
(3 hrs lec)

### MKT-2100 Principles of Marketing (3)

Covers management's role in product planning, pricing, distribution, and promotion of goods and services. Emphasizes the application of the marketing concept in current business practices. **Prerequisite:** BADM 1000 or six hours of business-related courses.  
(3 hrs lec)

## MOLECULAR BIOLOGY (MOLB)

### MOLB-2210 General Microbiology (4)

A study of bacteria, fungi, parasites and viruses; their morphology, physiology, classification, isolation, and sterilization. **Prerequisite:** BIOL 1010 and CHEM 1000.  
(3 hrs lec, 3 hrs lab)

## MUSIC (MUSC)

### MUSC-1000 Introduction to Music (3)

An examination of musical style elements for aesthetic, expressive, and cultural meanings. Many styles of music will be heard and analyzed, with emphasis on classic selections. Develops informed, perceptive listeners.  
(3 hrs lec)

### MUSC-1010 Theory Fundamentals (2)

Learning to read music. Includes notes, rhythms, scales, intervals, triads, basic piano keyboard acquaintance, and simple performance. Does not require prior experience in music reading. Prepares the inexperienced student for MUSC 1030.  
(2 hrs lec)

### MUSC-1030 Written Theory I (3)

A study of diatonic harmony and melody. Utilizing a computer, this course emphasizes scales, intervals, keys, triads, melodic organization, and four-part chorale writing. Involves analysis, composing melodies, and harmonizing with primary and secondary triads.  
(3 hrs lec)

### MUSC-1035 Aural Theory I (1)

Ear training through diatonic sight singing of melodies, scales and intervals, and melodic and rhythmic dictation. Involves learning of moveable do solfege and basic conducting patterns. Should be taken in conjunction with MUSC 1030.  
(2 hrs lec)

### MUSC-1040 Written Theory II (3)

Involves further study of diatonic harmony and melody. Utilizing a computer, this course emphasizes style analysis, dominant and non-dominant seventh chords, modulation, two- and three-part form, and introduction to popular harmonic notation. Takes a student through the classical period of harmony. **Prerequisite:** MUSC 1030.  
(3 hrs lec)

### MUSC-1045 Aural Theory II (1)

Continuation of MUSC 1035 which includes do solfege, dictation, and conducting patterns. Introduction to keyboard harmony and harmonic dictation. **Prerequisite:** MUSC 1035.  
(2 hrs lec)

### MUSC-1057 Introduction to Jazz (3)

A survey of American Jazz Music from the turn of the century to the present. Students become acquainted with basic jazz materials, styles, and the works of selected jazz Masters.  
(3 hrs lec)

### MUSC-1080 Baritone Horn I (2)

### MUSC-1090 Bassoon I (2)

### MUSC-1100 Cello I (2)

### MUSC-1110 Clarinet I (2)

### MUSC-1120 Double Bass I (2)

### MUSC-1130 Flute I (2)

### MUSC-1140 French Horn I (2)

### MUSC-1150 Guitar I (2)

### MUSC-1152 Bass Guitar I (2)

### MUSC-1170 Oboe I (2)

### MUSC-1190 Percussion I (2)

### MUSC-1191 Percussion/Mallets I (2)

### MUSC-1195 Latin Percussion I (2)

### MUSC-1200 Piano I (2)

### MUSC-1204 Jazz Piano I (2)

### MUSC-1210 Saxophone I (2)

### MUSC-1220 Trombone I (2)

### MUSC-1230 Trumpet I (2)

### MUSC-1240 Tuba I (2)

### MUSC-1250 Violin I (2)

### MUSC-1260 Viola I (2)

### MUSC-1270 Voice I (2)

One private lesson in a specified area each week with a minimum preparation standard. Generally requires a recital performance and juries. Students specializing in music must be concurrently enrolled in MUSC 2455. May be repeated once for credit.

(.5 hr lec, 5 hrs open lab)

### MUSC-1290 Class Piano I (1)

Group instruction for the beginner at the keyboard. First semester of a four-semester sequence. Covers note reading, rhythm symbols, beginning major scales, and chord progressions. Develops finger control and hand independence.

(2 hrs lab)

### MUSC-1292 Class Guitar I (1)

Trains the inexperienced student to play song accompaniments on the acoustic guitar. Stresses ability to read chord tablature, perform with a variety of strums, and finger-pick. Introduces bergh chords.

(.5 hr lec, 1 hr lab)

### MUSC-1295 Class Piano II (1)

Second semester continuation of skills acquired in MUSC 1290. Includes all major scales, prescribed chord progressions, harmonization, transposition, sightreading, and repertoire. **Prerequisite:** MUSC 1290 or successful completion of MUSC 1290 final exam requirements.

(2 hrs lab)

### MUSC-1305 Guitar for the Elementary Teacher (2)

This class is designed to give basic guitar skills to the elementary classroom teacher. The students will develop their guitar skills through the use of grade appropriate music provided by the instructor. These songs and related activities will enrich the classroom and support state curriculum guidelines. Students provide their own guitar, but prior guitar skills are not necessary. This class is most beneficial to Wyoming certified teachers and current prospective teachers.

(2 hrs lec)

### MUSC-1310 Public School Music: Brass I (1)

Group instruction to prepare the student in the fundamentals of teaching brass instruments in a public school setting. Emphasizes performance, methods, and materials.

(2 hrs lab)

### MUSC-1325 Public School Music: Percussion (1)

Group instruction to prepare the student in the fundamentals of teaching percussion instruments in a public school setting. Emphasizes performance, methods, and materials.

(2 hrs lab)

### MUSC-1340 Public School Music: Voice I (1)

Studies fundamentals of vocal production, vocal literature, and its performance. For the student with little previous formal voice training.

(2 hrs lab)

**MUSC-1350 Public School Music: Woodwinds (1)**

Group instruction to prepare the student in the fundamentals of teaching woodwind instruments in a public school setting. Emphasizes performance, methods, and materials. (2 hrs lab)

**MUSC-1378 College Band (1)**

Open to all students with experience on brass, woodwind, and percussion instruments. Ensemble performs standard wind band repertoire. Membership subject to director's approval. May be repeated three times for credit. (3 hrs lab)

**MUSC-1379 College Band for Percussion (1)**

An opportunity for percussion students to perform in a modern wind band setting. Students will be exposed to and have the opportunity to perform band literature that is historically important. May be repeated three times for credit. (2 hrs lab)

**MUSC-1388 Jazz Combo I (1)**

An ensemble which performs small group jazz music. Emphasis on ensemble playing and individual expression through improvisation. May be repeated three times for credit. *Prerequisite:* Consent of instructor. (2 hrs lab)

**MUSC-1390 Jazz Ensemble I (1)**

A 16-20 piece ensemble for brass, woodwind, and rhythm players. Open to all students interested in performing contemporary jazz band literature. Members of the Jazz Ensemble I who are specializing in music must be enrolled in another major ensemble. Members chosen by audition. May be repeated three times for credit. (3 hrs lab)

**MUSC-1400 Collegiate Chorale (1)**

A non-auditioned choral performing ensemble open to all student members of the college community. The course goal involves individual vocal and musical growth in a group performance context. May be repeated three times for credit. (2 hrs lab)

**MUSC-1403 Vocal Jazz (1)**

A vocal ensemble specializing in jazz and popular music performances, using a rhythm section as accompaniment. Members chosen by director's audition. May be repeated three times for credit. (3 hrs lab)

**MUSC-1404 Master Chorale (1)**

An adult choral performance ensemble. Through weekly, evening rehearsals, this group prepares and performs choral masterworks often in partnership with the Northwest Civic Orchestra. One complete concert repertoire covered each semester. Open to all singers without audition. May be repeated three times for credit. (2 hrs lab)

**MUSC-1410 Vocal Ensemble (1)**

A 12-16 member vocal ensemble using an integration of related arts (drama, dance, poetry, visual arts, etc.) in the performance of music from all periods and styles. Members chosen by audition. May be repeated three times for credit. (3 hrs lab)

**MUSC-1415 Introduction to Music Technology (2)**

Students address fundamental acoustics and electronics specifically focusing on the design and applications of state-of-the-art sound reinforcement systems for public address, musical, and dramatic events. Skills are developed through theory and application discussion, as well as hands-on training with professional sound equipment. (2 hrs lec, .5 arr lab)

**MUSC-1420 Opera Theatre (2)**

Students will produce and perform an opera. Students of all backgrounds, musical and otherwise, will define, refine and assign their talents to either production or performance aspects of an opera. Students will accept specific assignments for the performance but will be involved in learning about all aspects of production. (1 hr lec, 2 hrs lab)

**MUSC-1430 Symphony Orchestra (1)**

An organization open to community members and students with experience on strings, brass, woodwind, and percussion instruments. Membership by director's approval. May be repeated three times for credit. (3 hrs lab)

**MUSC-1435 Audio Recording (3)**

Students develop basic understanding of recording principles and techniques. Students examine the principles of sound, the operation and maintenance of studio equipment, and the systems, operation, and protocol of the modern digital recording studio. With tape-based recording as a starting point, students progress through such subjects as mixers, multi-track recording, effects processors, and microphones. *Prerequisite:* MUSC 1415. (2 hrs lec, 2 hrs lab)

**MUSC-1450 Percussion Ensemble (1)**

Percussion ensembles offered depending on instrumentation and interest of students. May be repeated three times for credit. *Prerequisite:* Consent of instructor. (2 hrs lab)

**MUSC-1460 Brass Ensemble (1)**

Brass ensembles offered depending on instrumentation and interest of students. May be repeated three times for credit. *Prerequisite:* Consent of instructor. (2 hrs lab)

**MUSC-1470 Woodwind Ensemble (1)**

Woodwind ensembles offered depending on instrumentation and interest of students. May be repeated three times for credit. *Prerequisite:* Consent of instructor. (2 hrs lab)

**MUSC-2010 American Popular Music (3)**

A survey of popular styles of music in America from 1900 to the present. Studies such musical developments as blues, ragtime, jazz, swing, folk, country, rhythm and blues, rock, hip hop, and other current styles. Emphasizes the music's multi-cultural roots as well as its historical development. *Prerequisite:* Successful completion of at least 30 credit hours. (3 hrs lec) *Capstone Course*

**MUSC-2030 Written Theory III (3)**

A study of chromatic and contemporary harmonic

concepts. Emphasis placed on the analysis of historical music and writing in contemporary styles. Students expected to develop and practice keyboard skills and use a computer for drill and composition. *Prerequisite:* MUSC 1030, MUSC 1040. (3 hrs lec)

**MUSC-2035 Aural Theory III (1)**

Class participation in the skills of melodic, harmonic and rhythmic dictation, and sight singing in more chromatic styles. *Prerequisite:* MUSC 1045. (2 hrs lec)

**MUSC-2040 Written Theory IV (3)**

A continuation of Written Theory III with additional study of counterpoint and writing in larger musical forms. *Prerequisite:* MUSC 2030 and successful completion of at least 30 credit hours. (3 hrs lec)

**MUSC-2045 Aural Theory IV (1)**

Includes work in error detection and diatonic keyboard harmony. *Prerequisite:* MUSC 2035. (2 hrs lec)

**MUSC-2050 Historical Survey I (3)**

The history and literature of music from ancient times through 1800 and the Classic era of the music of Western Civilization. Primarily traces the development of art music style in a historical and cultural context. In addition to a general overview of the literature, students analyze representative works of each style period and compare Western culture and its music with the music, values, beliefs, and attitudes of other world cultures. (3 hrs lec)

**MUSC-2055 Historical Survey II (3)**

The history and literature of the music of Western Civilization from 1800 to the present. Traces the development of musical style in a historical and cultural context. In addition to a general overview of the literature of the Romantic and Modern eras, students analyze representative works of each style period and compare Western Culture and its music with the values, beliefs, and attitudes of American music and culture among others. *Prerequisite:* Successful completion of at least 30 credit hours. (3 hrs lec) *Capstone Course*

**MUSC-2060 Jazz Improvisation I (1)**

Introduction to the skills necessary to create and perform jazz solos involving simple to complex chord progression, harmonic structures, and rhythmic frameworks. *Prerequisite:* Consent of instructor. (2 hrs lab)

**MUSC-2065 Jazz Improvisation II (1)**

Continuation of MUSC 2060. *Prerequisite:* Consent of instructor. (2 hrs lab)

**MUSC-2071 Applied Music: Vocal and Instrumental (2)**

Private lessons in voice or instrument for students who have completed four semesters of study in voice or in one instrument. *Prerequisite:* Four semesters of previous applied study. (.5 hr lec, 5 hrs open lab)

**MUSC-2080 Baritone Horn II (2)**

*Prerequisite:* MUSC 1080



**MUSC-2090 Bassoon II (2)***Prerequisite:* MUSC 1090**MUSC-2100 Cello II (2)***Prerequisite:* MUSC 1100**MUSC-2110 Clarinet II (2)***Prerequisite:* MUSC 1110**MUSC-2120 Double Bass II (2)***Prerequisite:* MUSC 1120**MUSC-2130 Flute II (2)***Prerequisite:* MUSC 1130**MUSC-2140 French Horn II (2)***Prerequisite:* MUSC 1140**MUSC-2150 Guitar II (2)***Prerequisite:* MUSC 1150**MUSC-2152 Bass Guitar II (2)***Prerequisite:* MUSC 1152**MUSC-2170 Oboe II (2)***Prerequisite:* MUSC 1170**MUSC-2190 Percussion II (2)***Prerequisite:* MUSC 1190**MUSC-2191 Percussion/Mallets II (2)***Prerequisite:* MUSC 1191**MUSC-2195 Latin Percussion II (2)***Prerequisite:* MUSC 1195**MUSC-2200 Piano II (2)***Prerequisite:* MUSC 1200**MUSC-2204 Jazz Piano II (2)***Prerequisite:* MUSC 1204**MUSC-2210 Saxophone II (2)***Prerequisite:* MUSC 1210**MUSC-2220 Trombone II (2)***Prerequisite:* MUSC 1220**MUSC-2230 Trumpet II (2)***Prerequisite:* MUSC 1230**MUSC-2240 Tuba II (2)***Prerequisite:* MUSC 1240**MUSC-2250 Violin II (2)***Prerequisite:* MUSC 1250**MUSC-2260 Viola II (2)***Prerequisite:* MUSC 1260**MUSC-2270 Voice II (2)***Prerequisite:* MUSC 1270

One private lesson in a specified area each week with a minimum preparation standard. Generally requires a recital performance and juries. Students specializing in music must be concurrently enrolled in MUSC 2455. May be repeated once for credit.

**MUSC 2290 Class Piano III (1)**

Third semester of a four-semester sequence. Develops further piano skills. Involves prescribed scales, harmonizations, chord progressions, transpositions, sightreading, and repertoire. *Prerequisite:* MUSC 1295 or successful completion of MUSC 1295 final exam requirements. (2 hrs lab)

**MUSC-2292 Class Guitar II (1)**

A more advanced course extending knowledge of open chords, bergh chords, and song accompaniments. Includes scales, arpeggios, blues progressions, lead patterns, and note reading. *Prerequisite:* MUSC 1292. (.5 hr lec, 1 hr lab)

**MUSC-2295 Class Piano IV (1)**

Final semester of a four-semester sequence. May include learning simple accompaniments. Designed to prepare the music major for piano proficiency exam upon transfer. *Prerequisite:* MUSC 2290 or successful completion of MUSC 2290 final exam requirements. May be repeated twice for credit. (2 hrs lab)

**MUSC-2360 "Born to Lose": The Cultural Narrative of Country Music (3)**

In this team-taught course, students examine American culture through the lens of country music. Course surveys country music history from its roots to the present by examining recordings and music videos, attending concerts, reading and discussing essays, presenting reviews, and synthesizing material in written reviews, essays, and final projects. This course is the same as HUMN 2360. All students who satisfactorily complete this course receive Honors credit. (3 hrs lec)

**MUSC-2370 Rock and Roll - Its History and Culture (3)**

This capstone course is designed to allow students to learn about and participate in one of the dominant dialogues in American culture: rock and roll music. That is, during the course of the semester, we will examine American culture through the lens of rock and roll and explore the ramifications of this relationship. Students will listen to music, read relevant social texts, and synthesize this material in written and spoken forms, culminating in a public presentation. This course is the same as HUMN 2370 and AMST 2370. *Prerequisite:* Successful completion of at least 30 credit hours.

(3 hrs lec)

*Capstone Course***MUSC-2385 Theme House: Music (2)**

An experience of living and working together in an intentional, musical community. Four to eight selected students live together at Trapper Village West working on service goals, practical teaching experiences, and group and individual musical expression. *Prerequisite:* Consent of instructor. (1 hr lec, 2 hrs lab)

**MUSC-2435 Advanced Audio Recording (3)**

Students advance their recording skills through a project-based curriculum. Students use the computer to create an integrated recording, editing, and mixing environment extending into the areas of digital mastering, signal processing, and post production. Students explore the compact disc as a presentation and archiving medium through the development of a personal CD project. *Prerequisite:* MUSC 1415 and MUSC 1435, and successful completion of at least 30 credit hours. (2 hrs lec, 2 hrs lab)

(2 hrs lec, 2 hrs lab)

*Capstone Course***MUSC-2440 MIDI (3)**

Students learn the principles and techniques of MIDI (Musical Instrument Digital Interface) and its uses in music composition, recording, and arrangement. After exploring basic theory, Digital Audio Workstations are used so students develop familiarity with elements of computer MIDI technology as they relate to sequencing, sound synthesis, non-linear recording and editing, and computer mixing. Emphasis will be placed on post production practices in scoring (notation) and the preparation of MIDI material for presentation on the World Wide Web. *Prerequisite:* MUSC 1415 and MUSC 1435. (2 hrs lec, 2 hrs lab)

**MUSC-2455 Convocation**

An opportunity for students involved in applied music to perform for each other in a formal recital setting. Usually meets once every two weeks. Must be taken concurrently with applied music lessons. (1 hr lab)

**NURSING (NRST)****NRST-1000 Fundamentals of Nursing (3)**

The course introduces the student to basic concepts of nursing such as caring, documentation, and teaching/learning. The student gains an understanding of norms related to system assessment and client health status. The student is provided the theory, principles, and skills necessary to provide nursing care that will meet basic unmet needs of the client in the clinical setting. *Prerequisite:* Admission to the Nursing Program. (2.5 hrs lec, 1 hr lab)

**NRST-1200 Medical Terminology (2)**

Introduces the student to medical vocabulary and terminology. Stresses the use of prefixes, suffixes, word roots, and combined forms to give the student a working knowledge of medical terms. (1 hr lec)

**NRST-1510 Nurse Assistant (4)**

This course is designed to provide the student with the basic theory, principles, and skills necessary to provide basic patient care in the health care setting. The student will be introduced to medical terminology as well as the role of the nursing assistant in Home Health care. The student will be made aware of how the State and Federal laws as well as the policies and procedures of the institution govern the practice of the nursing assistant. Special emphasis is placed on the role of the nursing assistant in meeting the physical, psychosocial, mental, spiritual and cultural needs of the client/resident. (3 hrs lec, 3 hrs lab/clinical)

**NRST-1540 The Culture of Professional Nursing (1)**

This course introduces the student to the roles of the professional nurse. Topics studied include nursing history, nursing research, and nursing theory, and the role these areas of study play in contemporary nursing practice. The student explores the ethical/legal aspects of nursing as well as how culture, ethnicity, and spirituality influences health/wellness and illness across the life span. An integrated approach is used to introduce the student to critical thinking skills and the nursing process as fundamental tools in planning care and intervening to meet the basic unmet needs of the client. *Prerequisite:* Admission to the Nursing Program. (1 hr lec)

**NRST-1580 Introduction to Medication Administration (2)**

This course is designed to prepare nursing students to perform basic drug calculations and to administer medications by all routes, excluding intravenous administration, in a safe and competent manner following the six rights of medication administration. The course begins with review of basic arithmetic principles and then builds upon these principles. The students will have the ability to convert between the metric, apothecary, and household systems of measurement. Calculation of dosages using the formula method, ration and proportion, and dimensional analysis will be used to determine medication dosages. Calculation for continuous IV therapy will also be addressed. *Prerequisite:* Admission to the Nursing Program. (1.5 hrs lec, 1 hr lab)

**NRST-1630 Mental Health Nursing (2)**

This course introduces the students to contemporary psychiatric and mental health nursing. Common theories related to psychiatric disorders will be discussed. Various treatment modalities will be explored. Students will apply the nursing process when planning care for the client with unmet psychosocial needs. **Prerequisite:** Successful completion of NRST 1000, NRST 1540, NRST 1580 and NRST 1710. (2 hrs lec)

**NRST-1660 Basic Emergency Care (3)**

Students receive training in fundamentals of emergency care. This course follows the U.S. Department of Transportation (DOT) and advanced first aid outlines for the First Responder. This is an excellent course for students desiring to enter an Emergency Medical Technician Program. Students may not receive credit in both NRST 1660 and HLED 1660. (3 hrs lec)

**NRST-1700 Nursing Care of the Adult I (4)**

This course provides the theoretical framework for care of the adult client with unmet needs related to chronic illness. The nursing process is used in the planning of care. The focus is on the physiological, psychosocial, spiritual, developmental, and cultural needs of the client. The students continually increase in their ability to think critically, communicate effectively, and act collaboratively. Introduces students to the theory and skills necessary to deliver intravenous therapy safely. **Prerequisite:** Successful completion of NRST 1000, NRST 1540, NRST 1580 and NRST 1710. (3.5 hrs lec, 1 hr lab)

**NRST-1710 Clinical Experience I (2)**

This clinical experience introduces students to the roles of the Associate Degree Nurse, namely Role as Provider of Care, Role as Manager of Care, and a Member of the Profession of Nursing. The students begin to use critical thinking as they apply the systematic stages of the nursing process to plan and provide safe, competent, and individualized care to treat client response to actual, unmet needs. The students begin to manage the care of one or two client(s) who have well-defined health problems. **Prerequisite:** Admission to the Nursing Program. (2 hrs clinical)

**NRST-1720 Clinical Experience II (4)**

This course provides students with the opportunity to apply theory and skills practiced in the laboratory setting to direct client care in the client care setting. The students increase in their ability to use critical thinking and assessment skills as they use the nursing process to plan and implement care for their assigned clients. The focus is on the unmet physiological, psychosocial, spiritual, developmental, and cultural needs of clients experiencing alterations of mental health or a chronic disease process. **Prerequisite:** Successful completion of NRST 1000, NRST 1540, NRST 1580 and NRST 1710. (4 hrs clinical)

**NRST-2500 Role Transition - PN to RN (2)**

(Summer Semester Only, All Years) Designed to assist the Licensed Practical Nurse who will enter the second year of the nursing program by advanced placement. **Prerequisite:** Completion of admission criteria for advanced placement. (variable)

**NRST-2600 Nursing Care of the Adult II (3)**

This course provides the theoretical framework needed for care of the adult client with unmet needs related to acute illness. The student continues to increase in their ability to think critically in planning care for clients with acute illness using the nursing process. The focus of care is on the physiological, psychosocial, spiritual, developmental, and cultural needs of the client. The students will obtain the knowledge and skills needed to administer IV medications safely. **Prerequisite:** Successful completion of NRST 1630, NRST 1700 and NRST 1720. (3 hrs lec)

**NRST-2620 Maternal Child Nursing I (2)**

This course introduces the student to the application of the nursing process in meeting the unmet needs of the child bearing family from ante-partum care through post-partum care. The focus is on the normal pregnancy and delivery. The student will develop an understanding of the health promotion within the context of normal human growth and development from newborn through adolescence. **Prerequisite:** Successful completion of NRST 1630, NRST 1700 and NRST 1720. (2 hrs lec)

**NRST-2730 Clinical Experience III (5)**

This course provides the students with the opportunity to apply theory to direct client care in the clinical setting. As the students continue to improve their critical thinking and assessment skills, there will be an increase in the students' ability to plan care using the nursing process. The focus is on the unmet physiological, psychosocial, spiritual, developmental, and cultural needs of the acute care client, the child bearing family, and the developing child. **Prerequisite:** Successful completion of NRST 1630, NRST 1700 and NRST 1720. (5 hrs clinical)

**NRST-2740 Clinical Experience IV (5)**

This course provides the students with the opportunity to apply theory to direct care of the client in the clinical setting. Students use their critical thinking and assessment skills to plan care, using the nursing process, for clients, families, groups, and the community. The students, under the direction of preceptors, assume the role of nurse manager in the clinical setting to prepare for their transition to the role of Registered Nurse. **Prerequisite:** Successful completion of NRST 2600, NRST 2620 and NRST 2730. (5 hr clinical)

**NRST-2750 Nursing in the Community (1)**

This course provides an overview of community-based nursing practice. The focus is health promotion, risk reduction, and disease prevention when planning care for client, family, and groups. The students will explore community resources available as a part of assessing the needs of the community. **Prerequisite:** Successful completion of NRST 2600, NRST 2620 and NRST 2730. (1 hr lec)

**NRST-2760 Leadership Management (2)**

This course introduces the students to principles and theories of leadership and management that will help prepare them to assume the roles as provider of care, manager of care, and member of the profession of nursing. Leadership/management topics relating to communication with others,

change, conflict resolution, delegation of care, and nursing care delivery systems will be covered. There is an in-depth discussion of nursing practice and the law. Current trends and issues in nursing will be explored. **Prerequisite:** Successful completion of 30 credit hours and NRST 2600, NRST 2620, and NRST 2730. (2 hrs lec)

*Capstone Course***NRST-2770 Maternal Child Nursing II (2)**

This course provides the students with the theoretical framework needed for the care of the client and family experiencing complications of pregnancy, labor, delivery, and during the post-partum. It also provides the theoretical framework for the planning of care for the newborn at risk and the pediatric client experiencing illness. The students will use critical thinking skills while using the nursing process to plan care for these clients. The focus will be on the physical, psychological, sociocultural, and spiritual needs of the clients and families. **Prerequisite:** NRST 2600, NRST 2620, and NRST 2730.

**NRST-2810 Basic Coronary Care (2)**

Provides instruction in basic electrocardiographic interpretation. Focuses on the recognition of basic cardiac rhythm disturbances, treatment, and nursing management. **Prerequisite:** ZOO 2010 and ZOO 2020. (2 hrs lec)

**NRST-2820 Introduction to Pharmacology (2)**

This course introduces the student to the concepts of basic pharmacology and the nursing management of drug therapy. It includes examination of the body systems and the related drug therapy within each system. It explores the basic drug groups, key similarities and differences among drugs in each group and the nursing care for each group utilizing the nursing process. Emphasis is placed on the mechanism of action for each group, its therapeutic use, adverse effects and dosages. **Prerequisite:** Successful completion of ZOO 2010 and ZOO 2020. (2 hrs lec)

**OUTDOOR EDUCATION – ACTIVITY (OEAC)****OEAC-1100 Outdoor Living Skills: Desert (2)**

Acquaints the student with safe and conservationally sound backpacking skills. Special emphasis on techniques adapted to the desert environment. Five days continuous. (1 hr lec, 2 hrs lab)

**OEAC-1150 Outdoor Living Skills: Mountain (1)**

Acquaints the student with safe and conservationally sound backpacking skills. Special emphasis on techniques adapted to the mountain environment. Five days continuous. (1 hr lec, 1 hr lab)

**OEAC-1260 Challenge Course Team Building (.5)**

As a group, students learn the basics of team building through the use of Adventure Games, Group Problem Solving Initiatives and Challenge Course Activities. (.5 lec, .5 lab)

## OUTDOOR EDUCATION – PROFESSIONAL (OEPR)

### OEPR-1100 Introduction to Adventure Education (2)

Students acquire training in the philosophy, skills, applications, and programming of Adventure Education. These concepts can be applied in various educational settings such as the public schools, institutions for special populations, corporate institutions, and organized camps.

(2 hrs lec, .5 hr lab)

### OEPR-1200 Winter Outdoor Survival (1)

Designed to prepare outdoorsmen and travelers for crisis situations that occur during winter. With preparedness as a primary goal, examines hazards of winter environment. Involves several evening lectures and two weekend excursions.

(1 hr lec)

### OEPR-1250 River Studies (2)

An interdisciplinary course combining instruction from areas of outdoor education and natural science. Through direct experience, students learn to guide a white water raft and gain an understanding of the riparian environment. Five days continuous.

(2 hrs lec)

### OEPR-1600 Basic Search and Rescue (3)

Students gain practical experience in personal preparedness, search and rescue equipment and technology, emergency response and packaging victims for transport in all types of settings, and search and rescue incident management. Includes practice in search techniques and technical rescue. This course is designed for the novice law enforcement officer, search and rescue responder, or wilderness medic. *Prerequisite:* Current First Aid and CPR Certificate or concurrent enrollment in HLED 1225.

(2 hrs lec, 2 hrs lab)

### OEPR-1620 Challenge Course Facilitation (2)

This course is designed to introduce students to the facilitation techniques, group dynamics, and leadership of the High Ropes Challenge Course. Emphasis will be placed on setup, safety, rescue, maintenance, and design. *Prerequisite:* OEPR 1100.

(1 hr lec, 2 hrs lab)

### OEPR-1720 Advanced Rock Climbing (2)

This course is designed to teach students proper Institutional Top-Rope Rock Climbing Site Management. Emphasis will be placed on anchor building, safety concerns and managing a group at a rock climbing area. *Prerequisite:* Successful completion of PEAC 1287.

(1 hr lec, 2 hrs lab)

### OEPR-2100 Outdoor Education Practicum (2-4)

Students gain practical experience in one or more of the following: teaching outdoor pursuits, conducting adventure activities, leading expeditions, and managing adventure education resources. Students present course content in actual teaching settings and/or perform related educational functions. Includes lesson and program planning, evaluation, and outdoor leadership development. *Prerequisite:* OEPR 2450 and successful completion of at least 30 credit hours.

(1 hr lec, 2-6 hrs lab)

### OEPR-2110 NOLS Rocky Mountain Outdoor Education (4)

The NOLS Rocky Mountain Outdoor Education course prepares graduates to demonstrate safe, competent, responsible, and ethical outdoor leadership skills. These skills include outdoor teaching techniques, wilderness camping and travel, safety management planning, expedition behavior modeling, providing effective oral and written feedback, and expedition planning. This course is taught by National Outdoor Leadership faculty and requires 21 continuous days in the field. Students must register both at Northwest College and at the National Outdoor Leadership School in Lander. This course is not approved as a wellness credit.

(2 hrs lec, 4 hrs lab)

### OEPR-2200 Outdoor Programming and Administration (2)

This course is designed to introduce the policies and procedures of running an outdoor education/recreation program. Emphasis is placed on risk management, logistics, staffing, and program development. *Prerequisite:* Successful completion of at least 30 credit hours.

(2 hrs lec)

*Capstone Course*

## PHYSICAL EDUCATION – ACTIVITY (PEAC)

### PEAC-1015 Beginning Scuba (1)

An introduction to the underwater world. Involves classroom and pool instruction. Special equipment usage fee required.

(1 hr lec, 1 hr lab)

### PEAC-1030 Dance Aerobics (.5)

An exercise form designed to condition the cardiovascular and skeletal systems. Combines patterned routines and stretching to lively music.

(.5 hr lec, .5 hr lab)

### PEAC-1037 Fitness Walking (.5)

Students will develop an understanding of equipment, technique and health issues associated with walking. Students will develop a structured routine of walking for fitness. This course is designed to accommodate persons of advanced age and others with diverse abilities.

(.5 hr lec, .5 hr lab)

### PEAC-1045 Kickboxing (.5)

Introduces a fitness program which combines basic low-impact aerobic moves with the fundamentals of self-defense and kickboxing. Emphasis is placed on correct technique and execution of all kickboxing basic moves. Designed to provide maximum cardiovascular benefits, muscular endurance, speed and agility, in addition to balance and flexibility and mind/body integration.

(.5 hr lec, .5 hr lab)

### PEAC-1050 Beginning Tennis (.5)

Introduces techniques of grip, stance, footwork, service, strokes, volleys, lobs, and smashing. Emphasis on stroke combinations and return of service.

(.5 hr lec, .5 hr lab)

### PEAC-1248 Beginning Soccer (.5)

Introduces skills of kicking, trapping, intercepting or blocking, passing, tackling, dribbling, shooting, and goalkeeping. Some emphasis on team strategy

and officiating.

(.5 hr lec, .5 hr lab)

### PEAC-1249 Beginning Squash (.5)

Introduces stroke mechanics, shot selection, defensive and offensive strategy, equipment, rules of play, and court safety. Some emphasis on tournament play.

(.5 hr lec, .5 hr lab)

### PEAC-1253 Beginning Bowling (.5)

Introduces elements of stance, pushaway and delivery, back swing and follow through, ball types, spare shooting, and spot bowling. Some emphasis on scorekeeping.

(.5 hr lec, .5 hr lab)

### PEAC-1254 Snowboarding (.5)

Introduces the basics of downhill running, correct posture and weighting, heel and toe turns, traversing, equipment selection, etiquette and safety. Flexible format allows for instruction for a wide range of skill and ability.

(.5 hr lec, .5 hr lab)

### PEAC-1255 Beginning Golf (.5)

Introduces elements of club selection, grip, stance, swing, shot types, difficult lies, golf rules, and etiquette. Emphasis is placed on the swing.

(.5 hr lec, .5 hr lab)

### PEAC-1257 Beginning Racquetball (.5)

Introduces stroke mechanics, shot selection, defensive and offensive strategy, equipment, rules of play, and court safety. Some emphasis on tournament play.

(.5 hr lec, .5 hr lab)

### PEAC-1258 Beginning Skiing (.5)

Introduces basic skills of downhill running, turning, traversing, climbing (side step and her-ringbone), equipment selection, and safety. Flexible format allows instruction for wide range of skill and ability.

(.5 hr lec, .5 hr lab)

### PEAC-1259 Beginning Cross Country Skiing (.5)

Introduces fundamental strides, turning techniques, uphill and downhill skiing, equipment selection, and preparation and organization for light touring. Some emphasis on skating technique.

(.5 hr lec, .5 hr lab)

### PEAC-1260 Beginning Volleyball (.5)

Introduces elements of passing, setting, offensive and defensive net play, serving, and game strategy. Some emphasis on hitting skills.

(.5 hr lec, .5 hr lab)

### PEAC-1263 Beginning Basketball (.5)

Introduces fundamentals of ball handling, passing, shooting, offensive and defensive strategy, rebounding, and rules of play. Emphasis is on teamwork.

(.5 hr lec, .5 hr lab)

### PEAC-1264 Beginning Softball (.5)

Introduces skills of throwing, catching, pitching, fielding, batting, base running, infield play, and offensive and defensive strategy. Some emphasis on rules of play and score keeping.

(.5 hr lec, .5 hr lab)

**PEAC-1265 Floor Hockey (.5)**

Introduces skills of passing, shooting, goalkeeping, advancing the puck, and strategies for offensive and defensive play. Some emphasis on officiating. (.5 hr lec, .5 hr lab)

**PEAC-1273 Weight Training/Conditioning (.5)**

Introduces elements of grip, proper form and breathing, specific muscle group training, and circuit and strength training. Lifting technique emphasized. (.5 hr lec, .5 hr lab)

**PEAC-1278 Taekwondo I (.5)**

A discipline in Korean martial arts emphasizing physical, mental, and character development of the individual. Course guides beginners through stretching exercises, basic stances and techniques, and introduces the history and philosophy of Taekwondo. (.5 hr lec, .5 hr lab)

**PEAC-1279 Taekwondo II (.5)**

Continuation of PEAC 1278. Students learn more advanced Taekwondo techniques and methods to increase self-discipline and concentration. *Prerequisite:* PEAC 1278. (.5 hr lec, .5 hr lab)

**PEAC-1281 Beginning Casting and Angling (.5)**

Introduces students to fly-fishing in one of the most outstanding settings for angling in the world. Combines lecture sessions with field trips to expose students to many facets of fly-fishing. Course explores this fascinating sport as an engrossing lifetime study. (.5 hr lec, .5 hr lab)

**PEAC-1285 Kayaking (.5)**

Introduces fundamentals of paddling, rolling, outfitting, transporting, and safety for the slalom kayak. Rescue techniques are emphasized. *Prerequisite:* Intermediate swimming ability. (.5 hr lec, .5 hr lab)

**PEAC-1286 Spelunking (.5)**

Introduces basic lighting and safety equipment, horizontal and vertical technique, and trip organization. Cave conservation emphasized. (.5 hr lec, .5 hr lab)

**PEAC-1287 Rock Climbing (.5)**

Introduces climbing technique, equipment, history, and ethics. Emphasis on safety and rescue techniques. (.5 hr lec, .5 hr lab)

**PEAC-1288 Bicycle Touring (.5)**

Introduces skills of riding, bicycle repair, equipment selection and use, camping, and group trip organization. Emphasis on safe riding technique. (.5 hr lec, .5 hr lab)

**PEAC-1289 Individual Fitness (.5)**

Introduces concepts of strength, flexibility, and endurance, and their interrelationships with and contributions to physical fitness. Emphasis placed on fitness testing and variety of exercise modes available. (.5 hr lec, .5 hr lab)

**PEAC-1300 Dance Ensemble (1)**

Introduces western dances most commonly used in our society. Some emphasis on social skills, his-

tory, terminology, and performance. (2 hrs lab)

**PEAC-1330 Dance Ensemble (1)**

A dance ensemble encompassing a diversity of dance styles. Repertoire includes a variety of ballet, modern, country, and specializing in pom-pom, jazz, and funk. Members perform at various athletic and civic events and present stage productions. May be repeated three times for credit, but only one credit can be used to fulfill the wellness requirement. *Prerequisite:* Successful audition. (2 hrs lab, additional time required for performance)

**PEAC-1480 Jazz Dance I (1)**

Introduces the basic principles and techniques of jazz dance. Develops fundamental movement skills and includes the history and development of jazz dance. (2 hrs lab)

**PEAC-1560 Beginning Orienteering (.5)**

This course is designed to acquaint the student with the map and compass techniques including triangulation, contours, declination, bearings, and land navigation. (.5 hr lec, .5 hr lab)

**PEAC-1600 Ice Climbing (.5)**

This course is designed to acquaint the student with the basic techniques, equipment and ethics of Technical Ice Climbing. The emphasis is on route selection, safety, and staying warm and comfortable in the cold environment. (.5 hr lec, .5 hr lab)

## PHYSICAL EDUCATION – VARSITY ATHLETICS (PEAT)

**PEAT-1000 Varsity Sports: (1)**

Represents active participation on an athletic varsity team, attendance at practice, and some independent study. One specific sport will be emphasized in each section of this class (i.e., basketball, volleyball, wrestling or rodeo). (1 hr lec, 1 hr lab)

**PEAT-1005 Varsity Sports: (1)**

See PEAT 1000 for course description. Sophomore level. (1 hr lec, 1 hr lab)

**PEAT-1010 Cheerleading (1)**

Develops and maintains school spirit and enthusiasm for collegiate athletic events. Focuses on a strong relationship with spectators. Addresses appropriate standards in the areas of management, education, instruction, and safety. May be repeated three times for credit, but only one credit can be used to fulfill the wellness requirement. *Prerequisite:* Successful audition. (1 hr lec, 1 hr lab)

## PHYSICAL EDUCATION – PROFESSIONAL (PEPR)

**PEPR-1005 Introduction to Physical Education (2)**

Provides prospective teachers with a general concept of the meaning and interpretation of physical

education plus presents a description of what is involved in preparation for teaching in this field. Presents information pertaining to employment in physical education fields. (2 hrs lec)

**PEPR-1025 Movement Core II (2)**

Students learn the skills and knowledge necessary to teach basic movement skills in physical education including fundamental locomotor, stability, and jumping skills with an emphasis on analysis of movement and utilization of the skills in sport development. (2 hrs lec)

**PEPR-1040 Sport First Aid (2)**

Coaches develop knowledge and skills necessary to recognize common sport injuries and administer the appropriate sport first aid to the injured or ill athlete. Designed to meet Wyoming State Coaches certification requirements for sport first aid. Upon successful completion of the course, coaches will receive ASEP certification in Sport First Aid and also American Red Cross in both first aid and CPR. (2 hrs lec)

**PEPR-1052 Prevention of Athletic Injury/Injury (2)**

Designed to meet the Wyoming State Coaches Certification Requirement. Prepares coaches in the prevention, recognition, and care of athletic injuries. (2 hrs lec)

**PEPR-2000 Movement Core III (2)**

Students develop the skills and knowledge necessary to teach basic movement skills in physical education. Level two focuses primarily on manipulative skills for hands and feet including throwing, catching, dribbling, volleying, trapping, kicking, and striking. (2 hrs lec)

**PEPR-2012 Physical Education for Elementary School (3)**

Trains prospective elementary teachers to develop every child's need for strength, skills, health, and knowledge. Involves training with grade school children in the community. (3 hrs lec)

**PEPR-2050 Care and Prevention of Athletic Injuries (2)**

Provides the prospective coach with the basic skills necessary to provide basic care for the injured athlete. Strongly emphasizes prevention, recognition, and care of athletic injuries, including conditioning, wrapping, padding, taping, physicals, nutrition and other means. Designed to meet Wyoming State certification requirements for coaches. (2 hrs lec)

**PEPR-2069 History and Philosophy of Sport (3)**

Students develop a historical, philosophical, and global perspective of sport through the study of contributions from the Greeks, Romans, and other world cultures including the United States from the colonial period to the present. Class members also analyze the major contributions of important sports philosophers. (3 hrs lec)

**PEPR-2091 Rules and Techniques of Athletic Officiating I (2)**

Studies officiating techniques, rules, and the role of the official. Involves practical officiating experience. (2 hrs lec)

**PEPR-2100 Theory of Coaching (2)**

Designed to meet the Wyoming State Coaches Certification Requirement. Prepares coaches in the fundamentals of coaching any sport. (2 hrs lec)

**PEPR-2110 Scientific Foundation of Athletic Coaching (2)**

Studies coaching philosophy and objectives. Includes study of sports psychology, pedagogy, physiology, and management. Assists participants to develop coaching style and teaches successful coaching techniques. (2 hrs lec)

**PEPR-2200 Physical Education, Health, and Coaching Practicum (2-4)**

Non-teaching students acquire practical experience in physical education, health, or coaching. Students will be placed in coaching situations, after school programs, recreational sports, geriatric living centers, movement or dance academies or health facilities, depending on their individual area of emphasis. A preceptor will guide each student through the experience. Student learning will be assessed by an in-depth student portfolio, final oral presentation, and student's preceptor and on-campus instructor evaluations. **Prerequisite:** Successful completion of at least 30 credit hours. (1 hr lec, 2 hrs lab per credit hour)

*Capstone Course*

**PHILOSOPHY (PHIL)**

**PHIL-1000 Introduction to Philosophy (3)**

Surveys methods and concerns expressed in the study and use of epistemology, ethics, metaphysics, and aesthetics. Provides philosophical answers to questions of how and what people can know about themselves and the world around them, and how they can solve problems, think creatively, and find meaning for their lives. (3 hrs lec)

**PHIL-2200 Social and Political Philosophy (3)**

An examination of the answers philosophers give to questions about human nature, the rationales which can be developed for different kinds of government and societies, and the ways in which moral decisions are made. Concludes with a survey of ethical issues confronting contemporary individuals and groups in America. (3 hrs lec)

**PHIL-2311 Philosophy of Religion (3)**

A comparison of the answers which the major religions of the world provide to metaphysical questions about the origin, destiny, and purpose of the earth and its inhabitants. Also examines the history, practices, and ethics of these religions. (3 hrs lec)

**PHIL-2420 Logic I: Critical Thinking (3)**

Introduces the student to rhetorical and scientific methods of critical thinking, definition, argument formulation, and logical analysis. Applications of

logic and reasoning drawn from a wide variety of sources. (3 hrs lec)

**PHOTOGRAPHIC COMMUNICATIONS (PHTO)**

**PHTO-1500 35mm Camera (1)**

Introduces the beginning photographer to the operation of automatic and manual 35 mm cameras, as well as providing instruction in basic photographic techniques such as lighting, selection of film, and principles of composition. (1 hr lec)

**PHTO-1510 35mm Images (1)**

This course is designed to help students apply the techniques and knowledge gained in 35mm Camera. The same hands-on approach will be used. Students bring prints, negatives, and/or slides to class for viewing and critique of settings used, selection of subject matter, composition, and lighting. A final portfolio will be required. **Prerequisite:** PHTO 1500. (1 hr lec)

**PHTO-1540 Beginning Digital Photography (3)**

Intended for the non-photo major, this course introduces beginning photography with an emphasis on theories, tools and practices of digital imaging and the hardware and software used with this medium. By the end of this course, students will be familiar with digital darkroom techniques, digital camera, scanners, scanning and file formats, image editing programs, printers and related materials and accessories. Students will also take virtual field trips to galleries and museums to look at collections. (3 hrs lec)

**PHTO-1550 Outdoor Photography Seminar (2)**

Emphasis on field photography. Lighting, composition, and technical aspects of outdoor and nature photography studied in intensive weekend format. Critique of student work and marketing information included. May be repeated once for credit. (1 hr lec, 2 hrs lab)

**PHTO-1600 Survey of Photography (3)**

An overview of photography from its early practitioners to contemporary photographers and the history of photographic processes. Utilizes a hands-on approach to learning and traditional academic methods. Studies the history of specific photographic eras, leading to participation in demonstrations of the creation of photographs using same or similar processes from that specific historical period. (3 hrs lec)

**PHTO-1610 Introduction to Photography (4)**

Designed as an introductory photography course offering practice and experience in mechanical and creative functions of the medium with emphasis on technical skills and procedures. Introduces basic mechanical principles of the camera and darkroom, enforcing good habits as students learn film and print development techniques. Successful completion contributes to a strong foundation for further study in advanced photography courses. (2 hrs lec, 4 hrs lab)

**PHTO-1630 View Camera and Basic Lighting (4)**

Introduces the 4 x 5 view camera and skills to control proper perspective of the image and basic lighting. Explores the use of tools with studio assignments and proper exposure and developing techniques. Stresses creativity and expressive use of photographic instruments. Investigates current and historical trends in the imaging industry and issues of ethics in photography. **Prerequisite:** Completion of PHTO 1610 with a "C" or better. (2 hrs lec, 4 hrs lab)

**PHTO-2165 Issues in Web Design (3)**

Lectures, research, and discourse in designing for the web. Topics include planning, design principles, site architecture, site design, web typography, editorial style and references, color and graphic formats, multimedia applications, data-driven graphics, publishing, publicizing, and maintaining a website. Homework will include designing a web site which illustrates these concepts. This course will benefit anyone who currently produces web pages, from the dabbler to the professional. This course is the same as ART 2165. (3 hrs lec)

**PHTO-2350 Media Photography (3)**

Reviews the history of media photography and emphasizes intensive practical photographic experience utilizing a variety of news photographer techniques. Topics include advanced camera techniques, the photo essay, page layout, newspaper and magazine photojournalism styles, and current trends in digital media photography. **Prerequisite:** Completion of PHTO 1610 with a "C" or better. (1 hr lec, 4 hrs lab)

**PHTO-2385 Photography Theme House (2)**

Theme House course participants will produce personal and/or group projects involving elements of public presentation and/or community service. **Prerequisite:** Successful completion of at least 15 credit hours and consent of instructor. (1 hr lec, 2 hrs lab)

**PHTO-2450 Media Photography II (3)**

Students acquire an in-depth, intensive, practical photographic experience and skills used by a range of publishing media such as newspapers, magazines, books, and the Web. As a primary emphasis of the class, students produce photographic stories as well as design story layouts. Students learn advanced camera techniques, including flash and use of color. Projects will provide practical and ethical approaches to spot news, sports, and current trends in digital media such as the World Wide Web and CD-ROM formats. **Prerequisite:** PHTO 2350. (1 hr lec, 4 hrs lab)

**PHTO-2510 Studio Illustration I (3)**

Develops knowledge and skills in producing creative images in the field of studio illustration. Places major emphasis on photographic styles and table top product work. Covers studio and color lab management as part of the interaction and insight a photographer must have to function in this environment. Discusses these topics with a priority on business practices. **Prerequisite:** Completion of PHTO 1630 with a "C" or better. (1 hr lec, 4 hrs lab)

**PHTO-2520 Studio Illustration II (3)**

Students learn to approach, identify, and solve

creative photographic problems for consumer advertising. Emphasis given to advanced techniques in lighting for food, still life, catalogs, and editorial illustrations. **Prerequisite:** Completion of PHTO 2510 with a “C” or better. (1 hr lec, 4 hrs lab)

#### **PHTO-2610 Commercial Portrait I (3)**

Introduces basic portrait techniques, both in the studio and in outdoor environmental settings. Students explore basic portraiture with emphasis in utilizing classical studio lighting techniques, subject communication skills, and posing and clothing choices for consumer portraiture. **Prerequisite:** Completion of PHTO 1630 with a “C” or better. (1 hr lec, 4 hrs lab)

#### **PHTO-2620 Commercial Portrait II (3)**

A continuation of Commercial Portrait I. Examines advanced posing and lighting techniques through studio and on-location portraiture. Students apply portrait techniques to special problems. **Prerequisite:** Completion of PHTO 2610 with a “C” or better. (1 hr lec, 4 hrs lab)

#### **PHTO-2650 Digital Imaging I (3)**

Course explores digital photography and creative computer enhancement of photographs through the use of the Macintosh computer and Adobe Photoshop software. Covers a variety of input devices including the digital camera and reflective and transmission scanners. Stresses digital darkroom techniques along with computerized retouching and enhancement of traditionally generated photographic prints. (3 hrs lec)

#### **PHTO-2660 Web Page Design (3)**

Students learn technical skills and procedures for Web page development and design with emphasis on advanced Photoshop and Go Live techniques. Students gain experience in developing images, sound, video, design, and graphics for a Web site on the Internet. **Prerequisite:** Completion of PHTO 2650 with a “C” or better. (3 hrs lec)

#### **PHTO-2710 Professional Portfolio I (4)**

An introduction to the photographic portfolio for the photography student. A survey of portfolios introduces the student to developing a personal portfolio needed for seeking employment. Photographic problems and assignments relative to student’s experience. Photographic careers explored and discussed. Only for students seeking an AAS in Photographic Communication. **Prerequisite:** Completion of PHTO 1630 with a “C” or better, and concurrent enrollment in PHTO 2510 and PHTO 2610. (2 hrs lec, 4 hrs lab)

#### **PHTO-2720 Professional Portfolio II (4)**

A continuation of Professional Portfolio I. Student learns independent production in a selected area of photographic interest. This selected interest represents the student’s specialty in seeking employment. Only for students seeking an AAS in Photographic Communications. **Prerequisite:** Completion of PHTO 2710 with a “C” or better and successful completion of at least 30 credit hours. (2 hrs lec, 4 hrs lab)

*Capstone Course*

#### **PHTO-2740 Digital Color Photography (3)**

Students acquire knowledge and skills related to traditional color photography and digital photographic techniques. Projects will be photographed in color utilizing both color negative and positive film. The majority of assignments are photographed using traditional cameras and film, while most of the prints are made using computer and professional-level digital printers. Several assignments cover the tools and techniques used to create images for multimedia and the Web. Students learn historic processes plus color theory and technique. Creativity and an expressive use of color photography are stressed as well as proficiency in camera and digital color processes. **Prerequisite:** Completion of PHTO 2510 or PHTO 2610 with a “C” or better. (3 hrs lec)

#### **PHTO-2760 Introduction to Digital Multimedia (3)**

Introduces the creation and application of multimedia. Course offers an overview of multimedia tools, terminology, and techniques for the development of interactive multimedia projects. Utilizes extensive hands-on experience using hardware and software to mold an idea into a well-thought-out interactive experience. **Prerequisite:** Completion of PHTO 2650 with a “C” or better. (3 hrs lec)

#### **PHTO-2960 Photo Field Studies: (2)**

Students will have the opportunity for extensive travel, internationally or domestically, providing a view of travel photography through intensive study in the field. Creativity and expressive use of photographic tools will be stressed. **Prerequisite:** Consent of instructor. (1 hr lec, 2 hrs lab)

## **PHYSICS (PHYS)**

#### **PHYS-1050 Concepts of Physics (4)**

An introduction to the concepts of physics from a logical non-mathematical viewpoint. Credit cannot be earned in this course if credit has been earned in PHYS 1110 or PHYS 1310. **Prerequisite:** Placement at math level 2. (3 hrs lec, 2 hrs lab)

#### **PHYS-1090 Fundamentals of the Physical Universe (4)**

Applies fundamental principles of chemistry and physics to real life situations. Designed primarily for elementary education students. **Prerequisite:** Placement at math level 3. (3 hrs lec, 2 hrs lab)

#### **PHYS-1110 General Physics I (4)**

Introduces fundamental laws of mechanics, thermodynamics, and wave motion. Some attention to processes of scientific discovery. For science and non-science students seeking a background in physics. Credit cannot be earned in this course if credit has been earned in PHYS 1310. **Prerequisite:** Placement at math level 3. (3 hrs lec, 3 hrs lab)

#### **PHYS-1120 General Physics II (4)**

Topics include electricity, magnetism, optics, light, relativity, and nuclear physics. A continuation of PHYS 1110. **Prerequisite:** PHYS 1110. (3 hrs lec, 3 hrs lab)

#### **PHYS-1310 College Physics I (4)**

For concentrations in physical sciences, math, or engineering. Introduces laws of mechanics and thermodynamics applied to physical problems with emphasis on theoretical development. Incorporates examples and topics from contemporary physics where appropriate. **Prerequisite:** MATH 2200. (3 hrs lec, 3 hrs lab)

#### **PHYS-1320 College Physics II (4)**

Studies wave and oscillatory motion, simple harmonic motion, optics, electricity, and magnetism. **Prerequisite:** MATH 2200. (3 hrs lec, 3 hrs lab)

#### **PHYS-2149 Nuclear Century (3)**

Students acquire an understanding and appreciation for the development of nuclear energy and the social, psychological, political, and environmental issues associated with it. This course is team taught by a historian with a chemist or a physicist. Credit cannot be earned in both PHYS 2149 and HIST 2149 or CHEM 2149. All students who satisfactorily complete this course received Honor’s credit. (3 hrs lec)

#### **PHYS-2385 Research in the Life and Physical Sciences (3)**

Research in the Life and Physical Sciences offers students the opportunity to work with other students interested in science disciplines. Students will develop individual projects within their discipline, and with fellow students, exchange ideas and develop an appreciation for the commonality between scientific disciplines and the role of science in society. Students will be expected to make a public presentation of their work. **Prerequisite:** Successful completion of at least 30 credit hours. (3 hrs lec) *Capstone Course*

## **POLITICAL SCIENCE (POLS)**

#### **POLS-1000 American and Wyoming Government (3)**

An introductory course for political science programs. It meets statutory requirements for instruction in principles and provisions of the constitutions of the U.S. and Wyoming. (3 hrs lec)

#### **POLS-2000 Current Issues in American Government (3)**

Reviews current policies and policy makers in American government. Makes a special effort to relate current political issues and government’s attempt to deal with them. **Prerequisite:** POLS 1000 or HIST 1210. (3 hrs lec)

#### **POLS-2010 Comparative Government (3)**

Surveys representative governing systems with selected foreign governments providing basis for course. (3 hrs lec)

#### **POLS-2120 Introduction to Criminal Justice (3)**

An exploration of the police, courts, and correctional agencies that oversee American justice. Examines process and philosophies that underlie the establishment of the modern criminal justice system. This course is the same as CRMJ 2120. (3 hrs lec)

**POLS-2210 Criminal Law (3)**

A survey of the basic fundamental principles of American substantive criminal law. Topics include the nature and origin of criminal law, Constitutional limitations, criminal liability, criminal defenses and excuses, and exploration into the elements of criminal offenses. This course is the same as CRMJ 2210.  
(3 hrs lec)

**POLS-2310 Introduction to International Relations (3)**

Surveys contemporary relations between the nations of the world. Introduces basic principles and conventional tools for conducting relations between nations.  
(3 hrs lec)

**POLS-2410 Introduction to Public Administration (3)**

Basic concepts and theories of administration emphasizing the actual working of the executive branch of governments. Provides an initial understanding of power relations within the bureaucracy and career opportunities in government administration. *Prerequisite:* POLS 1000 or HIST 1210.  
(3 hrs lec)

**POLS-2460 Introduction to Political Theory (3)**

A survey of the history of western political thought including the study of concepts and approaches to political theory.  
(3 hours lec)

**PSYCHOLOGY (PSYC)****PSYC-1000 General Psychology (4)**

Introduces the principles of human behavior as related to biological, physiological, mental, learning, personality, and social factors in human development.  
(4 hrs lec)

**PSYC-1200 Human Development (3)**

A study of human development from conception to death. Student examines changes in the human organism throughout the life span. Covers physical growth, changes in learning and cognitive processes, emotional and social development, and key decision points in human existence. *Prerequisite:* PSYC 1000.  
(3 hrs lec)

**PSYC-1250 Human Potential Seminar (1)**

Focuses on personal clarification of values, goals, strengths, and potential of each participant through a structured group process.  
(1 hr lec)

**PSYC-2000 Research Psychological Methods (4)**

A lecture and laboratory course introducing students to methods of investigating behavioral science questions. Students learn research strategies including observation, survey, program evaluation, and experimentation. Emphasizes experimental methods. A writing intensive course. *Prerequisite:* PSYC 1000, Completion of 10 hours in Psychology recommended, successful completion of at least 30 credit hours.  
(3 hrs lec, 2 hrs lab) *Capstone Course*

**PSYC-2080 Biological Psychology (3)**

Introduces biological bases of behavior. Includes

ethology and comparative behavior, psychobiological development, physiological and sensory mechanisms of behavior, and evolution and behavioral genetics. Presents basic structural and functional properties of the nervous system. *Prerequisites:* 4 hours of psychology. 4 hours of biology recommended.  
(3 hrs lec)

**PSYC-2200 Human Sexuality (3)**

An interdisciplinary study of human sexuality from biological, sociological, and psychological perspectives. Examines research in sexuality; the sexual response cycle; variations of sexual identity; and the social, legal, and religious implications of sexuality. Involves students in questions of values and ethics.  
(3 hrs lec)

**PSYC-2300 Child Psychology (3)**

The physical, mental, and personality development of children from conception to adolescence with emphasis on the major roles played by maturation and learning, contrasting theories of child development, and the conduct and use of research on children. *Prerequisite:* PSYC 1000.  
(3 hrs lec)

**PSYC-2330 Psychology of Adjustment (3)**

Principles of mental hygiene in personal, social, emotional, and vocational adjustment which are based on an understanding of normal and abnormal personality and personality change methods. *Prerequisite:* PSYC 1000.  
(3 hrs lec)

**PSYC-2380 Social Psychology (3)**

A study of the ways in which a person's perceptions, thoughts, feelings, desires, behaviors, and values are influenced by other people. Also examines how an individual can affect the functioning of the groups to which he or she belongs. *Prerequisite:* PSYC 1000 or SOC 1000.  
(3 hrs lec)

**QUICK START (QSCS)****QSCS-1550 Customer Service Specialist (10)**

The Certified Customer Service Specialist (CCSS) program provides training in the core interpersonal and technical skills required to deliver exceptional customer service in a broad range of customer contact jobs. Students will acquire skills for work in service, retail, and other industries in which customer contact is a vital operation. Credit cannot be earned in both QSCS 1550 and QSCS 1551, QSCS 1552, QSCS 1553, or QSCS 1554.  
(10 hrs lec)

**QSCS-1551 Service Industry Business Environment (1)**

This block of courses introduces the learner to the service industry. Students will learn to understand the requirement to be life-long learners, the work ethic required for exceptional customer service, the value that each worker adds to the work team and are introduced to the principles of quality service and business. Credit cannot be earned in both QSCS 1550 and QSCS 1551.  
(1 1/3 hrs lec)

**QSCS-1552 Customer Contact Skills (4)**

This block of courses provides the learner with

an understanding of the environment and skills training in communications with customers and managing that relationship in both telephone and face-to-face situations. Information sharing skills, telephone communications, and managing difficult customers skills are provided in simulated practice sessions. Learners also are introduced to valuing and relating to customers from various ethnic and cultural backgrounds. Credit cannot be earned in both QSCS 1550 and QSCS 1552.  
(4 hrs lec)

**QSCS-1553 Computer Skills for Customer Service (2)**

This block of courses provides the learners with an opportunity to perform basic computer skills related to word processing, spreadsheets, databases, email and credit card processing. Credit cannot be earned in both QSCS 1550 and QSCS 1553.  
(2 hrs lec)

**QSCS-1554 Business Skills for the Customer Service Environment (3)**

This block of courses introduces learners to creating logical, easy-to-read correspondence, using basic mathematics to perform business calculations, managing changes and personal response to changes in the workplace. A six-step problem solving model is discussed, providing the learner with tools that focus on excellence in the service environment. Credit cannot be earned in both QSCS 1550 and QSCS 1554.  
(2 hrs lec)

**RANGE MANAGEMENT (RGMG)****RGMG-1000 Introduction to Range Management (1)**

Orientation to range management as a field of study and as a profession including assistance in preparing the student's academic program.  
(1 hr lec)

**RGMG-2000 Principles of Range Management (3)**

This course covers the basic principles of range management as they affect livestock production, wildlife management, grazing systems and patterns, grazing regions, and vegetation types. Range vegetation with livestock uses and range nutrition in related areas are all examined. Several field trips included. *Prerequisite:* RGMG 1000.  
(2 hrs lec, 2 hrs lab)

**SOCIOLOGY (SOC)****SOC-1000 Sociological Principles (3)**

Seeks to understand the social and cultural dimensions of life and those factors which influence human behavior. Seeks to broaden the student's exposure to a wide variety of cultures, subcultures, and modes of behavior.  
(3 hrs lec)

**SOC-1005 Risky Behaviors (3)**

Designed to increase a student's awareness of the social influence of drugs, alcohol, STDs, and sexual assault from a multi-disciplinary perspective (health, physiological, and sociological). Presents in logical form accurate, current informa-

tion from the biological, health, and sociological sciences essential for making sound decisions regarding lifestyle choices. Course fulfills one credit of non-activity based wellness education or three credits of social science. This course is the same as HLED 1005.  
(3 hrs lec)

#### **SOC-1100 Social Problems (3)**

Students examine current social problems in America by utilizing basic sociological concepts and methods. Topics include: health care, poverty, crime, prejudice, drug use, inequality, and population/immigration.  
(3 hrs lec)

#### **SOC-1200 Introduction to Social Work (3)**

Seeks to familiarize students with the basic principles, methods, and skills of social work. Considers career opportunities in social work and related professions.  
(3 hrs lec)

#### **SOC-2325 Marriage and Family (3)**

A consideration of scientific research and expert insight with regard to dating, marriage, and family life. Includes such topics as dating, love, marital adjustment, finance management, marital conflict, sex, pregnancy, childbirth, and childbearing.  
(3 hrs lec)

#### **SOC-2340 Relationship Violence (3)**

Students will learn the nature and extent of domestic violence, child abuse, dating violence, and sexual assault in America and the legal ramifications. A historical perspective on relationship violence will be explored as well as contemporary factors that contribute to the recurrence of the cycle of violence. Finally, coping strategies and techniques to prevent burnout will be addressed for the professional working with the victims of violence. Students who successfully complete this course with a grade of "B" or better may be eligible for possible internship positions with Crisis Intervention Services.  
(3 hrs lec)

#### **SOC-2400 Criminology (3)**

Introduction to the field of criminology describing the nature and extent of crime in the United States. Topics include theories on crime causation, classifications of crime, collection of crime statistics, and the Criminal Justice System's response to controlling crime. This course is the same as CRMJ 2400.  
(3 hrs lec)

#### **SOC-2410 Juvenile Delinquency (3)**

Examines delinquency from a variety of perspectives and provides insight to a number of underlying causes for this social phenomenon. Explores philosophical differences between juvenile justice and adult justice and the emergence of the unique court system to process the juvenile offender.  
(3 hrs lec)

#### **SOC-2420 History of Crime and Justice (3)**

This course examines the historic evolution of American crime and the American justice system from the early Colonial Period through the Twenty-first Century. The course studies philosophical shifts in correctional strategies, criminal activities, and law enforcement techniques and

their impact on crime and the American judicial Credit cannot be earned in both SOC 2420 and HIST 2420. All students who satisfactorily complete this course receive Honor's credit.  
(3 hrs lec)

## **SOCIAL SCIENCE (SOSC)**

#### **SOSC-2395 Seminar in Social Science Research (3)**

Students learn about the traditions and research techniques of various social science disciplines. Students acquire familiarity with library, Web-based, and other data collection methods, as well as rules of evidence and logical argumentation. Each student completes a research paper and presents the results in a multimedia format.  
**Prerequisite:** Successful completion of at least 30 credit hours.  
(3 hrs lec) *Capstone Course*

## **SPANISH (SPAN)**

#### **SPAN-1010 First Year Spanish I (4)**

Introduces the essentials of Spanish necessary for oral and written use of the language. Gives practice in speaking, reading, understanding, and writing as well as introducing Spanish culture. Requires weekly use of language tapes.  
(4 hrs lec)

#### **SPAN-1020 First Year Spanish II (4)**

Continuation of SPAN 1010. More cultural topics covered. Requires weekly use of language tapes.  
**Prerequisite:** Two years of high school Spanish or completion of SPAN 1010 with a "C-" or better.  
(4 hrs lec)

#### **SPAN-1050 Conversational Spanish I (1-2)**

Primarily for those who want to develop and enhance their ability to speak Spanish. Provides a setting where useful vocabulary is incorporated into learned and spontaneous conversations and where cultural differences are discussed as they pertain to everyday situations. Intended for students who have minimal proficiency or no previous Spanish language experience. Not intended for transfer credit.  
(1-2 hrs lec)

#### **SPAN-1060 Conversational Spanish II (1-2)**

Primarily for those who want to continue to develop and enhance their ability to speak Spanish. Provides a setting where useful vocabulary is incorporated into learned and spontaneous conversations and where cultural differences are discussed. Intended for students who have minimal proficiency or no previous Spanish language experience. **Prerequisite:** Completion of SPAN 1050 with a "C-" or better.  
(1-2 hrs lec)

#### **SPAN-2030 Second Year Spanish I (4)**

Reviews Spanish grammar and gives additional practice in conversation and composition. Includes an introduction to Hispanic literature. **Prerequisite:** Two years of high school Spanish or completion of SPAN 1020 with a "C-" or better.  
(4 hrs lec)

#### **SPAN-2040 Second Year Spanish II (3)**

Continuation of SPAN 2030. More concentra-

tion on conversation, composition, literature, and culture. **Prerequisite:** Three years of high school Spanish or completion of SPAN 2030 with a "C-" or better.  
(3 hrs lec)

#### **SPAN-2140 Introduction to Literature (3)**

An introduction to Spanish and Spanish-American literature from the Middle Ages to the present. Students study four genres: narrative, drama, poetry, and essay. Course covers trends and historical events that influenced literature. Class methods include lectures, discussions, student presentations on research topics, in-class readings, and small group activities. **Prerequisite:** Three years of high school Spanish, SPAN 1020 with a "B" or better, SPAN 2030, SPAN 2040, SPAN 2210, or SPAN 2220.  
(3 hrs lec)

#### **SPAN-2210 Intermediate Composition and Conversation I (3)**

Emphasis on the study of oral and written skills in Spanish. Prepares students for upper division courses in advanced composition and conversation. **Prerequisite:** Three years of high school Spanish, SPAN 1020 with a "B" or better, SPAN 2030, or SPAN 2040.  
(3 hrs lec)

#### **SPAN-2220 Intermediate Composition and Conversation II (3)**

Continuation of SPAN 2210. More concentration on the study of oral and written Spanish. Prepares students for upper division courses in advanced composition and conversation. **Prerequisite:** Three years of high school Spanish, SPAN 1020, SPAN 2030, SPAN 2040, or SPAN 2210.  
(3 hrs lec)

#### **SPAN-2460 Field Studies: (1-3)**

An introduction to the culture, geography, history, and language of a Spanish-speaking country. Course normally includes preparation prior to travel along with intensive language study and cultural experience in a foreign country. **Prerequisite:** Consent of instructor.  
(1-3 hrs lec)

## **STATISTICS (STAT)**

#### **STAT-2010 Statistical Concepts for Business (4)**

Covers descriptive measures, probability concepts, discrete and continuous distributions, sampling methods, parameter estimation, hypothesis testing, multiple group designs, contingency tables, regression and correlation, sample size determination, and methods for quality control. Emphasis on decision making applications. Introduces associated computer skills in labs. **Prerequisite:** A grade of "C-" or better in MATH 1400, MATH 1050, or MATH 1450 or placement at math level 4 within one year prior to enrollment.  
(3 hrs lec, 2 hrs lab)

#### **STAT-2050 Fundamentals of Statistics (4)**

Covers descriptive measures, probability, discrete and continuous distributions, ideas and applications of statistical inference, hypothesis testing, and an introduction to regression and correlation. Emphasis on decision-making applications. Introduces statistical computer packages in weekly labs. **Prerequisite:** A grade of "C-" or better in



MATH 1400, MATH 1050, or MATH 1450 or placement at math level 4 within one year prior to enrollment.  
(3 hrs lec, 2 hrs lab)

#### **STAT-2070 Introductory Statistics for Social Science (4)**

Presents central ideas of descriptive statistics and statistical inference, as applied to questions in social sciences. Includes graphs, averages, sampling, estimation, hypothesis-testing and relationships between variables. Introduces associated computer skills in weekly labs. **Prerequisite:** A grade of "C-" or better in MATH 1400, MATH 1050, or MATH 1450 or placement at math level 4 within one year prior to enrollment.  
(3 hrs lec, 2 hrs lab)

### **THEATRE (THEA)**

#### **THEA-2120 Oral Interpretation (3)**

Provides an opportunity for students to appreciate literature by interpreting it orally for an audience. Gives instruction in the principles of interpreting prose, poetry, and dramatic literature.  
(3 hrs lec)

### **WELDING TECHNOLOGY (WELD)**

#### **WELD-1555 Welding Technology Safety and Problem Solving (2)**

This course covers personnel protection, fire prevention, welding on closed containers, ventilation, proper use of equipment, and treatment of minor injuries. May be repeated once for credit. For students seeking a degree in Welding.  
(2 hrs lec)

#### **WELD-1600 General Arc Welding (2-3)**

This course is an introduction to oxyacetylene, electric arc and cutting torch. Different welding units and basic welds in main positions, economy in use of equipment, and special emphasis on safety are covered. Flexible credit contingent on enrolled lab hours. Open to any student.  
(1.5 hrs lec, 1-3 hrs lab)

#### **WELD-1650 Print Reading (3)**

This course is a study of blueprint reading and basic drafting practices used in the welding and manufacturing industry. It provides training in reading and drawing blueprints and welding symbols through the development of comprehensive plans. For students seeking a degree in Welding.  
(3 hrs lec)

#### **WELD-1700 General Welding (2-3)**

This course is an in-depth study and practice in arc welding, all positions, with a variety of metals. Introduces MIG and TIG machines. Oxyacetylene instruction includes brazing, aluminum, and cast iron. Flexible credit contingent on enrolled lab hours. Open to any student. **Prerequisite:** WELD 1600.  
(1.5 hrs lec, 1-3 hrs lab)

#### **WELD-1705 Welding Processes (4)**

This course is designed for the new learner specializing in welding, providing the students with lecture and hands-on experience. Emphasis is on oxyacetylene welding, electrical arc welding, por-

table welding machines, and improving welding skills. For students seeking a degree in Welding.  
(2 hrs lec, 4 hrs lab)

#### **WELD-1765 Advanced Welding Processes (4)**

This course covers MIG and TIG skills; pipe welding skills; higher skills of welding copper, aluminum and stainless steel. For students seeking a degree in Welding. **Prerequisite:** WELD 1705.  
(2 hrs lec, 4 hrs lab)

#### **WELD-1770 GMAW - FCAW (4)**

Students will gain technical understanding of Gas Metal Arc Welding (GMAW) equipment, metal transfer, shielding gases, and welding safety. Emphasis will be placed on short circuit, globular, and spray transfer; Flux Cored Arc Welding (FCAW); and inner shield.  
(2 hrs lec, 4 hrs lab)

#### **WELD-1785 GTAW Welding (4)**

Students will learn about Gas Tungsten Arc Welding (GTAW) which is an individual specialty that is demonstrated and performed on mild steel, stainless steel, and aluminum in all position fillet and butt joints. Information and practical experience is also included on pipe joints with root penetration and filler passes according to applicable codes.  
(2 hrs lec, 4 hrs lab)

#### **WELD-1800 Materials Evaluation (1-6)**

This course provides an introduction to the field of destructive and nondestructive testing of metals. It examines testing methods in evaluation of various welding processes. For students seeking a degree in Welding.  
(3 hrs lec)

#### **WELD-1860 Welding Fabrication (4)**

Students acquire knowledge of welding fabrication by emphasizing construction of welded projects, utilization of blueprints and specifications, and repair and maintenance of industrial equipment. For students seeking a degree in Welding.  
(1 hr lec, 6 hrs lab)

#### **WELD-1870 Advanced Metal Fabrication Technique (4)**

Consists of developing plans and producing a finished project. Various welding positions and assembly techniques are utilized. For students seeking a degree in Welding.  
(1 hr lec, 6 hrs lab)

#### **WELD-1920 Basic Pipe Welding (3)**

Arc welding of pipe in various positions and techniques are covered in this course. Safety electrode selection and certification codes are also included. Open to any students. **Prerequisite:** WELD 1700.  
(1 hr lec, 4 hrs lab)

#### **WELD-1960 Specialized Applications in Welding: (1-3)**

This course provides the learner with a technical understanding of gas metal arc welding and gas tungsten arc welding, welding equipment setup, metal transfer, shielding gasses and welding safety. The course also provides hands on experience in any aspect of welding and alloys that are weldable using the process of tig and mig welding.  
(.5 hr lec, 1-5 hrs lab)

#### **WELD-2610 Ornamental Iron Work (3)**

Students learn basic acetylene and MIG welding

skills as well as 3-D art design elements. Course is intended for students interested in the basics of welding for personal use, set construction, or metal sculpture.  
(1 hr lec, 4 hrs lab)

#### **WELD-2670 Welding Inspection Technology (3)**

Students learn about magnetic particle, dye penetrant, eddy current, radiographic and ultrasonic inspection of ferrous and nonferrous metals. For students seeking a degree in Welding.  
(3 hrs lec)

#### **WELD-2680 Welding Metallurgy (3)**

Students gain an introduction to the field, emphasizing physical aspects. This course is centered around steel and ferrous alloys in the properties of metals with a view to their use and application. For students specializing in Welding.  
(3 hrs lec)

#### **WELD-2700 Welding Certification (Plate) (4)**

Students gain an understanding of the theory and practice on plate metal with emphasis on certification. Includes work on various thicknesses and positions. Methods include arc, TIG, and MIG. For students seeking a degree in Welding. **Prerequisite:** Consent of instructor.  
(1 hr lec, 6 hrs lab)

#### **WELD-2710 Welding Certification (Pipe) (4)**

Students study and practice pipe certification tests. Includes work on API 1104 and other industry tests. Covers arc, TIG, MIG, and oxyacetylene techniques. For students seeking a degree in Welding. **Prerequisite:** Consent of instructor.  
(1 hr lec, 6 hrs lab)

#### **WELD-2750 Metals Production (4)**

Students will work on project production, weld test study, and technical reporting. For students seeking a degree in Welding. **Prerequisite:** Weld 1860 and successful completion of at least 30 credit hours.  
(1 hr lec, 6 hrs lab)

#### **WELD-2800 Plastic Welding (4)**

Students acquire knowledge, skills, and experience to use proper procedures in thermoplastic welding.  
(2 hrs lec, 4 hrs lab)

#### **WELD-2970 Internship: Welding (1-6)**

Designed for serious students interested in experiences on and off campus leading to transfer programs in vocational education, business engineering, or other options connected to Welding Technology. Also available to students who wish to broaden their occupational experiences to include experience in shop management, maintenance and repair, or other aspects of the welding environment. S/U grading only. **Prerequisite:** WELD 1705.  
(2 hrs lab per credit hour)

#### **WELD-2985 Welding Seminar (4)**

Open to advanced students for project production, weld test study, and technical reports. For students seeking a degree in Welding. **Prerequisite:** WELD 2750 and successful completion of at least 30 credit hours.  
(2 hrs lec, 4 hrs lab)

*Capstone Course*

## ZOOLOGY (ZOO)

### ZOO-2010 Human Anatomy and Physiology I (4)

The first course in a two-semester sequence. Includes cell chemistry, cellular structure and function, histology, the integumentary, skeletal, muscular, and peripheral nervous systems. Emphasis focused on the functional anatomy of the human body. Laboratory activities complement the lecture material with an appropriate balance between anatomy and physiology. One semester of Human Anatomy and Physiology will not meet the lab science requirement.

(3 hrs lec, 2 hrs lab)

### ZOO-2020 Human Anatomy and Physiology II (4)

This course is a continuation of ZOO 2010. Topics of emphasis include the central nervous, cardiovascular, lymphatic, respiratory, and digestive systems, metabolism, urinary and reproductive systems, and genetics and early development.

**Prerequisite:** ZOO 2010.

(3 hrs lec, 2 hrs lab)

### ZOO-2060 Human Pathophysiology (3)

Studies basic concepts of common and chronic disease processes in humans. Examines physiological, morphological, and biochemical aspects of disease. Explores the relationships among the disease, its symptoms, and its treatment. **Prerequisite:** ZOO 2010 and ZOO 2020 or concurrent enrollment in ZOO 2020.

(3 hrs lec)

### ZOO-2400 Vertebrate Natural History (4)

A study of fishes, amphibians, reptiles, birds, and mammals. Emphasizes North American forms and includes identification, classification, special characteristics, and natural history. **Prerequisite:** BIOL 1010.

(3 hrs lec, 3 hrs lab)

### ZOO-2450 Wildlife Management (3)

Includes an introduction to the history of wildlife management and the ecological needs of wildlife species. Studies management strategies for wildlife in various ecological settings. Acquaints students with goals, methods, and problems of wildlife management.

(3 hrs lec)