College of Technology

Dean: Tom L. MacGregor
Associate Dean: Sharon L. Cook
Telephone: (208) 385-1508

College of Technology Emeriti: Buchanan, Callies, Dahm, Dallas, Fleshman, Fuehrer, Gourley, Hager, King, Krigbaum, Lamborn, Leigh, Lingenfelter, MacInnis, Olson, Oyler, Tennyson, Thompson, Trapp, Weston

The Boise State University College of Technology provides a focused response to the technological and engineering-related education and training needs of the region. For Idaho to sustain a strong economy, the educational system must provide the tools and structure necessary for engineering and technical education. The College of Technology is designed to effectively address needs in these areas and to create an environment that attracts new industry and helps existing industry prosper. The College role is consistent with the Boise State University mission to provide special emphasis in Applied Technology and, through joint efforts with other institutions, provide needed educational programs.

The programs and services offered through the College of Technology are in direct response to the needs of current and emerging industries in Southwest Idaho. Increasingly, workers at all levels must possess an ever-broader base of scientific and technical knowledge to produce competitively. In addition to a diverse array of education and training programs, the College provides technical assistance to industry, applied research in technology, incubator-type activities and other programs that aid in the region's economic growth and development.

The College of Technology is composed of two Schools—the School of Engineering Technology and the School of Applied Technology. The School of Engineering Technology houses the Bachelor of Applied Science, Construction Management, Manufacturing Engineering Technology, Drafting Technology, Electronics Service Technology, Electronics Technology, and lower-division engineering programs. The College has a cooperative arrangement with the University of Idaho, College of Engineering, for delivery of upper-division and graduate engineering courses on the Boise State University campus. The School of Applied Technology provides pre-employment training, industry upgrade and customized training, Adult Basic Education, one-year certificate and a variety of Associate of Applied Science Degree Programs.

School of Engineering Technology

The School of Engineering Technology fulfills its mission within the College of Technology by providing educational programs to meet the technical and engineering-related education and training, as well as by providing technical assistance to industry through applied research, technology transfer, and incubator activities for economic development.

Bachelor of Applied Science Degree

The College of Technology offers a Bachelor of Applied Science degree. The Bachelor of Applied Science degree is designed to build upon the Associate of Applied Science degree (A.A.S.) or selected Associate of Science (A.S.) degrees.

Graduates of technical programs that meet the Idaho standards for the A.A.S. degree and are accredited by a regional accrediting body that is recognized by the Council on Postsecondary Accreditation are eligible for admission. The minimum credit requirements for the A.A.S. degree include:

<table>
<thead>
<tr>
<th>Category</th>
<th>Minimum Credits</th>
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<tbody>
<tr>
<td>Vocational or Technical Education courses</td>
<td>42</td>
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<tr>
<td>Vocational or Technical Support courses</td>
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<tr>
<td>General Education courses</td>
<td>12</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>64</strong></td>
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</table>

Exceptions to the above must be reviewed by the Dean, College of Technology for a determination regarding eligibility for admission. Credit for prior learning will be determined in accordance with prevailing institutional policy.
The interested student must be formally admitted into the Bachelor of Applied Science degree program by the Dean, College of Technology.

1. Vocational Technical Education Program .......................... 64
2. General University Requirements .......................... 64
   English Composition ........................................... 3-6
   NOTE: Number of required credits is determined by student score on ACT exam. See General University Requirements (Core) for details.
3. Area I Requirements ........................................... 12
   Arts & Humanities
   Three fields must be represented.
4. Area II Requirements ........................................... 12
   Social Sciences
   Three fields must be represented.
5. Area III Requirements ........................................... 12
   Natural Sciences and Mathematics
   Two fields must be represented.
   NOTE: Students seeking a B.A.S. with an A.S. degree in Marketing; Mid-Management must complete M 105 and M 106 in addition to the requirements listed above.
   NOTE: University Core courses used to meet vocational technical education requirements cannot be used to meet the above listed Area requirements.
6. Students seeking the B.A.S. degree must have an additional 9 credits chosen from upper division courses in any of the following disciplines (Social Science and Natural Science-Mathematics must be represented):
   - Anthropology
   - Biology
   - Chemistry
   - Communication
   - Economics
   - Engineering
   - Geography
   - Geology
   - History
   - Mathematics
   - Physical Science
   - Political Science
   - Psychology
   - Social Work
   - Sociology
   - Teacher Education

7. Upper Division Electives ........................................... 13
   NOTE: Students seeking the B.A.S. degree must earn a minimum of 22 upper division credits.

**Department of Construction Management and Engineering**

Technology Building, Room 240
Telephone (208) 385-3764

Chair and Professor: Marvin Gabert; Professors: Affleck, Parks; Associate Professors: Guirao, Haefner; Assistant Professors: Gains, Kuhr, Mason.

Degrees Offered
- BS in Construction Management
- Lower Division Engineering for Civil, Mechanical, Chemical, Manufacturing and other Engineering disciplines.
- B.S. degrees in Electrical Engineering and Computer Engineering are available on the Boise State campus from the University of Idaho.

Degree Requirements

**CONSTRUCTION MANAGEMENT PROGRAM**

Bachelor of Science Degree

Accredited by the American Council for Construction Education (ACCE).

The objective of the Construction Management program is to provide an education of the highest possible quality, given current constraints, in an accredited program with studies in engineering, business, communications, mathematics, physics, liberal arts and construction management so that the constructor can intelligently relate to and coordinate the efforts of owners, engineers, architects, craftsmen, contractors and other professionals to provide society with construction services of skill, responsibility and integrity.

### FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<td>Intro to Financial Accounting AC 205</td>
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<td>The Legal Environment of Business GB 202</td>
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<tr>
<td>Principles of Microeconomics EC 205</td>
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<td>Construction Blue Print Communication CO 235</td>
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<td>Contracts and Specifications CO 246</td>
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<tr>
<td>Intro to Mechanics EN 205</td>
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<tr>
<td>Intro to Managerial Accounting AC 206</td>
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<td>Principles of Macroeconomics EC 206</td>
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### JUNIOR

**Construction Equipment & Methods CO 320** 3
**Mechanical Installations CO 351** 3
**Cost Estimating and Bidding CO 370** 4
**Statistical Tech Dec Making I PR 207** 3
**Finance: FI 303 or EN 382** 3
**Mechanics of Materials EN 306** 3
**Soil Mechanics and Foundation Const CO 330** 3
**Soil Mechanics Lab CO 305** 3
**Electrical Installations CO 352** 3
**Construct Operations & Improve CO 374** 2
**III: Labor Relations Course** 3
**Technical Writing E 202** 3

### SENIOR

**Concrete & Formwork Construction CO 410** 3
**Project Scheduling & Control CO 417** 3
**Fond of Speech Communication CM 111** 3
**II: Technical/Management Electives** 3
**Area I Electives** 3 3
**Project Management CO 475** 3
**Project Controls CO 460** 3
**Organizational Behavior MG 401** 3
**General Electives** 3 3
**Total** 15 15

*Math and/or Physics prerequisite

### CONSTRUCTION MANAGEMENT MINOR

**Engineering Graphics EN 108** 2
**Const Blue Print Communication CO 235** 2
**Intro Management of Construction CO 240** 3
**Contracts & Specifications CO 246** 3
**Cost Estimating & Bidding CO 370** 3
**Const Operations & Improvements CO 374** 2
**Project Scheduling CO 417** 3
**Total** 19

*Math and/or Physics prerequisite

*Approved Engineering Programs

**LOWER DIVISION ENGINEERING MAJOR**

All of the following courses will transfer to either the University of Idaho or Idaho State University as well as to most other engineering colleges. BSU offers at least 80 of the 130 or more credits required for an engineering degree in nearly all of the engineering branches. Therefore, it is possible to complete a degree in approximately three semesters after transferring from Boise State University. Bachelor of Science (B.S.) degrees in electrical engineering and computer engineering are available on the Boise State University campus through the University of Idaho. Contact your BSU academic engineering advisor or the University of Idaho Director of Engineering Education for details. The upper division (Junior & Senior) classes offered through the University of Idaho are listed in this section of the Catalog immediately following BSU's lower division listing.

### FRESHMAN

<table>
<thead>
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<th>Course</th>
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<td><em>Calculus &amp; Analytical Geometry M 204</em></td>
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<td><em>Materials &amp; Methods of Architecture AR 290</em></td>
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<td><em>Engineering Graphics EN 108</em></td>
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<td>Intro to Management of Construction CO 240</td>
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**Recommended Engineering Programs**

*English Composition E 102* 3
**Calculus & Analytical Geometry M 204-205** 5 4
**College Chemistry C 131-132-133** 4 3
**Engineering Fund & Comp Prog EN 107** 3 -
### ADDITIONAL TRANSFERABLE COURSES

#### BRANCH VARIATIONS

**Agricultural Engineering**

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<tr>
<td><strong>SOPHOMORE</strong></td>
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<td>18</td>
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</table>

**Additional Available Courses:**

- Humanistic-Social Electives (See Advisor) 3
- Mechanics, Waves & Heat + Lab PH 211-212 5
- Calculus & Analytic Geometry M 206 3
- Fluid Mechanics EN 301 3
- Thermodynamics & Heat Transfer EN 320 3

**Chemical Engineering**

<table>
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<td>Common Year Totals</td>
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<tr>
<td><strong>SOPHOMORE</strong></td>
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</table>

**Additional Available Courses:**

- Humanistic-Social Electives (See Advisor) 9
- Thermodynamics & Heat Transfer EN 320 3
- Engineering Measurements EN 216 3
- Biological Science Elective 3

**Civil Engineering**

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Common Year Totals</td>
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</tr>
<tr>
<td><strong>SOPHOMORE</strong></td>
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</tbody>
</table>

**Additional Available Courses:**

- Humanistic-Social Electives (See Advisor) 9
- Prin Macroeconomics EC 206 (Hum-Soc Elect) 3
- Mechanics of Materials EN 306 3
- Physical Geology GO 101 4

**Geological Engineering**

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<td><strong>FRESHMAN</strong></td>
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<tr>
<td><strong>SOPHOMORE</strong></td>
<td>18</td>
<td>17</td>
</tr>
</tbody>
</table>

**Additional Available Courses:**

- Humanistic-Social Electives (See Advisor) 9
- Engineering Science selected from: EN 301, 306, or 320 3
- Technical Writing E 202 3
- Engineering Economics EN 382 3
- Digital Circuits I EN 320 or UI EE 314 4

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**Department of Construction Management and Engineering**

### Computer Engineering

**FRESHMAN**

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<th>Course</th>
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<tr>
<td><strong>SOPHOMORE</strong></td>
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</tr>
</tbody>
</table>

**Additional Available Courses:**

- Humanistic-Social Electives (See Advisor) 6
- Differential Equations M 331 3
- Systems & Circuits I EN 221 4
- Mechanics, Waves & Heat & Lab PH 211-212 5
- Electricity, Magnetism & Optics & Lab PH 213-214 5
- Intro to Computer Science II CS 127 4
- Systems & Circuits II EN 223 5
- Data Structures CS 358 4

**Electrical Engineering**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
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<tr>
<td><strong>SOPHOMORE</strong></td>
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</tr>
</tbody>
</table>

**Additional Available Courses:**

- Humanistic-Social Electives (See Advisor) 9
- Engineering Science selected from: EN 301, 306, or 320 3
- Technical Writing E 202 3
- Engineering Economics EN 382 3
- Digital Circuits I EN 320 or UI EE 314 4

**Geological Engineering**

<table>
<thead>
<tr>
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<tr>
<td><strong>SOPHOMORE</strong></td>
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<td>17</td>
</tr>
</tbody>
</table>

**Additional Available Courses:**

- Humanistic-Social Electives (See Advisor) 9
- Prin Macroeconomics EC 206 (Hum-Soc Elect) 3
- Technical Writing E 202 3
- Thermodynamics & Heat Transfer EN 320 3
## Course Offerings

**See page 23 for definition of course numbering system**

### CO CONSTRUCTION MANAGEMENT

#### Lower Division

**CO 141 CONSTRUCTION MATERIALS & METHODS (1-3-2)(F/S).** The application of construction materials, safety, building codes and an opportunity for some hands-on construction experiences such as excavation, compaction and site work; formwork and concrete; steel; carpentry; or other construction operations.

**CO 235 CONSTRUCTION BLUE PRINT COMMUNICATIONS (2-0-2)(F).** The transmission and interpretation of blueprint communications covering different types of drawings, including their organization and format. Emphasizing three-dimensional visualization to make practical applications and determine quantities of work. Learn how to interpret quickly and visualize what is being presented by the drawings. Friday field trips required. PREREQ: EN 108.

**CO 240 INTRODUCTION TO THE MANAGEMENT OF CONSTRUCTION (3-0-3)(S).** Introduction to construction terminology, industry and management. Includes the planning, staffing, directing and controlling functions with emphasis on organizations and the schools of management. A survey of the basic trades, methods, quantity take-off calculations, estimating and scheduling. Friday field trips required. PREREQ: M 108 or equivalent.

**CO 246 CONTRACTS AND SPECIFICATIONS (3-0-3)(S).** Contracts, contract documents and specifications for construction including legal as well as technical implications, claims, change orders and contract administration, emphasizing Owner-Engineer/Architect-Contractor functions and related problems. Friday field trips required. PREREQ: GB 202.

### CO 320 CONSTRUCTION EQUIPMENT & METHODS (3-0-3)(F).** Characteristics, capabilities, limitations and employment of general building and heavy construction equipment. Friday field trips required. PREREQ: EN 205.

**CO 330 SOIL MECHANICS AND FOUNDATION CONSTRUCTION (3-0-3)(S).** Fundamentals of soil mechanics as it relates to foundation and earthwork construction problems: Interaction of water and soil, compaction, bearing capacity, lateral pressures, drainage and waterproofing, spread footings, retaining walls, pile foundations, and special foundation construction problems. PREREQ: EN 205 or PERM/INST. COREQ: GO 305.

**CO 351 MECHANICAL INSTALLATIONS (3-0-3)(F).** The fundamentals of mechanical installations and associated construction problems including heat loss and gain,
heating, ventilating and air-conditioning, fluid flow in pipes and ditches as well as water supply, sewage, and fire protection installations. Friday field trips required. 
PREREQ: PH 102 and EN 205.

CO 352 ELECTRICAL AND ACOUSTICAL INSTALLATIONS (3-0-3)(S). The fundamentals of electrical and acoustical installations and associated construction problems including electrical circuits, conduits, conductors, switch gear; other service equipment and electrical transmission. Also included will be lighting and acoustical installations and associated construction problems. Friday field trips required. 
PREREQ: PH 102 and EN 205.

CO 367 CONSTRUCTION ESTIMATING (3-0-3)(F). Extracting quantity take-offs from drawings, classifying the work in accordance with the specifications, compiling and pricing estimates, developing zero-based cost estimates using CSI divisions and work breakdown structure; preparation of bids. PREREQ: CO 235, CO 246 and M 111 or equivalent.

CO 370 COST ESTIMATING AND BIDDING (3-3-4)(F). Extracting quantity take-offs from drawings, classifying the work in accordance with specifications, compiling and pricing estimates and preparation of bids. PREREQ: CO 235, CO 246 and M 111 or equivalent.

CO 374 CONSTRUCTION OPERATIONS AND IMPROVEMENTS (2-0-2)(S). The use of statistical sampling, time and motion studies, time-lapse photography, crew balancing, handling, flow and process charts to improve methods, labor efficiency, equipment and materials usage, safety and employee motivation. Field trips are required. PREREQ: CO 240.

CO 381 BUILDING PROJECT ESTIMATING (1-3-2)(S). The estimating and bidding of complete Building projects; including quantity takeoffs, categorizing costs, pricing, and markups; use of computers as an estimating tool, conceptual and range estimating; engineering, fasttrack, target and equity sharing project estimates. PREREQ: CO 367.

CO 382 HEAVY AND HIGHWAY PROJECT ESTIMATING & BIDDING (1-3-2)(S). The estimating and bidding of complete heavy or highway projects; including quantity takeoffs, categorizing costs, pricing, and markups; use of computers as an estimating tool, conceptual and range estimating; engineering, fasttrack, target and equity sharing project estimates. PREREQ: CO 367.


CO 420 REINFORCED CONCRETE AND STEEL CONSTRUCTION (3-0-3)(F). The structural analysis and construction of reinforced concrete and structural steel systems; including vertical and horizontal loads on beams and columns; bending, shear, compression and tensile stresses and deflection analysis and construction methods. PREREQ: EN 306.

CO 441 CONSTRUCTION SAFETY AND SUPERVISION (1-3-2)(F). The class provides a field opportunity for senior students to plan, provide safety procedures, quality control, supervision, monitoring and inspection of construction operations. Emphasis is placed on the safety plan and safety procedures. PREREQ: CO 141.

CO 460 PROJECT COST CONTROLS (3-0-3)(S). Theory of cost accounting and control cost control, emphasis on cost determination as a tool of management and project cost control. Includes bidding, budgeting and developing project control systems, use of computer systems for managing cash, receivable, payroll and subcontractors. PREREQ: AC 206 and CO 370.

CO 475 PROJECT MANAGEMENT (3-0-3)(S). Application of professional construction management techniques such as site investigation, contractor and subcontractor qualifications, conceptual estimating and budgeting, value engineering, quality assurance, business development, risk management and ethics as applied to the management of construction projects. PREREQ: CO 240 and CO 246.

CO 493 INTERNSHIP. Cooperative education/internship in construction management provides practical, on-the-job experience in blueprint reading, material takeoffs, estimating, equipment management and project planning.

EN ENGINEERING Lower Division

EN 100 ENERGY FOR SOCIETY (3-2-4)(F)(AREA III). A general interest course having no prerequisite. A basic understanding of energy and how it has been put to use is developed to promote a better understanding of our present technological society with its energy, environmental, social, and political problems. Alternative as well as conventional energy solutions will be studied.

EN 101 TECHNICAL DRAWING (2-2-2)(F). A basic course in technical drawing covering sketching, orthographic projection, sectioning, dimensioning, pictorial drawing and introduction to microcomputer drafting systems.

EN 102 COMPUTER FUNDAMENTALS FOR TECHNOLOGY (3-0-3)(F). Introduction to a computer course, including applications of the computer to technology. Topics covered include DOS, word processing, simple programming, spreadsheets and problem solving with PC Solve. Also general orientation to careers in technology. COREQ: M 108 or higher level mathematics.

EN 104 (CS 124) DIGITAL COMPUTER PROGRAMMING (2-0-2)(F). An introduction to FORTRAN programming principles and logic including input-output, flow charts, subroutines, arrays and subroutines, all applied to problem solving. PREREQ: M 106 or M 108.

University of Idaho Engineering in Boise Program

Engineering Technology Building, Room 201 Telephone (208) 385-1309

Director and Associate Professor of Computer Science: Robert Rinker; Assistant to the Director: Kathy Belknap; Electrical Engineering Faculty: Richard Wall; Mechanical Engineering Faculty: Paul Dawson

Degrees Offered
- BS in Computer Engineering
- BS in Electrical Engineering

Program Statement
As part of its statewide role and mission, the University of Idaho is pleased to offer engineering education opportunities in the Boise area. We are presently offering complete bachelor of science degrees in Electrical and Computer Engineering in Boise, plus course work leading to bachelor degrees in Chemical, Civil, Mechanical and Manufacturing Engineering. Bachelor of science degrees in Electrical and Computer Engineering can be completed entirely in Boise. Upper division course work in Mechanical Engineering...
Engineering, Chemical Engineering and Civil Engineering is also offered, so that approximately one year of study is required in Moscow to complete the bachelor's degree.

The University of Idaho College of Engineering, with the very generous cooperation of Boise State University, has been teaching classes on the Boise State campus since 1988. The first engineering degrees earned through the Boise Program were awarded in 1990. To cater to the special needs of working students, classes are scheduled in the late afternoon and evening. Courses are taught by University of Idaho engineering faculty, utilizing facilities provided by Boise State University.

Students wishing to pursue an engineering degree in Boise take most of the first two years of course work through the Boise State University engineering program. After two years, the student "transfers" to UI and then continues taking UI courses taught on the BSU campus.

Admission to Classes
To take upper division courses taught through the Engineering in Boise Program, students must have completed certain required courses in chemistry, computer science, engineering, mathematics and physics and achieved a grade of 'C' or better in each of these courses. The specific list of courses varies with each major; please contact the UI Engineering in Boise Office for specific course lists.

Fees
Students enrolled in the Engineering in Boise Program pay fees through BSU. The amount of fees is determined by the total number of credits taken, regardless of the combination of credits taken from the two universities. Students who qualify can take UI classes at no additional charge.

Financial Aid
Applications for financial aid are processed by the BSU Office of Financial Aid.

General Education Requirements
Since the degree that will be earned is a UI degree, all UI requirements for graduation must be met. One area of difference between BSU requirements and UI requirements is in the General Education (or Core) Requirements. While many of the courses listed as BSU core requirements will indeed satisfy UI core requirements, some do not. The number of credits required by UI in each core category is also different. Please consult with the UI Boise Engineering office to determine which core courses are appropriate for a UI engineering degree.

Writing Proficiency Test
All students transferring to UI are required to take a Writing Proficiency Test administered by the UI English Department. This test is given in Boise twice a year, once in the fall and once in the spring. Please note that this test is NOT the same as the test given by the BSU English department.

Curricula
The UI Engineering curricula are subject to review and revision by UI faculty. The information listed here is intended only as a guide. Refer specific questions to the UI Engineering Office.

Students pursuing an engineering degree should follow the BSU recommended program for the Freshman and Sophomore years.

Recommended Program

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<td>Digital Computer Fund &amp; Lab CompE 340-344</td>
<td>UI@BOI 4</td>
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<td>BSU 4</td>
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<td>Electronics I &amp; Lab EE 316-317</td>
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<td>UI@BOI 4</td>
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<td>Operating Systems CS 353</td>
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**TOTAL CREDITS** 131

**ELECTRICAL ENGINEERING CURRICULUM**

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<td>Electronics I &amp; Lab EE 316-317</td>
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<td>Dig Comp Fund EE 340</td>
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<td>Dig Logic Lab EE 344</td>
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<td>Signal &amp; Systems EE 350</td>
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<td>Electronics II &amp; Lab EE 318-319</td>
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<td>Elec Machinary EE 320</td>
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<td>Elec Mag Theory EE 330</td>
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**TOTAL CREDITS** 131

**CHEMICAL ENGINEERING CURRICULUM**

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<tr>
<td>Physical Chem &amp; Lab C 321, 323</td>
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<td>Reactor Kin &amp; Des ChE 323</td>
<td>UI@MOS 3</td>
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<td>Fluid Mechanics EN 301</td>
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<td>Elec Circuits EN 227</td>
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<td>Process Analysis ChE 444</td>
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<td>Chem Proc Anal &amp; Des ChE 453</td>
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**TOTAL CREDITS** 134
### University of Idaho Engineering in Boise Program

**EE 320/EX 320 ELECTRICAL MACHINERY (3 cr)(S)**. Theory and application of electric machinery and transformers. Four lectures and one 3-hour lab each week. Pre-registration required; consult department administrator. PREREQ: BSU’s EN 221, EN 223 and PH 213.

**EE 330/EX 330 ELECTROMAGNETIC THEORY (4 cr)(F)**. Vector calculus; electrostatics, electrodynamics; electromagnetic waves in isotropic media; Maxwell’s equations; boundary value problems. Pre-registration required; consult department administrator. PREREQ: BSU’s M 206, M 331 and PH 213.

**EE 340/CompE 340/EX 340 DIGITAL COMPUTER FUNDAMENTALS (3 cr)(F)**. Number systems; truth tables; logic gates; elementary combinational and sequential logic, concepts of machine language programming, introduction to data structures and subroutines; hands-on use of mini-computer stressed. Pre-registration required; consult department administrator. PREREQ: M 204.

**EE 344/CompE 344/EX 344 LOGIC CIRCUIT LAB (1 cr)(F)**. Design and construction of logic circuits. Pre-registration required; consult department administrator. COREQ: EE 340/EX 340.

**EE 350/EX 350 SIGNAL AND SYSTEMS ANALYSIS (4 cr)(S)**. Continuous and discrete time signal and system analysis; Fourier transforms, transforms, filtering, sampling and modulation; intro to state space methods and feedback control. Pre-registration required; consult department administrator. PREREQ: BSU’s EN 223.

**EE 440/CompE 440/EX 440 DIGITAL SYSTEMS ENGINEERING (3 cr)(S)**. Advanced topics in combination logic design such as iterative logic arrays, hazard free design, and VLSI logic implementations; study of asynchronous and synchronous sequential circuit combinational and sequential circuit design with PLAs; register transfer language design of digital system including data path and control structures with TTL including timing analysis. Pre-registration required; control structures with TTL including timing analysis. Pre-registration required; consult department administrator. PREREQ: EE 340, CompE 340 or EE 344.

**EE 441/CompE 441/EX 441 COMPUTER ORGANIZATION (3 cr)(S)**. Register transfer language design of micro and mini computer systems; micro and mini architectures including interrupt structures and software control; 8-bit and 16-bit microprocessor design including associated interfacing with RAM, ROM, and I/O. Pre-registration required; consult department administrator. PREREQ: EE 340, CompE 340 or EE 344.

**EE 480-481/CompE 480-481/EX 480-481 PRINCIPLE OF DESIGN (3 cr)(F,S)**. Computer aided technology, economics, marketing, reliability, and patents; projects required original design, working model, and report. Two lectures and one 3-hour lab each week. Pre-registration required; consult department administrator. PREREQ: for EE 480-481; ME 340, 317, 318, 319, 320, 330, 340, or PERM/INST. PREREQ: for ECE 480-481.

**EE 491/EX 491 SENIOR SEMINAR (0 cr)(F)**. Technical topics, employment practice and interviewing. One lecture a week; three 6-day field trip may be required. Graded P/F.

**CHE/CH 223 CHEMICAL ENGINEERING (3 cr)(F alt yrs)**. Conservation of mass energy calculations in chemical process systems. PREREQ: BSU’s C 131, 133 and M 205.

**CHE/XC 215 CIVIL ENGINEERING (2 cr)(S)**. Application of modern basic science; mathematics, and fundamental engineering principles to solutions of civil engineering problems by analytic and numeric methods. PREREQ: M 204, EN 107, EN 108, PH 210.

**CHE/XC 321 Hydrology (3 cr)(S)**. Analysis of precipitation and runoff events; principles of climatology, evaporation, infiltration, and snowmelt. One semester of calculus.

**CHE/XC 342 THEORY OF STRUCTURES (3 cr)(F)**. Stresses and strains in statically determine and indeterminate beam, truss, and rigid frame structures; effects of moving loads; matrix displacement method. Three lectures and one 3-hour lab a week. PREREQ: BSU’s EN 306.

**ME/CompE MECHANICAL ENGINEERING**

**ME 223/EX 223 MECHANICAL DESIGN ANALYSIS (2 cr)(S)**. Fundamentals of engineering design, graphic representation and computer-aided design (CAD) of engineering systems. Two lectures a week. PREREQ: BSU’s EN 107 and EN 108.

**ME 222/EX 222 APPLIED THERMODYNAMICS (3 cr)(S)**. First and second laws; property relations; mixture, irreversibility and availability; cycles; selected topics in applied thermodynamics; application of computers in a thermodynamic system analysis and design. Three lectures and one hour of lab a week. PREREQ: BSU’s EN 320.

**ME 324/EX 324 DYNAMIC ANALYSIS IN MACHINE DESIGN (3 cr)(S)**. Kinematic, static and dynamic principles and application to analysis and synthesis of machines with emphasis on computer-aided design (CAD) technology. Four lectures and one 3-hour lab a week; one 1-day field trip. COREQ: BSU’s EN 206 and M 331; ME 223.

**ME 345/EX 345 HEAT TRANSFER (3 cr)(S)**. Transmission by conduction of heat in steady and unsteady states, by free and forced convection, by radiation; combined effects of conduction, convection, and radiation. PREREQ: BSU’s EN 320 and M 331.

**ME 380/EX 380 MODELING OF ENGINEERING SYSTEMS I (3 cr)(S)**. Application of math and basic engineering principles in solution of engineering problems and math modeling of engineering systems; solution of problems by analytic and...
ME 381/UX 381 MODELING OF ENGINEERING SYSTEMS II (3 cr)(S). Continuation of ME 380, including transfer functions, state variable technology, simulation diagrams, and complex systems modeling. PREREQ: ME 380.

ME 425/UX 425 MECHANICAL DESIGN (4 cr)(S). Stress and strain, material failure, combined stresses, variable and impact loading, machine elements, lubrication theory, bearing design, and computer-aided design (CAD) principle. PREREQ: BSU’s EN 306, ME 223.

**Department of Industrial Technology**

Technology Building, Room 301  Telephone (208) 385-4049

Chair: Thomas O. Murray.

**Degrees Offered**

- BS in Manufacturing Engineering Technology
- AAS in Broadcast Technology
- AAS in Drafting Technology
- AAS in Electronics Technology
- AAS in Electronics Service Technology
- AAS in Manufacturing Technology
- AAS in Semiconductor Technology

**MANUFACTURING ENGINEERING TECHNOLOGY**

**Bachelor of Science Degree**

The B.S. in Manufacturing Engineering Technology utilizes course work from engineering, science, technology and business to prepare students to enter the field of manufacturing. Graduates will be prepared to address the broad issues of efficiency, productivity, automation and integration in all manufacturing areas. Program emphasis will be upon the use and integration of computer systems and programmable automation in the production process, with a focus on integration of all aspects of the enterprise. State-of-the-art Computer Integrated Manufacturing equipment and facilities are utilized to demonstrate world class manufacturing concepts.

**Course Offerings**

See page 23 for definition of course numbering system

**MF MANUFACTURING ENGINEERING TECHNOLOGY**

**Lower Division**

- MF 202 MANUFACTURING MATERIALS & PROCESSES I (2-4-3)(F). A study of the properties of materials used in the manufacturing process including ferrous and non-ferrous metals and the equipment and processes used in the product manufacturing cycle.
- MF 204 MANUFACTURING MATERIALS & PROCESSES II (2-4-3)(S). A continuation of Manufacturing Materials & Processes I. The study of the properties of wood, organics, plastics and composites and the equipment and processes used in the manufacturing cycle. PREREQ: MF 202.
- MF 210 COMPUTER AIDED DESIGN (CAD) (2-4-3)(F). CAD techniques applied to the mechanical system designs with an emphasis on the manufacturability of the end product. PREREQ: EN 108.
- MF 220 COMPUTER AIDED MANUFACTURING (CAM) (2-4-3)(S). A lecture/laboratory course designed to introduce the student to the concept of group technology, computer scheduling, process control, coding and classification systems, and the relationship between part grouping and part costing. It includes justification for and application of computer assistance in the manufacturing process, machine process control and an introduction to programming of computer controlled machines. PREREQ: MF 204, 210.

**Upper Division**

- MF 300 ASSEMBLY TECHNIQUES (2-4-3)(F). A study of the techniques of assembly—both manual and automated. The design of assembly unique documentation. Offered on demand.
- MF 310 PRODUCTION PROCESS (2-4-3)(F). The design and application of production processing with consideration to the end product. Emphasis on the choice and sequence of processing to assure productivity and to efficiently obtain an end product at the least cost. PREREQ: MF 220.
- MF 312 JIGS & FIXTURES (2-4-3)(S). The design and application of jigs and fixtures for machine tools. PREREQ: MF 204. Offered on demand.
- MF 324 INSTRUMENTATION & CONTROL (3-4-3)(S). The application of electronic, mechanical, fluidal, and thermal instrumentation and control mechanisms to monitor and control the manufacturing process. COREQ: MF 320.
- MF 346 SHOP FLOOR CONTROL (3-0-3)(S). This course expands on the topics of production control in PR 345 Principles of Production Management, as they apply to the manufacturing technologist. Topics covered will include production systems analysis, routing, dispatching, line balancing, flexible manufacturing systems, just-in-Time manufacturing and machine utilization and maintenance. PREREQ: MF 345. Offered on demand.
- MF 350 FOOD PROCESSING AND ENVIRONMENT (3-0-3)(F). Materials handling and processing, psychrometrics, heat and mass transfer, pumps and fans, refrigeration, agricultural environments and waste management. PREREQ: PH 102, C 107. Offered on demand.
- MF 406 COMPUTER SYSTEMS INTEGRATION (3-0-3)(F). The integration of the various elements in the computer systems required for a CIM factory. A study of the interfacing problems associated with several system vendors. LAN’s, machine controllers and bridging systems. PREREQ: MF 220 or PERMINST. Offered on demand.
- MF 410 ROBOTICS (2-4-3)(F). A lecture/laboratory course concerned with the capabilities of and the justification for industrial robots. Students will develop several robot programs which simulate realistic situations involving processing, assembly and materials handling functions. PREREQ: MF 324.

**Numerical Methods**

Introduction of computer program for dynamic systems analysis and for data analysis. PREREQ: BSU’s M 331.
MF 430 MANUFACTURING COST REDUCTION & CONTROL (3-4-3)(F). An in-depth study of the methodologies used in recording and reporting product cost. The application of manufacturing engineering and production management skills to lower and/or maintain product cost. A study of the interrelationships and product cost impact of JIT, TQC, CAD/CAM and CIM. PREREQ: PR 345, MF 310.

MF 440 MATERIAL HANDLING AND PLANT LAYOUT (3-0-3)(S). The integrated design of typical manufacturing plants and material handling schemes using the principles of CIM to achieve an effective and efficient flow appropriate for both present and future needs. PREREQ: MF 310.


MF 470 PROCESS ENVIRONMENT DESIGN (3-2-3)(S). The design of process environments such as clean rooms, food processing areas, shielded areas and other process/product unique environments. A study of governmental standards—FDA, NASA, MIL STD, etc. COREQ: MF 440. Offered on demand.

MF 480 SIMULATION (2-6-4)(S). A capstone course utilizing all the skills attained to design and simulate a manufacturing operation for an assigned new product. Students will work individually and in small teams to complete this senior project. PREREQ: MF 410.

Broadcast Technology—Two Year Program
Associate of Applied Science Degree
Instructors: Ralph Hogan, Paul Kjellander, James Paluzzi

The A.A.S. in Broadcast Technology will prepare technicians to operate and maintain broadcast audio and video equipment in the context of broadcast station operations. Additionally, these technicians will develop competencies in multi-track recording technology, satellite uplink technology, studio facilities design and construction, electronic field production, video tape technology, broadcast operations, broadcast technology management, and broadcast equipment maintenance. Finally, through opportunities offered by internship programs, these technicians will develop a realistic understanding of professional work ethics under actual working conditions.

To be accepted into this program, students must meet Technical Education Admission Requirements listed on page 165.

FRESHMAN

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<td>Fund of Speech Communication CM 111</td>
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<td>Intermediate Algebra M 108</td>
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<td>Algebra &amp; Trigonometry M 111</td>
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<td>Computer Fund for Technology EN 102</td>
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<td>Intro to Broadcast Technology BR 101</td>
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<td>Broadcast Technology Regulation BR 103</td>
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<td>Intro to Audio Technology BR 111</td>
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<td>Intro to Video Technology BR 113</td>
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<td>Interpersonal Communication CM 221</td>
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<td>Management &amp; Organizational Theory MG 301</td>
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<td>Broadcast Facilities Maintenance BR 221</td>
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<td>Broadcast Systems Design BR 224</td>
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<td>Advanced Audio Theory BR 211</td>
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<td>Electronic Field Production BR 217</td>
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<td>Television Lighting &amp; Make-Up BR 215</td>
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<td>Broadcast Technology Internship BR 293</td>
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Course Offerings

See page 23 for definition of course numbering system

BR BROADCAST TECHNOLOGY

BR 101 INTRODUCTION TO BROADCAST TECHNOLOGY (3-0-3)(F). Survey of the technology used to disseminate programming through telecommunications systems, including terrestrial and satellite transmissions systems, CATV, and production technology. Course includes an overview of broadcast technology professionals.

BR 103 BROADCAST TECHNOLOGY REGULATION (3-0-3)(S). Examination of the regulatory function of the Federal Communications Commission as it pertains to broadcast technology, including construction and licensing regulations, emergency broadcast systems, license renewal, public records, and adjudication procedures. Study of FCC technical parameters for broadcast operations.

BR 111 INTRODUCTION TO AUDIO TECHNOLOGY (3-4-4)(F). Study of audio theory and systems used in broadcasting, including acoustics, signal-to-noise ratios, microphone design and utilization, audio console design and operation, tape and tape recorders, and editing.

BR 113 INTRODUCTION TO VIDEO TECHNOLOGY (3-4-4)(S). Study of video theory and systems used in broadcasting, including camera design and operation, studio design and lighting, video switches, television graphics, telecine, videotape and recorders, video editing, and audio for television.

BR 121 BROADCAST OPERATIONS (3-4-4)(S). Theory and practice of master control operations for radio and television, including master control switching, character generators, audiotape and videotape recorder operations, time-based correction, camera operations, satellite and microwave operations, metering functions, and transmission systems.

BR 211 ADVANCED AUDIO TECHNOLOGY (3-4-4)(F). Advanced study of studio, field, and multi-track production technology. Laboratory experience to include practical experience in actual broadcast settings. PREREQ: BR 111.

BR 215 TELEVISION LIGHTING AND MAKE-UP (3-4-4)(S). Study of physics of light, as it applies to studio and field-based television production. Makeup and set-design considerations will be studied, along with consideration of the impact of set design on television lighting.

BR 217 ELECTRONIC FIELD PRODUCTION (3-4-4)(S). Study of techniques and utilization of broadcast equipment in the field including audio and video recording systems, remote satellite and microwave technology.

BR 221 BROADCAST FACILITIES MAINTENANCE (3-4-4)(F). Management of preventive maintenance programs for both studio and field-based broadcast systems; procedures for routine repair of basic broadcast equipment. Development of conceptual knowledge of electronic components within broadcast systems.

BR 224 BROADCAST SYSTEMS DESIGN (3-4-4)(S). Theory and practice in designing broadcast studios, master control and production control facilities, transmission systems and networks. Topics include construction management, computer-assisted drafting, structural design, signal processing and routing systems, and acoustics.

BR 293 BROADCAST TECHNOLOGY INTERNSHIP (0-12-4)(S). Practical experience within a professional broadcast environment.

Drafting Technology—Two Year Program
Associate of Applied Science Degree
Instructors: Danny Benton, Ralph Burkey, Don Watts

This curriculum is organized to provide engineering departments, government agencies, consulting engineers and architectural firms with a technician well versed in the necessary basic skills and knowledge of conventional and computer aided drafting. The student is required to develop and maintain the same standards and techniques used in firms or agencies that employ drafters and technicians.

To be accepted into this program, students must meet Technical Education Admission Requirements listed on page 165.

FIRST SEMESTER

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<td>Fund Computer-Aided Drafting &amp; Design DT 109</td>
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<td>Computer Fundamentals for Technology EN 102</td>
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<td>Intermediate Algebra M 108</td>
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SECOND SEMESTER

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<td>Architectural Drafting Lab and Lecture DT 102</td>
<td>4</td>
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<tr>
<td>Fund of Speech Communication CM 111</td>
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<tr>
<td>Fundamentals of Computer Drafting DT 110</td>
<td>3</td>
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<tr>
<td>Engineering Measurement EN 216</td>
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<td>Technical Physics MN 231</td>
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<tr>
<td>Technical Report Writing DT 222</td>
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<td><strong>TOTAL</strong></td>
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THIRD SEMESTER

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<tr>
<td>Civil Drafting Lab and Lecture DT 201</td>
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<tr>
<td>Applied Mathematics DT 231</td>
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<td>Descriptive Geometry DT 221</td>
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<td>Statics DT 241</td>
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<td>Occupational Relations DT 262</td>
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FOURTH SEMESTER

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<tr>
<td>Structural Drafting Lab and Lecture DT 202</td>
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<tr>
<td>Applied Mathematics DT 232</td>
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<tr>
<td>Strength of Materials DT 242</td>
<td>4</td>
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<tr>
<td>Technical Illustration DT 264</td>
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<td>*Elective (from approved list)</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>17</strong></td>
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</tbody>
</table>

All courses require a minimum “C” grade to receive the Associate Degree.
Course Offerings

See page 23 for definition of course numbering system

DT DRAFTING TECHNOLOGY

DT 101 DRAFTING LABORATORY AND LECTURE (2-4-4)(F/S). Mechanical drafting with basic drafting techniques, standards, methods, and basic block and schematic diagrams for electronics and piping with introduction to computer assisted drafting. PREREQ: DT 101.

DT 102 DRAFTING LABORATORY AND LECTURE (2-4-4)(F/S). Architectural drafting includes facility planning, remodeling and details for commercial buildings. PREREQ: DT 101.

DT 109 FUNDAMENTALS OF COMPUTER-AIDED DRAFTING AND DESIGN (2-1-2)(F/S). This course is an introduction to Computer-Aided Drafting and Design Systems. It will prepare students to operate the systems and understand the applications of computer graphics to industry standards. Students will learn to use an interactive computer graphics system to prepare drawings on a CRT. They will store and retrieve drawings and related information on a magnetic disc and produce commercial quality plots using a computer-driven plotter. Problems will be assigned in conjunction with the lab DT 109. COREQ: Familiarity with basic drafting procedures and standards.

DT 110 ADVANCED COMPUTER-AIDED DRAFTING AND DESIGN (2-1-2)(F/S). This course provides the student with skills in three dimensional CAD drafting, developing shapes and menus, developing slide shows, digitizing, and illustrations. Problems will be assigned in conjunction with the lab DT 102. PREREQ: DT 109.

DT 201 CIVIL DRAFTING LABORATORY AND LECTURE (2-4-4)(F). Civil drafting, mapping, highway curves and earthwork using conventional and computer drafting techniques. PREREQ: DT 102, M 108, EN 216.


DT 221 DESCRIPTIVE GEOMETRY AND DEVELOPMENT (3-1-3)(F). Theory and practice of coordinate projection applied to the solution of properties of points, lines, planes and solids with practical drafting applications.

DT 222 TECHNICAL REPORT WRITING (2-0-2)(S). Objective: to enable students to meet on-the-job standards of report preparation in the field of drafting.


DT 241 STATISTICS (4-0-4)(F). Introductory course in statistics with emphasis on analysis of simple structures. PREREQ: M 108.


DT 262 OCCUPATIONAL RELATIONS (3-0-3)(F). Course is designed to enable a student to become skilled in dealing effectively with people and for applying, securing, maintaining and advancing in employment. Emphasis in developing a portfolio.

DT 264 TECHNICAL ILLUSTRATION (3-1-3)(S). An intensive study of axonometric, perspective and rendering as used in industrial illustration, architectural rendering a civil engineering, including mechanical and electronic methods. (open to non-drafting technology major--space permitting.)

Electronics Service Technology

Two Year Program

Associate of Applied Science Degree

Instructors: Robert Dodson, Bob Jull, Joe Schreffler, Stan Sluder, James Stack

A graduate of this program will be prepared for entry level placement with industry and will possess a broad-based general knowledge in electronic concepts, circuits, and equipment repair, maintenance, and interfacing.

The graduate will gain experience in the areas of analog and digital electronics with major emphasis in the fields of digital electronics, and telecommunication and electromechanical systems.

To be accepted into this program students must meet Vocational Technical Education Admission Requirements listed on page 165.

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course Offerings</th>
<th>SEM</th>
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<tbody>
<tr>
<td>FRESHMAN YEAR</td>
<td>1ST</td>
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<tr>
<td>Electronics Laboratory I ES 106</td>
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<tr>
<td>English Composition E 101</td>
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<tr>
<td>Electronics Theory ES 122</td>
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<tr>
<td>Electronics Mathematics ES 133</td>
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<tr>
<td>Computer Literacy for Elec Tech ES 188</td>
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<tr>
<td>Intro to Digital Electronics ES 123</td>
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<tr>
<td>Digital Systems I ES 163</td>
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<tr>
<td>Linear Systems I ES 172</td>
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<tr>
<td>Linear Systems I Lab ES 173</td>
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<tr>
<td>Applied Math ES 182</td>
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<td>Fund of Speech Comm CM 111</td>
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<td><strong>TOTAL</strong></td>
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SOPHOMORE YEAR

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<tbody>
<tr>
<td>SOPHOMORE YEAR</td>
<td>1ST</td>
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<tr>
<td>Electronics Lab ES 206</td>
<td>3</td>
<td>-</td>
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<tr>
<td>Digital Systems II ES 214</td>
<td>3</td>
<td>-</td>
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<tr>
<td>General Psychology P 101</td>
<td>3</td>
<td>-</td>
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<tr>
<td>Linear Systems II ES 237</td>
<td>5</td>
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<tr>
<td>CET Certification ES 274</td>
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<tr>
<td>Economics of Elect Service Management ES 264</td>
<td>3</td>
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<tr>
<td>Telecommunication Systems I ES 232</td>
<td>-</td>
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<tr>
<td>Electronics Lab ES 288</td>
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<tr>
<td>Digital Systems III ES 277</td>
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<tr>
<td>Microprocessors Systems ES 277</td>
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<tr>
<td>Electro-Mechanical Systems ES 281</td>
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<tr>
<td>Telecommunication Systems II ES 285</td>
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<td><strong>TOTAL</strong></td>
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Course Offerings

See page 23 for definition of course numbering system

ES - ELECTRONICS SERVICE TECHNOLOGY

<table>
<thead>
<tr>
<th>Course Offerings</th>
<th>1ST</th>
<th>2ND</th>
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</thead>
<tbody>
<tr>
<td>ES 106 ELECTRONICS LABORATORY I (0-15-3)(F/S). Experiments in direct and alternating current, using passive components (resistors, capacitors and inductors). The use of standard test equipment.</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>ES 122 ELECTRONIC THEORY (5-0-5)(F/S). Theory of direct and alternating currents in passive circuits. Circuit analysis of RLC configurations in both ac and dc applications.</td>
<td>3</td>
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</tr>
<tr>
<td>ES 123 INTRODUCTION TO DIGITAL ELECTRONICS (2-0-2)(F/S). Introduction to binary number systems, digital coding, basic logic gates and logic families.</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>ES 133 ELECTRONICS MATHEMATICS (5-0-5)(F). The number system, algebra and algebraic equations, exponential and logarithmic equations, vectors and graphing.</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>ES 163 DIGITAL SYSTEMS I (2-0-2)(F/S). Basic TTL and MOS gate operations, combinational logic circuits, Boolean Algebra, fan-out specifications, propagation delay and operating speed. PREREQ: ES 123.</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>ES 172 LINEAR SYSTEMS I (5-0-5)(F/S). Ac and dc properties of diodes and transistors. Bipolar junction transistors, junction field effect transistors and MOS devices. Circuits employing diodes and transistors. Transistor amplifier biasing, load line computations and gain determinations. PREREQ: ES 122. COREQ: ES 182.</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>ES 173 LINEAR SYSTEM LABORATORY I (1-0-5)(F/S). Laboratory exercises to complement ES 172 and ES 163. PREREQ: ES 106.</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>ES 188 COMPUTER LITERACY FOR ELECTRONIC TECHNICIANS (2-0-2)(F/S). An introductory computer course dealing in the use of the computer as a writing and computational tool. The student will be introduced to word processing and the BASIC computer programming language. Includes program writing and structuring techniques, software troubleshooting and documentation.</td>
<td>2</td>
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</tr>
<tr>
<td>ES 206 ELECTRONICS LAB (0-15-5). Combined electronics lab covering circuits and equipment used in ES 217, ES 214, and ES 281. Lab will stress hands-on exposure to circuits and equipment and will provide various troubleshooting techniques.</td>
<td>5</td>
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<tr>
<td>ES 232 TELECOMMUNICATION SYSTEMS I (2-0-2)(F/S). Introduction to electronic communication systems. Amplitude modulation and detection, percentage of</td>
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<td>3</td>
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</tbody>
</table>
modulation, bandwidth of AM signals, RF power calculations. Radio frequency
transmitter and receiver systems.

ES 237 LINEAR SYSTEMS II (3-0-5)(F/S). Study of operational amplifiers and other
linear circuits. Operational amplifier theory and OP AMP circuits commonly found
in electronic equipment. Amplifiers, oscillators, comparators, integrators and
differentiators, filters and precision rectifiers. PREREQ: ES 172.

ES 264 ECONOMICS OF ELECTRONIC SERVICE MANAGEMENT (3-0-3)(F/S). Study
of electronic shop economics, practices and standards. Includes customer and
employee relations, management skills, and invoicing, warranty claims and
practices.

ES 274 CET CERTIFICATION (1-0-1)(F/S). Study for and completion of requirements
for Certified Electronics Technician examination. Associate Level Exam preparation.

ES 275 DIGITAL SYSTEMS III (3-0-3)(F/S). Study of various logic families. Data
Conversion, analog-to-digital and digital-to-analog conversion, digital data trans-
misison and reception, memory devices and systems. Digital signal processing basics.
PREREQ: ES 264.

ES 277 MICROPROCESSOR SYSTEMS (4-0-4)(F/S). Study of microprocessor func-
tions based on 68000 series microprocessor. Number systems, microprocessor basics,
computer arithmetic, programming, microprocessor instruction codes, central proces-
sor unit structure, and interfacing. PREREQ: ES 214.

ES 281 ELECTRO-MECHANICAL SYSTEMS (3-0-3)(F/S). Electronic measurement and
detection through the use of electronic transducers. Mechanical control through the
use of electro-mechanical actuator devices. Photoelectric sensors, thermal sensors,
displacement sensors. Solenoids, relays, stepper motors and servo actuators.

FM signal systems, frequency modulation and detection, single-sideband communica-
tions, television systems. Propagation, antennas and transmission lines. Pulse
modulation techniques, data communications and standards. Digital signal communi-
cation methods. Telephone and satellite communications. PREREQ: ES 232.

ES 288 ELECTRONICS LAB (0-15-3)(F/S). Combined electronics lab covering circuits
and equipment used in ES 275, ES 277, ES 232, ES 285 and ES 281. Hands-on
exposure with emphasis on troubleshooting approaches.

EXTENDED PROGRAMS OFFERINGS

The following Extended Programs offerings are not required in the Electronic Service
Technology AAS degree program. These courses are designed for upgrading of
individuals employed in the Electronic Industry. PREREQ: Minimum of two years
employment as an Electronic Service Technician, or PERM/INST.

ES 293 FIBER OPTICS (2-0-2). Basic electronics overview including introductory
circuit concepts and schematic interpretation. General circuit construction, voltage,
current, power and energy concepts. Components of fiber optic communication
systems. Optical fiber properties and types, applications, advantage and limitations.
Transformation of voice information to digital form and applications of digital signal
multiplexing for use with optical fiber signal transmission and reception. System
testing and standardized troubleshooting procedures.

ES 295 DIGITAL CONCEPTS WITH INTRO MICROPROCESSORS (1-4-2). A labora-
tory-oriented digital electronics course covering the areas of combinational logic,
sequential logic, digital-to-analog and analog-to-digital conversion and introductory
microprocessors. Logic troubleshooting will be emphasized throughout the course.

Electronics Technology—
Two Year Program

Associate of Applied Science Degree

Instructors: Robert Dodson, Bob Jull, Joe Schreiffer,
Stan Sluder, James Stack

The Electronics Technology Program prepares students as entry level
electronic engineering technicians. These individuals are prepared to work as
individuals or team members together with scientists, engineers, and
manufacturing or research specialists. The graduate of this program will
obtain broad-based experience in areas of digital electronics systems,
electronic communications systems, and electronic measurement and
control systems.

To be accepted into this program, students must meet Vocational
Technical Education Admission Requirements listed on page 165.

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course Offering</th>
<th>1st SEM</th>
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<tr>
<td>Found of Physical Science PS 100</td>
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<tr>
<td>English Composition E 101</td>
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<tr>
<td>Computer Fund for Technology EN 102</td>
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<tr>
<td>Intermediate Algebra M 108</td>
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<tr>
<td>Electronic Theory ET 151</td>
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<td>Electronics Laboratory ET 101</td>
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<tr>
<td>Fund of Speech Communication CM 111</td>
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<tr>
<td>Algebra &amp; Trigonometry M 111</td>
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<tr>
<td>Electronic Theory ET 152</td>
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<tr>
<td>Electronics Laboratory ET 102</td>
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</table>
resonance and tuned circuits, mutual inductance and transformers. PREREQ: ET 151, M 108. PREREQ or COREQ: M 111.

ET 162 DIGITAL SYSTEMS I (3-0-3)(F/S). Introductory digital concepts, the binary and hexadecimal number systems, Boolean functions and operations, basic logic gates and combinatorial logic.

ET 163 DIGITAL SYSTEMS I LAB (0-5-1)(F). Laboratory exercises in combinational logic to complement ET 162. See ET 162 course description. COREQ: ET 162.


ET 173 SOLID STATE DEVICES LAB (0-5-1)(F). Laboratory exercises dealing with solid state devices including diodes, bipolar and field effect transistors to complement ET 172. See ET 172 course description. COREQ: ET 172.

ET 181 INTRODUCTION TO INTEGRATED CIRCUIT INDUSTRY (2-0-2)(F). Overview of the integrated circuit: its history, applications, and manufacturing. Course will cover technical aspects lightly and will focus on economic and social impact. PREREQ: ET 131-132, or M 111 or equivalent.

ET 182 INTRODUCTION TO INTEGRATED CIRCUIT PROCESSING (2-0-2)(F). Examination of the manufacturing techniques and processes necessary to build an integrated circuit from raw materials to final products. The emphasis is on conceptual aspects of processing; however, mechanisms and modeling will be discussed. PREREQ: ET 131-132 or M 111 or the equivalent.

ET 183 INTEGRATED CIRCUIT PROCESSING I (2-0-2)(S). A descriptive treatment, in some chemical and mathematical detail, of the processes used to manufacture integrated circuits. PREREQ: ET 181, 182.

ET 201 LINEAR SYSTEMS LAB (0-10-2)(F/S). Laboratory exercises dealing with linear amplification and signal processing circuits to complement ET 251. See ET 251 course description. COREQ: ET 251.

ET 202 TELECOMMUNICATIONS SYSTEM LAB (0-4-1)(F). Laboratory exercises dealing with radio frequency generation and measurements, communication signal processing circuits, and fiber optic systems to complement ET 252. See ET 252 course description. COREQ: ET 252.

ET 221 TECHNICAL WRITING (3-0-3)(F/S). Writing skills in technical reports, resume preparation, and job applications. Improvement of writing and report preparation style and writing for effectiveness and clarity. COREQ: ET 201 or ET 265.


ET 241 INSTRUMENTATION (3-0-3)(F). Electronic measurement and control through the use of sensors, transducers, detectors, and actuators. Open and closed loop control systems. Position, force, pressure, temperature, flow, level, light, and radiation sensors. Signal conditioning and processing. PREREQ: ET 152 or PERM/INST.

ET 242 INSTRUMENTATION LAB (0-4-1)(F). Laboratory exercises with various sensors and measurement systems to complement ET 241. See ET 241 course description. COREQ: ET 241.

ET 251 LINEAR SYSTEMS (3-0-5)(F). Linear circuit signal amplification and processing using discrete and monolithic integrated circuits. Operational amplifier circuits including comparators, oscillators, active filters, and instrumentation amplifiers. PREREQ: ET 152, ET 172.

ET 252 TELECOMMUNICATIONS SYSTEMS (3-0-3)(F). Radio and light-wave communications. Amplitude modulation, frequency modulation, pulse modulation, and video systems. PREREQ: ET 172 or PERM/INST.

ET 264 DIGITAL SYSTEMS II (4-0-4)(F). Sequential logic concepts including flip-flops, shift registers, and counters. Memory systems including ROM, SRAM, DRAM, FIFO, EPROM, EEPROM, and video memory devices. PREREQ: ET 162 OR PERM/INST.

ET 265 DIGITAL SYSTEMS II LAB (0-5-1)(F). Laboratory exercises dealing with combinational and sequential digital devices to complement ET 264. See ET 264 course description. COREQ: ET 264 or PERM/INST.


ET 276 DIGITAL SYSTEMS III LAB (0-4-1)(F). Laboratory exercises dealing with data transmission and processing systems to complement ET 275. See ET 275 course description. COREQ: ET 275.

ET 277 MICROPROCESSOR SYSTEMS (3-0-3)(F). Study of microprocessor and microcontroller functions and operations. Microprocessor basics, addressing, instruction sets, input/output operations, interfacing, and programming. PREREQ: ET 275 or PERM/INST.

ET 278 MICROPROCESSOR SYSTEMS LAB (0-4-1)(F). Laboratory exercises in microprocessors and microcontroller operations to complement ET 277. See ET 277 course description. COREQ: ET 277.

ET 281 INTEGRATED CIRCUIT LAYOUT (2-0-2)(S). Lecture and drafting techniques used in the design of integrated circuit photolithographic masks. Focus to be on N-MOS silicon gate memory devices. PREREQ: ET 183.

ET 291 INTRODUCTION TO SOLID STATE PHYSICS (3-0-3)(S). A study of the interaction of wave phenomena (electromagnetic radiation, lattice vibration, and electrons) with the lattice in a solid. Attention is focused on an understanding of the electrical and thermal properties of solids, metals and semiconductors, in particular. Other selected topics include solid-state and low temperature physics. PREREQ: PH 102 or PH 220-224.

ET 292 SOLID STATE DEVICE PHYSICS (3-0-3)(S). Introduction to the theory underlying the operation of semiconductor devices. The emphasis is placed on qualitative understanding and simple quantitative models. PREREQ: PH 291, ET 231 or M 204, C 131.

EXTENDED PROGRAMS OFFERINGS

The following offerings are not required in the Electronic Technology AAS degree program. These courses are designed for technical upgrading of individuals working in industry and are to be offered apart from regular degree program offerings on a demand basis.


ET 291 INTRODUCTION TO SOLID'STATE PHYSICS (3-0-3). Basic electronics overview including voltage, current, and power. Introductory digital electronics overview including the binary number system, pulse code modulation, sampling, analog-to-digital and digital-to-analog conversions, and data transmission. Optical fiber qualities and use. Electrical-to-optical and optical-to-electrical conversion. Time division multiplexing of signals. Course designed for non-electronic technology majors.


Manufacturing Technology—Two Year Program

Associate of Applied Science Degree

Instructors: Ed Lonsdale, Tom Murray, Larry Thatcher

The Manufacturing Technology Program is designed to prepare entry level technicians to plan, organize and control manufacturing processes. Graduates from this program will be prepared to participate in a modern manufacturing environment with a technical understanding of how each particular function integrates into a complete manufacturing system. In addition, they will be prepared to utilize the current techniques of computer integrated manufacturing.

To be accepted into this program students must meet Vocational Technical Education Admission Requirements listed on page 165.

FRESHMAN

1ST SEM

1 2ND SEM

1ST SEM

1 2ND SEM

Material & Process Manufacturing MN 100
Computer Fund for Technology EN 102
Indust Organ & Intro CIM MN 102
Intermediate Algebra M 108
Intro to Machining Processes I MN 141
English Composition E 101
Engineering Graphics EN 108
Industrial Safety MN 112
AC/DC Theory MN 121
Adv Machining Processes II MN 180
Technical Physics MN 231
Fund Speech Communication CM 111

TOTAL 18 17

SOHOMORE YEAR

1ST SEM

1 2ND SEM

Prim of Microeconomics EC 205
Quality Assurance & Stat Proc Control MN 201
Robotics & Automated Machine Tool Prog MN 211
Material Control MN 240
Jig, Fixture & Tool Design MN 261
Comp Aided Design/Comp Aided Manuf MN 212
Manuf Plant & Facil Design/Mod MN 202
Manufacturing Cost Analysis MN 250
Interpersonal Comm CM 221
Hazardous Waste Material Handling MN 232
Manufacturing Project MN 280

TOTAL 18 15
Course Offerings

See page 23 for definition of course numbering system.

MN - MANUFACTURING TECHNOLOGY

MN 100 MATERIAL AND PROCESS MANUFACTURING (2-0-2)(F/S), A lecture, visual aid presentation overviewing the production and general properties of common engineering materials such as iron, steel, zinc, copper, aluminum and plastics; the fundamentals of material processing such as powder metallurgy, hot and cold forming and welding; and the basic surface protection processes such as cleaning, painting and plating.

MN 102 INDUSTRIAL ORGANIZATION & INTRO TO CIM (3-0-3)(F/S). The exploration of dynamic industrial relationships and organizations. An overview of both internal and external factors that impact industry. An in-depth introduction to CIM—Computer Integrated Manufacturing.

MN 112 INDUSTRIAL SAFETY (2-0-2)(F/S). Federal, state and local safety codes applying to materials, material handling and equipment.

MN 121 AC/DC THEORY (3-2-3)(F/S). Terminology and fundamentals of direct and alternating currents as applied to the manufacturing environment. Practical application and skills in wiring methods and control circuits.

MN 141 INTRODUCTION TO MACHINING PROCESSES I (2-4-3)(F/S). This sequence covers the basic shop practice and production rates. Also included are the setup and operation of the lathes, milling machines, drill presses, power saws and grinders.

MN 180 ADVANCED MACHINING PROCESSES II (1-8-3)(F/S). This sequence covers the use of special attachments, bench work, layout, heat treating, hardness testing, layout inspection, and computer numerical control mill set-up, operation and programming. PREREQ: MN 141 or equivalent.

MN 200 QUALITY ASSURANCE & STATISTICAL PROCESS CONTROL (4-0-4)(F/S). The statistical requirements necessary to control the processes of a modern manufacturing line will be covered. PREREQ: M 108 or equivalent.

MN 202 MANUFACTURING PLANNING & FACILITY DESIGN/MODIFICATION (2-3-3)(F/S). Techniques of planning methods and procedures of manufacturing, with the goal of becoming more productive and competitive. Planning and procedures include plant layout, conventional and automated materials handling, materials requirement planning, flexible manufacturing, standardization, and inventory and warehousing planning.

MN 211 ROBOTICS & AUTOMATED MACHINE TOOL PROGRAMMING (1-4-2)(F/S). An introduction to lecture/lab robotics in manufacturing. Includes definitions and classifications of robots, limitations and justifications of robots, and social implications of robotics as applied to manufacturing.

MN 212 COMPUTER AIDED DRAFTING/COMPUTER AIDED MANUFACTURING (2-4-3)(F/S). Writing computer numerical control (CNC) machine tool programs using computer-assisted techniques to generate machine form-ware, set up and operation, development of tooling concepts, preset cutting tooling, machine methods, definition of part geometry, writing of tool motion statements, use of the computer to process program inputs, analysis, and debugging of computer outputs to develop a functional program. PREREQ: MN 180 or equivalent.

MN 231 TECHNICAL PHYSICS (3-4-4)(F/S). The study of technical principles in such a manner as to make them readily understandable and applicable in different technologies—those that include electrical, mechanical, fluidal, and thermal systems, and combinations thereof. This course blends the useful technical principles with laboratory practice on realistic devices that are commonly utilized by technicians in a process/manufacturing environment. PREREQ: M 108 or equivalent. (May be taken in either the Freshman or Sophomore year.)


MN 240 MATERIAL CONTROL (3-0-3)(F/S). The integration of the materials function into a CIM environment. A study of inventory control, material requirement planning, master scheduling, capacity planning, material movement, and shop floor control. PREREQ: M 108.

MN 250 MANUFACTURING COST ANALYSIS (3-0-3)(F/S). A study of the methodologies used in recording and reporting product cost. The application of manufacturing engineering technology skills to lower and/or maintain product cost. PREREQ: MN 240.


MN 280 MANUFACTURING PROJECT (2-6-4)(F/S). A capstone course utilizing all the skills attained to design and simulate a manufacturing operation for an assigned product. Students will work individually and in small teams. PREREQ: MN 261, COREQ: MN 202.

School of Applied Technology


- Health/Services Division: Bonnie J. Sumter, Division Manager. Child Care and Development: Martinson, Noonan; Culinary Arts: Hickman, Kulm, Slough; Dental Assistant: Beckman, Imbs, Dr. Gunnell; Horticulture Service Technician: Erickson, Moen; Practical Nursing: Borman, Hammond, Jones, Lagerstrom, Noreen, Tisdale, Towle; Respiratory Therapy Technician: McCrink, Nuernberg, Read, M.D.; Surgical Technology: Gollick.

- Canyon County Division: Dennis Griffin, Division Manager. Electrical Lineworker: McKie; Professional Truck Driving: Castleberry, Hibbard, Morrison; Refrigeration, Heating and Air Conditioning: Messick; Water/Wastewater Environmental Technology: Dennis.


Program Coordinators
- Academic Skills Development: Susan Hill
- Adult Learning Center: Cheryl Engel
- College of Technology Student Services: Rhonda Miracle
- Counselor: LaDonna Webb
- Center for New Directions: Myrna McDaniel
- Outreach Division: Pepper Stobbe
- Special Training Programs: Marilyn S lone

Admission Requirements

Students who plan to enter a program in the School of Applied Technology, Boise State University, must complete the following through the College of Technology Student Student Services office at least one month prior to the start of classes:

1. Arrange a personal interview with a College of Technology Student Services counselor.
2. Submit a Boise State University application and pay the required $15.00 application processing fee.
3. Submit an official high school transcript showing date of graduation, scores earned, and classification of schools attended. Health and Technical programs have additional admission requirements.
5. Pay a $50.00 College of Technology enrollment processing fee (non-refundable one time fee only).

A limited number of students can be accepted in each program so all admission requirements should be completed as soon as possible.

Admittance into a program is not achieved until steps 1 through 5, and any additional applicable requirements, have been completed.

Academic Skills Development

Academic Skills Development provides the College and its students with a valuable resource in two principal areas: raising the academic competencies of registered preparatory students; and tutoring enrolled students in difficult content courses. The unit provides individual assistance, group tutoring, computerized instructional programs and small group classes on both the Boise and Canyon County campuses.
Adult Learning Center

The Adult Learning Center operates an open entry/open exit program with individualized assistance provided by staff and volunteers. The following non-credit instruction and services are provided to adults at the Boise campus location as well as at many outreach sites throughout the ten counties of Southwest Idaho:

- Basic skills instruction in reading, math, English, and writing.
- Instruction and materials for GED and American Government testing preparation.
- GED and American Government testing for the High School Equivalency Certificate.
- Literacy instruction for non-readers.
- English as a Second Language instruction.
- Citizenship preparation classes.

Center for New Direction

The mission of the Center for New Directions is to empower and provide support, career and personal counseling, as well as education, for single parents and displaced homemakers as they progress from unpaid work to paid work and from dependency to personal and financial independence. The goal of the Center is to provide support, career counseling, personal counseling and education for this target population as they transition from dependence to independence.

College of Technology Student Services

Vocational guidance and program admittance/enrollment are the primary functional responsibilities of the College of Technology Student Services office. College of Technology Student Services personnel work with BSU Student Affairs offices in the areas of Admissions, Registration, Financial Aid, and Student Special Services. Student Services also work closely with school faculty and administration on all activities that involve students.

Outreach Division

The Outreach Division offers a wide spectrum of employment related programs and course offerings within the College's service area. These training, retraining, upgrade, and apprenticeship courses are non-credit and held primarily during the evening hours and on weekends. Short courses and seminars are tailored to prepare individuals for job specific professions and to provide currently employed persons a continuing opportunity to improve their skill levels to keep pace with technological advances. The Outreach Division works closely with business and industry to upgrade existing courses and develop customized training programs to meet specific needs.

Special Training Programs

The Special Training Programs unit houses the Job Training Partnership Programs (JTPA), the Older Workers Employment Opportunity Program (OWEOP), the Job Opportunity Basic Skills Program (JOBS) and the Job Training Centers for the Economically Disadvantaged and Physically Challenged Programs. Services provided consist of counseling, support, empowerment, workshop presentations, support groups, instruction in a variety of short-term customized training programs, outreach and recruitment, contracts management, grant writing and proposal development, job development and placement, program marketing and office administration. Special Training Programs services are designed to meet the needs of the disadvantaged, at-risk population and individuals who have significant barriers to employment.

Graduation Requirements

All candidates for a Postsecondary Vocational Certificate, Technical Certificate, or Associate of Applied Science Degree must have a minimum of a 'C' grade in the major (technical) course work. A 2.0 grade-point average is required in all other required course work.

Curriculum Changes

The curriculum in applied technology programs must reflect the changes and current practices of Business & Industry. Program and course curricula are changed as needs dictate.

Associate of Applied Science

Two year programs in the School of Applied Technology and the School of Engineering Technology lead to an Associate of Applied Science degree. The standard requirements for this degree are as follows:

1. Technical Education Requirements—56 credit hours or equivalent clock hours.
   A. Technical Course work: 42-46 credit hours or equivalent clock hours. (Minimum) Program elements which contain instruction directly related to a specific technical area (i.e., skills and knowledge that a person must possess to function as a technician). Course content is determined through a task analysis of the occupation for which training is provided.
   B. Technical Support Course work: 10-14 credit hours or equivalent clock hours. Course work which supports and relates to the technical content of the program. Content provides the basic tasks needed for the individual to function at an acceptable level within the technical field.

2. General Education Requirements: 12 credit hours or equivalent clock hours. Six credits in the area of Communication Skills; the remaining credits in economics, industrial relations, or human relations.

   A. All candidates for the Associate of Applied Science degree must have a minimum of a 'C' grade in the major (technical) course work. A 2.0 grade point average is required in all other required course work.
   B. Students requesting admittance to the Bachelor of Applied Science program must make application through the Dean, College of Technology. The College of Technology requires that all students admitted to the BAS degree program have no grade lower than a 'C' in their major.

Programs Offered

Core Block Courses

Core Block classes are PREREQUISITES for Automotive Technology (AM), Agricultural Equipment Technology (AE), and Heavy Duty Mechanics-Diesel (DM).

Course Offerings

See page 23 for definition of course numbering system

CB Core Block

CB 101 INTRODUCTION TO MECHANICS (1-3-1)(F,S). Basic principles of mechanics, including orientation, mechanical careers, certification, personal and shop safety, study skills, basic hand tools, power tools and equipment, using service manuals, fasteners, lines and fittings, taps, dies, heli-coil, measuring and drills, gaskets, seals, and sealants.

CB 105 INTRODUCTION TO ENGINES (1-3-1)(F,S). Principles of electricity and electric circuits. Compare voltage, current and resistance. Principles of magnetism and magnetic fields, battery testing and service, using symbols and wiring diagrams. Perform fundamental electrical tests, and soldering skills.

CB 113 CHASSIS AND EXHAUST SYSTEMS (1-3-1)(F,S). This course covers tire, wheel, hub, shock and wheel bearings fundamentals and service. Exhaust system identification of basic parts and design differences. Perform exhaust system repairs.

CB 117 VEHICLE AND EQUIPMENT MAINTENANCE (1-3-1)(F,S). This course covers lubrication, cooling system, air supply system, and fuel system service procedures and repairs.

CB 121 BASIC WELDING AND METAL WORK (1-3-1)(F,S). This course covers basic oxyacetylene, arc, m.i.g. and t.i.g. welding processes. Oxyacetylene torch cutting techniques, measuring, marking and bending metal properly and welding safety.

CB 125 OCCUPATIONAL RELATIONS (2-0-1)(F,S). This course teaches proper techniques in completing a job application form, job keeping skills, and writing a resume.

Agricultural Equipment Technology—Nine Month Program

Technical Certificate
Instructors: Ted Brownfield, Chuck Tillman

The Agricultural Equipment Technology Program is designed to prepare students for employment in the repair of equipment used in the production and harvesting of agricultural products. Procedures from troubleshooting to shop overhaul on various types of equipment will be covered. Theory
and principles of operation will be stressed including a strong emphasis on safety procedures.

Students will be offered entry into the Agricultural Equipment Technology program two times a school year during the fall and spring semesters, depending on available seating.

PREREQUISITE to entering the Agricultural Equipment Technology program is the basic core mechanics program or the equivalent.

This program is incorporated with the Heavy Duty Mechanics-Diesel Program which allows enhancement of skills.

A minimum grade of "C" is required in all course work to graduate with a technical certificate.

**SUBJECTS**

<table>
<thead>
<tr>
<th>Core Block Mechanics CB</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>First Eight Week Block</td>
<td>Fall</td>
<td>Spring</td>
</tr>
<tr>
<td>*Engine Component Systems DM 157</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>*Power Take-Off &amp; Drive Lines DM 161</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>*Engine Fuel Systems DM 158</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Second Eight Week Block</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Clutches &amp; Transmissions DM 160</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>*Basic Hydraulics DM 165</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>*Diff, Pwr Div, Final Dv &amp; Plan Sys DM 162</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Advanced Hydraulics AE 170</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

| Third Eight Week Block   |          |          |
| *Batteries, Switches, Relays & Solenoids, Starting & Charging Systems DM 164 | 4 |                   |
| Electrical Systems, Trouble Shooting AE 165 | 2 |                   |
| Air Conditioning Systems AE 150 | 2 |                   |
| Hay & Forage AE 160 | 1 |                   |
| **TOTAL**                | 8 |          |

*See Heavy Duty Mechanics-Diesel Program for course descriptions.

**Course Offerings**

See page 23 for definition of course numbering system

**AE AGRICULTURAL EQUIPMENT TECHNOLOGY**

**AE 150 AIR CONDITIONING SYSTEMS (2-4-2)(F.S).** This course covers the basics of air conditioning, refrigerators, and oil, basic system — how it works, service equipment, inspecting and diagnosing the system, testing and adjusting the system, and preparing system for service. PREREQ: Core Block or PERM/INST.

**AE 160 HAY AND FORAGE (1-3-1)(F.S).** This course covers types, sizes, operation of balers and stack wagons, preliminary setting and adjustments, and trouble shooting of field problems. PREREQ: Core Block or PERM/INST.

**AE 165 ELECTRICAL SYSTEMS, TROUBLE SHOOTING (2-4-2)(F.S).** This course covers the theory and repair procedures on the various types of electrical systems, and trouble shooting of the electrical system. PREREQ: Core Block or PERM/INST.

**AE 170 ADVANCED HYDRAULICS (2-4-2)(F.S).** This course covers the theory and repair procedures for overhaul of hydraulic assist transmissions and hydrostatic drive systems. PREREQ: Core Block or PERM/INST.

**AE 175 HYDRAULIC ASSIST TRANSMISSIONS AND HYDROSTATIC DRIVES (2-4-2)(F.S).** This course covers the theory and repair procedures for overhaul of hydraulic assist transmissions and hydrostatic drive systems. PREREQ: Core Block or PERM/INST.

**Apprenticeship Program**

Associate of Applied Science Degree

The Associate of Applied Science degree for Apprentices is a technical degree with emphasis on technical content and supervised, on-the-job experience. All related course work and on-the-job experience (except the General Education requirements) will be graded pass or fail.

Students interested in this program should contact the College of Technology Outreach Division.

Students must be registered with the Bureau of Apprenticeship and Training, U.S. Department of Labor (BAT) and the College of Technology to be eligible for this program. After documentation of completion of at least 640 hours in related course work and 8000 hours on-the-job instruction has been verified by the BAT and the College of Technology, a transcript listing course work and area of specialty will be forwarded to the Registrar; the information will be then listed on an official BSU transcript.

This program normally requires four years to complete. Special fees apply to this program.

Apprenticeship Training Technology AP 101 plus

**General Education Requirements**

2 Courses selected from: E 101-102, 202, CM 111, 221.

AND

2 Courses selected from: P 101, MM 201, 203, EC 205, 206.

**Course Offerings**

See page 23 for definition of course numbering system

**AP APPRENTICESHIP**

**AP 101 APPRENTICESHIP TRAINING TECHNOLOGY (V-V-56).** This program provides the student with related instruction and supervised, on-the-job experience. Content of the related instruction provides the student with the technical support course work needed to function on-the-job. The on-the-job experience is located at work sites, union and non-union, approved by the Bureau of Apprenticeship and Training, U.S. Department of Labor. PREREQ: Registered with the College of Technology and the Bureau of Apprenticeship and Training.

**Auto Body - Eleven Month Program**

Technical Certificate

Instructor: Charles Parke

The Auto Body Program curriculum is designed to provide the student with the basic skills necessary for employment in the auto body industry. This training provides students with the necessary skills and knowledge for employment in the Auto Body trade and closely related crafts. Training includes Auto Body theory, welding (plastics, braze, mildsteel, wirefeed), painting (lacquer, acrylic enamel, urethanes, blending, matching), metal working, repair, replace, shrinking, frame alignment and repair, repair of new cars (UniCoupe Repair, UniCoupe Bench Systems). A Technical Certificate is issued upon satisfactory completion of all skills in the eleven month program.

**SUBJECTS**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
</tr>
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<tbody>
<tr>
<td>Auto Body Lab AB 101-102-103</td>
<td>6</td>
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<tr>
<td>Auto Body Theory AB 151-152</td>
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<tr>
<td>Auto Body Theory AB 161-162</td>
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<tr>
<td>Auto Body Theory AB 171</td>
<td>2</td>
<td>-</td>
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<tr>
<td>Occupational Relationships AB 180</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Auto Body Theory AB 181</td>
<td>1</td>
<td>-</td>
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<tr>
<td>Intro Microcomputers AB 182</td>
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<tr>
<td>Auto Body Theory AB 191</td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>16</td>
<td>14</td>
</tr>
</tbody>
</table>

**Course Offerings**

See page 23 for definition of course numbering system

**AB AUTO BODY**

**AB 101 AUTO BODY LABORATORY (0-25-6)(F).** This course is designed to expose the students to the basic Auto Body Skills, orientation of shop and equipment, welding of thin gauge sheet metal, wirefeed, oxy-acetylene, basic metal roughing, and finishing skills, metal grinding, applications of plastic bondo repairs, basic priming, sanding skills, painting techniques (lacquers, enamels, etc.).

**AB 102 AUTO BODY LABORATORY (0-25-6)(F).** This course is designed to let the students experience skills in advanced collision damage (panel replacement, bench collision repair, and unitized collision repair), or experience in advanced painting skills (base/coat, blending, epoxy primers, paint complete, painted and tape stripes), lacquer, enamels and urethane painting. PREREQ: AB 101 or PERM/INST.

**AB 103 AUTO BODY LABORATORY (3-30-7)(SU).** This summer session is designed for the student to continue practicing on basic skills, and advanced students to further their skills in preparing for the work force (early out, on-the-job training). Lecture/Lab. PREREQ: AB 102 or PERM/INST.

**AB 151 AUTO BODY THEORY (0-0-2)(F).** This section of the course is designed to cover orientation, tools, safety, shop procedures, industry needs and standards. PREREQ: PERM/INST.

**AB 152 AUTO BODY THEORY (3-0-3)(S).** This course prepares the student with advanced polishing of paints, paint skills in base/coat-clear/coat, blending, paint matching techniques, sealers, and special coatings. PREREQ: PERM/INST.
AB 161 AUTO BODY THEORY (2-0-2)(F). This course is designed to enable a student to become skilled in dealing effectively with people and for applying oriented toward high levels of technical understanding to provide the skills needed for employment. In addition to specific technical training, supporting courses provide for growth of interpersonal and other skills needed to advance within the automotive service industry. Students wanting only to complete the first year program can receive a Technical Certificate.

The second year program offers laboratory work in a practicum agreement with local dealerships, independent garages and specialty shops as well as advanced technical theory in the classroom. The Automotive Technology students will also be required to accumulate twelve (12) credit hours in General Education courses. Six (6) credit hours selected from the Communications or English department; and six (6) credit hours selected from the Psychology, Mid-management, or General Business departments to receive an Associate of Applied Science Degree.

The Automotive Technology Program is fully accredited by the National Automotive Technicians Education Foundation (NATEF) and the instructors are Master Technicians certified by Automotive Service Excellence (ASE).

SUBJECTS Core Block Mechanics CB ......................... 8
First Eight Week Block
  Automotive Brakes AM 220 .................................... 3
  Two & Four Wheel Alignment AM 200 ..................... 2
  *General Education Elective ............................... 3
  TOTAL .............................. 8
Second Eight Week Block
  Manual Trans & Differ AM 250 ............................... 4
  Engine Repair AM 245 ....................................... 4
  TOTAL .............................. 8
Third Eight Week Block
  Auto Electrical Systems AM 240 ............................... 5
  Emission Systems AM 225 .................................... 1
  *General Education Elective ............................... 3
  TOTAL .............................. 9
Fourth Eight Week Block
  Engine Performance AM 210 ................................. 4
  Automatic Trans/Transaxle AM 205 ......................... 4
  TOTAL .............................. 8
Fifth Eight Week Block
  Advanced Engine Performance AM 230 ................. 2
  Suspension & Steering AM 215 ............................... 2
  Automotive Heating & Air Conditioning AM 255 ........ 2
  **General Education Elective ............................. 2
  TOTAL ...................... 9
Sixth Eight Week Block
  Advanced Engine Repair AM 256 ......................... 4
  Advanced Auto Electronics AM 260 ....................... 4
  TOTAL ...................... 8
Seventh Eight Week Block
  Advanced Automatic Transmission AM 258 ............ 4
  Advanced Emission Systems AM 257 ...................... 3
  Advanced Wheel Alignment AM 259 ...................... 4
  **General Education Elective ............................. 3
  TOTAL ...................... 14

**General Education Elective chosen from: P 101, EC 205, EC 206, MM 201, MM 203

Course Offerings
See page 23 for definition of course numbering system

AM AUTO MECHANICS

AM 200 TWO AND FOUR WHEEL ALIGNMENT (2-4-2)(F/S); This course introduces the student to the theory and practice of two and four wheel alignment, wear identification, and front end rebuilding. PREREQ: Core Block or PERM/INST.

AM 205 AUTOMATIC TRANSMISSION/TRANSAXLE (4-8-4)(F/S). This course teaches the fundamentals of automatic transmissions and transaxle design features including the function, service, diagnosis, troubleshooting and proper removal, adjustment, installation and testing procedures. PREREQ: Core Block or PERM/INST.

AM 210 ENGINE PERFORMANCE (2-12-5)(F/S). The student will be introduced to the design and repair of conventional and electronic ignition systems, fuel delivery systems, carburetor, fuel injection, computer controlled ignition and fuel systems. The use of scopes and testing equipment will be emphasized. PREREQ: Core Block or PERM/INST.
AM 215 SUSPENSION AND STEERING CONTROLS (2-4-2(F/S)). Theory and operation of suspension and steering systems, including linkage, rack and pinion and power steering, leaf and coil springs, struts and control arms. PREREQ: Core Block or PERM/INST.

AM 220 AUTOMOTIVE BRAKE SYSTEMS (2-16-3(F/S)). Theory and practice of Automotive Brake Systems inspection, maintenance and repair will be covered including shoe and pad replacement, drum and rotor machining and rebuilding of wheel, caliper and master cylinder and power brake units. PREREQ: Core Block or PERM/INST.

AM 225 EMISSION SYSTEMS (1-3-1(F/S)). This course prepares the student in the principles and laws of various automotive emissions systems to include the function, service and repair/replacement of components, diagnostic techniques, and compliance with emission standards. PREREQ: Core Block or PERM/INST.

AM 230 ADVANCED ENGINE PERFORMANCE (2-6-2(F/S)). The student will be taught the use of advanced diagnostic equipment to troubleshoot and repair automobile performance, with emphasis placed on electronically related problems. PREREQ: Core Block or PERM/INST.

AM 240 AUTOMOTIVE ELECTRICAL SYSTEMS (4-12-5(F/S)). This course covers identification and use of basic automotive electronic test equipment, basic automotive electronic theory, testing, troubleshooting and rebuilding of starter-motors, charging systems, and electronic ignition systems. The theory and testing of computer command control systems will also be covered. PREREQ: Core Block or PERM/INST.

AM 245 ENGINE REPAIR (4-9-4(F/S)). This course covers engine design, engine disassembly, parts evaluation, parts repair and replacement and proper disassembly techniques, parts evaluation and proper assembly. PREREQ: Core Block or PERM/INST.

AM 250 MANUAL TRANSMISSION AND DIFFERENTIAL REPAIR (4-9-4(F/S)). This course introduces students to transmission and differential design, proper disassembly techniques, parts evaluation and proper assembly. PREREQ: Core Block or PERM/INST.

AM 255 AUTOMOTIVE HEATING AND AIR CONDITIONING (2-6-2(F/S)). This course introduces students to the principles and design of the heating and air conditioning system used in today's automobiles, and teaches the student troubleshooting and repair techniques. PREREQ: Core Block or PERM/INST.

AM 256 ADVANCED ENGINE REPAIR (4-8-4(F/S)). This course includes advanced engine repair principles and concepts in diagnosis, disassembly, inspection, repair and assembly of domestic and foreign car engines. PREREQ: PERM/INST.

AM 257 ADVANCED EMISSION SYSTEMS (3-9-3(F/S)). This course includes advanced principles and concepts in the diagnosis of problems and adjustment of vehicle emission control systems. PREREQ: PERM/INST.

AM 258 ADVANCED AUTOMATIC TRANSMISSIONS (4-8-4(F/S)). This course includes advanced automatic transmission principles and concepts in diagnosis, disassembly, inspection, repair and assembly of domestic and foreign car automatic transmissions. PREREQ: PERM/INST.

AM 259 ADVANCED ALIGNMENT SYSTEMS (4-8-4(F/S)). This course includes advanced wheel alignment principles and concepts in the diagnosis of problems and adjustment of two and four wheel drive vehicles utilizing computerized alignment equipment. PREREQ: PERM/INST.

AM 260 ADVANCED AUTO ELECTRICAL SYSTEMS (4-8-4(F/S)). This course includes advanced electrical systems principles and concepts in the diagnosis and repair of electrical problems utilizing computerized testing equipment. PREREQ: PERM/INST.

Business & Office Education
Nine Month or Two Year Program

Technical Certificate
Instructors: Karen Bounds, Doris Butler, Janet Carlton, Wanda Metzgar, Dona Orr
Theresa TenEyck, Marjorie Williamson

The Business and Office Education Program is designed to prepare students to enter the business world in both private industry and government. Upon enrollment in the program, the student will have an opportunity to pursue a one-year Technical Certificate in Business and Office Education, or a two-year Associate of Applied Science degree in Business and Office Education in one of the following: Bookkeeping, Legal Secretary, Word Processing.

Approved internship in an office and/or competency testing may be substituted for course work with special permission of the program head and division manager. This course work will be monitored and evaluated on a weekly basis by appropriate faculty in consultation with the agency or business with whom the arrangement is contracted.

The Business and Office Education Program is competency based which specifies the student performance objectives and the necessary competencies required for employment at entry level.

A minimum grade of 'C' is required in all Business and Office course work to graduate with a Technical Certificate or Associate of Applied Science degree.

Business and Office Education accepts a limited number of new students in the spring semester. Students entering in January can complete requirements for a Technical Certificate in two semesters but should plan on five semesters to complete the Associate of Applied Science degree.

CORE FRESHMAN CLASSES

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Business Math OF 105</td>
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<tr>
<td>Business English OF 109</td>
<td>4</td>
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<tr>
<td>Keyboarding OF 126</td>
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<tr>
<td>Keyboarding Skill Development OF 128</td>
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<tr>
<td>Intro to Microcomputers OF 161</td>
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<tr>
<td>Intro to Information Processing OF 162</td>
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<tr>
<td>Basic Office Procedures OF 107</td>
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<tr>
<td>General Correspondence Typing OF 131</td>
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<tr>
<td>Forms &amp; Manuscript Typing OF 132</td>
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<tr>
<td>Proofreading &amp; Spelling OF 119</td>
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<tr>
<td>Business Writing OF 159</td>
<td>3</td>
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<tr>
<td>Machine Transcription I OF 158</td>
<td>2</td>
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<tr>
<td>Record Keeping OF 155</td>
<td>3</td>
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<tr>
<td>Job Seeking Skills/Career Planning OF 153</td>
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<tr>
<td><strong>TOTAL</strong></td>
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</tr>
</tbody>
</table>

Associate of Applied Science Degree
Business and Office Education (Bookkeeping)

This area of specialization is designed to train specialists to competently perform the duties of an entry-level bookkeeper.

Upon successful completion of this area of specialization, the student will not only possess the necessary skills and knowledge to enter the bookkeeping field, but will also have developed basic skills in computerized bookkeeping, word processing, database management, spreadsheets, as well as basic knowledge of the business world.

SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>Bookkeeping I OF 108</td>
<td>3</td>
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<tr>
<td>Spreadsheet I OF 201</td>
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<tr>
<td>Intro Data Base Management OF 202</td>
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<tr>
<td>Applied Business Communications OF 252</td>
<td>3</td>
</tr>
<tr>
<td>Legal Environment of Business GB 202</td>
<td>3</td>
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<tr>
<td>Production Typing OF 141</td>
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Associate of Applied Science Degree
Business and Office Education (Legal Secretary)

This area of specialization is designed to train specialists to perform a wide variety of administrative and clerical duties in the legal environment that are necessary to run and maintain a legal office efficiently.

Upon successful completion of this area of specialization, the student will not only possess competencies in specialized legal courses such as legal terminology and transcription, and legal office technology, but will also have developed basic skills in word processing, record keeping, spreadsheets, database management, and information processing.

Through a business and office internship, these specialists will have a capstone training experience allowing them the opportunity to apply the competencies previously learned to a realistic legal office setting.

SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
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<tbody>
<tr>
<td>Applied Business Communications OF 252</td>
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<tr>
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<td>Word Processing Production OF 277</td>
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</table>
OF 108 BOOKKEEPING I (3-2-3)(F/S). Designed to prepare students for the new course.

OF 123 FORMS AND MANUSCRIPT TYPING (2-4-2)(F/S). Experience in typing a variety of business forms, columnar text, and manuscripts. Proofreading skills are stressed. PREREQ: OF 131 and keyboarding speed of at least 35 wpm. Eight-week course.

OF 141 PRODUCTION TYPING (2-4-2)(F/S). Development of production competence using automated office systems to prepare general office documents. Emphasis is on high-quality work and development of ability to make decisions without direct supervision. PREREQ: OF 132 and keyboarding speed of at least 45 wpm. Eight-week course.

OF 142 TECHNICAL TYPING (2-4-2)(F/S). Development of technical competence using automated office systems to prepare technical, medical, legal and governmental documents. Emphasis on high-quality work and development of ability to make decisions without direct supervision. PREREQ: OF 132 and keyboarding speed of at least 45 wpm. Eight-week course.

OF 152 BOOKKEEPING II (3-2-3)(F/S). Designed to provide a practical knowledge of cost analysis for bookkeeping systems and procedures. Primary concepts include job order and process cost allocation, planning, control responsibility for the accounting and reporting process. PREREQ: OF 106.

OF 153 JOB SEEKING SKILLS/CAREER PLANNING (2-4-2)(F/S). Will help students analyze their job needs and skills and prepare them to present those needs and skills to a prospective employer in a professional manner. Emphasizes: self-analysis, researching employers, resume and cover letter, effective interview techniques, and career planning. Eight-week course.

OF 155 RECORD KEEPING (3-2-3)(F/S). Students proceed from very simple clerical tasks to the introduction of elementary double-entry bookkeeping concepts. Develops skills and knowledge that students can use in simple clerical office jobs in which record keeping is involved. PREREQ: OF 105.

OF 158 MACHINE TRANSCRIPTION I (2-4-2)(F/S). Trains students to transcribe advanced dictation from recorded media using automated office systems. Emphasis on the development of correct techniques. PREREQ: OF 109 and a typing speed of 35 wpm.

OF 159 BUSINESS WRITING (3-2-3)(F/S). Emphasis on building a foundation in effective writing principles by planning, organizing, and writing memos and various types of business letters such as credit, collection, sales, claims adjustments. Emphasis on error-free work. Grade of C or better required to continue. PREREQ: OF 109.

OF 161 INTRO TO MICROCOMPUTERS (2-4-2)(F/S). An introduction to the fundamentals of word processing and database management business applications such as spreadsheets and graphics. Eight-week course.

OF 162 INTRO TO INFORMATION PROCESSING (2-4-2)(F/S). An introduction to the fundamentals of word processing and database management business applications. Eight-week course.

OF 169 MACHINE TRANSCRIPTION II (2-4-2)(F/S). Emphasis on transcribing advanced and technical dictation from recorded media using automated office systems. PREREQ: OF 109, OF 119, OF 158, or PERWIND, and a typing speed of 35 wpm. Eight-week course.

OF 201 SPREADSHEET I (2-4-2)(F/S). Presents concepts of spreadsheets software; understanding the worksheet elements; the command menu; entering numbers, formulas and labels, specifying ranges; entering simple formulas; editing and printing. PREREQ: OF 155 and OF 161. An eight-week course.

OF 202 INTRO TO DATA BASE MANAGEMENT (2-4-2)(F/S). Emphasis will be on creating files, data entry; editing data; how to search for data; create, run and print reports. PREREQ: OF 162. Eight-week course.

OF 205 ADVANCED SHORTHAND (4-4-5)(F/S). Emphasis is on continued speed building in taking dictation and transcribing. Course includes review of business vocabulary, punctuation, and grammar. PREREQ: OF 151 or advanced placement through proficiency exam.

OF 212 LEGAL OFFICE TECHNOLOGY I (3-2-3)(F/S). Students will become acquainted with basic office procedures in a legal office. Emphasis on the formatting and transcription of legal correspondence and documents using automated office systems.

OF 213 LEGAL OFFICE TECHNOLOGY II (3-2-3)(F/S). This course is designed to cover advanced legal office procedures and problems. Emphasis on legal terminology and preparation of specialized legal documents. PREREQ: OF 212.

OF 221 LEGAL TERMINOLOGY AND TRANSCRIPTION (3-2-3)(F/S). This course will be a basic introduction to legal vocabulary, the preparation of legal documents, and transcription of dictated legal material. PREREQ: OF 158 and OF 159.

OF 224 LEGAL DOCUMENTATION (3-2-3)(F/S). This course is designed as a capstone training experience applying previously learned skills. Emphasis on employment considerations, legal and ethical responsibilities, and problem solving techniques in a law office. PREREQ: OF 212 and OF 221.
OF 225 COMPUTERIZED BOOKKEEPING I (2-4-2)(F/S). An introduction to the principles utilizing computers to set up and maintain a set of books that are common in many small business operations. An integrated system of accounting software will be used to demonstrate the entire bookkeeping cycle. PREREQ: OF 108. Eight-week course.

OF 226 COMPUTERIZED BOOKKEEPING II (2-4-2)(F/S). Computerized practical applications using integrated software for the bookkeeping cycle will be implemented. A practice set will be used to cover the bookkeeping cycle as well as a practice set for payroll bookkeeping. PREREQ: OF 225. Eight-week course.

OF 251 RECORDS MANAGEMENT PROCEDURES (3-2-3)(F/S). A study of the principles and procedures of records management, including retention, processing maintenance, protection, transfer. Eight-week course.

OF 252 APPLIED BUSINESS COMMUNICATIONS (3-2-3)(F/S). Course is designed to improve student’s ability to communicate effectively through written and verbal media as well as to develop a systematic and creative approach to solving communication problems through studying and applying principles of effective writing. Emphasis will be on report writing with research. Concentrates on gathering and writing the information. PREREQ: OF 159.

OF 254 SPREADSHEET II (2-4-2)(F/S). Designed to give the student the knowledge and skills necessary to create spreadsheets performing advanced functions. Emphasis will be on creating typical business documents such as budgets, payroll. PREREQ: OF 201. Eight-week course.

OF 256 FUNDAMENTALS OF SUPERVISION (2-4-2)(F/S). Introduction to fundamental principles of first-line supervision, emphasizing the following: role responsibilities of the supervisor; problem-solving and time management; and assertiveness and conflict management. Eight-week course.

OF 257 MODEL OFFICE SIMULATION (3-2-3)(F/S). Students are employed in a classroom simulated office environment. This course will be a capstone training experience allowing students to apply previously learned skills and develop advanced skills in word processing, spreadsheets, data base management, and desktop publishing. PREREQ: OF 201, OF 202, OF 277.

OF 277 WORD PROCESSING PRODUCTION (2-4-2)(F/S). This course will focus on word processing production applications with an emphasis on fonts, columns, reports with table of contents and indexes, merge, and outline. PREREQ: OF 141. Eight-week course.

OF 278 ADVANCED WORD PROCESSING PRODUCTION (2-4-2)(F/S). This course will focus on advanced word processing production applications with an emphasis on macros, styles, line draw, graphics, and sort/select. PREREQ: OF 277. Eight-week course.

OF 293 BUSINESS AND OFFICE INTERNSHIP (0-12-3)(F/S). Students are placed in supervised community business and office settings. Individual contract arrangements involving student, instructor, and employer to gain practical work experience. Monitored and evaluated weekly by appropriate faculty in consultation with the agency or business with whom the arrangement is contracted. PREREQ: Permission of Program Head and Division Manager.

Business Systems and Computer Repair—Two Year Program

Associate of Applied Science Degree

Instructors: Dan Cadwell, Paul Jansson, Don Jones

Photocopy Technology-Nine Month Program-Technical Certificate

This nine month option is designed to give the student the basic knowledge and skills in mechanics, xerography, and electronics to perform as an entry level Photocopy Technician.

Business Systems and Computer Repair—Two Year Program

The program in Business Systems and Computer Repair has been developed to give the student the basic knowledge and skills to perform as an entry level Field Service Technician. Successful completion of the program will be qualified to make electronic and mechanical adjustments and repairs as they relate to computers, computer peripheral devices, xerography and other electro-mechanical devices. Completion of the Photocopy Technician program is a prerequisite to the Business Systems and Computer Repair program.

Photocopy Technology

FRESHMAN

First Eight Week Block

Business Systems Mechanical Principles BC 155 ................ 5
Xerography and Photocopy Theory BC 156 .................. 3

Second Eight Week Block

Communication Skills BC 111 ................................. 3
Basic Electronic Theory BC 157 ............................... 4
Basic Electronic Lab BC 158 .................................. 2

Third Eight Week Block

Customer Relations BC 113 .................................... 3
Electronics Lab BC 103 ......................................... 2

SEMESTER BREAK

Fourth Eight Week Block

Intro Computer Technology BC 255 ......................... 5
Computer Tech Lab I BC 256 .................................... 2

Fifth Eight Week Block

Computer Repair BC 257 ....................................... 5
Computer Tech Lab II BC 258 .................................. 2

Sixth Eight Week Block

Business Equipment Repair I BC 261 ......................... 3
Business Tech Lab III BC 262 .................................. 2

Seventh Eight Week Block

Business Equipment Repair III BC 263 ...................... 5
Business Equipment Lab IV BC 264 .......................... 2
Business Systems Sales Techniques BC 265 ............... 1

Eighth Eight Week Block

Business and Office Internship (F/S). Directs toward developing skills necessary to effectively deal with customers in the business equipment repair field.

BC 155 BUSINESS SYSTEM MECHANICAL PRINCIPLES (8-10-5VF/S). This is a hands on theory/lab course in which the student is taught troubleshooting methods on mechanical systems. The student is introduced to the tools, test equipment and mechanical devices used in conjunction with electronic devices.

BC 156 XEROGRAPHY AND PHOTOGRAPHY THEORY (4-8-3)(F/S). Prepares students for entry level employment in the photocopier repair field. Students will develop skills through theory and lab classes directed at troubleshooting and preventive maintenance techniques.

BC 157 BASIC ELECTRONIC THEORY (8-0-4)(F/S). Students gain experience through theory and hands on experiments which assist student understanding of DC circuits, OHMS law, magnetism and properties of electronic components.

BC 158 BASIC ELECTRONIC LAB I (0-20-2)(F/S). Students gain experience through experiments which assist student understanding of DC circuits, OHMS law, magnetism and properties of electronic components.


Course Offerings

See page 23 for definition of course numbering system

BC BUSINESS SYSTEMS AND COMPUTER REPAIR

BC 103 ELECTRONICS LAB (0-16-2)(F/S). Experiments and troubleshooting exercises in semiconductor electronic circuits and systems.


BC 111 COMMUNICATION SKILLS (6-0-3)(F/S). Develops abilities which enable students to communicate effectively as a tool for the Office System Technician: i.e., effective writing and oral communication for sales, technical repair, job applications and resumes.

BC 113 CUSTOMER RELATIONS (6-0-3)(F/S). Directed toward developing skills necessary to effectively deal with customers in the business equipment repair field.

BC 155 BUSINESS SYSTEM MECHANICAL PRINCIPLES (8-10-5VF/S). This is a hands on theory/lab course in which the student is taught troubleshooting methods on mechanical systems. The student is introduced to the tools, test equipment and mechanical devices used in conjunction with electronic devices.

BC 156 XEROGRAPHY AND PHOTOGRAPHY THEORY (4-8-3)(F/S). Prepares students for entry level employment in the photocopier repair field. Students will develop skills through theory and lab classes directed at troubleshooting and preventive maintenance techniques.

BC 157 BASIC ELECTRONIC THEORY (8-0-4)(F/S). Students gain experience through theory and hands on experiments which assist student understanding of DC circuits, OHMS law, magnetism and properties of electronic components.

BC 158 BASIC ELECTRONIC LAB I (0-20-2)(F/S). Students gain experience through experiments which assist student understanding of DC circuits, OHMS law, magnetism and properties of electronic components.


BC 253 INTRODUCTION TO COMPUTER TECHNOLOGY (10-0-5)(F). Directed toward developing skills toward computer repair. Training in the areas of computer operating systems and software with emphasis on ability to analyze problems in systems and software.

BC 256 COMPUTER TECHNOLOGY LAB I (0-20-2)(F). A hands on lab where the principals taught in BC 255 can be studied and analyzed as they apply to a computer.

BC 257 COMPUTER REPAIR (10-0-5)(F). Prepares students for entry level employment into the computer repair field. Concepts in logic, circuitry, troubleshooting, and component replacement procedures are taught.

BC 258 COMPUTER TECHNOLOGY LAB II (0-20-2)(F). A hands on lab where the principals taught in BC 257 can be studied and analyzed as they apply to a computer and the computer peripheral.
CC 125-126 CONTRACTED FIELD EXPERIENCE IN EARLY CHILDHOOD PROGRAMS (0-4-1)(F/S). Individual contract arrangement involving students, instructor and cooperating community agency to gain practical experience in off-campus settings. The student will visit, observe, and participate in community child care settings.

CC 135-136 PLANNING AND EVALUATION OF LABORATORY EXPERIENCE (2-0-2)(F/S). Classroom lecture and discussion to include lab observation and records, methods of curriculum planning and evaluation, activity plans, classroom objectives, and staff performance and relations.

CC 141 HEALTH AND CARE OF THE YOUNG CHILD (3-0-3)(F). Safety practices, basic nutrition, sanitation, safe environment, general health education, identification of, treatment and prevention of common childhood diseases as applied to children in child care centers. Also includes maintenance of teachers health.

CC 171-172 CURRICULUM OF THE YOUNG CHILD (3-0-3)(F/S). Curricula media suitable for preschool children. Includes theories of teaching curriculum subjects; the need for a curriculum in nursery school; and specific information, materials and the opportunity to use them in the following areas: art, story telling, music, environmental science, beginning number and letter recognition.

CC 181-182 CHILD CARE LABORATORY (0-12-3)(F/S). Observation and participation in the laboratory preschool. Student will serve as aide and assistant teacher, working cooperatively with the children; attend staff meetings, plan and carry out a variety of daily activities and become acquainted with curriculum, classroom arrangement, schedules, child guidance, staff responsibilities.

CC 185 INFANT/CHILD CPR AND FIRST AID (1-0-1)(F). Instruction in infant and child CPR and First Aid leading to certification of the student.

CC 201-202 CHILD CARE CENTER SUPERVISION (1-12-4)(F/S). With instructor supervision, students will assume responsibility of lab preschool and plan curriculum activities, supervise staff, plan daily and weekly schedules and study techniques for child evaluations and parent conferences. Emphasis is placed on child guidance techniques and curriculum development. PREREQ: CC 181-182.

CC 225-226 CONTRACTED PRACTICUM IN EARLY CHILDHOOD PROGRAMS (0-8-2)(F/S). A course designed to meet specific needs of the student as determined by both the student and instructor. A practical application of knowledge and skills in community child care settings. Individual contract arrangement involving student, instructor and cooperating agency to gain practical experiences in off-campus settings. PREREQ: CC 125-126.

CC 232 CHILD CARE CENTER MANAGEMENT (3-2-3)(S). Introduction to the business practices in the operation of a child care center. Includes business arithmetic, record keeping, purchasing of supplies and equipment, and employer-employee relationships. Also includes licensing procedures required for child care programs.

CC 241 NUTRITION FOR YOUNG CHILDREN IN CHILD CARE CENTERS (3-0-3)(F). Nutritional requirements of preschool children. Students plan, purchase, prepare and serve nutritious snacks and meals. Emphasized will be handling food allergies, economics of good nutrition and the development of positive mealtime attitudes.

CC 252 FAMILY AND COMMUNITY INVOLVEMENT WITH CHILDREN (3-0-3)(F/S). History and dynamics of family interaction; review of cultural life styles. Emphasis will be placed on the need for establishing effective relationships with parents of children in child care centers and the community resources available to both parents and the center.

CC 255 ADVANCED CHILD CARE (3-0-3)(F). A review of the history of child care and present day child care facilities in the U.S. and locally. Also covered in class are classroom management, caring for exceptional children and qualifications of people caring for children in group situations. PREREQ: CC 101-151.

CC 256 INTRODUCTION TO KINDERGARTEN CURRICULUM (2-0-2)(F/S). Kindergarten curriculum theory and practices are presented so that the student has a working knowledge of the kindergarten classroom.

CC 257 INFANT AND TODDLER CARE (2-0-2)(S). Care and education of infants and toddlers in group day care homes and centers. Besides physical care emphasis is also placed on the emotional and social nurturing and intellectual development of infants and toddlers. PREREQ: CC 101-151.

CC 261 INTR COMPUTER APPLICATIONS TO OCCUPATIONAL RELATIONS (2-0-2)(S). A study of dealing effectively with people, job seeking skills, written communications and hands on use of computers to complete personal data packet.

**Culinary Arts Program**

Technical Certificate · 1 Year

Associate of Applied Science · 2 Years

Instructors: Vernon Hickman, CCE, CWC, Julie Kulm, CCE, CWC, Manley Slough, CCE, CEC, Bonnie Sumter

The purpose of the Culinary Arts Program is to provide basic training and education for cooks, apprentice chefs, and managers.

The curriculum offers students an opportunity to:
- Learn and effectively practice basic and advanced technical skills in food preparation and service.
- Understand the principles of food identification, nutrition and food, and beverage composition.

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**Course Offerings**

See page 23 for definition of course numbering system

**CC CHILD CARE**

CC 101-151 INTRODUCTION TO CHILD DEVELOPMENT (3-0-3)(F/S). Course content includes basic principles of child growth and development, the individual needs of preschool children, their language development, understanding their behavior and techniques of guidance and discipline.
• Acquire basic supervisory skills to better utilize human and physical resources in food service operations.
• Gain experience in the proper use and maintenance of professional food service equipment.
• Become familiar with the layout and work flow of professional kitchens and bakeshops. Gain appreciation for the history, evolution and international diversity of the culinary arts.
• Develop a personal sense of professionalism necessary for working successfully in the food service industry.

The core of the Culinary Arts Program curriculum at Boise State University is the hands-on teaching of cooking and baking skills as well as the theoretical knowledge that must underlie competency in both fields.

The objective is to not only teach students to work in the kitchen, but how it functions. Related to our mission of professional training are the courses that complete a food service education: table service, wines, menu, and bakeshops. Gain appreciation for the history, evolution and international diversity of the culinary arts.

Upon enrollment in the program, the student will have the opportunity to pursue a one-year Technical Certificate, or a two-year Associate of Applied Science degree in Culinary Arts.

A minimum grade of 'C' is required in all course work to receive a Technical Certificate or an Associate of Applied Science degree.

The program is fully accredited by the American Culinary Foundation Educational Institute.

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### Course Offerings

See page 23 for definition of course numbering system

#### CA CULINARY ARTS

**CA 102 CULINARY SKILLS (3-2-3)(F/S)**. During this introduction to the fundamental concepts, skills and techniques of basic cookery, special emphasis is given to the study of ingredients, cooking theories and procedures. Basic cooking methods stressed and practiced including: sauteing, broiling, roasting, poaching, simmering, braising, pan frying, deep fat frying, stewing and fricasseeing.

**CA 103 SANITATION, SAFETY & HEALTH (2-0-2)(F/S)**. Theory and practice of food and environmental sanitation in a food production area are stressed, with attention to food-related diseases and their origins. The sanitation course has been renewed for compliance and approved by the Federal Food and Drug Administration. Students conduct a sanitation inspection of one of the Culinary Arts Programs facilities in their production areas.

**CA 104 INTRODUCTORY BAKING (2-1-2)(F/S)**. This course gives instruction in the fundamentals of baking science, terminology, equipment, technology, ingredients, weights and measures, formula conversion, and storage.

**CA 105 COST CONTROL (1-0-1)(F/S)**. An introduction to the food service cost control method, procedures and math.

**CA 109 CULINARY FRENCH (1-0-0)(F/S)**. Explanations of basic culinary French terminology and menu phrases.

**CA 110 INTRODUCTORY HOT FOODS (3-2-3)(F/S)**. Basic menu items such as soups, sauces, stocks, vegetables, and entrees are prepared. Fundamental concepts and techniques of food preparation are first demonstrated by the instructors and then practiced by the students.

**CA 113 PANTRY, BASIC GARDE MANGER (3-2-3)(F/S)**. A survey course in the fundamentals of pantry, basic garde manger, and breakfast cookery. Students are instructed in the proper techniques and procedures for preparing a variety of lunch and dinner salads and salad dressings, hot and cold sandwiches, garnishes, canapés, marinades, tea and fancy sandwiches, and hot and cold appetizers.

**CA 114 COMMUNICATION SKILLS (3-0-3)(F/S)**. Study of terms, attributes, and the mechanics of language for logical thinking, speaking, and writing. Training includes an introduction to inference using both verbal and symbolic techniques. Industrial applications include organization and delivery of technical reports in written and oral forms, business correspondence, and resume preparation.

**CA 115 DINING ROOM PROCEDURES (2-0-2)(F/S)**. This basic course in dining room and supervision covers equipment, personnel responsibility, organization, customer relations, sanitation, table arrangements and set-ups. Service techniques for American table service are practiced. Basic gourmet service is explained.

**CA 116 MEAT IDENTIFICATION AND FABRICATION (1-0-1)(F/S)**. Instructors illustrate the cutting of meat and poultry into fabricated units and explains grading, quality and yield.

**CA 118 CHARCUTERIE (SAUSAGE MAKING) (1-0-1)(F/S)**. This course teaches and gives understanding through lecture, demonstration and hands-on in all phases of sausage making. For total utilization of meat by-products, students prepare forcemeats, pates, galantines and ballotines.

**CA 119 SUPERVISORY DEVELOPMENT (2-0-2)(F/S)**. Basic principles of effective supervision, including human relations, motivation, communications, proper training principles, interviewing, staffing and discipline are covered. Stewarding functions, principles and applications include organization and delivery of technical reports in written and oral forms, business correspondence and purchasing.

**CA 122 FISH COOKERY (1-0-1)(F/S)**. Affords students the opportunity to actually identify, store, rotate, issue and learn the disciplines that must be practiced to keep quality purchased fish, crustaceans and mollusks fresh. Students butcher fish, lobster, crabs, and practice the basic fundamentals of fish cookery. They also prepare stocks, soups and foundation sauces, and learn to identify a variety of seasoned specialties.

**CA 123 COMMUNICATION SKILLS II (3-0-3)(F/S)**. Study of terms, attributes, and the mechanics of language for logical thinking, speaking, and writing. Training includes an introduction to inference using both verbal and symbolic techniques. Industrial applications include organization and delivery of technical reports in written and oral forms, business correspondence.

**CA 124 KITCHEN LABORATORY (2-2-5)(F/S)**. This lab will be used for the following classes: CA 115, CA 116, CA 118, and CA 122.

**CA 126 CULINARY SKILLS DEVELOPMENT (1-2-1)(F/S)**. During this introduction to food preparation, students are taught to prepare high-quality dishes, including American specialties, with emphasis on ingredients, cooking procedures, methods, and presentation. Special emphasis is given to the preparation of meats, poultry, and seafood dishes.

**Approved Electives: Two required:**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>GB 101</td>
<td>Intro to Business</td>
<td>3</td>
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<tr>
<td>EC 205</td>
<td>Principles of Microeconomics</td>
<td>3</td>
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<tr>
<td>CM 112</td>
<td>Reasoned Discourse</td>
<td>3</td>
</tr>
<tr>
<td>MM 250</td>
<td>Intro Microcomputers in Retailing</td>
<td>3</td>
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</tbody>
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**Total Credits:**

**First Semester:** 18

**Second Semester:** 19

**Third Semester:** 19

**Fourth Semester:** 19

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See page 23 for definition of course numbering system
Swiss, Scandinavian, Italian, Belgian, and Dutch. Students prepare several different menus based on actual Chinese (Szechwan, Cantonese, Peking, Hunan), Japanese and Polynesian recipes.

CA 213 ADVANCED GARDE MANGER (1-0-1)(F/S). Students progress to advanced instruction in cold food preparation and presentation techniques. Charcuterie, specialty canapés, hors d'oeuvres, appetizers, pâtés, galantines, terrines, tallow and ice carving, aspics, mousses, cold sauces, vegetable carving, and food decoration are prepared and served.

CA 214 KITCHEN LABORATORY (0-26-6)(F/S). This laboratory will be used for all theory classes in third semester.

CA 215 CLASSICAL CUISINE (1-0-1)(F/S). Advanced and sophisticated classical culinary preparation, following the principles and techniques of Auguste Escoffier. Emphasis is on French cuisine. Students prepare a complete menu with special consideration of cooking techniques, timing and presentation. History and terms relative to classical foods and menus are discussed. Students plan, prepare, and serve a graduation dinner.

CA 224 KITCHEN LABORATORY PREPARATION (0-24-6)(F/S). This laboratory will be used for all Theory classes in fourth semester.

CA 226 ADVANCED CULINARY SKILLS (1-4-2)(F/S). Emphasis is given to fine-tuning basic competencies learned in previous courses. These competencies are used in the preparation of Table Top A La Carre cooking menu as student follow the traditional European brigade system and work all the stations in the kitchen on a weekly rotation. Production of the highest quality product through proper techniques, presentation and service is stressed. PREREQ: CA 102.

CA 227 ADVANCED/CLASSICAL BAKING (1-4-2)(F/S). Techniques are practiced in the production puff pastry desserts, sponge cakes, specialty breads and pastries. Buffet centerpieces are made from pastillage, marzipan, and chocolate. A variety of kitchen desserts are implemented. PREREQ: CA 104.

CA 228 ADVANCED FOOD AND BEVERAGE COST CONTROLS (1-4-2)(F/S). Course work emphasizes an understanding of the complexities of controlling the primary resources of hospitality operations-food, beverage, labor and sales income. Control systems development are reviewed. PREREQ: CA 105.

CA 229 FOOD AND BEVERAGE OPERATIONAL PLANNING (2-0-2)(F/S). Basic principles and concepts of menu planning, menu formats and layout are studied in detail with regard to the eating habits and tastes of social groups. Legal requirements affecting of operations. Pricing and control of menu items, designing a salable menu, and menus as management and merchandising tools are defined. The various types of establishments, such as full service, quick-service, and take-out are discussed.

CA 230 CAKE DECORATING (1-0-1)(F/S). The basic theory in professional cake decorating, frostings and decorating wedding, anniversary, birthday, bat mitzvah, and other celebration cakes are demonstrated. Decorative borders, flowers, figure piping and tube writing techniques are demonstrated. Students will become familiar with the extensive array of decorating tips.

CA 231 BANQUET & CATERING OPERATION (1-0-1)(F/S): The course is divided into five sections: overview, sales, functions, and menus, execution and options. Considerable attention is given to organizing, supervising, and servicing for expanding catering operations and increasing profit.

CA 232 CULINARY NUTRITION (2-0-2)(F/S). This course discusses a practical application of nutrition in the foodservice industry. Understanding food sources of nutrients, functions and methods to minimize loss of nutrients in food service operations is a primary objective.

CA 262 OCCUPATIONAL RELATIONS (1-0-1)(S). A study of job seeking skills, communications and hands on responsibilities of dental practice.

Course Offerings

See page 23 for definition of course numbering system

DA DENTAL ASSISTING


DA 102 DENTAL LABORATORY (2-12-5)(S). Provides practical laboratory experience to clinical competency in chairside skills and expanded dental assisting functions.

DA 104 DENTAL RADIOLOGY (3-5-4)(F). Provides dental assisting students the opportunity to become skilled in dental x-ray procedures with a heavy emphasis on safety.

DA 106 DENTAL ASSISTING CLINICAL EXPERIENCE (0-16-4)(S). Supervised chairside assisting experience in private dental offices and clinics.

DA 108 DENTAL OFFICE MANAGEMENT (2-0-2). Covers the fundamentals of business practices related to dentistry.

DA 111 COMMUNICATION SKILLS (3-0-3)(F). Enables the students to use English and Dental terminology effectively as a tool for logical thinking, problem solving, technical writing and speaking required in the field of dental assisting.

DA 151-152 DENTAL THEORY (6-0-6)(F),(6-0-6)(S). Lectures cover the basic sciences and dental specialties.

DA 180 INTRODUCTION OF COMPUTER APPLICATION TO OCCUPATIONAL RELATIONS (1-0-1)(S). A study of job seeking skills, communications and hands on use of computer technology to complete a personal data portfolio.

DA 181 PROFESSIONAL AND LEGAL CONCEPTS (1-0-1)(S). To enable a student to become skilled in dealing effectively with people and practice the ethics and legal responsibilities of dental practice.

Electrical Lineworker—Nine Month Program

Technical Certificate
Instructor: Gerald McKie

The Electrical Lineworker Program provides the student with the best and most complete basic preparation possible in overhead and underground construction and maintenance procedures. Centering around a basic program of performance based objectives, instructional materials and field experiences, the program provides the student with the necessary skills and knowledge needed as a firm foundation in this rapidly advancing field.

In the laboratory experience with equipment such as transformers, oil circuit breakers, switches, materials and pole line hardware, hot line tools, test equipment, line truck, trencher/backhoe, and related equipment components, provides the student with "hands-on" experience permitting further and more concentrated advancement in these skilled areas. The program is designed to produce a highly skilled, well-informed entry level lineman who is familiar with use of all tools, materials, and equipment of the trade. The areas of first aid, personal safety, and occupational safety are stressed as integral parts of each area of the craft.

Course Offerings

See page 23 for definition of course numbering system

EL ELECTRICAL LINeworkER

EL 101-102 ELECTRICAL LINeworkER LABORATORY (0-20-5)(F/S). The field operation provides actual "job type" experience for the student. Course content
Heavy Duty Mechanics—Diesel
Eleven Month Program

Technical Certificate
Instructors: Ted Brownfield, Chuck Tillman

This program is designed to prepare students for entry level employment in the heavy mechanics field. Instruction will include the basics in design and fundamentals of operation of gasoline and diesel engines, heavy duty trucks, equipment and component parts. Instruction will be on mock-ups and actual working units.

Student will be offered entry into the Heavy Duty Mechanics—Diesel program two times per school year, in the fall and in the spring semester, depending on available seating.

NOTE: The PREREQUISITE for entering the Heavy Duty Mechanics—Diesel program is the Core Block Mechanics program or the equivalent.

This program is incorporated with the Agricultural Equipment Technology program which allows enhancement of skills. A minimum grade of ‘C’ is required in all course work to graduate with a Technical Certificate.

SUBJECTS
Core Block Mechanics CB .......................... 8

First Eight Week Block
Engine Component Systems DM 157 .......... 5
Engine Brakes DM 169 .......................... 1
Engine Fuel Systems DM 158 ...................... 2
TOTAL .......................... 8

Second Eight Week Block
Power Take-off & Drive Lines DM 161 ........ 2
Diff, Power Dividers, Final Drive & Planet Sys DM 162 .... 2
Hydraulic Assist Trans & Hydrostatic Drives AE 175 ...... 2
TOTAL .......................... 8

Third Eight Week Block
Basic Hydraulics DM 165 .......................... 1
Electrical Systems, Trouble Shooting AE 165 ........ 2
TOTAL .......................... 8

Fourth Eight Week Block
Air Conditioning Systems AE 150 ............... 2
Air Brake Systems DM 166 .......................... 2
Hydraulic Brakes DM 167 .......................... 2
Steering & Suspension Systems DM 168 .......... 2
TOTAL .......................... 8

Summer Session
Selected course work from Fall or Spring offerings with PERM/INST.

Course Offerings

See page 23 for definition of course numbering system

DM HEAVY DUTY MECHANICS—DIESEL

DM 157 ENGINE COMPONENT SYSTEMS (4-12-5)(F,SU). Theory and principles of operation. Engine disassembly rebuild and repair and assembly processes. Intake and exhaust systems, lubrication systems, cooling systems, repairing cylinder heads, theory and principles of turbo chargers, and super chargers, timing of various types of engines and injection systems. PREREQ: Core Block or PERM/INST.

DM 158 ENGINE FUEL SYSTEMS (2-4-2)(F,SU). This course covers the theory and principles of the major types of diesel fuel injection pumps, injection nozzle testing procedures, gasoline fuel systems, carburators, fuel filters, fuel lines, and fuel transfer pumps. PREREQ: Core Block or PERM/INST.

DM 160 CLUTCHES AND TRANSMISSIONS (2-4-2)(F,SU). Covers complete disassembly and assembly of heavy duty single and double disk clutches and theory and operation of heavy duty manual transmission with complete disassembly and assembly procedures to factory specifications. PREREQ: Core Block or PERM/INST.

DM 161 POWER TAKE-OFF AND DRIVE LINES (2-4-2)(F,SU). Will cover power take-off and drive line disassembly and assembly to factory specifications. PREREQ: Core Block or PERM/INST.

DM 162 DIFFERENTIAL, POWER DIVIDERS, FINAL DRIVE AND PLANETARY SYSTEMS (2-4-2)(F,SU). Includes complete disassembly and assembly of differentials, power dividers, theory of final drive systems, and planetary systems in heavy duty equipment. PREREQ: Core Block or PERM/INST.

DM 164 BATTERIES, SWITCHES, RELAYS AND SOLENOIDS, STARTING & CHARGING SYSTEMS (4-12-5)(S,SU). Introduction to batteries, switches, relays, and solenoids, starter and charging systems used in electrical circuits of heavy duty equipment. PREREQ: Core Block or PERM/INST.
HO 151-152 HORTICULTURE THEORY (7-0-7). First semester—developing comprehension of the scientific principles utilized in horticulture. This includes identification of plants, their classification, and growth, with emphasis on plant production and propagation. Second semester—developing comprehension of the scientific principles utilized in the field of horticulture, including plant propagation, construction and operation, and pesticide application, pruning practices.

HO 201 HORTICULTURE LABORATORY (0-15-4). Applying theory and related science to the solution of practical problems in horticulture. Specific areas of application include: preparing landscape designs for residential, commercial, parks. Installations of walls, patios, arbors and shade trees.

HO 202 HORTICULTURE LABORATORY (0-15-4). Applying theory and related science to the solution of practical problems in horticulture. Specific areas of application include: preparing landscape designs for residential, commercial, parks. Installations of walls, patios, arbors and shade trees.

Industrial Environmental Technician Program

Associate of Applied Science

This double major option combines the Industrial Mechanics/Automation and Refrigeration, Heating and Air Conditioning curriculums. The required general education course work for the AAS degree are 6 credits in Communications (CM 111, 221) and 4 credits of Psychology (P 101 and P 125). Successful candidates will control the environment in a variety of industrial settings ranging from light manufacturing or business to heavy industrial settings.

Detailed course descriptions for Industrial Mechanics/Automation and Refrigeration, Heating and Air Conditioning can be found in the present Boise State University catalog.

The Technical Certificate that is available for each respective program is retained. The AAS Degree program is an option beyond the Technical Certificate.

SUBJECTS

<table>
<thead>
<tr>
<th>Course</th>
<th>1st SEM</th>
<th>2nd SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance Welding Tech IM 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Maintenance Machine Fund IM 102</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Electro-Mechanical Systems IM 114</td>
<td>3</td>
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</tr>
<tr>
<td>Electro-Mechanical Systems IM 115</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Basic Fluid Power Operations-Hydraulics IM 124</td>
<td>3</td>
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<tr>
<td>Basic Fluid Power Operations-Pneumatics IM 125</td>
<td>3</td>
<td></td>
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<tr>
<td>Industrial Mechanical Laboratory IM 134</td>
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<tr>
<td>Industrial Technology Communications IM 162</td>
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<tr>
<td>*Occupational Relationships IM 262</td>
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<tr>
<td>TOTAL</td>
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<td>17</td>
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</tbody>
</table>

The objective of the Horticulture Program is to prepare students for employment in the Landscape, Nursery, Floral, and Fruit and Vegetable industries. This includes the production, service areas of these major fields. The program stresses the design of landscapes, their interpretation and construction including costs, production of nursery plants, plant propagation, and landscape planting. Graduates of the Horticulture program qualify for positions in Nursery and Floral establishments as well as in Parks, Grounds, Maintenance, and Highway departments. They may also enter the fields associated with plant propagation, nursery sales, greenhouse work and sales in the related fertilizer and insecticide fields.

Course Offerings

See page 23 for definition of course numbering system.
The Industrial Mechanics/Automation Program is designed to prepare technicians with entry level skills relevant to increasingly complex automated industrial environments. Emphasis is on design, operation, maintenance, diagnosis and troubleshooting of modern systems as found in the workplace today. Preventive maintenance techniques and job safety are stressed.

SUBJECTS

1st SEM 2nd SEM
Maintenance Welding Technology IM 101 . . . . . . . . . . . . . . . . 3 3
Maintenance Machine Fundamentals IM 102 . . . . . . . . . . . . . . . . 3 -
Electro-Mechanical Systems IM 114 . . . . . . . . . . . . . . . . . . . . 3 -
Electro-Mechanical Systems IM 115 . . . . . . . . . . . . . . . . . . . 3 3
Basic Fluid Power Operations-Hydraulics IM 124 . . . . . . . . . . . . . 3 -
Basic Fluid Power Operations-Pneumatics IM 125 . . . . . . . . . . . . . 3 -
Industrial Mechanical Laboratory IM 134 . . . . . . . . . . . . . . . . . . . 5 -
Industrial Mechanical Laboratory IM 135 . . . . . . . . . . . . . . . . . . . 5 -
Industrial Technology Communications IM 162 . . . . . . . . . . . . . . . . 2 -
Occupational Relationships IM 262 . . . . . . . . . . . . . . . . . . . . . . . . . . 2 -
TOTAL 16 16

Course Offerings

See page 23 for definition of course numbering system

IM INDUSTRIAL MECHANICS

1M 101 MAINTENANCE WELDING TECHNOLOGY (3-0-3)(F). Coverage includes oxyacetylene equipment, basic arc welding, and gas metal arc welding for maintenance. Use of special electrodes on ferrous and non-ferrous base metals is emphasized. Blueprint reading, shop math, equipment maintenance, and layout skills for modern manufacturing are included.

1M 102 MAINTENANCE MACHINE FUNDAMENTALS (3-0-3)(S). This course combines use of basic hand tools with selected machine tools (lathe, milling machine, drill press, shaper, pipe/bolt machines) as required to effectively service or repair increasingly sophisticated industrial devices. Preventive maintenance techniques utilizing this equipment are covered.

1M 114 ELECTRO-MECHANICAL SYSTEMS (3-0-3)(F). This course includes basic electricity, fractional horsepower motors, torque and horsepower, controls, transmission of power via various drives, trouble-shooting, and maintenance of these systems. Test meter usage is stressed.

1M 115 ELECTRO-MECHANICAL SYSTEMS (3-0-3)(S). This course includes electrical motors with emphasis on three-phase and direct-current operations. Wiring skills are emphasized and troubleshooting of complex circuits is given using modern testing equipment.

1M 124 BASIC FLUID POWER OPERATIONS-HYDRAULICS (3-0-3)(F). This course concentrates on Basic Hydraulics providing exposure to pumps, motors, directional control valves, flow controls, filtration devices, and actuators.

1M 125 BASIC FLUID POWER OPERATIONS-PNEUMATICS (3-0-3)(S). This course concentrates on Basic Pneumatics providing exposure to compressors, motors, switches, control valves, flow controls, filtration devices, and actuators.

1M 134 INDUSTRIAL MECHANICAL LABORATORY (0-20-5)(F). Laboratory experiences keyed to Performance Based Objectives. Five areas are emphasized to prepare technicians for industrial environments. These areas include, but are not limited to: Metallurgy via welding technologies, maintenance of this equipment, and fluid power technologies. Hydraulics and electromechanical systems are enhanced by computer assistance where applicable.

1M 135 INDUSTRIAL MECHANICAL LABORATORY (0-20-5)(S). Laboratory experience keyed to Performance Based Objectives. Five areas are emphasized to prepare technicians for industrial environments. These areas include, but are not limited to: Metallurgy via machine tool use for maintenance and maintenance of this equipment, fluid power technologies; pneumatics, electro mechanical systems enhanced by computer assistance where applicable.

1M 162 INDUSTRIAL TECHNOLOGY COMMUNICATIONS (2-0-2)(F). Computer/ Numerical Control Literacy for the Industrial Technician. Problem solving with the Hewlett-Packard HP41 CV/IIL System. Demonstrations of programming and operating techniques are given the student for controlling/communicating with automated production equipment.

Machine Tool Technology—Two Year Program

Boise State University offers a specialized Machine Tool Technology program for students desiring to become machine tool operators. Students receive instruction in the setup and use of all basic machines including engine lathes, milling machines, grinders, surface grinders, computer numerical control machines and benchwork connected with them. Students will also learn about the many different materials and processes used by industry. They will receive classroom instruction and practical experience in the use of various precision measurement and test equipment being used by metals manufacturing industries.

Upon enrollment in the Machine Tool Technology program, the student will have the opportunity to pursue a one-year Technical Certificate in Machine Tool Technology, by taking all classes listed under Freshman Year, or a two-year Associate of Applied Science Degree in Machine Tool Technology.

A minimum grade of "C" is required in all course work to receive a Technical Certificate or an Associate of Applied Science Degree.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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</thead>
<tbody>
<tr>
<td>Machine Shop Laboratory MS 103-104</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Communication Skills MS 111</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Related Blueprint Reading MS 126-127</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Basic Math MS 132</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Machine Shop Theory MS 153-154</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Occupational Relationships MS 262</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Fundamentals of Speech Commun CM 111</td>
<td>3</td>
<td>-</td>
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<tr>
<td>TOTAL 16</td>
<td>18</td>
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<table>
<thead>
<tr>
<th>SOPHOMORE YEAR</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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</thead>
<tbody>
<tr>
<td>Advanced Machine Shop Lab MS 203-204</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Fund Computer-Aided Draft &amp; Design MS 211</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Blueprint Read &amp; Layout for Machinist MS 221</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Tool Design for Manufacturing MS 224</td>
<td>2</td>
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<tr>
<td>Advanced Math MS 233-234</td>
<td>6</td>
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<tr>
<td>Advanced Machine Shop Theory MS 253-254</td>
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<td>Electives (on approval)</td>
<td>3</td>
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<tr>
<td>TOTAL</td>
<td>19</td>
<td>19</td>
</tr>
</tbody>
</table>

Course Offerings

See page 23 for definition of course numbering system

MS MACHINE SHOP

MS 103 MACHINE SHOP LABORATORY (2-18-6)(F). This sequence covers safety, shop practice, work habits and production rates. Also included are the set-up and operation of inspection and layout tools, engine lathe, vertical milling machine, horizontal milling machine, and power saws. COREQ: MS 153.

MS 104 MACHINE SHOP LABORATORY (2-18-6)(S). This sequence covers safety shop practice, work habits and production rates. Also included are the set-up and operation of drill press, jig bore, surface grinders, and computer numerical control milling machine. PREREQ: MS 103. COREQ: MS 154.

MS 111 COMMUNICATION SKILLS (3-0-3)(F)(S). An examination of interpersonal communication. Focuses on communication in life-long learning, on awareness of self, communicative relationships and written communications.

MS 126 RELATED BLUEPRINT READING (2-0-2)(F). Introduction to the basic principles and techniques of reading orthographic projection drawings and technical sketches as applied to machine shop practice.

MS 127 RELATED BLUEPRINT READING (4-0-4)(S). A course in advanced principals to understand the reading of more complicated machine shop detail and assembly drawings with emphasis on machining specifications and materials. PREREQ: MS 126.

MS 132 BASIC MATH (2-0-2)(F). A study of fractions, decimals, metric system and basic math processes such as addition, subtraction, division and multiplication as applied to the machine shop.

MS 153 MACHINE SHOP THEORY (3-0-3)(F). Machining processes and their application as practiced in the laboratory course. Safety and sound work habits are emphasized in all phases of instruction. The set-up, care and maintenance of
inspection and layout tools, engine lathe, vertical milling machine, horizontal milling machine, and power saws. COREQ: MS 103.

MS 154 MACHINE SHOP THEORY (3-0-3)(S). Machining processes and their application as practiced in the laboratory course. Safety and sound work habits are emphasized in all phases of instruction. The set-up, care, and maintenance of drill presses, jig bore, surface grinders, and basic computer numerical grinders; and basic computer numerical control milling machine. PREREQ: MS 153, COREQ: MS 104.

MS 203 ADVANCED MACHINE SHOP LABORATORY (2-18-6)(F). The set-up and operation involving manipulative development and advanced skill in the use of engine lathes, vertical milling machines, drill presses, power saws, surface grinders, advanced computer numerical control milling machines, and basic computer numerical control lathe. PREREQ: MS 104.

MS 204 ADVANCED MACHINE SHOP LABORATORY (2-18-6)(S). The set-up and operation involving manipulative development and advanced skill in the use of engine lathes, vertical milling machines, drill presses, power saws, surface grinders, advanced computer numerical control lathe, operation and programming. PREREQ: MS 203.

MS 211 FUNDAMENTALS OF COMPUTER-AIDED DRAFTING & DESIGN (1-1-1)(F). This course is an introduction to computer-aided drafting and design systems. It will prepare students for keyboarding, to operate the systems and understand the applications of computer graphics to machine standards. Students will learn to use an interactive computer graphics system to prepare drawings on CRT.

MS 223 BLUEPRINT READING AND LAYOUT FOR THE MACHINIST (1-0-1)(F). Three dimensional drawing and hand-sketching of computer numerically controlled prints and computer numerically controlled tools as applied to the machine trade.

MS 224 TOOL DESIGN FOR MANUFACTURING (2-0-2)(S). This course is an introduction to tool design for the machinist. It will prepare the student to understand design of fixtures, jigs, and tools used in the machining trade. PREREQ: MS 223.

MS 233 ADVANCED MATH (6-0-6)(F). Fundamentals of algebra and basic operations with signed numbers, powers and roots to solve equations encountered in using machine shop formulas. Instruction in ratio, direct and inverse proportions is also included. PREREQ: MS 132.

MS 234 ADVANCED MATH (6-0-6)(S). A study of advanced math and scientific principles as required in the machinist trade is provided to solve more complicated problems and utilizing plane and coordinate geometry. PREREQ: MS 233.

MS 235 ADVANCED MACHINE SHOP THEORY (2-0-2)(F). The advanced programming of computer numerical control milling machine and basic programming of computer numerical controlled lathe. PREREQ: MS 154.

MS 254 ADVANCED MACHINE SHOP THEORY (2-0-2)(S). The advanced programming of computer numerical control lathe and building of fixtures and jigs.

MS 262 OCCUPATIONAL RELATIONS (2-0-2)(S). An examination of occupational requirements. Focuses on job seeking skills, employer and employee relations, social security and worker’s compensation laws, CPR, and first aid skills.

Mid-Management Two Year Program

Associate of Applied Science

Instructors: Starla Haislip, Richard Lane

The Mid-Management program is a two-year program leading to the Associate of Applied Science degree. Students develop skills in sales, management, communication, marketing, and computer science. Study includes basic business orientation, marketing and management principles and techniques, economics, accounting, retail merchandising, buying and selling, in addition to general academic requirements.

Supervised internships in local businesses enable students to apply management and marketing skills learned in the classroom: Students completing the program are employed in trainee positions as assistant managers, store buyers, department heads, and junior executives in a variety of industries.

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>1st SEM</th>
<th>2nd SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition E 101-102</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Business GB 101</td>
<td>3</td>
</tr>
<tr>
<td>Business Math MT 105</td>
<td>3</td>
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<tr>
<td>Fund of Speech Communication CM 111</td>
<td>3</td>
</tr>
<tr>
<td>Intro Information Processing OF 162</td>
<td>2</td>
</tr>
<tr>
<td>Intro to Microcomputers OF 161</td>
<td>2</td>
</tr>
<tr>
<td>Elements of Marketing MM 201</td>
<td>3</td>
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<tr>
<td>Introduction to Financial Accounting AC 205</td>
<td>3</td>
</tr>
<tr>
<td>Fundamentals of Supervision OF 256</td>
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<tr>
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<td><strong>Totals</strong></td>
<td>17-18</td>
</tr>
</tbody>
</table>

**SOPHOMORE YEAR**

| Principles Microeconomics EC 205 | 3 |
| Report Writing MM 209 | 3 |

**Retail Merchandising MM 204**

**Principles of Promotion MM 203**

**Mid-Management Internship MM 293**

**Intro to Microcomputer Retailing MM 250**

**Legal Environment of Business GB 202**

**Elements of Management MM 257**

**Display & Promotion MM 212**

**Electives**

| 2-3 |
| 2-3 |

**Totals**

| 17-18 |

**MM 293 MID-MANAGEMENT INTERNSHIP (1-8-3)(F/S).** For students enrolled in Mid-Management majors only. Three additional internship credits may count toward departmental elective requirements.

**Course Offerings**

See page 23 for definition of course numbering system.

**MM MID-MANAGEMENT**

**MM 101 SALESMAINSHIP (3-0-3)(F/S).** A basic course in personal selling techniques as applied in working situations in the modern retail store, wholesaler, and manufacturer establishments, analysis of customer behavior and motivation; methods of creating customer attention, interest, desire and action. Special emphasis is given to ethical sales techniques.

**MM 104 LEADERSHIP DEVELOPMENT (2-0-2)(F/S).** This course will further the professional development of students in business. Students will be evaluated on leadership skill development, parliamentary procedure, interpersonal communication, business related skill enhancement through state and national leadership conferences, and business-oriented community and campus projects. This course may be repeated once for credit.

**MM 201 ELEMENTS OF MARKETING (3-0-3)(F).** The study of activities by which goods and services flow from producer to ultimate consumer. Includes methods, policies, and evaluation of the various marketing institutions according to the function performed.

**MM 203 PRINCIPLES OF PROMOTION (3-0-3)(F/S).** Objectives and policies of sales promotion, study of the media, and regulation of advertising. Coordination of display, selling and other merchandising factors. Study of copy, illustrations, layout and display.

**MM 204 RETAIL MERCHANDISING (3-0-3)(F).** Merchandise planning and control, expenses and cost reduction, purchasing for resale, pricing of goods, retail control systems. Mid-management majors only.

**MM 209 REPORT WRITING (3-0-3)(F/S).** Prepares the student to write reports and other types of business communication. Emphasis is on the planning, organizing, analyzing, and writing of reports and related business communication. Research methods and the use of verbal and visual materials will also be included. Mid-Management majors only.

**MM 212 DISPLAY AND PROMOTION (3-0-3)(F/S).** This course will cover practical applications of the various forms of promotion used by business today. Students will be required to organize and conduct promotional plans applying strategies and theories learned in MM 203. PREREQ: MM 203.

**MM 250 INTRODUCTION TO MICROCOMPUTER APPLICATIONS IN RETAILING (3-0-3)(S).** Applications in retail field including basic operation, spreadsheets, and database applications.

**MM 257 ELEMENTS OF MANAGEMENT (3-0-3)(F/S).** Principles of management related to the functions of planning, organizing, staffing, directing, and controlling. Focus is on practical applications of job design and analysis, employee training and development, motivation, leadership, art of negotiation, improving team performance and productivity, and creative problem solving as they relate to retail, service, and wholesale fields. PREREQ: OF 256. Mid-Management majors only.

**MM 293 MID-MANAGEMENT INTERNSHIP (1-8-3)(F/S).** For students enrolled in the mid-management program. This provides actual experience in retail, wholesale, or service fields as a paid employee. Students are evaluated by both the employer and the program coordinator. Students will also learn the basic attitudes, knowledge, and job seeking techniques needed to get and keep a job and adjust to situations encountered on the job. Internship credits may count toward 6 credits of internship or may earn a maximum of 9 credits (3 credits of elective).

**Practical Nursing Eleven Month Program**

**Technical Certificate**

**Instructors:** Leanne Borman, Mary Hammond, Karla Jones, Dessa Lagerstrom, Mary Noreen, Janet Tisdale, Mary Towle

The Practical Nursing Program, in cooperation with five hospitals, two long term care facilities and the State Board for Vocational Education, is
approximately 11 months in length and consists of hospital and long term care nursing experiences and classroom instruction. A certificate is awarded upon graduation from the course. Students are then eligible to take the state licensing examination, which, if passed, qualifies them to practice as licensed practical nurses. The program is approved by the Idaho State Board of Nursing.

Classroom work includes instruction in the needs of individuals in health and in sickness, with emphasis on the practical nurses' role in meeting these needs.

Clinical experience consists of supervised hospital nursing experience in caring for patients with medically and surgically treated conditions, the care of sick children, new mothers and infants, rehabilitation and remotion techniques in the care of the aged and long-term patient. Failure to meet requirements in either theory or clinical areas may result in termination from the program.

Admission Requirements: High school graduate or pass the General Educational Development Test. Satisfactory scores on the pre-entrance test, which is given by Boise State University. A complete medical examination is required. The applicant will be interviewed by a committee. Thirty-two students will be selected for the Boise program, which begins in January; twenty students will be selected for the Nampa/Caldwell program which begins in September.

The courses will be offered at various times during the eleven months depending upon the admission date and the availability of clinical experiences. This curriculum meets the requirements for hours and content for the Idaho State Board of Nursing.

A student must complete the following requirements to graduate from the program.

Professional Concepts PN 101 ........................................... 1
Anatomy and Physiology for Practical Nursing PN 102 .................. 4
Medical-Surgical Nursing Clinical PN 104 ................................ 7
Nutrition and Diet Therapy PN 105 ..................................... 2
Emergency Nursing Concepts PN 106 .................................... 2
Pharmacology for Practical Nursing PN 107 ......................... 3
Geriatric Nursing PN 109 .................................................. 1
Geriatric Clinical PN 110 .................................................. 1
Maternal and Infant Clinical PN 112 ................................... 1
Pediatric Clinical PN 113 .................................................. 2
Fundamentals of Nursing PN 114 ....................................... 3
Clinical Foundations PN 115 ............................................. 3
Community Health and Microbiology PN 120 ......................... 1
Medical-Surgical Nursing I PN 121 ................................... 8
Medical-Surgical-Nursing II PN 122 .................................. 7
Growth and Development PN 123 ..................................... 1
Maternal and Infant Health PN 124 .................................... 2
Pediatric Nursing PN 125 ................................................. 1
Mental Health and Mental Illness PN 126 .............................. 2
Intro Comp Appl Occup Relat PN 180 ................................ 1
TOTAL ................................................................. 58

Course Offerings

See page 23 for definition of course numbering system

PN PRACTICAL NURSING

PN 101 PROFESSIONAL CONCEPTS (1-0-1)/(F/S). Topics of study for Practical Nursing Professional Concepts will include role of the Practical Nurse, legal and ethical aspects, and historical development of the field.

PN 102 ANATOMY AND PHYSIOLOGY FOR PRACTICAL NURSING (4-0-4). A study of the normal structure and function of the body cells, tissues, organs and systems, including the interrelationship of body systems.

PN 104 MEDICAL-SURGICAL NURSING CLINICAL (0-28-7). Clinical experience for PN 121-122.

PN 105 NUTRITION AND DIET THERAPY (2-0-2). An introduction to nutrition and identification of body nutritional needs in health and illness, including the study of diet therapy.

PN 106 EMERGENCY NURSING CONCEPTS (2-0-2). A study of assessment and immediate and temporary treatment of persons involved in accidents or other emergency situations.

PN 107 PHARMACOLOGY FOR PRACTICAL NURSING (3-0-3). A study, of drug classification, modes of administration and principles of mathematics essential to drug administration.

PN 108 PHARMACOLOGY CLINICAL (0-4-1). Clinical experience for PN 107. PREREQ: PN 107.

PN 109 GERIATRIC NURSING (1-0-1). A study of the health needs and problems particular to the elderly patient. PREREQ: PN 109.

PN 110 GERIATRIC CLINICAL (0-4-1). Clinical experience for PN 109. PREREQ: PN 109.

PN 111 MATERNAL AND INFANT CLINICAL (0-4-1). Clinical experience for PN 124. PREREQ: PN 124.

PN 113 PEDIATRIC CLINICAL (0-8-2). Clinical experience for PN 125. PREREQ: PN 125.

PN 114 FUNDAMENTALS OF NURSING (3-4-5). The student will develop skills in activities and procedures basic to patient care and includes medical terminology.

PN 115 CLINICAL FOUNDATIONS (0-12-3). Clinical experience for PN 114. PREREQ: PN 114.

PN 118 PRACTICAL NURSING SPECIAL THEORY (V-V-1 to 10). Designed to provide the opportunity for study of a specific unit of theory. The topic offered will be selected on the basis of an evaluation of needs of the individual. PREREQ: PERM/DEPT.

PN 119 PRACTICAL NURSING SPECIAL CLINICAL (V-V-1 to 10). Designed to provide the opportunity for specific clinical experience. The clinical offered will be selected on the basis of an evaluation of needs of the individual. PREREQ: PERM/DEPT.

PN 120 COMMUNITY HEALTH AND MICROBIOLOGY (1-0-1). A study of the health needs of the individual, the family, the community and microbiology.

PN 121 MEDICAL AND SURGICAL NURSING I (8-0-8). A study of diseases and disorders of the body systems including planning, implementation and evaluation of nursing care.

PN 122 MEDICAL AND SURGICAL NURSING II (7-0-7). Continuation of the study of body systems and nursing care. PREREQ: PN 121.

PN 123 GROWTH AND DEVELOPMENT (1-0-1). A study of normal growth and development.

PN 124 MATERNAL AND INFANT HEALTH (2-0-2). A study of the obstetric patient and the neonate both in health and illness.

PN 125 PEDIATRIC NURSING (2-0-2). A study of health, diseases and disorders of children.

PN 126 MENTAL HEALTH AND MENTAL ILLNESS (2-0-2). A study designed to enable the student to become skilled in dealing effectively with people including mental health and the signs and symptoms of mental illness.

PN 180 INTRO COMPUTER APPLICATION TO OCCUPATIONAL RELATIONS (1-0-1)/(F). A study of job seeking skills, written communication and hands on use of computer technology to complete personal data packet.

Professional Truck Driving Program—Ten Week Program

Postsecondary Vocational Certificate
Instructors: Bob Castleberry, Jerry Hibbard, Leon Morrison, Ray Reeves

The Professional Truck Driving Program curriculum is designed to provide the students with the necessary skills and background for employment as an over-the-road entry level driver. This program is 10 weeks in length, 40 hours per week. Initially controlled driving will take place in non-traffic areas and advance to open road, progressing from an empty to a loaded truck and trailer. The student will learn skills and procedures for handling freight, loading and unloading, dock loading, trailer combinations and their uses. Ample time will be given to familiarize the student with the problems of negotiating large rigs in traffic and over the highway. DOT and Interstate rules and requirements including the new Federal Commercial Driver's License law will be covered. Log keeping and accident procedures are stressed throughout the course. A Postsecondary Vocational Certificate is issued upon satisfactory completion of the program. All students must meet the Department of Transportation's physical standards, have a Department of Motor Vehicles driver's record check, and successfully pass the State CDL exam.

SUBJECTS

Basic Operation TD 100 ............................................. 3
Safe Operating Procedures TD 105* ................................. 3
Advanced Operating Practice TD 110 ............................... 4
Vehicle Maintenance TD 115 ......................................... 4
Transportation Systems Management TD 120 ................. 3
TOTAL ................................................................. 15
The Refrigeration, Heating and Air Conditioning Program offers laboratory experience, theory classes and related subjects, designed to prepare students for entry level employment.

Emphasis will be on the servicing of commercial and residential equipment and will cover all phases of skills and knowledge necessary to repair the equipment with a strong emphasis on safety.

**Course Offerings**

**Subjects**

<table>
<thead>
<tr>
<th>SUBJECTS</th>
<th>1st</th>
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<tbody>
<tr>
<td>Air Conditioning Lab RH 121-122</td>
<td>10</td>
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<tr>
<td>Air Conditioning Theory RH 141-142</td>
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<td>5</td>
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<tr>
<td>Occupational Relationships RH 262</td>
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<td><strong>TOTAL</strong></td>
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**Course Offerings**

**Recreational and Small Engine Repair Technology—Nine Month Program**

**Technical Certificate**

**Instructor:** Jeff Schroeder

The Recreational and Small Engine Repair Technology Program will include classroom, lab, and shop experiences directed to maintaining and repairing of a variety of two and four cycle engines used on recreational vehicles, e.g., snowmobiles, motorcycles, four-wheelers, watercraft, and portable power equipment, e.g., lawn mowers, chain saws, rotary tillers. The instructional units will emphasize the complete repair of various types of small engines and the equipment related to it's use.

**SUBJECTS**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Small Engine Laboratory SE 101-102</td>
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<td>Small Engine Theory SE 141-142</td>
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<tr>
<td>Intro Microcomputers SE 129</td>
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<tr>
<td>Occupational Relationships SE 181</td>
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</table>

**Course Offerings**

**Respiratory Therapy Technician**

**Technical Certificate**

**Instructors:** David Nuerenberg, B.S.RRT; Charles Reed, M.D.; Vera McCrink, B.S.RTT-CPFT

The Respiratory Therapy Technician program is designed to provide students with the necessary theory and skills to become employed as a Respiratory Therapy Technician upon graduation and be eligible to write the Certified Respiratory Therapy Technician National Examination. The program includes the study of anatomy, physiology, microbiology, pharmacology, pathology and specialized subjects related to respiratory therapy.

Clinical experience consists of supervised, acute and long term care experience in treatment of respiratory disease. The various acute and long term care facilities provide a vastly diversified experience in cardiopulmonary care.

A Technical Certificate is awarded upon completion of the program.

**FIRST SUMMER SEMESTER**

<table>
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<tr>
<td>Anatomy &amp; Physiology RS 111</td>
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<td>Medical Terminology RS 109</td>
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<tr>
<td>Basic Airway Management RS 108</td>
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**FALL SEMESTER**

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<tr>
<td>Basic Science RS 112</td>
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<td>Communications RS 117</td>
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<td>Microbiology RS 119</td>
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<td>Pharmacology RS 120</td>
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<tr>
<td>Clinical Assessment RS 113</td>
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<tr>
<td>Advanced Airway Management RS 150</td>
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<tr>
<td>Hyperinflation Therapy RS 122</td>
<td>1</td>
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<td>Gas Therapy Lab RS 113</td>
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<td>Gas Therapy Theory RS 114</td>
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<tr>
<td>Electrocardiography RS 153</td>
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<tr>
<td>Clinical Practicum I RS 121</td>
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**SPRING SEMESTER**

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<td>Cardiopulmonary Pathophysiology RS 151</td>
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<tr>
<td>Mechanical Ventilation Theory RS 154</td>
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<tr>
<td>Mechanical Ventilation Lab RS 155</td>
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Pulmonary Function Theory RS 156 .................................................. 1
Clinical Practicum II RS 158 ...................................................... 4
Pediatrics and Neonatology RS 159 ............................................ 1

TOTAL ................................................................. 17

SUMMER SEMESTER
Clinical Lecture Series RS 175 ................................................. 3
Respiratory Care Review RS 176 ................................................. 4
Clinical Practicum III RS 179 ..................................................... 8

TOTAL ................................................................. 15

Course Offerings

See page 23 for definition of course numbering system

RS RESPIRATORY THERAPY TECHNICIAN

RS 108 BASIC AIRWAY MANAGEMENT (1-0-1)(SU). An introduction to basic airway management and the resuscitation instruction and application to the adult, child and infant within the medical facility. PREREQ: PERM/INST.

RS 109 MEDICAL TERMINOLOGY (1-0-1)(SU). A study of the language of medicine organized into basic work structure (prefixes, roots, suffixes) and terms pertaining to the body systems. PREREQ: PERM/INST.

RS 111 ANATOMY AND PHYSIOLOGY (4-0-4)(SU). A study of a body's systems, functions and their interrelationships with a focus on the cardiopulmonary system. PREREQ: PERM/INST.

RS 112 BASIC SCIENCE (2-0-2)(F). A general science study including a review of basic mathematics, chemistry, and physics with emphasis on gas laws. PREREQ: PERM/INST.

RS 113 CLINICAL ASSESSMENT (2-0-2)(F). The practice of respiratory assessment including breath sounds, inspection, auscultation, palpation, percussion, chest physiotherapy care. PREREQ: PERM/INST.

RS 114 GAS THERAPY THEORY (3-0-3)(F). The detailed study of gases, aerosols, and humidity and their application to respiratory care. PREREQ: PERM/INST.

RS 115 GAS THERAPY LAB (0-4-1)(F). Practical application of all gas therapy apparatus. Students will assemble, disassemble, and apply gas delivery equipment. PREREQ: PERM/INST.

RS 117 COMMUNICATIONS (1-0-1)(F). Practical application of communications. Includes the study of terminology, legal aspects, ethics, and job-seeking skills. PREREQ: PERM/INST.

RS 119 MICROBIOLOGY (1-0-1)(F). A study of the classification, morphology, identification, and physiology of microorganisms with special emphasis on handling, cleaning, culturing, and sterilization of contaminated equipment. PREREQ: PERM/INST.

RS 120 PHARMACOLOGY (3-0-3)(F). An introduction to commonly used drugs in respiratory care including principles and routes of drug administration, actions, indications, contraindications, and physiologic responses. PREREQ: PERM/INST.

RS 121 CLINICAL PRACTICUM (0-0-2)(F). The student will obtain experience under the direct supervision of clinical instructors in community medical facilities. PREREQ: PERM/INST.

RS 122 HYPERINFLATION THERAPY (1-0-1)(F). A study of the theory, and application of intermittent positive pressure breathing (IPPB) and incentive spirometry (IS). PREREQ: PERM/INST.

RS 150 ADVANCED AIRWAY MANAGEMENT (1-0-1)(F). A study of the placement, use, and care of artificial airways including intubation, extubation, manual ventilation and suctioning. PREREQ: PERM/INST.

RS 151 CARDIOPULMONARY PATHOPHYSIOLOGY (5-0-5)(S). A study of the cardiopulmonary systems and their effects on other body systems, normal physiology, and pathologic entities including the role of respiratory care in certain disease states. PREREQ: PERM/INST.

RS 153 ELECTROCARDIOGRAPHY (1-0-1)(F). A study of the normal and abnormal cardiac tracings, and basic EKG interpretations, and the practice of EKG techniques. PREREQ: PERM/INST.

RS 154 MECHANICAL VENTILATION THEORY (4-0-4)(S). A comprehensive study of ventilators, original through current models, including the mechanical and physiologic aspects of long-term ventilatory support and care of the patient on life support systems. PREREQ: PERM/INST.

RS 155 MECHANICAL VENTILATION LAB (8-12-3)(S). Lab practice with original through current models of ventilators, including special techniques and augmented by clinical experience. PREREQ: PERM/INST.

RS 156 PULMONARY FUNCTION THEORY (1-0-1)(S). A study of the history, techniques, and interpretation of pulmonary function studies in "state-of-the-art" testing. The study of etiology and symptomatology of diseases and their relationship to pulmonary function studies included. PREREQ: PERM/INST.

RS 158 CLINICAL PRACTICUM II (0-16-4)(S). The student will obtain clinical experience under direct supervision of clinical instructors in community medical facilities. PREREQ: PERM/INST.
Water/Wastewater Environmental Technology—Eleven Month Program

Technical Certificate
Instructor: Gerald Dennis

The Water/Wastewater Environmental Technology Program is designed to prepare a student for employment as an entry level water or wastewater treatment plant operator. The program covers the entire phase of basic treatment plant operations, related math and sciences, maintenance; public relations, communications and report writing. "Hands-on" experience is provided in the classroom and when the student works at area water and/or wastewater facilities during practicum.

SUBJECTS

First eight modules - each in one/two week units:

1st 2nd 3rd

- Water/Wastewater In Plant Practicum WW 1611 .......... 4
- TOTAL 15

Second eight modules - each in one/two week units:

Collection Systems WW 122 .......... 2
Primary Wastewater Treatment WW 123 .......... 2
Wastewater Operations I WW 124 .......... 2
Secondary Wastewater Treatment WW 125 .......... 2
Wastewater Operations II WW 126 .......... 2
Wastewater Mech-Lab WW 127 .......... 2
Wastewater Sludge-Handling WW 128 .......... 2
Occupational Relations WW 262 .......... 1
- TOTAL 15

Third module - eight weeks:

1st 2nd 3rd

- Water/Wastewater In Plant Practicum WW 1611 .......... 4
- TOTAL 4

Course Offerings

See page 23 for definition of course numbering system

WW WASTEWATER ENVIRONMENTAL TECHNOLOGY

WW 108 DRINKING WATER REGULATIONS (30-30-2)(F). This course is designed to teach the student the rules and regulations that govern the water supply industry. It focuses on existing and upcoming state EPA requirements, what drinking purveyors must comply with, and the standards of operations that must be maintained. Students will be familiarized with the most recent standards for water purveyors and water treatment plant operations. This unit will introduce the student to basic chem-lab equipment and operator's math.

WW 109 WATER SOURCE MANAGEMENT (30-30-2)(F). This course is designed to provide the basic knowledge of surface and ground water delivery. The requirements to manage a water intake system and to protect a wellhead and recharge area will be covered. The student will learn reservoir management, what causes taste and odor problems and how to control their effects. Well water operation, standby power source, math, and various water supply requirements will be discussed and practiced.

WW 112 SANITATION WATER LAYOUT (30-30-2)(F). The student will learn about disinfecting water and maintaining a safe water distribution system through the use of back-flow prevention. Chlorine and other oxidizers will be discussed with emphasis on safety, math, chemistry, and laboratory techniques to monitor and control disinfection. The use of emergency equipment will be discussed and practiced. Record keeping of chemical usage will also be studied.

WW 113 COAGULATION AND FLOCULATION (30-30-2)(F). The student will learn about the initial stages and operation of a water treatment plant including the necessary equipment to treat surface water. Operator's math will be discussed and used to determine feed rates, detention times, and flow rates.

WW 114 WATER PLANT OPERATION (30-30-2)(F). The operation of a water filtration plant will be discussed. Students will practice math, chemistry, and operational techniques. Also reference logs and record keeping will be covered.

WW 115 WATER DISTRIBUTION (30-30-2)(F). This course covers how water storage and distribution systems are constructed and operated. Specific topics to be covered are hydrants, maintenance of systems, fire protection, and service connections.

WW 116 PUMP OPERATION (30-30-2)(F). Pump construction and operation will be covered. Different types of pumps, particularly centrifugal pumps, will be discussed. The student will learn the dynamics of pumping and how to replace packing and seal mechanical seals. Operation of pumps, fundamentals used to move water, and other requirements involving pumps will also be covered. Operation techniques and mechanical requirements will be discussed and practiced in this unit.

WW 122 COLLECTION SYSTEMS (30-30-2)(S). This unit focuses on how and why wastewater collection systems are managed, maintained, and repaired. Techniques will be presented to locate infiltration and effl uent in a sewer line including methods for locating unauthorized or illegal connections. This unit will introduce the student to basic chem-lab equipment and operator's math.

WW 123 PRIMARY WASTEWATER TREATMENT (30-30-2)(S). This course will cover the need for wastewater treatment and how primary treatment removes solids. There will be discussions on, and practice in, operator's math as related to detention time, surface loading, and solids pumping.

WW 124 WASTEWATER OPERATIONS I (30-30-2)(S). The student will learn about gravity thickeners and other solids handling equipment. Chem-lab and wastewater math will be discussed and practiced.

WW 125 SECONDARY WASTEWATER TREATMENT (30-30-2)(S). The student will learn about biological control of trickling filters, rotating biological contactors, and bio-towers. Math and chem-lab will be discussed and practiced.

WW 126 WASTEWATER OPERATIONS II (30-30-2)(S). This unit supplements other units and introduces activated sludge treatment and techniques. The student will learn what is required to maintain a healthy biota for the reduction of biochemical oxygen demand and the operational requirements needed to maintain a balance in the activated sludge system. Math and chem-lab will be discussed and practiced.

WW 127 WASTEWATER MECH-LAB (30-30-2)(S). This course will cover operation and maintenance of mechanical equipment such as pumps, chemical feeders, flow controlling devices, and tanks. Math, chem-lab, and operation techniques will be continued from previous units.

WW 128 WASTEWATER SLUDGE HANDLING (30-30-2)(S). The student will learn about sludge size. Various types of sludge management equipment will be discussed including digesters, incinerators, and drying processes. Also covered will be sludge management and the rules and regulations that wastewater plant operators must comply with. Math and chemical analysis of sludge will be discussed.

WW 161 WASTEWATER IN PLANT PRACTICUM II (0-280-4)(SU). The student will complete a supervised practicum at both a water and wastewater treatment facility and gain experience in the different phases of treatment and water production as well as the operational techniques used in wastewater treatment plants. Appropriate course work must be completed prior to starting the practicum.

WW 262 OCCUPATIONAL RELATIONS (15-15-1)(F/S). This course is designed to enable a student to deal effectively with people, and to advance in the water/wastewater profession. It also involves an examination of occupational requirements and focuses on job seeking skills, employer and employee relations, as well as legalities of the work place. May be repeated once for credit.

Welding and Metals Fabrication—Eleven Month Program

Technical Certificate
Instructor: Ron Baldner

The Welding and Metals Fabrication Program provides the student with instruction, practical experience, and related theory in Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux-cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW), manual and automatic Oxy-Acetylene Burning, Brazing, Soldering, Air Carbon Arc Gouging, and Plasma Arc Gouging and Cutting.

The student will also learn Blueprint reading and Layout skills and apply them by using common hand layout tools, mechanical metal shears, mechanical metal bending and performing equipment, hole punching in plate and structural shapes, drilling equipment, precision automated Oxy-Acetylene burning equipment, Computer Numerical Controlled (CNC) Plasma cutting, Precision CNC metal shearing, Precision CNC Oxy-Acetylene shape cutting equipment, CNC assisted metal bending (pressbrake) and other tools of the trade.

SUBJECTS

See page 23 for definition of course numbering system

- Welding Lab W 106-107 .......... 5
- Welding Lec/Lab W 108 .......... 6
- Blueprint Reading & Layout W 125-126 .......... 3
Welding Communication W 111 .......... 3
Welding Theory W 155-156 .......... 4 1
Intro Microcomputers W 157 .......... 1
Occupational Relations W 262 .......... 2
TOTAL 15 15 7

Course Offerings

See page 23 for definition of course numbering system

W WELDING

W 106 WELDING LABORATORY (0-20-5)(F). This course will allow the student to apply and practice those skills discussed in the WELDING THEORY and BLUEPRINT READING AND LAYOUT courses. Emphasis will be on acquiring new skills in a number of areas related to the occupation including shielded metal arc welding (SMAW) (stick welding); Oxy-Acet. Burning (manual and automatic); Oxy-Acet. Brazing, soldering, and welding (OAW); Gas Metal Arc Welding (GMAW)/MIG; Flux cored Arc Welding (FCAW); Material Identification; Electrode selection; and Layout and Fabrication Skill.

W 107 WELDING LABORATORY (0-20-5)(S). This course will allow the student to apply and practice those skills discussed in the WELDING THEORY and BLUEPRINT READING AND LAYOUT courses. Emphasis will be on acquiring job entry level skills in the following areas: Shielded metal arc welding (SMAW); Oxy-Acet. Burning (manual and automatic); Oxy-Acet. Brazing, soldering, and welding (OAW); Gas Metal Arc Welding (GMAW)/MIG; Flux Cored Arc Welding (FCAW); Material Identification; Electrode selection; Layout and Fabrication Skill; Air Arc Gouging; Welder Qualification tests. PREREQ: W 106 or PERM/INST.

W 108 WELDING LECTURE/LABORATORY (6-24-6)(SU). Summer session (2 months) for basic students to continue on track and for advanced students to work into TIG, PIPE and qualification tests. Further emphasis on blueprint analysis, properties of materials, and safe operating procedures is given. PREREQ: W 107 or PERM/INST.

W 111 WELDING COMMUNICATIONS (3-0-3)(F). An examination of interpersonal communication. Focuses on communication in life-long learning, awareness of self, communicative relationships and written communications. PREREQ: W 106 or PERM/INST.

W 125 BLUEPRINT READING AND LAYOUT (3-0-3)(F). This course will include the basics of Orthographic drawing, layout and fabrication techniques for plate and gauge material developments or rectangular and triangular shapes, flat pattern development of rectangular shapes, and the related math required to accomplish the above listed developments.

W 126 BLUEPRINT READING AND LAYOUT (7-0-7)(S). This course involves using advanced blueprint reading and layout techniques to develop triangular constructions, rectangle to rectangle transitions, round to round transitions, circles and rolled shapes as well as the related math. Also included will be structural detailing, layout and fabrication of structural shapes and the related symbols, abbreviations and ordering information. PREREQ: W 125 or PERM/INST.

W 155 WELDING THEORY (4-0-4)(F). The purpose of this course is to provide the student with a practical working knowledge of the following topics: 1. Basic Welding Theory, 2. Oxy-Acetylene Burning, 3. Electrode Selection, 4. Continuous Wirefeed Welding processes, 5. Oxy-Acetylene Brazing, Soldering and Welding, 6. Properties of Materials, 7. Material Identification and Basic Metallurgy

W 156 WELDING THEORY (1-0-1)(S). The purpose of this course is to provide the student with a practical working knowledge of the following topics: 1. Welding Sheetmetal with the SMAW and GMAW processes 2. Control of Arc blow and Weldment Distortion, 3. Air Arc Gouging, 4. Welder Qualification testing. PREREQ: W 155 or PERM/INST.

W 157 INTRODUCTION TO MICROCOMPUTERS (2-0-1)(SU). This course introduces the student to microcomputer skills related to the welding field, including Disk Operating System and basic word processing.

W 262 OCCUPATIONAL RELATIONSHIPS (2-0-2)(S). An examination of occupational requirements. Focuses on job seeking skills, employee and employer relations, social security, job safety laws and workmen's compensation laws, Cardiac Pulmonary Resuscitation and First Aid.
Graduate Program Coordinators

Accounting: David F. Groebner, Ph.D., Professor, College of Business
Art Education: Heather Hanlon, Ed.D., Professor of Art
Athletic Administration: Glenn R. Potter, Ed.D., Chair and Professor of Health, Physical Education, and Recreation
Business: David F. Groebner, Ph.D., Professor, College of Business
Communication: Robert R. Boren, Ph.D., Chair and Professor of Communication
Earth Science: Monte D. Wilson, Ph.D., Professor of Geosciences
Education: Phyllis J. Edmundson, Ed.D., Associate Dean and Professor, College of Education
English: Dale K. Boyer, Ph.D., Professor of English
Exercise and Sport Studies: Ross Vaughn, Ph.D., Professor of Health, Physical Education, and Recreation
Geology: Walter S. Snyder, Ph.D., Associate Professor of Geosciences
Geophysics: John R. Pelton, Ph.D., Associate Professor of Geosciences
History: Mike Zirinsky, Ph.D., Professor of History
Instructional & Performance Technology: Mark Eisley, Ph.D., Assistant Professor of Instructional & Performance Technology
Interdisciplinary Studies: Phillip Eastman, Ph.D., Professor of Mathematics, Associate Dean, College of Arts and Sciences
Music: Jeanne Marie Belby, Ph.D., Associate Professor of Music
Public Administration: James B. Weatherby, Ph.D., Associate Professor and Director of Public Administration
Raptor Biology: Marc Joseph Bechard, Ph.D., Professor, Department of Biology
Social Work: Juanita Hepler, Ph.D., Associate Professor of Social Work
Visual Arts: Heather Hanlon, Ed.D., Professor of Art

Admission As A Graduate Student

The Graduate Admissions Office of the Graduate College provides admissions counseling, evaluates all transcripts for admission to graduate programs and verifies the completion of admission requirements. Students holding a bachelor's or higher degree can be classified as graduate, senior, sophomore or special for purposes of financial aid application and fee payment. Classification status is determined by the students educational objective.

Admission requirements for students pursuing master's degrees vary according to the graduate program. Please see the graduate program requirements listed below.

1. All students holding a bachelor's or higher degree must submit an application for admission to the Graduate Admissions Office and pay a nonrefundable $15.00 application fee.

2. All graduate students, except the categories exempted below, must submit official transcripts from each post-high school institution attended directly to the Graduate Admissions Office. An official transcript is one certified by the issuing institution and mailed by that institution directly to the Graduate Admissions Office.

Exempt categories: Students pursuing general graduate study or undergraduate courses of interest.

Programs

Boise State University offers the following graduate degrees: Master of Business Administration, Master of Science in Accounting, Taxation, Master of Arts in Communication, Doctorate of Education in Curriculum & Instruction, Master of Arts/Science in Education, Master of Arts in English, Master of Science in Exercise and Sport Studies, Master of Public
Administration, Master of Arts in History, Master of Music, Master of Arts/Science in Interdisciplinary Studies, Master of Science in Raptor Biology, a Master of Science in Geology, Master of Science in Geophysics, Master of Science in Instructional & Performance Technology, Master of Fine Arts in Visual Arts and Master of Social Work, Master of Physical Education, Athletic Administration. The Master of Science in Geology and the Master of Physical Education, Athletic Administration degrees are offered through Idaho State University based on coursework taken at BSU.


The Master of Music has two areas of emphasis: (1) Music Education, and (2) Performance/Pedagogy.

The Master of Public Administration Degree Program has three areas of emphasis: (1) General, (2) Human Services, and (3) Criminal Justice.

Graduate Faculty

The graduate faculty is comprised of those full-time faculty who have been approved by the Graduate Council to teach graduate level courses, participate in the conduct of graduate programs and supervise graduate students.

Part-time faculty who are approved by the Graduate Council to teach a graduate course or serve on graduate committees, are appointed as adjunct graduate faculty. Such appointments are for specific assignments and are renewable but not perpetual.

General Information for Graduate Students

Application for admission to the Graduate College may be made at any time. However, there are admission deadlines for some programs and these are listed under the program description. It is recommended, however, that at least two months before the initial enrollment, the Office of Graduate Admissions will have received the application for admission, $15.00 application processing fee, official transcripts of all undergraduate and graduate work and any predictive exam scores. This will provide sufficient time to process the application prior to the semester the applicant wishes to commence graduate study. The transcripts are to be sent directly to the Boise State University Office of Graduate Admissions by the Registrar of the college or university which the applicant previously attended. For that purpose the applicant should communicate with the Registrars concerned and then allow them sufficient time to process and mail the transcripts. Applicants are strongly advised to submit the application for admission and the $15.00 application processing fee prior to requesting transcripts.

Graduate students pursuing a second baccalaureate degree or teacher certification must meet all the requirements and follow the same policies and procedures that apply to undergraduates in the same degree program. For example, some baccalaureate programs require admission to upper division standing with a specified grade point average, or have certain enrollment restrictions. Carefully read the program description and requirements for the undergraduate program you plan to pursue in order to determine your eligibility.

All documents received by the University in conjunction with applications for admission become the property of Boise State University. Under no circumstances will they be duplicated except for University advice, nor the original returned to the applicant or forwarded to any agency or other college or university.

Admission to the Graduate College

An applicant may be admitted to the Graduate College as an unclassified or non-degree-seeking student to take courses of interest when the following criteria have been met:

1. The applicant has earned a baccalaureate degree from an accredited institution.
2. The applicant has a grade point average of at least 2.75/4.00.

A student may be admitted to a graduate degree program when these additional criteria have been met:

1. Completes the GRE general exam or other predictive exam as specified by the program.
2. Submits all transcripts, letters of recommendation, and other materials specified by the program.
3. Meets the GPA requirement for the program.
4. Is recommended for admission to the degree program by the graduate program coordinator and receives written notification of admission from the Graduate Dean.

Graduate Status Classification for Matriculated Students:

All applicants are admitted to the Graduate College initially with unclassified status and retain this status until they have been accepted into a graduate program with either provisional or regular status. Credits earned by a student in unclassified status may not necessarily be accepted toward a graduate degree if the student applies for and is admitted to a graduate program at a later time. No more than nine credit hours taken in unclassified status may be included in any graduate degree program without waiver by the Graduate Dean upon recommendation by the school or department in which the student will work.

Provisional Status: Applicants may be admitted to the Graduate College with provisional status if the department or academic unit in which they plan to study requires additional evidence of their qualification for admission with regular status. No student may maintain provisional status indefinitely. The department or academic unit concerned will normally make a final determination of students with provisional status by the time they have completed twelve credits of approved study.

Regular Status: The applicant has been admitted with full graduate standing into a graduate degree program.

Graduate Courses for Undergraduate Credit

Boise State University seniors may take up to two 500 level courses for Upper Division credit applied to their baccalaureate degree program. The necessary permit forms are available at the Registrar’s Office, Room 102, Administration Building. Determination of what constitutes a senior for the purpose of this policy is left to the Graduate Dean. (MBA courses are excluded from this policy.)

Graduate Credit for Seniors

A Boise State University senior with the approval of the department in which he or she plans to work and the Graduate Dean, may enroll for graduate credit during the student’s senior year insofar as these credits will not prejudice his or her graduation during that academic year. The necessary Senior Permit Forms are available at the Registrar’s Office, Room 102, Administration Building. Credits earned in this manner are "reserved" to count toward a graduate degree at BSU. (MBA courses are excluded from this policy.)

Academic Scholarship Requirements

Academic excellence is required of students doing graduate work. A student whose academic performance is not satisfactory may be withdrawn from the degree program by the Dean of the Graduate College upon the recommendation of the department or academic unit concerned. To be eligible for a degree in the Graduate College, a student must achieve a grade point average of B (3.00) or better in all work exclusive of deficiencies, specifically included in his or her program of study. No grade below B may be used for any 300 or 400 level courses in a graduate program. Grades below C cannot be used to meet the requirements of a graduate degree.

Repeat, Retake Policy: A student who earns a grade of D in a graded 500 level course at BSU may include no more than one repeated course toward a Master’s Degree Program. A student who earns a grade of F may not count a retaken course toward any Master Degree Program at Boise State University. Therefore, a student who receives an F in a required course is automatically excluded from further Master degree work. With a D in one of these courses there is a single chance of redemption.

Credit Requirements: A minimum of thirty semester credits of course work approved by the graduate student’s supervisory committee is required. More than thirty semester credits may be required in certain programs.

Supervisory Committee Assignment: Upon admission of the applicant with regular graduate status, a supervisory committee, consisting of a chair and other faculty members, will be appointed by the department
fielding the program. This supervisory committee or the advisor, as determined within each degree program of study, will establish with the student a program of study, direct any thesis or graduate projects and administer final examination(s).

Students admitted with provisional status will be assigned a temporary advisor who will be responsible for building a tentative program of study. This advisor will guide the student with respect to meeting the stipulations of the provisional admission. Once the provisional stipulations have been satisfactorily met by the student, the department concerned will recommend to the Dean of the Graduate College that the student be admitted with regular graduate status.

Residence Requirements: A minimum of twenty-one semester credits of approved graduate work taken on the university campus is required. All appropriate graduate work taken through inter-institutional cooperative graduate programs, if approved by the department fielding the program, can be accepted as residence credit.

Transfer of Credits: A maximum of nine semester graduate credits taken at other institutions may be transferred for credit toward a Master degree provided the courses are an acceptable part of the program of study planned by the student's supervisory committee. Such courses must have been taken in an accredited college or university. Only courses with A or B grade may be transferred to Boise State University for application to a graduate degree. In general, the transfer of extension credits is discouraged. Exception may be made by departments after a detailed examination of the specific courses taken. No correspondence course will be accepted for graduate credit. Courses used to satisfy requirements for a graduate degree at another institution are not transferable.

Challenge Policy: The provisions of the challenge policy stated in the Catalog Section, "Admission Requirements to the College" under subsection "Challenging Courses. Granting Credit by Examination" apply to graduate courses. In particular, the decision to allow or not to allow challenges will be made by the department fielding the course to be challenged. For interdisciplinary courses, the decision will be made by the college officer in charge of the graduate program to which the course applies.

Program Admission and Continuation Requirements

Application for Predictive Examinations: Predictive examination scores may be required by certain departments. With respect to those departments which stipulate as part of the admissions criteria performance scores from predictive examinations, it is necessary that application be made without delay to take the examination. Students wishing to pursue graduate study in Business Administration should contact the Graduate Studies Office, College of Business, Boise State University, or the Graduate Admissions Office to secure the forms necessary to make application for taking the GMAT predictive examination. Every effort should be made to take the GMAT as soon as possible because students will not be given program status before the GMAT results are reported. Courses taken before the student is admitted (i.e., "Unclassified Status" courses) will not necessarily be allowed toward the MBA even if the student is admitted subsequently. Students should contact the Graduate Admissions Office to secure application forms for taking the GRE.

Program Development Form: Graduate students with regular or provisional status will complete a Program Development Form with their advisor or committee before the end of the first academic period (summer, fall or spring) in which they take graduate work at Boise State University, after having been notified of admission with regular or provisional status. The Program Development Form will be available from the colleges offering graduate degree programs. The advisor or committee will file the completed Program Development Form with the Graduate Admissions Office. Any courses being offered as transfer credit, as credit reserved, or as residence credit through any inter-institutional cooperative program must be claimed at the time the Program Development Form is originally filed, or before the end of the first academic period (summer, fall or spring) after which the credit has been earned, whichever is the earlier date. It is the responsibility of the graduate student to keep all program changes up to date for a graduate degree.

Time Limitations: All work offered toward a Master's degree from Boise State University must be completed within a period of seven calendar years. The seven-year interval is to commence with the beginning of the oldest course (or other academic experience) for which credit is offered in a given Master Degree Program, and the interval must include the date of graduation when the Master degree from BSU is awarded.

Foreign Language Requirements: Language requirements are determined by the department concerned. If a foreign language is required, students must demonstrate that they possess a reading knowledge of a language specified by the department.

Thesis Requirements: The requirement of a thesis or similar project is determined by the department or interdisciplinary unit concerned. The final copy of the thesis must be reviewed by the student's supervisory committee and submitted to the Dean of the Graduate College at least three weeks before commencement.

Candidacy: Students should apply for admission to candidacy as soon as they have completed eighteen hours of graduate work with a grade point average of at least 3.00 in an approved graduate program of study, have removed all listed deficiencies, and have met any specific foreign language requirements. The candidacy form is due in the Graduate Admissions Office one semester before the semester of graduation. The deadline date is listed in the academic calendar.

Candidacy involves specifying, on the appropriate form, the list of courses and projects which comprise the student's program. Changes in the planned program after admission to candidacy must be recommended in writing by the student's committee or advisor and be approved by the Dean of the Graduate College.

Final Examination Requirements: The requirements of a final examination, written, oral, or both, in any non-thesis non-project program are optional with the department or interdisciplinary unit which fields the student's program. When the examination is required, it is administered by the unit concerned. The dates for these examinations are set by the Graduate College once each semester and summer session. They are listed in the calendar of the BSU catalog. A student is not eligible to apply for the final examination until he or she has been admitted to candidacy (filed the candidacy and graduation form).

Failure in the examination will be considered terminal unless the supervisory committee recommends, and the Dean of the Graduate College approves, a re-examination. Only one re-examination is permitted. At least three months must elapse before a re-examination may be scheduled.

The requirement of a final examination in defense of any thesis or project is optional with the department or interdisciplinary unit concerned. When required, a final examination in defense of the thesis or project must be conducted at least three weeks before commencement. On a final examination in defense of a thesis or project, an additional member, who may be outside the department or college, may be appointed by the Graduate Dean at his discretion. Application for the final comprehensive examination(s) is made through the office of the dean of the college fielding the program.

Course Numbering System: See page 23 for definition of course numbering system.

Credit Limitation in Courses Graded Pass or Fail and Directed Research: A maximum of six credits earned with a grade of P will be allowed toward the credit requirements for a Master's degree. Master's programs may include directed research credits, at the discretion of the graduate student's supervising committee or professor, through a limit of nine credit hours, with no more than six credits in any one semester. Only three credits of internship and/or Directed Research may be applied to the MBA degree requirements.

Undergraduate Courses for Graduate Credit: Courses numbered at the 300 or 400 levels, may be given "G" designation to carry graduate credit. The department or school concerned will have the right to limit the number of "G" credits which can count toward any degree for which it has responsibility, and in no case can more than one-third of the credits be in courses at the 300 or 400 level. No course numbered below 300 carries graduate credit unless the "G" is affixed.

Graduate students enrolled in "G" courses will be required to do extra work in order to receive graduate credit for the courses.
Application for Graduate Degree
The last step in completing a graduate program consists of arranging for final record checking. To accomplish this, one completes the form "Application for Graduate Degree" which can be obtained from the Graduate Admissions Office, Math/Geology Building, Room 141. This form, with all appropriate signatures is to be submitted to the Graduate Admissions Office, MG-141 along with the $10.00 diploma fee. The form must be submitted by the deadline set each semester for applying for graduation. Check the Academic Calendar for the deadline date.

Master of Business Administration
Objectives
The Master of Business Administration at Boise State University is designed to prepare future business leaders to handle the challenges of change in a global economy. Emphasizing the needs of fully employed students, the program strives to provide students with a thorough grounding in each of the functional business areas. Integration of student's knowledge across these functional disciplines is one of the program's key objectives: The program provides a general perspective to business management that requires students to consider the social, environmental, and ethical context of managerial actions.

Matriculation Requirements
General Prerequisites for Applicants: Admission will be granted to applicants who hold a Bachelor's degree from an accredited college or university and who meet the standards set by the College of Business of Boise State University. Common to all programs is a foundation of course work in basic fields of Business Administration. Students who have completed a Bachelor's degree in Business within the last five years normally will have completed most of these requirements as part of their undergraduate program. The Master of Business Administration program is also designed to serve the student who has completed his or her Bachelor's degree in non-Business fields such as the Sciences, Engineering and the Liberal Arts.

Specific Prerequisites for Applicants: All applicants must fulfill the following requirements prior to enrolling in MBA classes. (New applicants for the programs should furnish documentary evidence of GMAT scores and copies of official transcripts upon initial application. For fall enrollment, students should arrange to take the GMAT by March. For spring enrollment, the GMAT should be taken no later than October.)

The requirements for admission attempt to recognize the differences among applicants with regard to experience and educational background.
1. Applicants to the MBA program must have graduated from an accredited college or university.
2. Acceptance is based on the applicant's prior academic performance, leadership experience, professional experience, aptitude for graduate study, general motivation, and managerial attributes.
3. A GMAT score of 475 and a cumulative GPA of 2.9 (C=2.0) are generally considered minimal.
4. Foreign students must score a minimum of 550 on the TOEFL or its equivalent. (Foreign students may also be asked to take an English proficiency exam at BSU.)
5. Two years of significant work experience is required. This may be waived if a student has a GMAT score of 600 or higher.
6. Current professional resume which accurately reflects professional work experience.
7. Two letters of reference (one preferably from an academic source) which address your strengths, weaknesses, how you might benefit from an MBA, and what you can contribute to our MBA program, and
8. A brief response (maximum 2 pages, double spaced) to one of the following:
   A. Discuss your career goals both short-term and long-term. What role does an MBA program, in general, and Boise State University's MBA program in particular play in helping you achieve these goals?
   B. Discuss two or three situations in the past three years where you have taken a leadership role. How do these events demonstrate your managerial potential?
   C. Please give a brief, candid evaluation of yourself. Include some discussion of the abilities and other attributes you believe are your strengths and some discussion of areas you would like to develop more fully. What do you consider most unique or distinctive about yourself?
   D. A student must be admitted to the MBA program in order to take MBA classes.
   E. All applicants must be accepted by the Graduate College of Boise State University in order to achieve the Master degree.

Undergraduate students will no longer be allowed in MBA classes under the University's Permit for Seniors to Take Graduate Courses policy.

Application deadlines:
   Summer, Fall entry ........................................... April 30
   Spring entry ..................................................... October 31

Degree Requirements
The Master of Business Administration degree consists of a minimum of 57 semester hours of credit from the offerings listed on the following pages or other graduate courses suitable to an MBA degree, as accepted by the MBA Admissions Committee.

Foundation Courses
   Electives
   Advanced Courses
   27
   21
   9

Depending upon their undergraduate course work, students may select 3-6 credit hours from the 600 level or above courses from the undergraduate College of Business program. Only those courses listed on the following pages are approved. Advisors should be consulted regarding those courses.

Under certain conditions with the approval of the MBA program coordinator and the Department head concerned, MBA students may earn up to a maximum of 3 credit hours of Directed Research and/or Internship credits which apply to graduation requirements.

Course Offerings
See page 23 for definition of course numbering system

MBA--COURSES DESCRIPTIONS:

FOUNDATION COURSES
These courses assume that the student has had previous course work in business. Conversely, any or all of these courses may be waived if the student has already taken them at an accredited business school, such as would be the case if the student had completed a baccalaureate degree in business within the last five years.

AC 511 ACCOUNTING FOR MANAGERS (3-0-3) (F). The student can expect to develop a working knowledge of financial and managerial accounting tools, techniques and procedures.

EC 514 ECONOMIC THEORY AND ANALYSIS (3-0-3) (F). This course is an accelerated, integrated introduction to economic analysis of the price system and the aggregate performance of developed economies. Supply and demand, basic market structures, income distribution, employment, inflation, growth and international trade.

FI 525 CORPORATE FINANCE (3-0-3) (S). Concepts and techniques of corporate institutional and investment finance are examined. These include time value of money, corporate bond relationships, current assets management, and efficient markets. PREREQ: AC 511, PR 513.

MB 516 LAW FOR MANAGERS (3-0-3) (F). This course explores the history and development of the partnership and corporate forms of business organization and the legal environment which creates and regulates a manager's duties toward the corporation, employees, shareholders, and members of the general public.

IS 515 INFORMATION SYSTEMS (3-0-3) (F,S). This course is a study of the impact of the computer on managers and on the environment in which managers work. Topics include theories of organizational performance, structure and design, interpersonal and leadership skills. Emphasis is placed on application of theory to business situations and development of interpersonal skills.

MG 528 ORGANIZATIONAL BEHAVIOR (3-0-3) (S). This course covers the process of planning, organizing, directing, and controlling. Main topics include theories of organizational performance, structure and design, interpersonal and leadership skills. Emphasis is placed on application of theory to business situations and development of interpersonal skills.

PR 513 BUSINESS STATISTICS (3-0-3) (F). This course studies the use of statistics in decision-making. Presentation and summarization of data, estimation, hypothesis testing, regression analysis, analysis of variance, time series and forecasting, and non-parametric methods.

PR 523 PRODUCTION AND SYSTEMS MANAGEMENT (3-0-3) (S). This course stresses the management of the production/operation function and its integration with other organizational activities. Typical areas covered are: forecasting models, design and layout of the production system, scheduling, location analysis, quality control, and material acquisition. PREREQ: PR 513.
ADVANCED COURSES

AC 531 ACCOUNTING—PLANNING AND CONTROL (3-0-3) (F/S). This course includes the study of the planning and control processes to assist in the making of business decisions. Problems and cases are considered in profit planning and analysis, cost analysis for pricing and capital budgeting. The overall objective is an understanding of techniques of cost planning and control. PREREQ: AC 511 or equivalent.

FI 545 ADVANCED FINANCIAL MANAGEMENT (3-0-3) (F/S). An analysis of financial planning and control in the dynamic environment of changing financial markets, risk-return analysis, capital budgeting, debt-equity financing, dividend policy, and merger and acquisitions are major topics. PREREQ: FI 525, EC 514 or equivalent.

GB 536 BUSINESS IN A GLOBAL SOCIETY (3-0-3) (F/S). This course is an examination of the interaction between business and the economic, social, political, and legal order on a national and international basis. A case approach is used to focus attention on effects of this broad environment on managers. Some ethical issues and cross-cultural issues are explored. PREREQ: GB 516 or equivalent.

GB 546 STRATEGIC MANAGEMENT (3-0-3) (F/S). This capstone course integrates concepts, practices and methods in strategic planning and environmental analysis. Emphasis is on the evaluation of existing strategies, business risks and opportunities and on the development of long-range plans and programs, executive and managerial controls. PREREQ: AC 531, PR 533, FI 545, MK 539 and MG 538.

MG 538 MANAGING PEOPLE IN ORGANIZATIONS (3-0-3) (F/S). This course is a systematic approach to the major phases of human resource management. Organizations, including knowledge bases and theories; problems, constraints, opportunities; program controls, evaluations and costs; and results of effective and efficient human resources management. PREREQ: MG 528 or equivalent.

MK 539 STRATEGIC MARKETING MANAGEMENT (3-0-3) (F/S). An analysis and integration of marketing concepts and models with organizational and environmental constraints. Emphasis on opportunity, problems, selection, and development of alternatives. Also formulation and implementation of strategies, plans, and programs. Consumer, institutional, and international markets included. PREREQ: MK 529 or equivalent.

PR 533 DECISION ANALYSIS (3-0-3) (S). A study of decision making in complex situations. Aids for identifying and modeling the decision problem, analyzing and responding to multiple objectives, utilizing subjective inputs, and evaluating and incorporating information. PREREQ: PR 513 or equivalent.

MBA—Elective Courses

AS 512 COMMUNICATION TECHNIQUES FOR MANAGERS (3-0-3) (Intermittent). Analysis of management communication in business. Development of a critical sense and analytical ability through evaluation of research, reports, and case studies. Writing and speaking skills emphasized through written reports, oral presentation and small group activities.

EC 560 ECONOMICS OF PUBLIC POLICY (3-0-3) (F/S). Contribution of economic analysis to the justification, design and implementation of economic policy. The issue surrounding the need for public policy in a private property, market economy and the benefits and costs associated with government intervention. The relationships between the goals and the instruments of U.S. economic policy. PREREQ: EC 514.

GB 545 INTERNATIONAL BUSINESS (3-0-3) (F/S). An overview of (1) the international business environment; (2) country characteristics and conditions affecting firms that conduct business overseas; and (3) firm level decisions about marketing, finance and personnel, and other functions.

MG 541 HUMAN RESOURCE MANAGEMENT (3-0-3) (F/S). Effective management of human resources, including all aspects of the supervisory processes conductive to reducing labor costs and increasing productivity. Special attention is given to the human, organizational, and environmental constraints which limit managerial actions. Techniques for effectively functioning within these constraints.

MK 520 MARKETING PROBLEMS (3-0-3) (Intermittent). Analytical approach to marketing problem solving and decision making. Concepts, market definition, personal selling, advertising and sales promotion, distribution channels, strategy formulation, product development procedures, and customer services. Case study approach is utilized.

PR 552 STATISTICAL METHODS FOR BUSINESS DECISIONS (3-0-3) (Intermittent). The application of the techniques and the reason for their employment in decision processes. Computer application programs are employed to assist in the learning process. Topics generally covered include: multiple regression analysis, forecasting and multivariate analysis. PREREQ: PR 523 or equivalent courses.

PR 554 OPERATIONS RESEARCH METHODS FOR DECISION MAKING (3-0-3) (Intermittent). An introduction to operations research, applying quantitative tools and interpreting the results. Particular attention is given to using the computer to analyze quantitative models. Typical areas covered are: linear programming; network models, and inventory control theory. PREREQ: PR 523 or equivalent courses.

SELECTED TOPICS: Contemporary topics courses offered intermittently.

AC 580 SELECTED TOPICS—Accounting (3-0-3)

EC 582 SELECTED TOPICS—Economics (3-0-3)

FI 583 SELECTED TOPICS—Finance (3-0-3)

IS 584 SELECTED TOPICS—Information Systems (3-0-3)

MG 584 SELECTED TOPICS—Industrial Psychology (3-0-3)

MG 585 SELECTED TOPICS—Management (3-0-3)

MK 586 SELECTED TOPICS—Marketing (3-0-3)

590 INTERNSHIP. Available on a selective, limited basis. MBA students should consult with pertinent faculty and coordinator.

596 DIRECTED RESEARCH (1-3 credits). Involves special projects undertaken by the student, consisting of individual work suited to the needs and interests of the student. The course embodies research, discussions of the subject matter and procedures with a designated professor, and a documented paper covering the subject.

UNDERGRADUATE "C" COURSES: At most two of the following courses may be taken for graduate credit if cleared by the Graduate Program Coordinator. See appropriate department listings for complete course descriptions.

AC 440G ACCOUNTING THEORY (3-0-3) (F/S)

EC 421G QUANTITATIVE METHODS IN ECONOMICS (3-0-3) (F/S)

EC 422G ECONOMETRICS (3-0-3) (S)

FI 410G WORKING CAPITAL MANAGEMENT (3-0-3) (F/S)

FI 411G CAPITAL BUDGETING AND PLANNING (3-0-3) (F/S)

FI 420G MANAGEMENT OF FINANCIAL INSTITUTIONS (3-0-3) (F/S)

FI 421G DECISION PROCESSES IN BANKING (3-0-3) (F/S)

FI 451G INVESTMENT MANAGEMENT (3-0-3) (F/S)

GB 441G FRONTIERS IN FINANCIAL MARKETS (3-0-3) (S)

MK 415G MARKETING RESEARCH (3-0-3) (F/S)

Master of Science in Accounting, Taxation Emphasis

NOTICE: The new graduate program described below has been approved for implementation by the Idaho State Board of Education but has not yet received full funding. Therefore, some or all of the courses required for the degree may not be available during this academic year. Because the funding status of this program may have changed since the publication of the catalog, you are encouraged to inquire about course offerings by calling the chair of the department or the Dean of the Graduate College.

The objective of the College of Business program leading to the M.S. in Accounting is to prepare candidates for a career in taxation. The program provides special tax courses within the broader framework of general business decision making. In a world of complex tax laws, tax professionals must have a perspective extending beyond the details of the Internal Revenue Code. They must be leaders in understanding the functions and limitations of revenue laws, in communicating their knowledge, and in assuring the efficiency and fairness of the tax system.

As tax professionals progress in their career, they will receive added responsibilities, including managing employees and providing key advice on a broad range of business topics. Graduates will develop technical competence and the business knowledge required to meet these additional demands. Thus, graduates may use their tax knowledge as a springboard into positions such as controller, vice president of taxation, chief financial officer, partner, and owner of their own firm.

Admission Requirements

Admission will be granted to applicants who hold a Bachelor's degree from an accredited college or university and meet the standards set by the College of Business at Boise State University. A foundation of coursework in basic fields of business administration is required for admission to the Master of Science in Accounting program. Students holding a bachelor's degree in business normally will have completed these requirements as part of their undergraduate program. The M.S. in Accounting program is also designed to serve the student who has completed his or her Bachelor's degree in non-business fields.

All applicants must meet the following requirements for admission into the M.S. in Accounting program:

a. Possession of a Bachelor's degree from an accredited institution.

b. Overall GPA x 200 + GMAT = 950 or Upper division GPA x 200 + GMAT = 1,000

c. Please see the Master of Business Administration's instructions for admission procedures.

Applicants desiring to enter this program must contact the Graduate Program Coordinator, Business Building, Room 310 (385-1126) in order to commence the application process and plan an orderly progression toward the degree. Any course prerequisites will be coordinated with your accounting advisor.

The Master of Science in Accounting degree consists of a minimum of 30 semester hours of credit from offerings within the program described below.
The 30 credit hour requirement consists of 18 required hours of M.S. accounting courses; 3 hours of an elective M.S. accounting course; 6 hours of approved elective graduate or undergraduate G, non-accounting courses; and 3 hours of an approved tax accounting internship, professional paper or other approved graduate course. The professional paper must be on an approved topic, coordinated and supervised by a committee assigned by the Department of Accounting. An accounting advisor is assigned to each M.S. major in order to assist in the choices available to the candidate.

**Required Courses:**
- Research in Federal Taxation AC 520
- Partnership Tax Law AC 525
- Corporate Tax Law I AC 530
- Corporate Tax Law II AC 533
- Estate & Gift Taxation AC 535
- Real Estate Tax Law AC 545
- M.S. Accounting Elective
- *Non-Accounting Elective
- Approved Internship/Research Paper/Elective

* Elective chosen from non-accounting graduate or undergraduate G course (G courses are limited to a maximum of 3 credits).

**Elective Courses:**
- Farm & Natural Resource Taxation AC 555
- Income Taxation of Trusts and Estates AC 560
- Deferred Compensation Taxation AC 565
- State Taxation and Procedures AC 570
- International Taxation AC 575
- Computer Applications in Taxation AC 577
- Current Tax Topics and Policy Issues AC 579
- Practicum/Internship AC 590

**Course Offerings**

See page 23 for definition of course numbering system.

**AC ACCOUNTING**

Graduate

**AC 520 RESEARCH IN FEDERAL TAXATION (3-0-3).** Instruction in all aspects of tax research including legislative, administrative and judicial sources; major tax services; tax planning software and LEXIS; writing and negotiation skills.

**AC 525 PARTNERSHIP TAX LAW (3-0-3).** Tax meaning of partnership, formation transactions between partner and partnership; determination and treatment of partnership income; sales and exchanges of partnership interest; distributions; retirement; death of a partner; drafting the partnership agreement.

**AC 530 CORPORATE TAX LAW I (3-0-3).** Tax considerations in corporate formation, distributions, redemptions, and liquidations. Includes personal holding companies, accumulated earnings tax, collapsible corporations and taxing affiliated groups.

**AC 533 CORPORATE TAX LAW II (3-0-3).** Subchapter S corporations, professional corporations, and reorganizations.

**AC 535 ESTATE AND GIFT TAXATION (3-0-3).** Federal estate and gift taxes, including estate planning.

**AC 545 REAL ESTATE TAX LAW (3-0-3).** Basis considerations, depreciation, and problems incident to the sale, exchange and other disposition of property, including recognition and characterization concepts.

**AC 555 FARM AND NATURAL RESOURCE TAXATION (3-0-3).** Farm, forestry, mining, and oil and gas tax practices and issues.

**AC 560 INCOME TAXATION OF TRUSTS AND ESTATES (3-0-3).** Taxation of income of trusts and estates, with emphasis of income required to be distributed currently, equivocal distributions of income corpus, and accumulation distributions; other fiduciary tax problems, including the treatment of income in respect of decedents.

**AC 565 DEFERRED COMPENSATION TAXATION (3-0-3).** Study begins with the ERISA rules and includes changes and updates for deferred compensation to the current date.

**AC 570 STATE TAXATION AND PROCEDURES (3-0-3).** State income tax issues, sales and use taxes, state and federal income tax procedures.

**AC 575 INTERNATIONAL TAXATION (3-0-3).** Multinational tax law for domestic corporations with operations abroad and nonresident citizens.

**AC 577 COMPUTER APPLICATIONS IN TAXATION (3-0-3).** State of the art tax computer software applications including emphasis on tax planning considerations; writing and negotiation skills.

**AC 579 CURRENT TAX TOPICS (3-0-3).** Topics may vary but will mostly be intense studies of major new tax bills; writing, presentation and negotiation skills.

**AC 590 PRACTICUM/INTERNSHIP (3-0-3).**

**Master of Arts in Communication**

An MA in Communication includes a common core of courses required of all graduate students in Communication. Beyond the graduate core, students design their program of study by selecting from courses offered as Selected Topics in Communication and from courses approved for graduate credit throughout the university. The MA experience culminates in successful completion and defense of a Project (CM 591) or Thesis (CM 593).

**Degree Requirements**

**MASTER OF ARTS IN COMMUNICATION**

Graduate Studies in Communication CM 500 3
Communication Theory & Research CM 501 3
Selected Topics in Communication CM 580-589 12
Electives
Graduate Seminar CM 598 6
Project CM 591 OR Thesis CM 593 1
TOTAL 31

**Course Offerings**

See page 23 for definition of course numbering system.

**CM COMMUNICATION**

CM 500 GRADUATE STUDIES IN COMMUNICATION (3-0-3). Studies the history of communication, the modes of inquiry into communication, the contemporary structure of the field, and expectations about scholarly activity within the discipline.

CM 501 COMMUNICATION THEORY AND RESEARCH (3-0-3). Examines explanatory, interpretive and critical theories of scientific inquiry as they relate to the study of human communication. Examines the theory and methodology of qualitative and quantitative research into human communication. PREREQ: CM 500.

CM 517 ORAL COMMUNICATION FOR TECHNICAL COMMUNICATORS (3-0-3). An introduction to the theory and practice of the different types of oral communication practiced by technical communicators, including interviewing, technical subject specialists and product users, group dynamics, gender issues, conflict management, and technical presentations, including the creation of presentation graphics. The course will be taught as a workshop. Students may not receive credit for both CM 517 and E 517. PREREQ: E 516 or PERM/INST.

CM 580-589 SELECTED TOPICS IN COMMUNICATION (Variable credit). Intensive study of selected topics in each area. Specific course content will vary from semester to semester. Consult current class schedule for specific topics to be offered each semester. Courses may be repeated for a total of six credits in each course.

**CM 580 SELECTED TOPICS**

- COMMUNICATION THEORY AND PHILOSOPHY
- COMMUNICATION RESEARCH METHODOLOGY
- COMMUNICATION EDUCATION
- COMMUNICATION TECHNOLOGY
- JOURNALISM AND MASS COMMUNICATION
- COMMUNICATION LAW AND POLICY
- ORGANIZATIONAL COMMUNICATION
- PUBLIC AFFAIRS
- INTERPERSONAL COMMUNICATION
- COMMUNICATION HISTORY
- GRADUATE SEMINAR (1-0-1).

Upon selection of an approved project or thesis, the student will prepare a documentary and an oral report of the topic, defending it before fellow graduate students and faculty.

CM 590 PRACTICUM
CM 591 PROJECT
CM 592 COLLOQUIUM
CM 593 THESIS
CM 594 WORKSHOP
CM 595 READING AND CONFERENCE
CM 596 DIRECTED RESEARCH
CM 597 SPECIAL TOPICS
Doctorate of Education in Curriculum and Instruction

The doctoral program in curriculum and instruction offers participants an environment in which they can develop as thoughtful, reflective, and effective professionals in education. Although individuals can and do develop on their own, they grow best in a supportive collegial environment to which they can bring their personal vision, professional knowledge and skills, commitment to civic responsibility and moral sensibility, and plans for school renewal. The coursework and related experiences in the areas of curriculum and instruction, school renewal, research, field experiences, cognate studies, and dissertation provide students with the basis for a more complete understanding of what schools are and can be, insights into the complexities of teaching and learning, and collaborative experiences in working toward measurable and positive effects upon educational programs and student learning. The purposes of this doctoral program are twofold: to provide outstanding educators an opportunity to develop professionally beyond the master's degree; and to enable university scholars and some educators to utilize the doctoral program to actively support school renewal.

Application Procedures

The admissions materials for applicants to the program include the following:

a. A letter of application describing the applicant's professional experiences and their relevance to doctoral study in education, outlining career goals and the related anticipated outcomes of the doctoral study in education, describing arrangements he or she has made to meet the residency requirements, and discussing the impact the applicant expects to have in educational renewal efforts;

b. A current resume;

c. Official score reports for the Verbal, Analytical, and Advanced Education scales of the Graduate Record Examination;

d. A sample of recent scholarly and/or professional writing (e.g., Master's thesis or project, scholarly papers, project reports, publications, etc.); and

e. Three letters of reference attesting to the applicant's seriousness of intent in doctoral study in education, professional effectiveness, potential for influencing education, scholarly abilities and disposition, personal and professional integrity, and any other information that will help the committee make an informed decision.

Degree Requirements

The curriculum is structured around six components. These are Curriculum and Instruction, School Renewal, Research, Field Experiences, Cognate, and Dissertation. Specific courses in each component are as follows.

<table>
<thead>
<tr>
<th>Component</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum and Instruction</td>
<td>TE 660 Learning, TE 661 Teaching, TE 662 Curriculum, TE 663 Evaluation, TE 664 Seminar on Curriculum and Instruction</td>
</tr>
<tr>
<td>School Renewal</td>
<td>TE 610 The American Culture and the Context of Schooling, TE 611 School Culture and the Problems of Change, TE 612 Strategies for School Renewal</td>
</tr>
<tr>
<td>Research</td>
<td>TE 651 Intermediate Statistics in Educational Research, TE 652 Quantitative Approaches to Research, TE 653 Qualitative Approaches to Research, TE 654 Dissertation Proposal Seminar</td>
</tr>
</tbody>
</table>

Field Experiences

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 620 Field Experience: At-Risk Youth</td>
<td>6</td>
</tr>
<tr>
<td>TE 621 Field Experience: School Renewal</td>
<td>2</td>
</tr>
<tr>
<td>TE 622 Practicum: School Renewal</td>
<td>2</td>
</tr>
<tr>
<td>Cognate Area</td>
<td>12</td>
</tr>
<tr>
<td>Dissertation</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
</tr>
</tbody>
</table>

Sequence of the Program

Summer: Year 1 (fulltime residency)

- TE 660 Learning
- TE 610 The American Culture and the Context of Schooling
- TE 653 Qualitative Approaches to Research

Fall: Year 1 (fulltime residency)

- TE 651 Teaching
- TE 662 Curriculum
- TE 651 Intermediate Statistics in Educational Research
- TE 652 Quantitative Approaches to Research

Spring: Year 1

- TE 653 Qualitative Approaches to Research
- TE 664 Seminar in Curriculum and Instruction

Summer: Year 2

- TE 612 Strategies for School Renewal
- TE 633 Evaluation
- TE 620 Field Experience: At-Risk Youth

Fall: Year 2

- TE 621 Field Experience: School Renewal
- TE 654 Dissertation Proposal Seminar
- Cognate Coursework

Spring: Year 2

- TE 662: Practicum: School Renewal
- TE 693 Dissertation

Summer: Year 3

- Cognate Coursework
- TE 693 Dissertation

Fall: Year 3

- TE 693 Dissertation

Course Offerings

See page 23 for definition of course numbering system

TE 610 THE AMERICAN CULTURE AND THE CONTEXT OF SCHOOLING (3-0-3)(SU). Students will explore the roles of schools in American society, including cultural and social processes; identify political forces influencing school policy-making; analyze the impact of technology on education; and be prepared to participate in public discussions about school renewal. Prerequisites: TE 611, TE 662, and TE 653.

TE 611 SCHOOL CULTURE AND THE PROBLEMS OF CHANGE (3-0-3)(S). Students will explore contemporary strategies being tried or proposed to bring about ongoing renewal in schools. There will be an emphasis on participatory approaches to school change, collaboration and partnerships, and the role of technology in bringing about cultural diversity and conflict resolution strategies. Students will work on projects through which they will transform their emerging theories of change into plans for making change happen in their schools. Special emphasis will be placed on preparation for school-based decision making. Prerequisites: TE 610 and TE 653.

TE 620 FIELD EXPERIENCE: AT-RISK YOUTH (0-4-2)(S/F/SU). In this field experience students will gain experience with at-risk children and their families, and the community agencies that serve them. As part of the course students will conduct in-depth studies that include home visits, and work with specific agencies serving these students and their families. Through these activities students will gain an appreciation and better understanding of the societal and social pressures on children, families, schools, and the process of educational renewal. Prerequisites: TE 612 and TE 653.

TE 621 FIELD EXPERIENCE: SCHOOL RENEWAL (0-4-2)(F/S). In this internship students will gain experience with schools and other educational settings that are involved in exemplary educational renewal projects. They will participate in model
Master of Arts or Science in Education

The College of Education offers two Master's degrees: Master of Arts or Science in Education and Master of Science in Exercise and Sport Studies.

The Associate Dean of the College of Education has been assigned the authority and responsibility for the overall administration and operation of the graduate programs in the College.

A Master's degree in Education with emphases in Art, Curriculum & Instruction, Early Childhood, Earth Science, Educational Technology, Mathematics, Reading and Special Education is presented through the Department of Teacher Education, the related subject departments and the College of Education.

Application for admission to the graduate program in Education may be made at any time. It is recommended, however, that at least two months before the first enrollment, the Graduate Admissions Office will have received the application for admission, $15.00 application processing fee and official transcripts of all undergraduate and graduate work. The transcripts are to be sent directly to the Boise State University Graduate Admissions Office by the Registrar of each college or university which the applicant previously attended.

Admission will be granted to an applicant who holds a Bachelor's degree from an accredited college or university and who has some professional relationship to instruction. The candidate must show promise of meeting the standards set by the College of Education and participating departments as well as the specific regulations of the particular program for which he or she applies.

An applicant for regular status in the program must have attained a GPA of at least 3.00 for the last two years of undergraduate study, or an overall GPA of 2.75. Provisional status may be granted to an applicant not meeting the listed requirements, if deemed appropriate.

The name of the faculty member who will serve as chair of the candidate's advisory committee is listed in the letter of acceptance to the applicant. Candidates should contact the assigned committee chair (advisor) as soon as possible in order to plan a program. Credits taken prior to such planning are subject to the review and approval of the committee chair and the Associate Dean of the College of Education.

A maximum of nine semester graduate credits may be accepted from other accredited graduate schools upon approval of the chair of the candidate's committee and the Associate Dean of the College of Education. A maximum of six semester credits of pass-fail credits will be allowed in the degree program.

Six semester hours of credit will be open for selection in any area of the University's course offerings that will enable the candidate to strengthen his or her program. The candidate in cooperation with the advisor, will choose courses which will meet the individual's program objectives.

Those students selecting one of the following areas of emphasis will follow the procedures set forth by the respective department: Art, Earth Science (Department of Geosciences); and Mathematics.

Graduate Core: The Graduate Core is required of all candidates for a Master of Arts or Science in Education, except those seeking the Educational Technology emphasis.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 561</td>
<td>Law for the Classroom Teacher</td>
<td>1</td>
</tr>
<tr>
<td>TE 562</td>
<td>School Organization and Finance</td>
<td>1</td>
</tr>
<tr>
<td>TE 564</td>
<td>Instructional Techniques—Secondary School</td>
<td>1</td>
</tr>
<tr>
<td>TE 565</td>
<td>Interpreting Educational Research</td>
<td>1</td>
</tr>
<tr>
<td>TE 566</td>
<td>Learning Theory and Classroom Instruction</td>
<td>1</td>
</tr>
<tr>
<td>TE 568</td>
<td>Techniques of Classroom Management</td>
<td>1</td>
</tr>
<tr>
<td>TE 569</td>
<td>Testing and Grading</td>
<td>1</td>
</tr>
<tr>
<td>TE 573</td>
<td>Instructional Techniques—Elem School</td>
<td>1</td>
</tr>
<tr>
<td>TE 578</td>
<td>Parents in the Educational Process</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

Additional credits to the above will be determined by the respective departments.

Master of Arts in Education

Option Requirements

The Education Graduate Program provides two options for those selecting one of the following emphases: Curriculum and Instruction, Early Childhood, Reading, or Special Education: Option I Thesis/Project and Option II Written Comprehensive Examination.

<table>
<thead>
<tr>
<th>Option</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTION I (Thesis/Project)</td>
<td>6</td>
</tr>
<tr>
<td>TE 591 or TE 593 Thesis or Project</td>
<td>6</td>
</tr>
</tbody>
</table>

TOTAL 18
A Thesis/Project, as mutually agreed upon by the candidate and the committee, is required. Selection of a thesis implies a research emphasis with a thesis format. Selection of a project implies a project related to instruction, curriculum, or some other aspect of an educational program.

**OPTION II**

**Comprehensive Examination**

Graduate Core .................................................. 6

A Comprehensive Written Examination is required at the end of the coursework. A Thesis/Project as mutually agreed upon by the candidate and the committee is required.

**Curriculum and Instruction Emphasis**

1. Graduate Core ........................................... 6
2. TE 581 Curriculum Planning and Implementation ........ 3
3. TE 582 Instructional Theory ................................ 3
4. Content area courses ......................................... 9
5. Elective options (choose A or B below)
   A. Thesis/Project
      Fund of Educational Research TE 551 ...................... 3
      Thesis TE 593 or Project TE 591 ......................... 6
      Approved electives ...................................... 3
   OR
   B. Comprehensive Written Examination
      TE 559 Philosophy of Education .......................... 3
      or
      TE 551 Fundamentals of Ed. Research .................. 3
      NOTE: Students selecting Option II must take a research class, which may be TE 565 Interpreting Educational Research (1 credit) as part of core, or TE 551 Fundamentals of Educational Research (3 credits).
      Approved electives ...................................... 9
   TOTAL ...................................................... 33

**Early Childhood Emphasis**

6. Graduate Core ........................................... 6
7. TE 543 Early Childhood: Readings ........................ 3
8. Two of the following three courses: ........................ 6
   TE 544 Early Childhood: Advanced Child Develop ........ 3
   TE 546 Early Childhood: Environments & Programs .......... 3
   TE 547 Early Childhood: Language Acq & Dev .............. 3
9. TE 590 Practicum: Early Childhood ......................... 2-4
10. Option electives (choose A or B below)
    A. Thesis/Project
       TE 551 Fundamentals of Ed. Research .................. 3
       Thesis TE 591 or Project TE 593 ....................... 6
       Approved electives .................................. 5-7
    OR
    B. Comprehensive Written Examination
       TE 559 Philosophy of Education ........................ 3
       or
       TE 551 Fundamentals of Ed. Research .................. 3
       NOTE: Students selecting Option II must take a research class, which may be TE 565 Interpreting Educational Research (1 credit) as part of core or TE 551 Fundamentals of Educational Research (3 credits).
       Approved electives .................................. 11-13
   TOTAL ...................................................... 33

**Reading Emphasis**

For those Primarily Responsible for Elementary School Instruction

1. Graduate Core ........................................... 6
2. TE 501 Foundations of Reading Instruction .............. 3
3. TE 508 Diagnosis & Correction of Read Prob-Sec ....... 3
4. TE 504 Seminar in Reading Education .................... 3
5. Option electives (choose A or B below)
    A. Thesis/Project
       TE 551 Fundamentals of Ed. Research .................. 3
       Thesis TE 591 or 593 Thesis or Project ............... 6
       Reading electives ..................................... 3
       Approved electives .................................. 6
    OR
    B. Comprehensive Written Examination
       TE 559 Philosophy of Education ........................ 3
       or
       TE 551 Fundamentals of Ed. Research .................. 3
       NOTE: Students selecting Option II must take a research class, which may be TE 565 Interpreting Educational Research (1 credit) as part of core or TE 551 Fundamentals of Educational Research (3 credits).
       Approved electives .................................. 9
   TOTAL ...................................................... 33

**Severe Retardation**

1. Graduate Core ........................................... 6
2. TE 501 Foundations of Reading Instruction .............. 3
3. TE 508 Diagnosis & Correction of Read Prob-Sec ....... 3
4. TE 504 Seminar in Reading Education .................... 3
5. Option electives (choose A or B below)
    A. Thesis/Project
       TE 551 Fundamentals of Ed. Research .................. 3
       Thesis TE 591 or 593 Thesis ......................... 6
       Approved electives .................................. 6
    OR
    B. Comprehensive Written Examination
       TE 559 Philosophy of Education ........................ 3
       or
       TE 551 Fundamentals of Ed. Research .................. 3
       NOTE: Students selecting Option II must take a research class, which may be TE 565 Interpreting Educational Research (1 credit) as part of core or TE 551 Fundamentals of Educational Research (3 credits).
       Approved electives .................................. 9
   TOTAL ...................................................... 33
B. Comprehensive Written Examination
TE 559 Philosophy of Education
or
TE 551 Fundamentals of Ed. Research
NOTE: Students electing Option II must take a research class, which may be TE 565 Interpreting Educational Research (1 credit) as part of core or
TE 551 Fundamentals of Educational Research (3 credits).
Approved electives ..................................... 9

Suggested Electives:
TE 423G Teaching the Severely Handicapped .......... 3
TE 450G Behavior Intervention Techniques .......... 3
TE 546 Diagnosis & Eval in Early Childhood Ed .... 3
TE 547 Lang Acq & Develop in Early Child Ed ........ 3
TE 590 Practicum: Special Education ................. 3
Advanced sign language class ......................... 3
TOTAL ..................................................... 33

NOTE: Completion of the required courses in the Master of Arts in Education, Special Education emphasis may not qualify the candidate for state certification. The candidate should seek the help of his or her advisor to determine certification requirements.

Master of Science in Education

Educational Technology

The Master of Science in Education with an emphasis in Educational Technology is intended to prepare students to work in educational settings requiring expertise in improving performance, designing instruction, and using a variety of educational delivery systems.

The emphasis of this program is to prepare professionals who know how to select and use a variety of technologies to produce long-term benefits for individuals and educational organizations.

This program includes 33 credits of course work which gives students a wide range of both theoretical and practical experiences. It culminates in the development of a project for a specific educational organization or a thesis investigating an important and timely issue.

Requirements:
1. IP 536 Intro Instructional Technology .................. 3
2. IP 537 Instructional Design .......................... 3
3. TE 551 Fundamentals of Educational Research .... 3
4. TE 582 Instructional Theory .......................... 3
5. TE 538 Instructional Courseware Design .......... 3
6. IP/TE 583 Selected Topics-Educational Technology 3
7. IP 520 Video Delivery Systems ......................... 3
8. TE 591 Project or TE 593 Thesis .......................... 6

Electives:
Students are to take at least 6 credits of elective course work, with at least 3 credits recommended outside of the College of Education.

Suggestions:
Organizational Theory & Behavior MG 528 .......... 3
Accounting for Managers AC 511 ..................... 3
Communication Tech for Managers AS 512 ......... 3
Public Policy Processes PA 501 ......................... 3
Conflict & Change in Socio-Cult Systems SO 510 .... 3
Curriculum Plan & Implement TE 581E ................. 3
Artificial Intelligence Appl IP 539 ......................... 3
Electives subtotal ......................................... 6

PROGRAM TOTAL ........................................... 33

Second Master's Degree

A student who has earned a master's degree in Education from Boise State University may earn a second degree in another area of emphasis.

Guidelines for the Award of a Second Master's Degree
1. A candidate must meet all program requirements prescribed by the second master's curriculum.
2. Program requirements for the second degree that have already been met in the program for the first degree awarded may be counted toward the second degree at the discretion of the student's graduate committee.
3. A minimum of 21 credits of new course work shall be required for the second degree.
4. The seven-year time limit applies to all courses to be counted toward the second degree.

Planned Fifth Year

Purpose: Continuing education is a vital element in maintaining professional competence among teachers. Yet not all teachers desire the structure and demands imposed by a master's program. The purpose of the Planned Fifth Year is to enable and encourage teachers to further their professional growth and meet career goals through a planned and intellectually rigorous program of study. The goals of the program are largely determined by the candidate. The candidate may choose 1) to broaden or deepen knowledge and skills related to current teaching assignment or 2) to seek an additional endorsement or advanced certification.

Admission Requirements
1. Be a certified teacher.
2. Meet the admission standards of graduate study (2.75) overall G.P.A. or 3.00 in the last two years of study.

Program Requirements
All students will complete thirty (30) credits including:
1. TE 582 Instructional Theory .......................... 3
2. Graduate Core OR TWO of the following courses .... 6
3. TE 551 Fundamentals of Educational Research .... 3
4. TE 559 Philosophy of Education ..................... 3
5. TE 581 Curriculum Planning and Implementation .... 3
3. A minimum of 9 credits of content courses .......... 9
4. Electives .............................................. 12

TOTAL ......................................................... 30

A. A minimum of 20 credits must be earned after admission.
B. Transfer credits are limited to nine (9).
C. A maximum of 10 credits may be undergraduate work.
D. A maximum of 10 credits may be pass/fail.
E. A maximum of 6 credits of 'C' grades will be accepted.
F. Overall G.P.A. for the program must be 3.00.
G. The program must be planned with an advisor and must be completed within seven years of the first credits applied to the program.

This is not a degree or certification program. If, as a result of course work taken in the program, the candidate becomes eligible for a different certificate or endorsement, it is the candidates responsibility to make application to the State Department of Education.

Course Offerings

See page 23 for definition of course numbering system

TE TEACHER EDUCATION

Undergraduate

See appropriate department listing for detailed course descriptions of these undergraduate courses which may be taken for graduate credit.

TE 423G TEACHING THE MODERATELY AND SEVERELY HANDICAPPED (3-0-3)(S).
TE 450G BEHAVIOR INTERVENTION TECHNIQUES (3-0-3)(F).
TE 463G INFANT EDUCATION (3-0-3)(S).

Graduate

TE 501 FOUNDATIONS OF READING INSTRUCTION (3-0-3)(F/S/U).
Students in this class study the theoretical constructs of reading, the psychological and pedagogical foundations of reading instruction, and learn to create and improve reading education programs in elementary and secondary classrooms.

TE 502 DIAGNOSIS AND CORRECTION OF READING PROBLEMS (3-0-3)(S/U).
Diagnosis and standardized testing procedures and corrective techniques will be learned, practiced, and then applied to a child in the Reading Education Center. All techniques are those a classroom teacher would utilize. A case report will culminate the course. PREREQ: TE 501 orPerm/INST.

TE 503 CLINIC FOR READING SPECIALISTS (3-0-3)(S).
This course emphasizes more intricate diagnostic techniques and remediation procedures. Alternative testing methods will be presented. Each participant works with a child under supervision in the Reading Education Center and prepares a case report. PREREQ: TE 502 orPerm/INST.

TE 504 SEMINAR IN READING EDUCATION (3-0-3)(S/U).
This course covers three areas of reading education: involvement in a professional reading association, leadership in reading education, and current issues in reading education. PREREQ: Perm/INST.

TE 505 INDIVIDUAL TESTS & MEASUREMENTS (3-0-3)(S).
An intensive investigation is pursued in the area of measurement theory followed by practical applications in individual testing and student diagnosis.

TE 508 DIAGNOSIS AND CORRECTION OF READING PROBLEMS-SECONDARY (3-0-3)(S/U).
This course is designed for the teacher of the required high school reading course and any other high school course dealing with students with reading problems.

TE 510 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING SOCIAL SCIENCE (3-0-3)(F).
A comprehensive study of the practices and principles in social science education, including objectives, social problems, unit development, work-study skills, organization of the program materials and media, and research findings basic to social studies will be developed.
Students will determine a specific research area to study in depth.

TE 511 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING ELEMENTARY SCHOOL MATHEMATICS (3-0-3)(S). Emphasis on creative methods and strategies for teaching elementary school mathematics. Also includes a review of current research, curriculum trends, and exploration of experimentation with unique materials for teaching mathematics.

TE 512 ADVANCED PRINCIPLES AND PRACTICES IN TEACHING LANGUAGE ARTS AND LINGUISTICS (3-0-3)(F). Emphasis will be given to the role of language arts and linguistics in the school curriculum, stressing modern approaches to language development, semantics, phonetics, phonics, and orthography.

TE 513 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING ELEMENTARY SCIENCE (3-0-3)(F). Current practices and principles in modern elementary science concepts are developed. Emphasis is placed on the selection and organization of content and experimental activities.

TE 514 COUNSELING/CONSULTING SKILLS FOR EDUCATORS (3-1-3)(F). This course will cover the development of counseling and consulting skills for educators to work with parents and other professionals. Instruction will focus on developing skills to work with students who experience various social and emotional concerns related to learning. Major topics to be addressed will include theories and approaches to counseling and consulting, communication skills, intervention programs. PREREQ: GRAD or PERM/INST.

TE 515 ADVANCED THEORY OF INSTRUCTIONAL DESIGN FOR SPECIAL EDUCATORS (3-0-3)(F). The course is designed to teach students advanced design components to effectively instruct special education children and adults. The course will integrate the theoretical and empirical considerations of instructional design. The course may be useful to regular classroom teachers who wish to gain some knowledge in dealing with special students. PREREQ: TE 431 or PERM/INST.

TE 516 TEACHING GIFTED AND TALENTED STUDENTS (3-0-3)(S). Teachers and others working with the instructional needs of gifted and talented students will develop skills in the techniques of meeting the educational goals of these exceptional individuals. Methods and materials for this approach will be evaluated as to application and assessment.

TE 517 SEMINAR ON THE SEVERELY HANDICAPPED LEARNER (3-0-3)(S odd years). This graduate level course is designed to facilitate student knowledge and skills in relation to teaching the severely handicapped learner. Emphasis is placed on research-based, instructional techniques and current professional issues in the field. PREREQ: TE 423 or PERM/INST.

TE 518 TECHNIQUES FOR CREATIVE WRITING IN ELEMENTARY SCHOOLS (3-0-3)(S). Methods and techniques for encouraging creative writing in the elementary school.

TE 519 ADVANCED STUDY OF CHILDREN'S LITERATURE (3-0-3)(F). The course provides an in-depth literary analysis of children's literature from preschool to early adolescence, including multicultural literature. The course promotes development of children's literature activities for classrooms, libraries, and other settings. Odd years.

TE 522 INDIVIDUALIZATION OF READING INSTRUCTION (3-0-3)(S/SU). Emphasis upon the individualized approach to reading instruction is developed. Techniques of conferring and book selection, skill development and independent language arts activities are explored.

TE 523 THE EMOTIONALLY DISTURBED CHILD IN THE CLASSROOM (3-0-3)(F/SU). This course is designed to assist school personnel in understanding the educational and psychological needs of students with severe behavior problems. PREREQ: PERM/INST.

TE 525 ADVANCED EDUCATIONAL PSYCHOLOGY (3-0-3). A study of contemporary issues involving both theoretical and methodological considerations in the history and systems of educational psychology. Special emphasis will be given to group behavior in terms of principles relevant to educational objectives. PREREQ: P 101 and TE 225. Offered on demand.

TE 531 EDUCATION FOR THE CULTURALLY DIFFERENT LEARNER (3-0-3)(S). A study of the development of children and adolescents in different cultures in comparison to their educational experiences. The lifestyle of various minority groups and implications for education will be examined. Major topics include culturally different learners; (1) learning styles, (2) media, (3) process of change. Idaho minority groups will be emphasized.

TE 534 ISSUES & TRENDS IN SPECIAL EDUCATION (3-0-3)(S even years). This course will investigate the current issues and trends in the field of special education. It will be organized around six topical areas: 1) identification, 2) assessment, 3) eligibility, 4) service delivery, 5) intervention approaches, and 6) instructional strategies. Discussion will be library research based and will focus on all areas of exceptionality in both elementary and secondary school settings. PREREQ: GRAD or PERM/INST.

TE 538 INSTRUCTIONAL COURSEWARE DESIGN (3-0-3)(S). Students will design instruction with the assistance of a microcomputer and link the instruction with video technology. Students will investigate several authoring languages to facilitate the development and delivery of instruction. PREREQ: IP 537.

TE 541 EDUCATION IN EMERGING NATIONS (3-0-3)(F). The course provides an analysis of the relationship between national goals and the educational system in the twentieth century. Contemporary systems will be studied in light of the evolution of three major factors: (1) religious factors; (2) natural factors such as race, language and environment; (3) secular factors such as Humanism, Socialism and Nationalism.

TE 543 EARLY CHILDHOOD: READINGS (3-0-3)(S). Past and current research in early childhood education will be reviewed and synthesized in a seminar format. Students will determine a specific research area to study in depth.

TE 544 EARLY CHILDHOOD: ADVANCED CHILD DEVELOPMENT (3-0-3)(F). The student will examine in depth the physical, social-emotional, cognitive-language, and creative development of children, birth to age eight.

TE 546 EARLY CHILDHOOD: ENVIRONMENTS AND PROGRAMS (3-0-3)(S). The student will examine critical elements in the development and administration of effective early childhood programs including evaluating children, setting up the environment, developing and implementing curriculum, and teaching methods.

TE 547 EARLY CHILDHOOD: LANGUAGE ACQUISITION AND DEVELOPMENT (3-0-3)(F). The student will examine various theories and stages of language development, and will study approaches to facilitate language development in children of English and non-English speaking backgrounds.

TE 549 COUNSELING TECHNIQUES FOR CHEMICAL DEPENDENCY (3-0-3)(F/SU). A study of counseling techniques and practices used in dealing with people of all ages who are chemically dependent. Special attention will be paid to the recognition of chemical dependency in family members and counseling strategies for adolescents. This course may be taken for either H or TE but not both.

TE 551 FUNDAMENTALS OF EDUCATIONAL RESEARCH (3-0-3)(F/SU). This course will introduce students to the elements of experimental and non-experimental research designs. Instruction in using research resources and interpreting statistics will be included. Special emphasis will be given to research-based, instructional techniques and current professional issues in the field. Students will learn how to develop a research proposal and will write a scholarly research paper.

TE 555 SUPERVISION OF INSTRUCTIONAL PERSONNEL (3-0-3)(S). A course designed to improve the supervision skills of elementary/secondary cooperating teachers and other supervisory personnel. Emphasis will be placed on a variety of observation and evaluation strategies designed to improve instruction.

TE 559 PHILOSOPHY OF EDUCATION (3-0-3)(SU). Students will analyze and evaluate the philosophical values derived from them as they apply to education. A formal paper will be required.

TE 561 SCHOOL LAW FOR THE CLASSROOM TEACHER (1-0-1)(SU). This course will provide school personnel with an overview of school law designed to help them become more aware of student and teacher rights and how those rights can be legally asserted. The emphasis will be on "preventive" law, thus avoiding litigation.

TE 562 SCHOOL ORGANIZATION AND FINANCE (1-0-1)(SU). This course will provide a brief overview of the federal, state and local organizational structures of school systems. America will emphasize the roles of funding and sources of authority. Issues of policy making as they affect teachers will be examined.

TE 563 CONFLICTING VALUES INFLUENCING EDUCATION (1-0-1)(SU). Students will explore ideological positions which have affected educational programs and policies. They will be asked to carefully consider their own values and analyze how these positions affect their modes of classroom operation. PREREQ: Graduate status. COREQ: TE 570.

TE 564 INSTRUCTIONAL TECHNIQUES—SECONDARY SCHOOLS (1-0-1)(SU). Students will explore approaches to effectively working with students in elementary and secondary school settings. Skill development and theoretical considerations related to developing healthy and productive learning environments will be emphasized.

TE 566 TEACHING THEORY AND CLASSROOM INSTRUCTION (1-0-1)(SU). Students will explore major contemporary learning theories and their implications for instruction and curriculum development.

TE 568 TECHNIQUES OF CLASSROOM MANAGEMENT (1-0-1)(SU). This course will explore approaches to effectively working with students in elementary and secondary schools. Skill development and theoretical considerations related to developing healthy and productive learning environments will be emphasized.

TE 569 TESTING AND GRADING (1-0-1)(SU). This course will include an introduction to the theories and fallacies of testing and grading. Problems and methods of constructing teacher-made tests will be included, with practice in designing tests. Emphasis will be given to the evaluation of tests and items of grading. PREREQ: TE 570.

TE 570 GRADUATE CORE ISSUES IN EDUCATION (3-0-3)(SU). This course is part of the graduate education core. The content of this course varies, depending upon the current educational issues, but does always include readings, large group presentations, and small group discussions over philosophical, psychological, and sociological aspects education.

TE 573 INSTRUCTIONAL TECHNIQUES—ELEMENTARY SCHOOL (1-0-1)(SU). In this course, students will investigate instructional techniques which have sound basis in research and theory and which promote development of thinking skills in elementary students.

TE 576 FUNDAMENTALS OF BILINGUAL EDUCATION/ESL (3-0-3)(SU). This course is designed to give experienced teachers studies of Bilingual Education and English as a Second Language. Students study the historical and cultural foundations, the current place of bilingual education in language assessment, and biocognitive processes. Also presented are the prevalent methodologies and approaches used throughout the country. Offered on demand.

TE 578 PARENTS IN THE EDUCATIONAL PROCESS (1-0-1)(SU). This course will give students a broad understanding of the role of parents in education and the role of the teacher in initiating and/or implementing parental involvement. Particular attention will be given to ways of involving parents who typically do not participate in the educational process.
Master of Arts or Science in Education

AR 501 ART APPRECIATION IN THE EDUCATIONAL PROGRAM (3-0-3) (F).
Emphasis will be placed on understanding the motivations behind interpretation of ideas and symbols. Also emphasized will be communication of this understanding to the various age groups represented on the secondary school level. PREREQ: Graduate status or PERM/INST.

AR 521 TEACHING THROUGH EXPERIMENTAL ART MEDIA (0-6-2)(SU).
(Previously approved for Elementary Master's Degree). Varied and unusual experimental art media to be used in conjunction with individual teaching techniques. Students will have the opportunity to solve procedural problems and adapt art media to teaching experiences. Some outside reading will be required, as well as written paper. PREREQ: Graduate standing, Summers only by request.

AR 522 TEACHING THROUGH EXPERIMENTAL ART MEDIA (0-6-3)(SU), Varied and unusual experimental art media to be used in conjunction with individual teaching techniques. Students will have the opportunity to solve procedural problems and adapt art media to the teaching experiences. Some outside reading will be required, as well as a written paper. PREREQ: Graduate standing. Summers only by request. Alternate years.

AR 551 SPECIAL METHODS: CURRICULUM DEVELOPMENT IN ART EDUCATION (3-0-3)(F). Designed for the secondary school art teacher, this course will be geared to creative curriculum planning. It will be held in a workshop seminar format to facilitate student interaction and the opportunity to experiment and develop new ideas. PREREQ: Graduate status and PERM/INST.

AR 580-589 SERIES SELECTED TOPICS (3-0-3).
An opportunity for the student to work independently with a particular teacher in a specific area or media. A total of nine credits allowable which can be divided into several areas or concentrated, distribution determined by the graduate student and committee.

AR 580 SELECTED TOPICS - DRAWING
AR 581 SELECTED TOPICS - PAINTING
AR 582 SELECTED TOPICS - CRAFTS
AR 583 SELECTED TOPICS - SCULPTURE
AR 584 SELECTED TOPICS - PHOTOGRAPHY
AR 585 SELECTED TOPICS - CERAMICS
AR 586 SELECTED TOPICS - PRINTMAKING
AR 587 SELECTED TOPICS - DESIGNING
AR 588 SELECTED TOPICS - ILLUSTRATION
AR 589 SELECTED TOPICS - ART HISTORY

Course Offerings

See page 23 for definition of course numbering system

GO GEOLOGY

Undergraduate

See appropriate department listing for detailed course descriptions of these undergraduate courses that may be taken for graduate credit.

GO 403G ENGINEERING GEOLOGY (2-3-3)(S) (Field trip required).

GO 412G HYDROGEOLOGY (3-0-3)(F) (Field trip required).

GO 460G VOLCANOLOGY (2-0-2)(F) (Field trip) (Odd years).

GO 471G REGIONAL FIELD STUDY (1, 2, or 3 CR) (F/S/SU).

Graduate

GO 502 GREAT MYSTERIES OF THE EARTH (3-0-3)(F).
The earth abounds with mysteries that are seemingly related to natural phenomena. Lost continents, UFO's, Loch Ness Monster, Bermuda Triangle, Big Foot, ancient astronauts, water witching, and other mysteries, both real and contrived as discussed in terms of evidence and interpretation in the context of natural laws and processes. Techniques of skeptical inquiry and the scientific method are applied to develop critical thinking. PREREQ: Graduate standing and PERM/INST.

GO 511 ADVANCED ENVIRONMENTAL GEOLOGY (3-0-3)(S).
Land-use planning, techniques for investigation of surficial materials and water resources. Geologic hazards, surficial deposits and their engineering and hydrologic properties, ground and surface water, waste disposal. Term reports required, field trips required. This course can be taken for undergraduate credit by filling out our necessary forms. PREREQ: GO 221 or PH 220.

GO 514 ADVANCED STRUCTURAL GEOLOGY (2-3-3)(F) (Alternate years).
Geometric, kinematic and dynamic analysis of plutonic rocks and metamorphic terranes. Structural elements in plutons, their formation and interpretation as indicators of the tectonic environment during emplacement. Mesoscopic and microscopic study of rock fabrics, the mechanisms and processes of their formation, deformation and metamorphism, and their use as kinematic and strain indicators. PREREQ: GO 310, GO 314, GO 323 and GO 324 or PERM/INST.

GO 523 ADVANCED IGNEOUS PETROLOGY (3-0-3)(S) (Odd years).
A study of igneous rocks with emphasis on their origin and the processes responsible for their diversity. Exercises will make use of the petrographic microscope and the departmental computer facilities. A field trip is required. PREREQ: GO 323, GO 324, C 131.

GO 531 REGIONAL GEOLOGY OF NORTH AMERICA (3-0-3)(S).
A systematic study of the geologic provinces of North America with special emphasis on geological relationships and tectonic evolution. Each province is investigated in terms of its structural and geologic history and mineral resources. PREREQ: Graduate status of PERM/INST.
GO 561 EARTH SCIENCE TEACHING TECHNIQUES (3-0-3 or 4-0-4)(F/S). This course is a study of the objectives, methods, and materials of instruction in Earth Sciences. Emphasis will be placed on the preparation and presentation of lectures, laboratory exercises and field trips. This course provides the student with internship experience in the laboratory and lecture classroom. PREREQ: Graduate status or PERM/INST.

GO 571 GEOCHEMISTRY (3-0-3)(S). Chemical equilibrium applied to natural water systems. Oxidation and reduction in sedimentation and ore genesis, methods of exploration geochemistry, crystalization of magmas, ore-forming solutions, isotopic geochemistry. This course can be taken for undergraduate credit by filling necessary forms. Field trip required. PREREQ: GO 101, C 133, M 204.

GO 591 PROJECT (7-3 to 0-6). A field, laboratory or library investigation. The student will select a project according to his or her own interest and pursue it to a logical conclusion. Weekly progress meetings are held with the instructor and a final report is required. PREREQ: Graduate status and 15 credits in Earth Science or PERM/INST.

GO 593 THESIS (0-3 to 0-5). The scholarly pursuit of original work on a field or laboratory project or the formulation of new and logical interpretations of existing data collected by library research. A final report suitable for presentation at a meeting of Earth Science professionals is required. PREREQ: Admission to candidacy.

GO 596 DIRECTED RESEARCH (0-1 to 0-4). Field, laboratory or library research project. Students may work on an individual problem or select a problem from a list provided by the instructor. Weekly progress meetings, final report. PREREQ: Physical Geology or Fundamentals of Geology and/or PERM/INST.

GO 598 GRADUATE SEMINAR (0-1 to 0-3). The preparation and presentation of oral and written reports on topics in earth science and/or science education. Presentation of oral reports may take the form of debate. Preparation of visual aids and expository illustrations will be emphasized. PREREQ: Admission to candidacy or PERM/INST.

GS GENERAL SCIENCE

GS 501 HISTORY OF SCIENCE (3-0-3)(F/S). This is a survey of humanity's efforts to understand the natural world. "Ancient Science" is presented as an introduction to the evolution of science since the 17th century. "Modern Science" is presented with emphasis on the development of modern scientific thought. Historical illustrations of the nature of scientific research in the evolution of science are presented. This course may be taken for either HY or GS credit, but not for both.

Master of Science in Education—Mathematics Emphasis

This degree requires 30 hours of course work, including the Graduate Core in Education (see page 190), a mathematics sequence and seminar, and electives in mathematics and other areas chosen in consultation with a committee. The student must complete all requirements in item 1 below, plus those in one of the three options 2A, 2B, or 2C.

1. Common Requirements
   A. Graduate Core ................................................. 6
   B. Mathematics Sequence ................................... 6
      Real Analysis I, II M 501-502 or Abstract Algebra I, II M 541-542
   C. Seminar in Mathematics M 598 .......................... 3
   D. Mathematics Electives .................................... 6
   E. A written examination over mathematics course work

2. One of the following three options:
   A. Examination Option
      1) One additional graduate mathematics course, exclusive of M 503, 504, or 561 ............. 3
      2) Free electives ............................................ 6
      3) An oral examination over all course work.
   B. Project Option
      1) Mathematics Project M 591 ........................... 3
      2) Free electives ............................................ 9
   C. Thesis Option
      1) Mathematics Thesis M 593 ............................ 3
      2) Free electives ............................................ 9
   D. Additional Information
      1) Credit in Workshop (594 or 599) is limited to a total of 3 credits to be applied in partial fulfillment of the emphasis in Mathematics.
      2) Some students may be required to remove deficiencies before admission to candidacy. Students with strong undergraduate mathematics backgrounds may apply to challenge, waive, or replace parts of the emphasis's requirements.
      3) Students considering this program should consult with the Chair of the Mathematics Department. Enrollment in graduate courses has been such that completion dates for this program cannot be guaranteed.

Course Offerings

See page 23 for definition of course numbering system

M MATHEMATICS

Undergraduate

See appropriate department listing for detailed course descriptions of these undergraduate courses which may be taken for graduate credit.

M 406G THEORY OF FUNCTIONS OF A COMPLEX VARIABLE (3-0-3)(F).
M 455G LINEAR PROGRAMMING (4-0-4)(S).

Graduate


M 503 THE TEACHING OF ALGEBRA (3-0-3). Contemporary approaches to teaching secondary school algebra; treatment of selected topics in modern algebra; methods and materials; research relevant to the teaching of algebra. PREREQ: M 302

M 504 THE TEACHING OF GEOMETRY (3-0-3). Contemporary approaches to teaching secondary school geometry; treatment of selected topics in geometry; methods and materials; research relevant to the teaching of geometry. PREREQ: M 311.

M 505 FOUNDATIONS OF MATHEMATICS (3-0-3). The axiomatic method and its role in modern mathematics. The role of the theories of sets and groups in the development of mathematics. Modern philosophies of mathematics. PREREQ: M 302 or PERM/INST.

M 511 GENERAL TOPOLOGY (3-0-3). Set separation axioms, topologies, connectedness, compactness, generalized convergence, continuity, product spaces. PREREQ: M 401 or M 501 or PERM/INST.

M 541-542 ABSTRACT ALGEBRA I, II (3-0-3). Mappings, the integers, groups, sub-groups, morphisms, rings, integral domains, polynomial rings, fields, field extensions. PREREQ: M 302 or PERM/INST.

M 547 HISTORY OF MATHEMATICS (3-0-3). The course is designed for mathematics teachers in the secondary school. The course consists of two parts: the first part traces the development of algebra, geometry, analytic geometry and calculus to the 19th century; the second part gives a brief introduction to, and history of, some of the developments in mathematics during the last century. PREREQ: PERM/INST.

M 561 MATHEMATICS FOR OPERATIONS RESEARCH (4-0-4)(F/S). The mathematics techniques used to solve problems involving several variables. Linear systems, matrices, linear programming with the simplex method, differential and integral calculus with emphasis on applications in management decision situations. PREREQ: PERM/INST.

M 564 MATHEMATICAL MODELING (3-0-3)(SU). Introduction to mathematical modeling through case studies. Deterministic and probabilistic models; optimization. Examples will be drawn from the physical, biological, and social sciences. A modeling project will be required. PREREQ: M 361 and CS 122 or PERM/INST.

M 571 MATHEMATICS CURRICULUM (7-12) (3-0-3). The history of the 7-12 mathematics curriculum; content, special problems, and trends in mathematics programs; organization of the curriculum. Study of reports and recommendations; curriculum development projects. PREREQ: At least one year's experience teaching in secondary school mathematics.

M 591 PROJECT (May be taken for 3 to 6 credits). A project may include, but is not limited to, a library research paper, educational research or written curriculum with teaching materials. PREREQ: The student must be admitted to candidacy.

M 593 THESIS (May be taken for 3 to 6 credits). Original mathematical research or a new interpretation or novel exposition of existing mathematics. Course is arranged with supervising faculty member. PREREQ: Admission to candidacy.

M 598 SEMINAR IN MATHEMATICS (3-0-3). The content will vary within a format of student presentation and discussion of relatively advanced mathematical topics selected from texts or mathematical journals. This will not be a seminar in mathematics education.

Master of Arts in English

To be considered for regular status as a graduate student in the Department of English, an applicant must meet the following requirements and the following departmental requirements:

1. Normally, a Bachelor of Arts in English. However, an applicant may demonstrate instead a strong background in an area of study in the graduate curriculum of the English Department to be considered for admission.
2. A G.P.A. of at least 3.0 for the last sixty semester credit hours of undergraduate work.
3. Scores for the Graduate Record Examination (GRE). The applicant should score at least 500 on the Verbal Section of the GRE. An applicant who wishes to emphasize literary study, creative writing, or
4. An essay of from five hundred to seven hundred words explaining the applicant's goals in pursuing graduate study in English.

5. Two or three letters of recommendation sent directly to the Department of English from people who know the applicant's academic work.

Students who do not satisfy these requirements initially may be admitted to graduate courses currently. A maximum of nine credit hours of courses carrying a "G" designation may be counted toward the M.A. degree in English.

E 500, Introductory Seminar, is prerequisite to other graduate-level courses. However, with the consent of advisors, students may take other graduate courses concurrently.

A maximum of nine credit hours of courses carrying a "G" designation may be counted toward the M.A. degree in English.

Since the content of the courses numbered E 510, E 520, E 530, E 540, E 550, E 560, E 570, and E 597 may vary from semester to semester, students may repeat these courses for credit.

A maximum of nine graduate credit hours taken in other departments may be counted toward the M.A. degree in English.

To satisfy the requirements for the M.A. in English, students must complete a thesis or project or pass a comprehensive examination. No credit hours are granted for taking the examination. Student not taking the comprehensive examination should register for E 591, Project, or E 593, Thesis, in their final semester to receive the three credit hours for a completed project or thesis that applies to the thirty-three credit hour minimum required for the degree.

Course Offerings

See page 23 for definition of course numbering system.

E ENGLISH

Undergraduate

See appropriate department listing for detailed course descriptions of these undergraduate courses which may be taken for graduate credit.

E 412G WOMEN WRITERS (3-0-3)(F/S).

E 488G METHODS AND THEORIES OF LITERARY CRITICISM (3-0-3)(S).

Graduate

E 500 INTRODUCTORY SEMINAR (3-0-3)(F/S). An introduction to bibliography and orientation to sources of information. Students research a concept or problem in literature or writing under supervision. PREREQ: Admission to graduate program or PERM/CHAIR.

E 501 THE TEACHING OF WRITING (3-0-3)(F/S). Theories and methods of teaching writing for experienced teachers. Special emphasis on new discoveries about the learning process in writing courses and in the teacher's role in helping individual students. PREREQ: E 501, E 500, and teaching experience or PERM/CHAIR.

E 505 LINGUISTICS (3-0-3)(F/S). Modern linguistic theories and their application to literature and teaching English. An examination of how various grammatical models represent the complexities of language sound, sequence, and structure. Application of theory to language at work. Alternate years. PREREQ: E 500 and LI 305 or equivalent or PERM/CHAIR.

E 508 WRITING FOR THE MARKET (3-0-3)(F). A writing course which studies literary journals, trade journals, and little magazines, considers the slick and the academic, poetry and fiction. Students will study the form and theory of poetry and fiction from the ancient to modern times. PREREQ: E 500 or PERM/CHAIR. (Repeatable for credit)

E 509 BOOK ARTS (3-0-3)(F/S). A historical survey of various aspects of bookmaking, including papermaking, typography, printing, binding, and desktop publishing, as well as book distribution/marketing, and production of artist's and ecclesiastic booklets. Course culminates in preparation of a classroom edition of each student's original writings or art works in an appropriate format devised by the student. PREREQ: E 305 or E 306 or PERM/CHAIR.

E 510 MAJOR AUTHOR (3-0-3)(F/S). A consideration of minor and major artistic creations of an author with attention devoted to major influences on the writer and his/her influences on others. Aspects of investigation to include the life of the author and its relation to his/her work, the society and culture of the times, his/her place and stature in the tradition in which he/she worked, his/her use or discard of tradition, as well as an investigation of contemporary criticism and critical evaluation since the writer's time. PREREQ: E 500 or PERM/CHAIR. (Repeatable for credit)

E 511 THEORY AND PRACTICE OF TECHNICAL COMMUNICATION (3-0-3)(F/S). An introduction to the current theories of technical communication, including approaches from such related fields as ethics, rhetoric, linguistics, cognitive psychology, sociology, and philosophy. Students will apply these theories in describing and analyzing the different job specializations within technical communication.

E 512 ADVANCED TECHNICAL COMMUNICATION (3-0-3)(F/S). An advanced study of technical communication for those students who are or expect to become professional technical communicators. Students will write reports and manuals related to fields of interest and background. The topics of study include modern theories of readability, focusing on research in semantics, syntax, and pragmatics, and recent developments in document conventions. PREREQ: E 302 or E 402 or PERM/INST.

E 513 TECHNICAL EDITING (3-0-3)(F/S). Advanced course in the editing of technical documents. Major projects are related to each student's field of interest. Topics of study include the theory and ethics of editing, as well as text screening, copyediting, typemarking, keying, troubleshooting, and graphics. PREREQ: E 512 or PERM/INST.

E 514 ETHICS OF TECHNICAL COMMUNICATION (3-0-3)(S). An examination of the various ethical issues inherent in the practice of technical communication. Topics include the ancient debate about the claims of philosophy and rhetoric; Kant's categorical imperative; the modern standards of rights, justice, and utility; the employee's obligations to the employer, the public, and the environment; and the company's obligations faced by technical communicators, including plagiarism, copyright violation, the fair use of words and graphs, trade secrets, whistle-blowing, and codes of conduct. The course will use the case study method.

E 515 INTRODUCTION TO DOCUMENT PRODUCTION (3-0-3)(F). Introductory study of the principles of producing effective technical documents. Topics include research on the relationship between presentation styles and readability, integration of electronic and graphical and tabular data, and the use of advanced word processing and technical graphics software on personal computers. The course will be taught as a workshop, and students will create basic technical documents such as brochures and data sheets. PREREQ: E 513 or PERM/INST.

E 516 ADVANCED DOCUMENT PRODUCTION (3-0-3)(S). Advanced study and application of techniques for incorporating graphics, illustrations, and photos into technical documents. Students will integrate word processing and graphics into desktop publishing software to create, edit, and produce complex technical documents, such as reports, manuals, and newsletters. The course will be taught as a workshop focused on the use of desktop publishing software on personal computers. PREREQ: E 515 or PERM/INST.

E 517 ORAL COMMUNICATION FOR TECHNICAL COMMUNICATORS (3-0-3)(F/S). An introduction to the theory and practice of the different types of oral communication practiced by technical communicators, including interviewing technical subject specialists and product users, group dynamics, gender issues, conflict management, and technical presentations, including the creation of presentation graphics. The course will be taught as a workshop. Students may not receive credit for both E 517 and CM 517. PREREQ: E 516 or PERM/INST.

E 520 GENRE (3-0-3)(F/S). A study of a well-defined literary category, such as novel, short story, epic, or tragedy. Examination of representative texts in order to discover the evolution of a specific literary genre while at the same time establishing its typical features. PREREQ: E 500 or PERM/CHAIR. (Repeatable for credit)

E 525 CREATIVE WRITING WORKSHOP (3-0-3)(F). An advanced workshop in poetry and fiction. Students will study the form and theory of poetry and fiction from the perspective of practicing writers and will apply these principles to the analysis and criticism of one another's work. PREREQ: E 305, 306, or PERM/INST.

E 530 PERIOD (3-0-3)(F/S). A study of a selected chronological period of American or British literature with focus on major authors, genres, or topics. PREREQ: E 500 or PERM/CHAIR. (Repeatable for credit)

E 540 MYTH IN LITERATURE (3-0-3)(F/S). An exploration of the use of myth in literature throughout the ages and in different contexts. The nature and functioning of myth and the way it enters into consideration as a creative art. Themes such as the quest, the initiation, the Adamic myth in American literature, and of myths in the works of major authors may be explored. PREREQ: E 500 or PERM/CHAIR. (Repeatable for credit)

E 550 LITERATURE AND CULTURE (3-0-3)(F/S). The interaction between a body of literature and the social, economic, and political forces that characterize the culture in which it is written. The influence of culture on literary form and content. PREREQ: E 500 or PERM/CHAIR. (Repeatable for credit)

E 554 INTRODUCTION TO APPLIED RESEARCH AND PROJECTS IN THE ENGLISH LANGUAGE ARTS (3-0-3)(F/S). Methods of and approaches to conducting applied research in classrooms and the workplace and developing projects in the English Language Arts from such research. Students are encouraged to design and implement research projects in the classroom, and students selecting the project option for the M.A. in English. Intended primarily for classroom teachers, the course is appropriate for others who offer instruction, including technical writing instructors, reading instructors of literacy in workplace or technology projects, and community education projects. PREREQ: E 501 or E 581 or PERM/CHAIR.

E 560 FOLKLORE (3-0-3)(F/S). Materials selected from oral tradition and culture with attention to aspects of collecting, classifying, comparing, analyzing, and archiving. Theories of folklore composition, transmission, and function will be related to the occurrence of folklore. PREREQ: E 500 or PERM/CHAIR. (Repeatable for credit)
Graduate College

E 561 THEORIES OF RHETORIC AND COMPOSITION (3-0-3) (F/S). A study of the theoretical context of current writing and writing pedagogy. Influential theories of invention, arrangement, and style, from ancient and modern times, are examined and compared. Special attention is paid to the relationships of current rhetorical and cognitive theories to writing processes and written products. PREREQ: Admission to Graduate Program or PERM/CHAIR.

E 570 LITERARY MOVEMENTS (3-0-3) (F/S). A focus on a significant literary movement, the works of its major and minor contributors, its theories and its practice, its relation to its time, its place in literary history, its influence on writers past and present. PREREQ: E 500 or PERM/CHAIR. (Repeatable for credit)

E 581 LITERATURE FOR USE IN JUNIOR AND SENIOR HIGH SCHOOLS (3-0-3) (F/S). A literary content course for prospective teachers of secondary school English. Primary emphasis on critical reading of literature for adolescents in secondary school. Secondary emphasis on methods of analysis appropriate to students. All genres as well as classic and popular authors. PREREQ: E 102, two literature courses or PERM/CHAIR.

E 582 SELECTED TOPICS IN TEACHING ENGLISH LANGUAGE ARTS (3-0-3) (F/S). Study of current theories and topics in teaching the English Language Arts - in composition, language, or literary theory - of special interest to the experienced teacher. A specific focus will be announced each time the course is offered. Although targeted primarily at classroom teachers, the course may be appropriate for others who offer instruction, including technical writing trainers and teachers of literacy in GED centers, workplace literacy programs, and community education projects. Alternate years. PREREQ: E 301 or E 381 or E 481 or teaching experience or PERM/INST.

E 585 SELECTED TOPICS IN LINGUISTICS (3-0-3) (F/S). An investigation of a particular topic in linguistics, drawn generally from psycholinguistics, sociolinguistics, semantics, pragmatics, discourse, syntax, or morphology. Course work will include lecture, discussion, and a paper or project, depending on the nature of the topic. Repeatable once for credit. PREREQ: LI 305.

E 591 PROJECT (V-O-V). A project may include, but is not limited to, a library research paper, experimental research on some aspect of pedagogy, or preparation of written curriculum with related teaching materials. PREREQ: Admission to candidacy and approval of the student's graduate committee.

E 593 THESIS (V-O-V). A scholarly paper containing the results of original research. PREREQ: Admission to candidacy and approval of the student's graduate committee.

E 595 READING AND CONFERENCE (V-O-V). Directed readings in selected materials from subject areas in which the English Department faculty has expertise. These readings will be reported on and discussed in a context arranged by the student and the director and approved by the student's graduate committee. PREREQ: Admission to candidacy.

Master of Science in Exercise and Sport Studies

Objectives

The graduate program in Exercise and Sport Studies is designed to accommodate students with diverse academic backgrounds. Advanced educational opportunities in both theoretical and applied aspects are critical parts of the program of studies.

A required core of classes provides the foundation for study in this area, while electives allow for individual enrichment in subjects of special interest. Students may also pursue self-directed research with the intent of applying findings to related problems in their field of study.

It is assumed students are seeking a program which fosters critical thought. Therefore, those graduating shall be able to apply the scientific method of problem solving to issues and questions related to one or more of the many dimensions of exercise and sport. Important outcomes for learners include:

1. Acquiring a sound conceptual basis from which leadership can be exercised in the profession.
2. Demonstrating the expertise to interpret, communicate and effectively promote health lifestyles in occupational settings.
3. Being intelligent consumers of research with competence to apply findings to the design, administration, evaluation and improvement of sport science-related programs.
4. Possessing the skills needed to develop and conduct research which contributes to the growth of knowledge in the field.

Fundamental to the Graduate Program are faculty who provide a supporting environment and are active in teaching, scholarship, research and professional development.

Degree Requirements

CORE REQUIREMENTS 15 CREDITS

Functional Anatomy PE 500 ...................................................... 3
Physiology of Activity PE 510 ......................................................... 3

Biomechanics PE 520 ......................................................... 3
Psychology of Exercise & Sport PE 530 ......................................... 3
Motor Learning PE 560 ......................................................... 3

TOTAL 15

RESEARCH TOOLS 6 CREDITS

Stat Meth in Phy Educ PE 552 ........................................... 3
Research Design in Phy Educ PE 551 ........................................ 3
or Fund of Educational Research TE 551 .................................. 3

TOTAL 6

ELECTIVES 6-9 CREDITS

Human Growth & Motor Learning PE 306G .................................. 3
Exercise Physiology PE 310G ..................................................... 3
Kinesiology PE 311G ............................................................... 3
Psycho/Soc Aspects of Act PE 401G ........................................... 3
Adv Athletic Training PE 402G .................................................. 3
Exercise Physiology Lab PE 515 .................................................. 3
Mechanical Analysis of Motor Act PE 525 .................................. 3
Sociology of Exercise & Sport PE 535 ........................................... 3
Appl Prin of Conditioning PE 540 .............................................. 3
Exercise Testing & Prescription PE 545 ...................................... 3
Philosophy of Exercise & Sport PE 550 ....................................... 3
Health Promotion PE 570 ............................................................. 3
Computers in Exercise & Sport PE 575 ....................................... 3
Selected Topics in Applied Sport Psychology PE 580 ....................... 3
Practicum PE 590 ............................................................... 3
Directed Research PE 596 ......................................................... 3

TOTAL 6-9

THESIS OPTION 6 CREDITS

Research & Thesis PE 593 ............................................................. 6

NON-THESIS OPTION 3 CREDITS

Project PE 591 ............................................................... 3

TOTAL 33

A revolving four year draft of graduate offerings is available upon request from the Department of HPER, G 209.

Course Offerings

See page 23 for definition of course numbering system

Undergraduate

PE 306G HUMAN GROWTH AND MOTOR LEARNING
PE 310G EXERCISE PHYSIOLOGY
PE 311G KINESIOLOGY
PE 401G PSYCHOLOGY OF ACTIVITY (3-0-3) (F/S).
PE 402G ADVANCED ATHLETIC TRAINING (3-3-3) (S).

Graduate

PE 500 FUNCTIONAL ANATOMY (3-0-3). A study of gross human anatomy from the descriptive approach with emphasis on the skeletal, muscular, nervous and circulatory systems. Includes cadaver dissection. In addition, indepth study of joint structure and function, gross-motor-movement, and skill will be included. Video analysis will be utilized.

PE 510 PHYSIOLOGY OF ACTIVITY (3-0-3). A study of the various factors affecting human performance and subsequent adaptations of the body to single and repeated bouts of exercise.

PE 515 EXERCISE PHYSIOLOGY LAB (2-2-3). Practical application of the principles that govern response and adaptation of the human body to exercise. Uses laboratory equipment to collect data and analyze results. PREREQ: PE 510 or PERM/INST.

PE 520 BIOMECHANICS (3-0-3). A study of the internal and external forces acting on the human body and the effects produced by these forces. Analysis of movement will focus on qualitative techniques.

PE 525 MECHANICAL ANALYSIS OF MOTOR ACTIVITIES (3-0-3). An introduction to the analysis techniques used to study the mechanics of human motion. Topics will include cinematography, videography, force transducers, electromyography and computer analysis techniques. PREREQ: PE 520 or PERM/INST.

PE 530 PSYCHOLOGY OF EXERCISE AND SPORT (3-0-3). A study of psychological factors as they relate to exercise, sport and performance. Content includes personality traits, motivation, anxiety/arousal, and intervention/coping strategies.

PE 535 SOCIOLOGY OF EXERCISE AND SPORT (3-0-3). A study of the relationships among sport and other facets of society, including social organization, group behavior and social interaction patterns.

PE 540 APPLIED PRINCIPLES OF CONDITIONING (2-2-3). Advanced study of the conditioning process. Emphasis on application of the conceptual to practical situations. Includes program planning, objectives, exercise analysis for conditioning specificity, exercise prescription and other conditioning variables affecting performance. PREREQ: PE 510 or PERM/INST.
PE 545 EXERCISE TESTING AND PRESCRIPTION (2-2-3). A study of the current methods and procedures used in coronary heart disease risk detection and reduction, including the recommended guidelines by the American College of Sports Medicine for exercise testing and prescription.

PE 550 PHILOSOPHY OF EXERCISE AND SPORT (3-0-3). A study of the philosophical foundations underlying exercise and sport. Topics include values development, design and evaluation of individual and program philosophy and goal structuring.

PE 551 RESEARCH DESIGN IN PHYSICAL EDUCATION (3-0-3). Includes critical analysis of published research in terms of research design, statistical procedures, concepts of validity, experimentation and control; classification of various research methods; various types of research problems; and the relevant attributes of experimental designs. A research proposal is a requirement of the course.

PE 552 STATISTICAL METHODS IN PHYSICAL EDUCATION (3-0-3). An introduction to statistical techniques utilized in the treatment of data in the motor process, feedback, timing, information processing, transfer, perception, motivation and practice conditions.

PE 560 MOTOR LEARNING (3-0-3). A study of the relevant empirical evidence and research in the field of motor learning and performance, including the learning process, feedback, timing, information processing, transfer, perception, motivation and practice conditions.

PE 570 HEALTH PROMOTION (3-0-3). An introduction to health promotion in the commercial/industrial sector, including planning, development, and implementation of programs aimed at the achievement of total well-being.

PE 575 COMPUTERS IN EXERCISE AND SPORT (3-0-3). An introduction to computer applications in the exercise and sport sciences, including methods for collecting data. Processing of data will include both microcomputer software and the Statistical Analysis System (SAS) package.

PE 580 SELECTED TOPICS IN APPLIED SPORT PSYCHOLOGY (3-0-3).

PE 590 PRACTICUM (0-9-3). Available on a selective, limited basis. Culminating experience designed to provide students with an opportunity to apply skills learned in the classroom. PREREQ: PERM/INST.

PE 591 PROJECT (3 credits). Students select a project related to Exercise and Sport Studies and pursue it to a logical conclusion. PREREQ: PERM/INST.

PE 593 RESEARCH AND THESIS (6 credits). A scholarly paper containing the results of original research. PREREQ: Admission to candidacy and approval of the student’s graduate committee.

PE 596 DIRECTED RESEARCH (variable credits). Opportunity for the student to pursue a topic of interest on an individual basis.

Master of Physical Education in Physical Education/Athletic Administration

A Cooperative Graduate Studies Program

Idaho State University (ISU) and Boise State University (BSU) have agreed to offer ISU’s existing Master of Physical Education (MPE) graduate degree in Athletic Administration on the BSU campus. Entering students will be able to complete the entire 30-33 credit hour degree on the BSU campus and take up to 15 credits of BSU courses as part of the program requirements. Further stipulations of this cooperative venture are:

1. ISU will continue to be the degree granting institution. Students will initially apply for admission to ISU, and if accepted, apply for admission to BSU. An application fee must be paid to each institution.

2. Courses from both institutions that are offered on the Boise campus will be printed in the BSU Class schedule after Physical Education courses and listed under a separate and distinct heading of "Athletic Administration (AA)." Since the registration system at BSU is not programmed for 600 level course numbers, ISU classes will be given an Athletic Administration 500 level equivalent number. Under the title of each course it will be stated that the course is part of the ISU Cooperative Athletic Administration Program.

3. Students will be formally advised by ISU Graduate Faculty.

4. All projects, thesis, and comprehensive exam committees will be chaired by ISU Graduate Faculty. BSU faculty who hold At-Large Graduate Faculty status at ISU may serve as committee members and upon request will submit comprehensive examination questions and participate in the evaluation of same.

Registration: Students will register at Boise State University for all ISU and BSU courses taken on the Boise campus in accordance with the procedures stated in the BSU Class Schedule Bulletin.

Student must have written permission from their ISU advisor to register for all ISU courses at BSU.

Fees: Students will pay fees to Boise State University and receive BSU activity cards (consistent with current BSU practices for full-time and part-time students) and thereby receive the appropriate services and use of campus facilities.

Financial Aid: Students taking ISU and/or BSU courses on the Boise campus will be considered as "in-residence" at Boise State. Therefore, students applying for financial aid will do so through the Financial Aid Office at BSU.

Due to a limited number and amount of scholarship funds at BSU, scholarship monies are not available to students in cooperative programs. If there are scholarships at ISU specifically earmarked for the Athletic Administration program, or if scholarships were developed for this program, they will be awarded by ISU and handled through the BSU Financial Aid Office as are all other outside donor awards.

Graduation: Idaho State University graduation requirements must be met by each student seeking an MPE degree in Athletic Administration. Therefore, students shall apply for graduation through ISU and a final evaluation of their transcripts will be completed by the ISU Registrar.

Cooperative MPE degree in Athletic Administration between ISU and BSU (students would be limited to taking a maximum of 15 BSU credits, subject to approval from their ISU advisor).

Course Requirements

Leadership & Management HPE 605 (AA 505) 3
Philosophy of Athletics PE 615 (AA 515 or PE 550) 3
Athletics & the Law PE 631 (AA 531) 2
Management of Athletics PE 635 (AA 535) 3
Research & Writing HPE 640 (AA 540 or PE 551) 3
Issues in Administration HPE 649 (AA 549) 3

Thesis Option

Thesis HPE 650 (AA 550) 6
Approved Electives 7

Non-Thesis Option

Advanced Theory of Competitive Coaching PE 610 (AA 510 or PE 550) 3
Sports Medicine PE 645 (AA 545) 2
Approved Electives 11

Master of Science, Geology

A Cooperative Graduate Studies Program

Boise State University and Idaho State University have a cooperative agreement which allows students to obtain a Master of Science degree and complete all but 12 credit hours while in residence at BSU. Students may initiate and complete a thesis in residence at BSU; the thesis commit-tee will consist of faculty members from both universities. A minimum of 12 credit hours (one semester) are to be completed in residence at ISU, and the degree will be awarded by Idaho State University. The student may include one or more fields in their studies, such as biostratigraphy, economic geology, environmental geology, geomorphology, exploration geophysics, hydrogeology, mineral exploration, ore deposits, paleontology, petrography and petrology of igneous rocks, stratigraphy, structural geology, soil subsurface seismic, and volcanic stratigraphy. University of Idaho hydrology courses taken at BSU may also be counted toward the cooperative MS degree.

Admission Requirements: Application for admission may be made by graduates of accredited institutions holding a baccalaureate degree in geology or related geoscience. Regular admission will be awarded based on grade point, GRE scores and letters of recommendation to applicants who have earned a minimum grade point average of 2.75 during the last two years of academic work. Continued enrollment in the program requires a minimum 3.0 grade point average and satisfactory progress toward the degree.

Additional information may be obtained from the Department of Geosciences, Boise State University, 1910 University Drive, Boise, ID 83725 or from the Chair, Department of Geology, Idaho State University.
Course Offerings

See page 23 for definition of course numbering system.

The following is a partial list of courses taught at Boise State University which may be used to fulfill the Masters credit requirements. Course descriptions may be found in the University catalog. Graduate course credits are listed under the Master of Science in Education, Earth Science Emphasis, program description.

1. GO 403G Engineering Geology
2. GO 410G Exploration Well Logging
3. GO 412G Hydrology
4. GO 431G Petroleum Geology
5. GO 460G Volcanology
6. GO 471G Regional Field Geology
7. GO 511 Advanced Environmental Geology
8. GO 514 Advanced Structural Geology
9. GO 523 Advanced Igneous Petrology
10. GO 531 Regional Geology of North America
11. GO 541 Methods and Techniques of Gathering, Measuring and Testing Geologic Data
12. GO 551 Current Topics in Geology
13. GO 571 Geochemistry
14. GO 593 Thesis
15. GO 596 Directed Research
16. GO 597 Special Topics
17. GO 598 Graduate Seminar

Idaho State University Courses:
18. Geol 648 Research Problems
19. Geol 650 Thesis

University of Idaho Courses:
20. Hydro 502 Directed Study
21. Hydro 509 Computer Applications in Geohydrology

BSU Geophysics Course Offerings

The BSU Master of Science program in geophysics interacts cooperatively with the University of Idaho (UoI) Master of Science program in geophysics through the Joint listing of graduate geophysics courses, the application of UoI graduate geophysics courses for BSU credit, and the application of BSU graduate geophysics courses for UoI credit. Cooperation is also extended to Idaho State University (ISU) in that up to 12 credits earned in approved courses at ISU can be applied to a Master of Science in Geophysics at Boise State University (BSU) or UoI. In addition, faculty at BSU, UoI, and ISU may form joint supervisory committees when expertise outside of the student's resident institution is judged to be beneficial. These cooperative efforts by BSU, UoI, and ISU add flexibility and geographic accessibility to graduate education in geophysics within Idaho.

Admission Criteria:

Applicants should have a BS or equivalent degree from an accredited institution in one of the following fields: geophysics, geology, hydrology, physics, chemistry, mathematics, engineering, or business. Evaluation for admission requires three personal references, transcripts from all colleges and universities attended, and scores on the GRE General Test. Students whose native language is not English must submit a TOEFL score of 550 or higher. A copy of a report resulting from the application's ability to complete a significant project and write an acceptable scientific report. Preference is given to those applicants whose records indicate a high probability for successful completion of publishable graduate research. Application materials should be submitted via Graduate Admissions, Boise State University, 1910 University Drive, Boise, ID 83725, telephone (208) 509-3903.

Graduate Assistantships:

Graduate assistantships including tuition and fee waivers are funded from three sources: appropriated state funds, endowments, and research grants and contracts. Applicants to the M.S. Geophysics program who submit all documents required by the admission procedure by February 1 of any given year will be considered for a state appropriated or endowed graduate assistantship to start the following fall semester; notification of successful applicants will be during March and April. Information on graduate assistantships funded by research grants and contracts is available from the Coordinator of the geophysics graduate program.

Supervisory Committee:

Each admitted student will be assigned a supervisory committee whose purpose is to design the program of courses, guide the student's research, conduct the thesis defense, and approve the final thesis. The supervisory committee consists of at least three members, at least two of whom are members of the BSU, UoI, or ISU, and the third member is selected from a list compiled by the Coordinator of the geophysics graduate program.

Credit Requirements:

The BSU Master of Science in geophysics requires 30 semester credits distributed as follows:
1. 12 credits in BSU GP 500-level geophysics courses approved by the supervisory committee and by the Coordinator of the geophysics graduate program.
2. 12 credits in elective courses approved by the supervisory committee and by the Coordinator of the geophysics graduate program.
3. 6 credits for research leading to a written thesis (BSU GP 593).

All 30 credits must be taken for a letter grade. On-campus geophysics graduate students are also required to take geophysics graduate seminars (GP 596) for a letter grade whenever it is offered. Transfer credits may not be used for requirements 1 or 2 except that a maximum of 6 credits of requirement 1 may be satisfied with UoI 500-level geophysics courses. A maximum of 9 transfer credits may be applied to meet requirement 2 except that all 12 credits of requirement 2 may be satisfied with transfer credits from UoI and/or ISU. Certain courses are normally ineligible for requirements 1 and 2 including courses applied to a previously obtained degree, courses used to meet admission requirements, and courses required to remedial background deficiencies. The purpose of requirements 1 is to broaden the student's background in graduate level geophysics in a formal classroom setting; independent study, directed research, project, or special topics courses which do not fit this description are not applicable toward requirement 1. The purpose of requirement 2 is to provide an opportunity for elective courses within geophysics or in an associated field of science or engineering; these are often courses which are appropriate to a student's thesis, post-graduate education, or employment goals. In all cases, the courses applied to meet the credit requirements 1 and 2 must be approved by the supervisory committee and by the Coordinator of the geophysics graduate program, and the majority of the 30-credit total requirement (i.e., at least 16 credits) must be earned in residence at BSU.

Thesis Requirements:

A thesis representing research of sufficient quality to warrant publication in a peer-reviewed journal is required of all candidates for the Master of Science in geophysics. Actual publication is not required, but is held out as a goal for all graduate students. The research results must be presented at a formal public defense, and the final written thesis must be approved by the supervisory committee, by the Coordinator of the geophysics graduate program, and by the Dean of the Graduate College. In order to provide sufficient time for thorough evaluation of the thesis research, a student should allow 3-6 months between the completion of the first draft of the thesis and the day of the formal defense. Frequent communication between the student, the supervisory committee, and the Coordinator is essential throughout this period.

Graduate College Requirements:

The general requirements of the BSU Graduate College also govern the Master of Science in geophysics degree program.

BSU Geophysics Course Offerings

See page 23 for definition of course numbering system.

GP GEOPHYSICS
See appropriate department listing for detailed description of undergraduate courses (4000 level) which may be taken for graduate credit.

GP 410G EXPLORATION WELL LOGGING (2-3-3)(F).

GP 420G GEOPHYSICAL APPLICATIONS OF DIGITAL SIGNAL PROCESSING (3-0-3)(S).

GP 430G MATHEMATICAL MODELING IN GEOPHYSICS (3-0-3)(S).
Admissions
Admission will normally be granted to applicants who hold a bachelor's degree in history, or its equivalent, from an accredited institution or who have a strong history background (more than 20 semester credits) within their bachelor program. Those students without a strong history background may be required to remove deficiencies before admission.

Applicants for regular status in the History Graduate program must have maintained a GPA of at least 3.00 overall, a 3.20 in history and a 3.20 overall for the last two years of undergraduate study. Students not meeting minimum requirements for regular status are encouraged to apply for provisional status.

Applicants must also be aware that some areas require foreign language skills or some other research tool.

Program Requirements
The Master of Arts in History will consist of a minimum of thirty-three hours planned by the student in conjunction with the graduate coordinator or with the student’s advisory committee. The student will establish an advisory committee as soon as possible, normally during the first semester enrolled. Students have two options from which to choose:

1. Option 1. 33 credits with thesis
   - core ................. 6 credits
   - major field .......... 12 credits
   - minor field .......... 9 credits
   - thesis ............... 6 credits

2. Option 2. 33 credits with project
   - core ................. 6 credits
   - major field .......... 15 credits
   - minor field .......... 9 credits
   - project .............. 3 credits

Regardless of which option is selected candidates for the M.A. must publicly defend their thesis or project at an oral examination scheduled by their advisory committee.

REQUIRED COURSES (CORE):
- Historians & Historical Interpretation HY 500 .......... 3
- Sources of Western Traditions HY 512 .......... 3
- Sources of Nonwestern Traditions HY 513 .......... 3
- Sources of American Values HY 520 .......... 3

Course Offerings
See page 23 for definition of course numbering system

HY HISTORY Undergraduate
See appropriate department listing for detailed course descriptions of those undergraduate courses which may be taken for graduate credit.

HY 334G UNITED STATES SOCIAL AND CULTURAL HISTORY (3-0-3) (F/S).
HY 423G EUROPEAN DIPLOMATIC HISTORY 1871–PRESENT (3-0-3) (F/S).

Graduate

HY 500 HISTORIANS AND HISTORICAL INTERPRETATION (3-0-3). A study of major historians and schools of historical interpretation from Ancient Greece to the twentieth century. Discussion concentrates on written history and the problems of interpretation. Oral and written participation and a major paper are required. PREREQ: admission to graduate program or PERM/CHAIR.

HY 512 SOURCES OF WESTERN TRADITION (3-0-3). Selected topics in the History of Western thought beginning with the Classical Greeks through the present era. A study of intellectual and cultural trends reflected in the western philosophical tradition, both secular and religious. PREREQ: Admission to the graduate program or PERM/CHAIR.

HY 513 SOURCES OF NONWESTERN TRADITION (3-0-3). Selected topics dealing with the problems and possibilities of the historical study of societies other than our own, with special reference to Africa, Asia and Latin America. PREREQ: Admission to the graduate program or PERM/CHAIR.

HY 520 SOURCES OF AMERICAN VALUES (3-0-3). The origins of American thought and culture, the Puritan mind, enlightenment ideas, the intellectual climate of the new nation, and an exploration of American values on the eve of the Civil War; laissez-faire capitalism thereafter and the reaction to industrialism. PREREQ: Admission to graduate program or PERM/CHAIR.

HY 580 GRADUATE SEMINAR IN U.S. HISTORY (3-0-3). Studies of principal themes or problems within well-defined periods of particular fields of U.S. History. Emphasis will be placed on reading, discussion, writing and research. Reports and
Master of Arts or Science in Interdisciplinary Studies

General Information

Boise State University offers a Master of Arts/Master of Science degree program in Interdisciplinary Studies. In consultation with faculty, students may combine courses from more than one school or college or more than one department to create an individualized pattern of educational experience. The program is designed for mature students who wish to continue education at the graduate level but do not seek specialized training concentrated in a major area. This program is not a substitute for the traditional master's degree; rather, it is intended for students with broader interests in several fields or those whose career goals do not match fully with a single identifiable academic unit or department. Emphasis is placed on continued intellectual and cultural development in a constantly changing society where new career interests may extend over several traditional specializations.

The Interdisciplinary Studies Program is administered by the Graduate College, housed in the College of Arts and Sciences and directly supervised by the Director of Interdisciplinary Studies who is the Associate Dean of that College. A university-wide Interdisciplinary Studies Committee consisting of the Graduate Dean and one member from each academic College oversees the program. The Director of Interdisciplinary Studies serves as the chair of that committee. Each student in the program will also have a graduate committee composed of three faculty members from the disciplines making up the interdisciplinary program. The student's graduate committee will have the responsibility of helping the student select his or her particular course of study and will recommend to the Interdisciplinary Studies Committee that it be accepted as the student's formal Plan of Study. The Interdisciplinary Studies Committee shall be responsible for approving the members of the student's graduate committee and approving the student's plan of study.

Admission Requirements

1. File an application for admission to the Graduate College in room MG 141, and request official transcripts from each institution attended previously to be sent directly to the Graduate Admissions Office.
2. The standard admission policy for applicants to the BSU Graduate College will be followed.
3. The applicant must submit an application for entrance into the Interdisciplinary Studies Degree Program to the Director of Interdisciplinary Studies in room SN 106.
4. The applicant must have an undergraduate cumulative GPA of 3.00.
5. The applicant must submit to the Director of Interdisciplinary Studies a three page written justification and rationale of why the courses in his or her Degree Plan are included in the Plan and how they will enable the applicant to accomplish identified intellectual, professional, or vocational goals.

Degree Requirements

Each program is developed individually according to the student's interests and background but must be intellectually defensible and clearly interdisciplinary in nature. The following must be incorporated into the program:

1. Course work must be selected from a minimum of two academic areas.
2. As many as 11 credits of 300-400G courses may be applied toward the program.
3. Courses may not be challenged for credit; if comparable content can be demonstrated, other courses will be substituted. No more than 6 transfer credits will be accepted toward the program.
4. The degree will consist of a total of 33 credits, of which no more than 16 credits may be earned in the College of Business. Students may select from a thesis/project or from a written examination option. The thesis/project will carry 6 credits.
5. For those students selecting the examination option, the student's graduate committee will draw up the examination questions. Following the written examination, the student will meet with the committee for an oral review of the results.
6. For students selecting the thesis/project option, upon completion of the work, the student will meet with his or her committee for a final review of the work.
7. The thesis/project option and the examination option must both require the student to draw critically upon the two or more disciplines studied and to integrate disciplinary insights.
8. All work offered toward the MA/MS Degree Program in Interdisciplinary Studies must be completed within a period of seven academic calendar years.

Procedures

Following an interview, the Director of Interdisciplinary Studies will assist the students in forming a graduate committee. The student will develop the program with the committee; the Interdisciplinary Studies Committee (composed of one representative from each academic College and the Graduate Dean) will judge whether the plan is in keeping with the policies established, and approve said plan for acceptance for the degree. Revisions to the plan of study must be approved by the student's graduate committee chair, the Director of Interdisciplinary Studies, and the Graduate Dean.

Master of Science in Instructional & Performance Technology

The Master of Science Degree in Instructional & Performance Technology (IPT) is intended to prepare students for careers in the areas of instructional design, job performance improvement, human resources, training, and training management. The IPT program prepares students with skills needed to identify, analyze, and solve a variety of human performance problems in settings such as industry, business, the military, education, and private consulting.

The M.S. program emphasizes scholarly understanding of research and theory as they apply to instructional technology and performance technology. Students are also exposed to a broad range of practical skills and knowledge in instructional systems design, program development, computer-assisted instruction, consulting, media selection/ utilization, application of educational use of computers, and program evaluation. In addition, students learn how to appraise and select proposed training programs and delivery methods.

Human performance improvement in organizations requires more than education or training alone. In this program students explore the many
factors that affect human performance, including: knowledge and skills, job expectations, task design, incentive systems, feedback systems, tools, job aids, and resources. In the IPT program, students learn how to think strategically, be proactive, and design interventions (predominantly training or instruction) that will get the desired results. They learn how to define and clarify those results and how to integrate training with other factors that impact human performance.

Distance Education Option

In addition to the traditional mode of delivering on-campus classes, Boise State University also offers its M.S. program in IPT through distance education methods. This constitutes an entirely nonresident course of study for a complete M.S. in IPT. Students all over the continent participate in the distance education IPT program from their home locations through time- and location-flexible (TLF) classes.

TLF classes are conducted by computer conferencing (via personal computers and telephone connections). TLF classes are distinct from correspondence courses in many important ways. Two of these are: (a) each student in the class sees the questions and comments of all the rest of the students in a natural flow of normal class discussion; and (b) interaction between teacher and student and among peer students is much more immediate than possible through mailing systems. Computer conferencing permits (and encourages) a high level of interaction among class members.

The distance option of the IPT program uses the same admission standards and required courses as the on-campus option. However, the course fees are higher for on-campus classes, special equipment is required, and course offerings are scheduled through Continuing Education.

In order to be admitted to the distance option, applicants must own or have convenient access (a minimum of 2 hours per day, 5 days per week) to a complete computer system which includes the following components: a fully IBM-compatible PS/2, IBM AT, 286, 386, or 486 color graphics (EGA or better) capability; and at least 10 megabytes of free space available on a hard disk drive (this means applicants must have at least a 20 megabyte hard drive); DOS 3.0, or higher (DOS 5.0 is recommended); a Hayes-compatible, 2400 BAUD modem (Zoom modem recommended); and a 3.5" floppy drive or the means to convert 3.5" floppies to the size and density typically used by the applicant. Distance students are encouraged (but not required) to gain access to a fax machine for both sending and spontaneous receiving.

The distance option is fully accredited by the Northwest Association of Schools and Colleges (NASC). Distance students in the program have been enthusiastic about the rigor and value of their academic experience. The distance option clearly meets the needs of busy professionals who are seeking to increase their knowledge, skills, and credibility in the training profession but cannot relocate to attend traditional courses.

Admission Criteria: Admission decisions will be based on the following information:

1. A minimum GPA of 2.75 overall or 3.0 for the last two years of course work at accredited institutions (all course work must be verified by official transcripts). If a person fails to meet the GPA requirement, that person may apply for special consideration for provisional admission.
2. A minimum score of 50 on the Miller Analog Test (MAT) with appropriate scores in the verbal and quantitative areas.
3. A minimum score of 20 on the Graduate Record Examination (GRE) with acceptable scores in each of the three areas.
4. The program committee requires a statement that outlines the student's professional goals and the reasons why he/she wishes to pursue the M.S. degree.

Academic Scholarship Requirement: The IPT has academic requirements in addition to those of the Graduate College. Grades below B in required or elective courses cannot be used to meet the requirements of the M.S. degree in IPT. A student who earns a grade of C in a REQUIRED course will be required to take another course deemed to be equivalent in purpose. With special permission of the Program Committee, a student may apply 3 ELECTIVE credits of C toward the degree.

Core Requirements:

Intro Instructional & Performance Technology IP 536 3
Instructional Design IP 537 3
Evaluation Methodology IP 530 3
*Instructional Theory TE 582 3
*Instructional Courseware Design TE 538 3
Delivery Technology for Instruction IP 550 3
Core Requirements subtotal 18

Thesis Option:

Electives 9
Thesis IP 593 6
OR
Project Option:

Electives 9
Project IP 591 6
OR
Non-thesis Option:

Electives 15
Comprehensive Examination 15
Option Requirement subtotal 30

In order to complete the project or thesis options, students are required to be in residence on campus for at least one semester during which they are enrolled in IP 591 (project) or IP 593 (thesis). Consequently, students in the distance education IPT program will either need to come to campus to participate in the project/thesis option, or they will have to pursue the non-thesis option.

Electives:

Appropriate electives will be selected by the student and his/her advisor based on an evaluation of the student's educational and professional goals.

Suggestions:

Artificial Intelligence Applications for Instruction IP 539 3
Management Concerns for Performance Technologists IP 571 3
Directed Research IP 596 3
Practicum/Internship IP 590 3
Selected Topics in Instructional Technology IP 583 3
Special Topics IP 597 3
Organizational Theory & Behavior MG 528 3
Quantitative Methods for Public Decisions PA 511 3
Advanced Technical Communication E 512 3
Public Policy Process PA 501 3
E-Business Electives 9

Course Offerings

See page 23 for definition of course numbering system

IP INSTRUCTIONAL/PERFORMANCE TECHNOLOGY

IP 520 VIDEO DELIVERY SYSTEMS (3-0-3)(Demand). Students will investigate the video and audio applications of technology for instruction such as Instructional Television Fixed Service (ITFS), teleconferences, and educational television. PREREQ: PERM/INST.

IP 530 EVALUATION METHODOLOGY (3-0-3)(SU). Students learn how to use methods of inquiry and analysis to evaluate the effectiveness of instructional or performance improvement programs. They explore various modes of both formative and summative evaluations and ways to implement the results of such research efforts.

IP 536 INTRODUCTION TO INSTRUCTIONAL AND PERFORMANCE TECHNOLOGY (3-0-3)(F). This course provides students with an overview of the field of Instructional and Performance Technology, its products and processes. Students learn the historical, philosophical, and theoretical foundations of the field.

IP 537 INSTRUCTIONAL DESIGN (3-0-3)(F). This course gives an overview of several models for instructional system design and examines the processes involved in designing instructional interventions, such as analyzing instructional needs, determining and organizing content, selecting appropriate media, evaluating, and revising. PREREQ: IP 536 or PERM/INST.

IP 539 ARTIFICIAL INTELLIGENCE APPLICATIONS FOR INSTRUCTION (3-0-3)(Demand). This course provides students with an overview of artificial intelligence and an introduction to expert systems. Students learn how expert systems can be used to increase the efficiency and effectiveness of instruction and performance interventions.
2. Predictive Examination: Before a graduate student can be admitted to Master of Music in a given semester or session, research credits at the discretion of the graduate student's supervising professor or IP591 PROJECT (0-V-6). This technology. PREREQ: IP536 or PERM/INST.

IP590 PRACTICUM/INTERNSHIP (Variable). Students explore issues and topics of current interest. Content will be revised continually to reflect current developments in the field of instructional & performance technology. PREREQ: IP536 or PERM/INST.

IP596 DIRECTED RESEARCH (Variable). Master's programs may include directed research credits at the discretion of the graduate student's supervising professor or committee. A student may earn a maximum of 9 semester hours with no more than 6 in a given semester or session.

Master of Music

1. Admission Requirements: Admission will be granted to applicants who hold a Bachelor's degree in music (BM, BA or BS with music major) from an accredited college or university and who give promise of meeting the standards set by the Department of Music.

2. Predictive Examination: Before a graduate student can be admitted to regular status, predictive examinations in music history and music theory (and also in music education for Music Education Emphasis students) must be completed. The purpose of predictive examinations is to determine the student's strengths and weaknesses so that an individual academic program can be formulated that will best serve the student's needs. Any course used to remove deficiencies does not count toward the degree. A student who has any deficiencies will be granted Provisional Status in the graduate program: when all deficiencies have been removed, he/she may then seek Regular Status. A description of the material covered on these examinations is available from the Department of Music.

A. MASTER OF MUSIC - Music Education Emphasis

a) Graduation Requirements: (Total 36-39 credits) 36 credits minimum, stipulated below, are required for graduation. The actual number of credit hours may vary depending on the needs of individual students as determined by the results of predictive examinations. Candidates are required to establish an area of emphasis in one of the following: elementary, choral, or instrumental music education.

b) Core Courses

   a) Intro to Music Research MU 503 3
   b) New Developments in Music Education MU 570 3
   c) History & Philosophy of Music Education MU 576 3
   d) Issues in Education TE 570 3

c) Non-Music Education Courses

   a) Music Theory 3
   b) Music History 3
   c) Private Music lessons (2 semesters minimum) 4
   d) Music Ensemble 2

d) Music Electives

   (1) 6 credits in the student's area of emphasis: elementary general music, choral music, or instrumental music education (2) 3 credits additional approved electives in music (3) No more than four (4) workshop elective credits, of which one may be a music conference credit, may be applied towards the degree.

e) Comprehensive Examination

A written comprehensive examination in music must be completed prior to registration for the student's culminating activity. This exam will be tailored to each student's graduate course work.

f) Oral Examination

If needed, an oral examination relating to the written comprehensive examination or to the culminating activity may be requested at the discretion of the candidate's Committee.

g) Culminating Activity (3-6 credits from one of the choices listed below)

(1) Lecture-Recital MA 551 3
(2) Project MU 591
   a) Culminating Paper 3
   b) Research in Selected Topics (20 questions: 4 areas) 3
   c) Thesis MU 593 6

B. MASTER OF MUSIC - Performance/Pedagogy Emphasis

The Master of Music degree Performance/Pedagogy Emphasis, is designed to meet the needs of music specialists who aspire to music performance careers, private studio teaching, collegiate applied teaching, and further graduate study in performance and/or pedagogy at the doctoral level.

1) Audition Requirements

Students seeking admission to the Performance/Pedagogy Emphasis must perform a satisfactory audition, in person, before the performance faculty of his/her major performance area (keyboarding, winds, strings, etc.). Audition details are available from the Department of Music.

2) Graduation Requirements

31-32 credits minimum, stipulated below, are required for graduation. The actual number of credit hours may vary, depending on the needs of individual students as determined by the results of predictive examinations. The Performance/Pedagogy Emphasis contains two options: Performance or Pedagogy. Requirements vary with each option, as stated below:

a) Core Courses 12
   a) Intro to Music Research MU 503 3
   b) Music Literature of Major Instrument MU 557 3
   c) Music Theory Elective 3
   d) Music History Elective 3
   e) Performance Option Courses 3
   f) Pedagogy I, II MU 563, 564 or additional Music History* and/or Music Theory* 6
   g) Additional Graduate level music elective 3
   h) Private lessons on major instrument MC 5_ 4 8
   i) (2 semesters minimum: private lessons must be taken each semester of residency) OR
   j) Pedagogy Option Courses 13-16

   i) Pedagogy I, II MU 563, 564 6
   j) Additional Music History* and/or Music Theory 3-6
   k) Private lessons on major instrument MC 5_ 2 4
   l) 2 (2 semesters minimum: private lessons must be taken each semester of residency)

b) Performance Option Culminating Project 3
   a) Graduate Solo Performance Recital 3
   b) Performance/Pedagogy Comprehensive Review
      After successful completion of the culminating project, the student's committee will administer a written examination consisting of three questions, one from each committee member. The questions will cover areas of the student's major or culminating project and course work taken toward the degree. After satisfactory completion of the written examination, the committee will meet with the student for an oral examination.
      TOTAL 31-32

*Total Music Theory and Music History credits earned may include but not be limited to Special Topics.

Course Offerings

See page 23 for definition of course numbering system.

MA MUSIC APPLIED - PERFORMANCE CLASSES, RECITALS

MA 544 LECTURE/RECITAL (0-V-3) A full lecture/rectal elected as the culminating project for the Master of Music degree, Music Education or Performance/Pedagogy emphasis major. The lecture is to demonstrate scholarly study on a selected topic and the recital is to present supportive musical examples. PREREQ: PERM/INST/CHAIR. Graded Pass/Fail.
MA 546 GRADUATE SOLO PERFORMANCE RECITAL (0-4-3). A full recital to be presented as the culminating project for the Master of Music degree. Performance and Pedagogy emphasis. PREREQ: PERMISSION/CHAIR. Graded Pass/Fail.

MC MUSIC PRIVATE LESSONS PERFORMANCE STUDIES

Students will be assigned on the basis of an audition. Performance, Technical Study, Musical Interpretation, Literature, and Teaching Technique will be stressed.

All 500 level MC courses are repeatable. See undergraduate Private Lesson Performance Studies course numbering system for explanation of course numbers.

MC 501 (0-5-1), 502 (0-5-2), 504 (0-1-4). Woodwind instruments private lessons.
MC 511 (0-5-1), 512 (0-5-2), 514 (0-1-4). Brass instruments private lessons.
MC 521 (0-5-1), 522 (0-5-2), 524 (0-1-4). Percussion instruments private lessons.
MC 531 (0-5-1), 532 (0-5-2), 534 (0-1-4). Voice private lessons.
MC 541 (0-5-1), 542 (0-5-2), 544 (0-1-4). Keyboard instruments private lessons.
MC 551 (0-3-1), 552 (0-5-2), 554 (0-1-4). Fretted string instruments private lessons.
MC 561 (0-3-1), 562 (0-5-2) 564 (0-1-4). Bowed string instruments private lessons.

ME MUSIC ENSEMBLE

Undergraduate

ME 321G MARCHING BAND (0-0-1)(F).
ME 350G ORCHESTRA (0-1-1)(F).

Graduate

ME 510 CHORAL ENSEMBLE (0-2-1)(F/S). A general chorus open to all interested students. The format of the class will include such aspects as size of the enrollment, i.e., choir, chamber ensemble or collegeum musicum.
ME 515 OPERA THEATER (0-5-1). Advanced study/experience in singing-acting technique and movement through performing in productions from the opera and/or musical theater repertoire. May be repeated up to 4 credits maximum. PREREQ: PERMISSION.

ME 520 INSTRUMENTAL ENSEMBLE (0-1-1)(F/S). A performing group or groups will be formed, depending on the size of enrollment, such as trios, quartets, band or orchestra; opportunities to perform ensemble music of various kinds will be given. Emphasis will be placed on techniques of ensemble playing, intonation, phrasing, articulation and proper performance practice of ensemble literature.

MU MUSIC, GENERAL

Undergraduate

See appropriate department listing for detailed course descriptions of these undergraduate courses which may be taken for graduate credit.

MU 410G ADVANCED FORM AND ANALYSIS (3-0-3)(S).
MU 422G SIXTEENTH CENTURY COUNTERPOINT (3-0-3)(F).
MU 424G COUNTERPOINT SINCE 1600 (3-0-3)(F).
MU 465G DICTION FOR SINGERS I (2-0-2)(F).
MU 466G DICTION FOR SINGERS II (2-0-2)(F).

Graduate

MU 501 HISTORY OF MUSIC IN THE UNITED STATES (3-0-3)(F). Designed for either the non-specialist or specialist in music, this course will survey the role which music has played in the development of American culture. Among the topics covered will be early New England music, music of the Blacks, Indians, and other ethnic groups. Social and historical interrelationships with music will be examined and discussed.

MU 503 INTRODUCTION TO MUSIC RESEARCH (3-0-3)(F). This course will provide an introduction to the basic research literature pertinent to the student's major area of emphasis; an interpretation of research findings; and the means to develop skills and techniques needed for the writing of an extended research paper, thesis and/or dissertation, articles for publication and book/performance reviews.

MU 505 SEMINAR IN CHORAL MUSIC: PERFORMANCE PRACTICES AND STYLES (3-0-3)(F). An historical, generic survey of the repertoire in choral literature. Emphasis will be placed on facets of interpretation through a study of representative compositions from the standpoint of performance practice, analytic techniques, and the reading of primary sources of pertinent information.

MU 506 SEMINAR IN INSTRUMENTAL MUSIC: PERFORMANCE PRACTICES AND STYLES (3-0-3)(F). Analysis and study of works from the Baroque through the present era. Particular attention will be paid to performance practices of ornamentation, style, tempo, scoring, dynamics, etc. Band transcriptions also included.

MU 511 20th CENTURY MUSICAL STUDIES (3-0-3)(F). A study of 20th century compositional techniques and performance practices through analysis, discussion of aesthetics, listening, performance, and creation. The following topics will be covered: electronic music and its notation, such as quartal harmonies, serialization, improvisation, electronic music, microtones, and multi-media, will be explored and their application to the secondary school music classroom will be discussed.

MU 512 ELECTRONIC MUSIC APPLICATIONS (3-0-3)(F). A historical overview of electronic music and music technology. Hands-on experience with digital and analog synthesizers, effects processors, sampling, tape decks, computers and related software, and MIDI. Emphasis will be placed on the application of fundamental techniques of electronic music to creative composition.

MU 551 SEMINAR IN MEDIEVAL THROUGH BAROQUE PERFORMANCE PRACTICES (3-0-3)(F/S). The study of music literature in Western Europe from the late Middle Ages through the Baroque period through the historical survey of performance practices and their practical application.

MU 552 SEMINAR IN MODERN MUSIC FORM AND STYLE (1750-1900) (3-0-3)(F). A study of art music in the Western World from 1750 through the present, with emphasis on selected masterworks, including score analysis, performance practice, textual background and historical context.

MU 557 MAJOR INSTRUMENT LITERATURE (3-0-3)(F). Advanced survey of the major instrument literature. The student will prepare a research paper on several important works in the repertoire.

MU 561 ADVANCED CONDUCTING (3-0-3)(F/S). Designed for secondary music teachers, this course provides opportunity to discover and analyze technical conducting problems, both instrumental and choral, in music of the various historical eras, which forms a significant part of the secondary school repertoire.

MU 563 INSTRUMENTAL PEDAGOGY I (3-0-3)(F). An advanced and in-depth investigation of pedagogical techniques, materials and principles used in the private teaching studio. Readings in the philosophy of teaching will be included.

MU 564 MAJOR INSTRUMENT PEDAGOGY II (3-0-3)(S). Development of lesson plans and supervised studio teaching in both private and group settings. Recommended preparation: MU 563.

MU 570 NEW DEVELOPMENTS IN MUSIC EDUCATION (3-0-3)(F). Designed to acquaint the music specialist with recent ideas in music education, including major trends in curriculum, new methodology, music in integrated courses, and reports of major conferences and symposia.

MU 571 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING MUSIC IN THE ELEMENTARY SCHOOL (3-0-3)(F). Designed for the general classroom teacher or music specialist, the course deals with old and new approaches to teaching music in the classroom, teaching materials, current research on problem singers, creative musical activities, and the development of music reading skills. PREREQ: MU 371 or PERMISSION.

MU 572 LISTENING AND SINGING EXPERIENCES FOR THE ELEMENTARY SCHOOL (3-0-3)(F). Designed for the general classroom teacher or music specialist, the course deals with the study of singing and listening materials relevant to classroom music, K-6. Sequential curriculum plans will be developed for singing and listening experiences. PREREQ: MU 371 or PERMISSION.

MU 573 ADVANCED METHODS AND TECHNIQUES FOR THE INSTRUMENTAL INSTRUCTOR (3-0-3)(F). A study of causes and solutions for problems occurring in the instrumental rehearsal. Areas to be covered include instrumental methods and techniques, organization and repertoire planning.

MU 574 ADVANCED METHODS AND TECHNIQUES FOR THE CHORAL INSTRUCTOR (3-0-3)(F). A study of causes and solutions for problems occurring in the choral rehearsal. Areas to be covered include vocal methods and techniques, organization and repertoire planning.

MU 575 ADMINISTRATION OF SCHOOL MUSIC (3-0-3)(F). A seminar in problems of music supervision and administration covering areas such as budget, scheduling, curriculum, personnel and philosophy.

MU 576 HISTORY AND PHILOSOPHY OF MUSIC EDUCATION (3-0-3)(F). Includes both an introduction to the history of music education in the United States, from colonial New England to the present; and alternate views about the philosophy of music, including aesthetic experience, aesthetic education, and the nature and meaning of music.

MU 591 PROJECT (0-0-3). Details for the culminating project can be found in requirements for Master's degree in secondary education, music emphasis.

MU 593 THESIS (0-0-6). A scholarly paper embodying results of original research which are used to substantiate a specific view.

Master of Public Administration

In 1984 the State Board of Education designated Boise State University as the primary emphasis institution for public affairs education within the State of Idaho. The Master of Public Administration program is an important component of BSU's public affairs commitment.

The Master of Public Administration (MPA) is a professional graduate degree designed to prepare students for positions of leadership in public service. Professionals in all levels of government, nonprofit organizations, and private sector governmental affairs departments take advantage of the general administrative and policy analysis skills offered by the MPA program. The curriculum also provides the theoretical and practical dimension of public management necessary to assist students seeking public service careers. Four areas of emphasis are offered leading toward the MPA degree: (1) general public administration; (2) human services administration; (3) criminal justice administration; and (4) environmental and natural resources administration.

Admission to the MPA Program

Admission to the MPA program involves two steps. The first is admission to the Graduate College. Students must submit a graduate application to
the Graduate Admissions Office. After submitting the graduate application, applicants receive a certificate of admission to enroll in courses at BSU. This certificate of admission is a PREREQUISITE to admission into the MPA program, but does not by itself guarantee admission into the MPA program. (The student is advised to consult the Graduate College section of this catalog for more detail, including requirements for admission to the Graduate College.)

The second step is admission to the MPA program. All applicants to the MPA program must meet the following requirements prior to enrollment in MPA courses:

1. Meet with an advisor in the Public Affairs program to discuss the admission process, the applicant’s career interests, and reasons for seeking admission to the MPA program.
2. Possession of a baccalaureate degree from an accredited institution.
3. Demonstration of satisfactory academic competency by attaining an overall GPA of at least 3.0 and a minimum combined 1000 on the Graduate Record Examination (GRE) verbal and quantitative sections.
4. Submittal of official transcripts from all previous academic institutions to the Graduate Admissions Officer.
5. Submittal of three letters of reference, in which the applicant’s academic potential is evaluated, to the Public Affairs Program Director, Boise State University, 1910 University Drive, Boise, ID 83725.
6. Submittal of the MPA Data Form, and a brief statement explaining the applicant’s educational and career objectives.
7. Completion of the following academic prerequisites (through academic course work or approved equivalent experience):
   A. American National Government (3 semester credits).
   B. State and Local Government (3 semester credits).
   C. Introduction to Public Administration (3 semester credits).
   D. At least 3 semester credits in each of the following disciplines: Sociology, Economics, or Psychology.
   E. At least 3 semester credits in one of the following: accounting, data processing, computer skills, or statistics.
8. For those students selecting Human Services Administration as their area of emphasis, completion of at least 9 semester credit hours in sociology or social work.*
9. For those students selecting Criminal Justice Administration as their area of emphasis, completion of at least 9 semester credit hours in Criminal Justice.*

* Courses in these emphases are not offered on a regular basis.

Students interested in these areas should consult with an advisor in the Public Affairs Program before completing their application.

Applicants who do not meet all of the above requirements MAY BE recommended by the MPA Admissions Committee for admission with provisional graduate status. However, these students must remove all deficiencies before they will be recommended for regular graduate status.

MPA students must successfully complete at least 33 semester credit hours of approved MPA course work. Some students may also be required to complete the public service internship, which is explained below. Eighteen semester credit hours are in courses selected from the prescribed core courses: The fifteen additional semester credit hours are in the student’s area of emphasis.

As a final project, all MPA students must complete three credits of directed research (included in the 15 credits of emphasis) and take the written and oral comprehensive exams based on their course work.

Transfer of Graduate Courses: Because of a cooperative agreement made with Idaho State University and the University of Idaho, the MPA credits earned at those institutions can be accepted into the Boise State University program. Transfer of credit from all other institutions is limited to nine (9) semester credits.

Public Service Internship: Those MPA students with less than one year of work experience in a public sector or other public affairs agency are to complete a public service internship. The internship is served in a government office at the local, state or national level or in an appropriate public affairs organization, such as a private, nonprofit agency. The credits received for the internship are in addition to the 33 semester credit hours from the core area and area of emphasis. The internship component comprises six (6) semester credit hours.

The internship is meant to be a meaningful experience for both the MPA student and the organization in which the internship is served. Through the internship, students can further enhance their preparation for administrative work. At the same time, they are expected to make a valuable contribution to their assigned organizations. Therefore, the internship is usually served when the student is near completion of the MPA Program.

Course Selection

NOTE: Selection of courses is to be made in consultation with the student’s academic advisor.

Core Requirements: Each MPA student is required to complete 18 semester credit hours of approved MPA course work in the following core courses.

The core courses emphasize the knowledge and skills necessary to be effective in public service management and leadership. Each class includes an exploration of student values and public service ethics.

1. Administration in the Public Sector: Administration in the Public Sector PA 500.

Area of Emphasis Requirements: Each MPA student is to complete a minimum of 15 additional semester credit hours. These credit hours are in the student’s area of emphasis. An area of emphasis is a concentration or major in the program. Included in the 15 semester credit hours of the selected area of emphasis is the directed research project (3 semester credits).

1. General Public Administration: This area of emphasis is provided to acccommodate those students desiring preparation in public administration as a "generalist", rather than a "specialist" in a particular area. Student should select the remaining 15 credit hours of course work from the MPA courses listed in this catalog or offered as "selected topics," and MUST include PA 597 Directed Research (3 semester credits).
2. Environmental and Natural Resources Policy and Administration: Environmental and Regulatory Policy and Administration PA 540, Energy Politics PA 541, and Public Land Policy and Administration PA 543. Selected Topics courses may be offered to supplement area of emphasis requirements.

* Courses in these emphases are not offered on a regular basis. Students interested in these areas should consult with an advisor in the Public Affairs Program before proceeding.

Course Offerings

See page 23 for definition of course numbering system

PA PUBLIC AFFAIRS COURSES

PA 500 ADMINISTRATION IN THE PUBLIC SECTOR (3-0-3)(F/S). Designed to introduce students to the broad field of public administration at the graduate level. The course surveys a number of important issues in contemporary public administration, including an emphasis on political, legal, economic and social institutions and processes.

PA 501 PUBLIC POLICY PROCESS (3-0-3)(F/S). Process of policy-making both within an agency and within the total governmental process, emphasizing policy and program planning, policy implementation and the value system of administrators.

PA 502 ORGANIZATIONAL THEORY (3-0-3)(F/S). Theories of organization behavior and management, with special attention given to public sector organizations. Issues and problems related to the non-profit sector will also be addressed.

PA 503 TECHNIQUES OF ANALYSIS IN PUBLIC ADMINISTRATION (3-0-3)(F/S). An introduction to quantitative and qualitative data analysis with an emphasis on using descriptive and inferential statistics as tools in both public policy analysis and public program analysis. The use of quantitative analysis to support management decision making is examined. Computers, especially microcomputers, will be used in the analysis of quantitative data.
PA 504 PUBLIC BUDGETING AND FINANCIAL ADMINISTRATION (3-0-3)(F/S).
Determination of fiscal policy, budgeting processes, and governmental forms of
budgeting. Consideration of fiscal policy and processes in various program areas.
Emphasis on the interface between technical and political processes.

PA 505 PUBLIC PERSONNEL ADMINISTRATION (3-0-3)(F/S).
An examination of the personnel/human resource management role as it has evolved in the public
sector. The multiple responsibilities of personnel managers in the public sector will be
examined, and the link between public policy and personnel management will be
identified.

PA 510 PROGRAM EVALUATION (3-0-3)(F). Application of social science
research to administrative problems, including practical methods of gathering,
analyzing, and interpreting data. Theory and basic techniques underlying quantitative
analysis of public programs.

PA 511 QUANTITATIVE METHODS FOR PUBLIC DECISIONS (3-0-3) (F/S).
Methods for operations research and management science are used to analyze
decisions as well as to plan and monitor the implementation of public policies in public
sector and other public affairs organizations is considered.

PA 520 GOVERNMENT PLANNING (3-0-3)(F). A study of the theories, objectives,
techniques, and problems of governmental planning within cities, metropolitan areas,
and regions, as well as at the national level of government in the United States. A
discussion of the planning profession and the politics of planning.

PA 521 INTERGOVERNMENTAL RELATIONS (3-0-3)(F/S). Interuniversity cooperation
and conflict in the American federal system, including national-state-local, and interlocal
relations. PREREQ: PO 101, 102, 303.

PA 522 POLICY ISSUES AND THE PUBLIC ADMINISTRATOR (3-0-3)(F/S).
Appropriate, relevant topics dealing with public policy and the roles of public
administrators are discussed using concepts from organization and administrative
theory and policy analysis.

PA 530 ADMINISTRATIVE LAW (3-0-3)(F). Sources of power and duties of admin-
istrative agencies, rules and regulations made by agencies through investigation and
hearings, judicial decisions and precedents relating to administrative activities.
PREREQ: PO 303 or PERM/INST.

PA 531 LABOR RELATIONS LAW IN THE PUBLIC SECTOR (3-0-3)(F). A case
study of the trends and development of the legal context of labor-management
relations in the public sector, including collective bargaining relationships,
management rights and responsibilities, political and civil rights of public employees,
and alternative modes of dispute resolution. Collective bargaining and grievance
exercises will be conducted.

PA 540 NATURAL RESOURCE POLICY AND ADMINISTRATION (3-0-3) (F/S).
Examines the major issues, actors, and policies in the area of natural resources.
Topics include: land and water management and use, the natural resource policy
environment, the roles and behaviors of natural resource agencies, and alternative
natural resource policy futures.

PA 541 ENVIRONMENTAL AND REGULATORY POLICY AND ADMINISTRATION
(3-0-3)(F/S). Examines aspects of environmental regulatory politics and policy.
Topics examined include the politics of regulation, pollution and waste policy,
and intergovernmental environmental management.

PA 542 ENERGY POLICIES (3-0-3)(F). Topics to be discussed in this energy policy
related course include: alternative energy policies, energy and environmental
protection, and the politics of the formulation of a national energy policy.

PA 543 PUBLIC LAND POLICY AND ADMINISTRATION (3-0-3)(F/S). Examines the
major issues, actors, and policies affecting the public lands of the United States.
Special attention to the processes, institutions, and organizations which influence
how public land policy is made.

PA 571 ETHICS IN THE PUBLIC SECTOR (3-0-3)(F/S). Examination of ethical
dilemmas facing civil servants and elected officials utilizing case studies, current
ethics statutes, and approaches in the public administration literature to the subject.

SELECTED TOPICS (3-0-3). To be offered as staff availability permits:

PA 580 ADMINISTRATIVE THEORY, ORGANIZATION AND BEHAVIOR
PA 581 TECHNIQUES AND SKILLS
PA 582 PUBLIC POLICY AND POLICY ANALYSIS
PA 583 ADMINISTRATIVE LAW AND ETHICS
PA 584 THE EXECUTIVE AND THE ADMINISTRATIVE PROCESS
PA 585 INTERGOVERNMENTAL RELATIONS
PA 586 COMMUNITY AND REGIONAL PLANNING
PA 587 COMPARATIVE PUBLIC ADMINISTRATION AND PLANNING SYSTEMS

PA 590 PUBLIC SERVICE INTERNSHIP (variable credit).
Arranged as field experience for those students with no prior experience in governmental or other
organizational assignments. Such internships will be established and arrangements made
for placement through the director of the MPA Program.

PA 595 READING AND CONFERENCE (1-2 credits). Directed reading on selected
materials in public administration major program implementation, as arranged and
approved through major advisor.

PA 596 DIRECTED RESEARCH (1-3 credits).
A special project undertaken by the
MPA student as advanced tutorial study in a specialized area according to the needs
and interests of the student. Course embodies research, discussions of the subject
matter and procedures with a designated professor and a documented paper covering
the subject of the independent study.

PA 599 CONFERENCE OR WORKSHOP (1 credit). Conferences or workshops
covering various topics in public administration may be offered on an irregularly
scheduled basis, according to student interest and staff availability. No more than 3
credits provided through conferences or workshops can be applied toward the MPA.

CR CRIMINAL JUSTICE ADMINISTRATION COURSES*

* Courses in these emphases are not offered on a regular basis. Students
interested in these areas should consult with an advisor in the Public Affairs
Program before completing their application.

CR 510 SPECIAL PROBLEMS IN CORRECTIONAL TREATMENT (3-0-3) (F/S).
Analysis of contemporary problems in the correctional programs of American society.

CR 511 SPECIAL PROBLEMS OF THE JUVENILE AND YOUTHFUL OFFENDER
(3-0-3)(F/S). Examination of current processes in juvenile justice, rehabilitation
programs, probation and utilization of community-based resources. Emphasis will be
placed on preventative rehabilitative measures at the local level.

CR 580 SELECTED TOPICS—CRIMINAL JUSTICE ADMINISTRATION
(3-0-3)(F/S). Examination, evaluation and research regarding contemporary problems in the
criminal justice system. Students will be required to do extensive reading and inquiry
into special areas of concern and interest.

CR 595 READING AND CONFERENCE (1-2 credits). Directed reading on selected
materials in criminal justice administration and discussion of these materials, as
arranged and approved through major advisor.

CR 598 SEMINAR IN CRIMINAL JUSTICE ADMINISTRATION (2-0-2)(F/S).
Intensive analysis of selected subject areas of the system of criminal justice administration.
PREREQ: CR 301.

SO SOCIOLOGY COURSES *

* Courses in these emphases are not offered on a regular basis. Students
interested in these areas should consult with an advisor in the Public Affairs
Program before completing their application.

SO 501 THE SOCIOLOGY OF EDUCATION (3-0-3)(F/S). A sociological analysis of
the American school system, its problems and the social forces that shape the schools
in contemporary society.

SO 510 CONFLICT AND CHANGE IN SOCIO-CULTURAL SYSTEMS
(3-0-3)(F/S). Intensive examination of social and cultural change as related to technological
evolution, value changes and the resultant conflict in society.

SO 511 THE SOCIOLOGY OF AGE GROUP STRATIFICATION (3-0-3) (F/S).
Examination of the sociological effect of age as a major dimension of social
organization and stratification in American society and Western civilization. The
course will consider the effects of changing patterns of longevity, resultant changes
in age distribution of the population as these factors affect social, economic,
and political systems.

SO 512 SOCIAL DEMOGRAPHY (3-0-3)(F/S). Techniques and methods for analyzing
population growth, trends, and movement as reflected in actuarial data, birth-death
rates; mobility, fertility and fecundity as these affect the societal patterns, especially
planning for human service programs.

SO 571 FEMINIST SOCIOLOGICAL THEORY (3-0-3)(F/S). An examination of the
major types of feminist theory in Sociology or theory directly useful to sociologists
in search of understanding and explaining gender relations. The student will
encounter new perspectives in Sociology that arise from the exchange of new ideas,
new data, and social situations of possible social change, and the emergence of new
theoretical models to understand gender relations. PREREQ: Graduate standing.

SO 580 SELECTED TOPICS—HUMAN SERVICES ADMINISTRATION (3 credits).

SO 595 READING AND CONFERENCE (1-2 credits). Directed reading on selected
materials in human services administration and discussion of these materials as
arranged and approved through major advisor.

Master of Science in Raptor Biology

General Information
The Master of Science degree program in Raptor Biology is designed for
students, holding or expecting a bachelor degree in one of the disciplines of
the biological sciences, to enhance their knowledge and understanding
of raptor biology and ecology. The affiliation of the program with the
World Center for Birds of Prey, affords students a unique opportunity to
study raptors in locations such as Madagascar, Mauritius, and
In addition,
the Snake River Birds of Prey Natural Area, with the largest concentration
of nesting raptors in North America, provides a unique circumstance to
study raptor biology and ecology.

Admission Requirements
1. Submit a graduate application along with the $15.00 matriculation fee to
the Graduate Admissions Office. Please submit the application
PRIOR to submitting any additional items.
2. Have the Registrar(s) of ALL post-secondary institutions attended send
official transcripts.
3. Submit three letters of recommendation.
4. Have Graduate Record Exam scores forwarded.

All of the above materials are to be sent directly to the Graduate Admissions Office, Boise State University, 1910 University Drive, Boise, ID 83725. In addition, the applicant should send a cover letter discussing the applicant's professional goals and his or her reasons for wishing to study raptor biology, directly to the Biology Graduate Studies Coordinator.

REGULAR STATUS may be granted to those students who submit the above materials if they have maintained a 2.75 GPA over the last two years of undergraduate study and average a 50 percentile in verbal, quantitative, and analytical portions of the GRE.

PROVISIONAL STATUS may be granted to those applicants who do not meet the requirements for regular status or who may require to complete additional requirements as determined by the Biology Department.

Students may apply for admission at any time; however, applications must be completed by March 1 (for Fall Semester admission) in order to be considered for assistantships. Other forms of financial aid, such as loans or the College Work Study Program, are available to graduate students. Prospective students should contact the Financial Aid Office and consult the BSU catalog. Enrollment in the program is limited.

Degree Requirements

Once accepted, the student and the student's major professor (thesis advisor) select two additional faculty to comprise the student's thesis committee. This committee reviews the student's program and thesis. The committee also determines if there are any specific academic deficiencies that the student must meet in addition to the M.S. degree requirements.

A minimum of thirty (30) credits are required. Two (2) credits of graduate seminar (B 598) and six (6) credits of thesis (B 593) are required as part of the minimum 30 credits. The final copy of the thesis must be approved by the student's thesis committee and submitted to the Dean of the Graduate College at least three (3) weeks before commencement.

Course Offerings

See page 23 for definition of course numbering system

Undergraduate

See appropriate department listing for detailed course descriptions of these undergraduate courses which may be taken for graduate credit.

B BIOLOGY
B 401G ORGANIC EVOLUTION (3-0-3)(S).

B 412G GENERAL PARASITOLOGY (2-3-3)(S).
B 415G APPLIED AND ENVIRONMENTAL MICROBIOLOGY (3-3-4)(S).
B 420G IMMUNOLOGY (3-0-3)(S).
B 423G ECOLOGY (3-3-4)(F/S).
BT BOTANY
BT 330G MYCOTOLOGY (3-3-4)(F).
Z ZOOLOGY
Z 305G ENTOLOGY (2-6-3)(F).
Z 341G ORNITHOLOGY (2-3-3)(S).
Z 409G GENERAL AND COMPARATIVE PHYSIOLOGY (3-3-4)(S).
Z 421G MAMMALOLOGY (2-3-3)(S).

B BIOLOGY
B 501 BIOMETRY (4-0-4)(F). An application of statistical methods to problems in the biological sciences. Basic concepts of hypothesis testing: estimation and confidence intervals; t-tests and chi-square tests. Linear and nonlinear regression theory and analysis of variance. Techniques in multivariate and nonparametric statistics. PREREQ: M 111 or equivalent, or PERM/INST.
B 502 POPULATION AND COMMUNITY ECOLOGY (3-0-3)(F). The structure of populations and communities. Competition, predation, life history strategies, demographic population regulation, and cladistic relationships are examined from experimental and theoretical perspectives. PREREQ: B 423 or equivalent, or PERM/INST.
B 506 RAPTOR ECOLOGY (3-0-3)(S). Theoretical ecology as applied to birds of prey. Strategies of reproduction, habitat selection, foraging and spacing; theory of competition and predator-prey interactions; niche theory and community structure; raptor management. PREREQ: B 423 or equivalent, or PERM/INST.

Master of Social Work

Objective

The MSW is a two-year graduate degree program designed to prepare persons for advanced professional social work practice. The program combines course work and field-based practice experiences to meet Council on Social Work Education (CSWE) accreditation guidelines for social work education.

Admission

Minimum academic background qualifications include holding a baccalaureate degree from an accredited institution. An overall grade point average on all undergraduate work will normally reflect a 2.75, or higher, on a 4.0 scale, or 3.0 within one's major; completion of the Graduate Record Examination (GRE); and a strong liberal arts background. Students who are graduates of a CSWE accredited baccalaureate program or social work are eligible for advanced standing under the following conditions: 1) Minimum GPA of 3.00 in social work courses from an accredited undergraduate program. Students with an individual social work course grade less than C will be required to complete additional content equivalent to the course. 2) Satisfactory demonstration of completion of acceptable BSW field experience under professional social work supervision. 3) All other requirements equivalent to regular admissions.

Fall Semester

Found of Social Work SW 502 2
Social Policy I SW 505 3
Human Development & Diversity SW 512 3
Ethnicity, Gender & Class SW 514 1
Research I SW 530 3
Social Work Practice SW 503 3
Social Work Practice Lab SW 503 L 1
Total Credits 16

Spring Semester

Social Work Pract Organ & Communities SW 515 3
Theories of Individual Dysfunction SW 521 3
Advanced Social Work Interventions SW 550 3
Field Work I SW 570 6
Total Credits 15

Fall Semester

Social Policy II SW 506 3
Family Dynamics SW 525 3
Research II SW 532 3
Advanced Social Work Practicum I SW 575 6
Total Credits 15

Spring Semester

Selected Topics Electives 9
Advanced Social Work Practicum II SW 576 6
Total Credits 15

Total Degree Credit Requirements 61
SW 582 Selected Topics: Social Work Practice with the Elderly

SW 583 Selected Topics: Alcoholism and Substance Abuse

SW 584 Selected Topics: Social Work Practice with Hispanic Populations

SW 585 Selected Topics: Advanced Social Work Practice in Organization and Communities

SW 586 Selected Topics: Social Work Practice with Groups

SW 587 Selected Topics: Social Work Supervision

Course Offerings

See page 23 for definition of course numbering system

SW SOCIAL WORK

SW 502 FOUNDATIONS OF SOCIAL WORK (3-0-2(F)). Reviews the historical development of social work practice and social welfare. Identifies contemporary practice roles and societal responses in addressing social problems and individual needs. Social work philosophy, knowledge, skills and values are presented for understanding social welfare and institutional social work. PREREQ: Admittance to MSW program.

SW 503 SOCIAL WORK PRACTICE (3-0-3(F)). Social work practice methods are defined and the theoretical base for intervention with different size systems (individuals, families, groups, and communities) are reviewed. Knowledge and practice skills for conducting assessments and developing helping relationships are covered. Emphasis is given to cultural, ethnic, and gender differences. COREQ: SW 503 L.

SW 503 L SOCIAL WORK PRACTICE LAB (0-1-1(F)). A skills based experiential learning experience includes videotaping of interviews, role plays, and group action strategies. COREQ: SW 503.

SW 505 SOCIAL POLICY 1 (3-0-3(F)). Critically looks at contemporary welfare policies, examining them for general efficiency, cost effectiveness and practicality, nondiscrimination, and equitable coverage. Students will gain experience in identifying policy problems, scrutinizing policy choices and communicating their thoughts. A variety of analytical models for policy analysis will be reviewed.

SW 506 SOCIAL POLICY II (3-0-3(F)). This advanced policy course is designed to give students the knowledge and skills to design, implement, and manage social welfare policy and programs with a specific focus on policies and regulations which impact the family. Emphasis is given to practical and ethical considerations. Students will develop strategies to protect individual and family needs. Strategies such as needs assessment, mediation, and conflict resolution are identified as skills used in policy development and implementation. PREREQ: SW 505.

SW 512 HUMAN DEVELOPMENT AND DIVERSITY (3-0-3(F)). An ecological perspective that considers social, biological impact on life course development for comparing life experiences of group members who are diverse in terms of race, ethnicity, gender, sexual/affectional orientation, social class, age, or "able-bodiedness." Emphasizes theoretical work on prejudice, discrimination, and !solation as they affect the healthy development of individuals and families. Feminist perspectives on development are applied to the course.

SW 514 ETHNICITY, GENDER AND CLASS (1-0-1)(F,SU). An experiential course in a small group format identifies and defines attitudes, beliefs, and values for social work practice with individuals and families from groups representing ethnic, gender, and class differences. Focus is on bias and prejudice resulting from students' life experiences.

SW 515 SOCIAL WORK PRACTICE IN ORGANIZATIONS AND COMMUNITIES (3-0-3)(F,SU). Develops knowledge for understanding organizations and communities considering the differential positions of status and power based on racial, ethnic, and gender aspects. The course examines the characteristics within these systems. Focuses on understanding formal and informal groups, linkages, networks and building and operating in relational and interorganizational coalitions with special attention to the resources needed to preserve or restore family functioning. Issues of teamwork, case management, brokage, advocacy, mediation, and conflict resolution are explored in relation to social work practice.

SW 521 THEORIES OF INDIVIDUAL DEVELOPMENT (3-0-3(S)). Prepare students to recognize and understand individual dysfunction, as they work with clients and others across all fields of practice. The course will cover various explanations of individual dysfunction, including medical, psychodynamic, behavioral, existential, and cognitive models. The course will introduce the interrelatedness of individual dysfunction and social pollution in the form of racism, sexism, oppression, poverty, and discrimination, and will cover culture-specific meanings attributed to individual pathologies. Students will learn to apply current psychiatric diagnostic categories using the current Diagnostic and Statistical Manual.

SW 525 FAMILY DYNAMICS (3-0-3). The systems, psychodynamic, and developmental perspective provide the theoretical background for developing knowledge for social work practice in assessment and intervention with families from different ethnic and socio-economic backgrounds. Developmental, structural and situational crises are used as the most frequently encountered issues: marital infidelity, substance abuse, incest and physical child abuse, young children and adolescents as family members, the "empty nest," divorce, step-parenting, caring for aged parents, and physical and mental illness.

SW 530 RESEARCH I (3-0-3(F,SU)). Reviews scientific and heuristic methods of knowing, major research methodologies, and ethical standards for conducting research in social work. The emphasis of the course is on survey research methodologies and their uses in conducting needs assessments, including public opinion polling to identify issues/problems important to families and individuals.

Includes utilization of univariate and bivariate data analysis techniques. PREREQ: Undergraduate Research and Statistics.

SW 532 RESEARCH II (3-0-3(F)). Teaches principles and methods for evaluating outcomes of social work practice with individuals and families. Includes methodology, experimental and single subject designs for program, and individual practice evaluation. Reviews data analysis techniques for decision-making related to evaluation activities. Introduces utilization of automated data base systems for practice and program evaluation. PREREQ: SW 530.

SW 550 ADVANCED SOCIAL WORK INTERVENTIONS (3-0-3)(SU). Provides comparative analysis of systems, psychodynamic, behavioral and developmental methodologies and their use in individual, families, and groups. Methods and techniques for intervention with individuals, families, and groups are presented with a focus on the interface between individual, family, and community. Intervention skills are practiced with a sensitivity to cultural, ethnic, and gender differences. Emphasis is placed on social work values and ethics.

SW 570 FIELD WORK (0-20-0)(S). A supervised social work practice in a community social services agency providing experiential learning in developing advanced social work practice skills. Experiences with client groups to reflect racial, ethnic, cultural, and gender diversity. Requires 20 clock hours per week in the agency setting. Evaluation criteria for the course will include upholding social work practice standards for ethical conduct. PREREQ: SW 503.

SW 575 ADVANCED SOCIAL WORK PRACTICUM I (0-20-0)(F). A supervised professional practice in a community social service agency providing experiential learning in advanced social work practice skills in a selected area of specialization. Experiences with client groups to reflect racial, ethnic, cultural, and gender diversity. Requires 20 clock hours per week in the agency setting. Evaluation criteria for the course will include upholding social work practice standards for ethical conduct. PREREQ: SW 505.

SW 580 SELECTED TOPICS: SOCIAL WORK PRACTICE (3-0-3(1)(F,S)). Examines common and differential aspects of social work practice based on field of practice or population group. Covers theory for understanding personal-social problems and intervention procedures and techniques. Focus is on the use of various intervention techniques such as needs assessment and outcome evaluation which are most likely to effectively preserve and restore individual and family functioning. The class schedule will discuss the particular content or focus of the selected topic. PREREQ: SW 550.

SW 581 SELECTED TOPICS: VIOLENCE IN THE FAMILY (3-0-3). Examines the history, scope, and causes of family violence including physical, emotional, and sexual abuse of children in the family, abuse of spouse, and abuse of the elderly. Explores the relationship of alcohol, substance abuse, and mental illness to family violence. Focuses on assessment skills, including criteria to determine lethality and long-term effects of trauma on victims. Emphasis is on intervention techniques used with offenders and victims.

SW 582 SELECTED TOPICS: SOCIAL WORK PRACTICE WITH THE ELDERLY (3-0-3). Reviews policy issues and service programs that are directed towards the elderly. Focuses on the frail, impaired, and isolated aged, with an emphasis on assessment, intervention techniques.

SW 583 SELECTED TOPICS: ALCOHOLISM AND SUBSTANCE ABUSE (3-0-3). Examines theories and causes of alcoholism and substance abuse; criteria for assessment and major treatment approaches for working with individuals and families.

SW 584 SELECTED TOPICS: SOCIAL WORK PRACTICE WITH HISPANIC POPULATIONS (3-0-3). Examines theories and skills related to social work practice with Hispanic individuals and families. Emphasis is on strengthening and empowering Hispanic individuals and families to perform caregiving roles within their environment.

SW 585 SELECTED TOPICS: ADVANCED SOCIAL WORK PRACTICE IN ORGANIZATION AND COMMUNITIES (3-0-3). Building upon the content of SW 525, this course develops advanced knowledge for social work practice in organizations and communities.

SW 586 SELECTED TOPICS: ADVANCED SOCIAL WORK PRACTICE WITH GROUPS (3-0-3). Teaches theory and practice of advanced groupwork in social work. Develops group facilitation skills in relation to selected populations: children, adolescents involved in juvenile justice system, the elderly, ethnic minority women, adults molested as children, and alcohol and substance abusers. The course will identify criteria for selecting group participants, contracting, setting goals, and making interventions, with an emphasis on action strategies and outcome assessment.

SW 587 SELECTED TOPICS: SOCIAL WORK SUPERVISION (3-0-3). Teaches knowledge and skills to carry out social work supervision in a variety of settings with a specialized focus on supervision to enhance social work practice skills with individuals and families. Reviews theories of management, organizational theory and patterns of communication within work groups.

SW 594 WORKSHOP

SW 397 SPECIAL TOPICS
Master of Fine Arts
Visual Arts

NOTICE: The new graduate program described below has been approved for implementation by the Idaho State Board of Education but has not yet received full funding. Therefore, some or all of the courses required for the degree may not be available during this academic year. Because the funding status of this program may have changed since the publication of the catalog, you are encouraged to inquire about course offerings by calling the chair of the department or the Dean of the Graduate College.

Degree Requirements

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
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<tr>
<td>Art History</td>
<td>9 credits</td>
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<tr>
<td>Studio Courses</td>
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<tr>
<td>A. Studio major</td>
<td>24 credits</td>
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<tr>
<td>B. Studio electives</td>
<td>12 credits</td>
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<tr>
<td>Seminar and thesis</td>
<td>6 credits</td>
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<tr>
<td>General electives</td>
<td>9 credits</td>
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<td><strong>TOTAL CREDITS</strong></td>
<td><strong>60 credits</strong></td>
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Sequence of the Program

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<th>2nd</th>
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<tbody>
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<td>Art History</td>
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<td>Studio Elective</td>
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<td>General Elective</td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Course Offerings

See page 23 for definition of course numbering system

AR ART

Undergraduate

See appropriate department listing for detailed course descriptions of these undergraduate courses which may be taken for graduate credit.

AR 301G NINETEENTH CENTURY ART HISTORY (3-0-3)(F)
AR 302G HISTORY OF TWENTIETH CENTURY MOVEMENT IN ART (3-0-3)(S)
AR 371G HISTORY OF TWENTIETH CENTURY AMERICAN ART (3-0-3)(F)

Graduate

AR 500-509 SERIES SELECTED TOPICS (3-0-3). An opportunity for the student to work independently with a particular teacher in a specific area or media. A total of nine credits allowable which can be divided into several areas or concentrated, distribution determined by the graduate student and committee.

AR 580 SELECTED TOPICS - DRAWING
AR 581 SELECTED TOPICS - PAINTING
AR 582 SELECTED TOPICS - CRAFTS
AR 583 SELECTED TOPICS - SCULPTURE
AR 584 SELECTED TOPICS - PHOTOGRAPHY
AR 585 SELECTED TOPICS - CERAMICS
AR 586 SELECTED TOPICS - PRINTMAKING
AR 587 SELECTED TOPICS - DESIGNING
AR 588 SELECTED TOPICS - ILLUSTRATION
AR 589 SELECTED TOPICS - ART HISTORY
AR 590 PRACTICUM/INTERNSHIP
AR 591 PROJECT (6 credits),
AR 593 THESIS (V-V-6),
AR 596 DIRECTED RESEARCH
AR 597 SPECIAL TOPICS

AR 598 SEMINAR IN ART (3-0-3)(S). (Previously approved for Elementary Master’s Degree). Upon selection of an approved topic, the student will research it thoroughly, present an annotated bibliography, and present an oral report of the report of the topic, utilizing visual material in his presentation. The student will then present a research paper concerning his topic. PREREQ: Graduate standing.

Additional Graduate Courses

Graduate Credits in Chemistry

There are graduate level courses available that may be offered on special request by the department of Chemistry. Descriptions of these courses follow. In addition, there are some undergraduate chemistry courses for which graduate credit may be earned. These are listed below, but complete course descriptions are found with the Department of Chemistry listing.

See page 23 for definition of course numbering system

C CHEMISTRY

Undergraduate

See appropriate department listing for detailed course descriptions of these undergraduate courses which may be taken for graduate credit.

C 401G-402G ADVANCED INORGANIC CHEMISTRY (3-0-3)(F).
C 411G INSTRUMENTAL ANALYSIS (2-6-4)(S).
C 422G ADVANCED TOPICS IN CHEMISTRY (3-0-3).
C 431G INTRODUCTION TO BIOCHEMISTRY (3-0-3)(F).
C 432G BIOCHEMISTRY LABORATORY (0-3-1)(S).
C 433G BIOCHEMISTRY (3-0-3)(S).
C 440G SPECTROMETRIC IDENTIFICATION (2-3-3)(S).
C 443G ADVANCED CHEMICAL PREPARATION LABORATORY (1-3-2)(S).

Graduate

C 501 HISTORY OF CHEMISTRY (3-0-3). The study of the development of chemistry from its early stages through alchemy. Emphasis will be placed on the development of chemical concepts, the important contributors to these concepts and the interrelationships between chemistry and the general course of history. PREREQ: Two years of college chemistry and one year of history or PERM/INST. Offered on demand.

C 501 SPECTROSCOPY (3-0-3). Concepts and practical usage of ultra-violet, infrared, nuclear magnetic, mass spectroscopy. Emphasis will be placed on use of instruments and interpretation of spectra. Prior knowledge of spectroscopy not required. PREREQ: Eight hours of general chemistry and six hours of organic chemistry. Offered on demand.

C 509 CHEMISTRY OF LIFE PROCESSES(3-0-3). The course introduces the student to basic concepts of biochemistry associated with a coverage of current topics ranging from allied health field areas to environmental chemistry. Classroom demonstration material will be correlated with lecture material. PREREQ: One year of general chemistry and organic chemistry. Offered on demand.

C 511 ADVANCED ANALYTICAL CHEMISTRY (3-0-3). Stoichiometry involved in separations and instrumental methods of analysis. The course will be flexible in nature and adapt to the varied background of the expected students. PREREQ: Quantitative Analytical Chemistry of PERM/INST. Offered on demand.

C 515 NUCLEAR AND RADIOCHEMISTRY(3-0-3). Atomic and nuclear structure, radioactivity, nuclear reactions, radioactive decay laws, interaction of radiation with matter, detection chemistry. Offered on demand.

CS COMPUTER SCIENCE

CS 525 NETWORK PROTOCOLS AND PROGRAMMING (3-0-3)(S)(EVEN YEARS). Applications and hands-on problems from TCP/IP in the Unix environment, augmented by examples from many different kinds of protocols and technologies. OSI layers, fault tolerance, sockets, streams, parallel processes, spooling, remote execution and client-server models. PREREQ: M 361 or M 431, CS 242, CS 353 or PERM/INST.

CS 573 ADVANCED SOFTWARE ENGINEERING (3-0-3-3)(S)(ODD YEARS). A study of selected aspects of contemporary software development methodology. Topics are taken from recent research articles. These topics include: definition of user requirements, formal specification of solutions, design and implementation techniques, validation and testing, verification, maintenance, and reuse. PREREQ: CS 471 or PERM/INST.

H HEALTH SCIENCE

H 513 ADVANCED ASSESSMENT OF ALCOHOL/DRUG PROBLEMS (3-3-4)(S). Clinical application of concepts and principles presented in the undergraduate courses. Students will be required to supervise and appraise the critical assessments of two or more undergraduate students for the duration of the semester. PREREQ: H 415.


H 549 COUNSELING TECHNIQUES FOR CHEMICAL DEPENDENCY (3-0-3)(F/S). A study of counseling techniques and practices used in dealing with people of all ages who are chemically dependent. Special attention will be paid to the impact of chemical dependency in family members and counseling strategies for adolescents. This course may be taken for either H or TE but not both.

PHYSICAL SCIENCE

PS 501 BASIC PHYSICAL SCIENCE FOR SCIENCE TEACHERS (3-0-3). Selected concepts of matter and energy that are widely applicable toward understanding our physical environment. A one-semester course for non-Science majors.
Boise State University Faculty
Full-Time Official Faculty as of February 1993

NOTE: The date in parentheses is the year of first appointment.

A
Ackley Louise (1969)  Assistant Professor, English; A.M., University of Washington
Affleck Stephen B (1981)  Assistant Professor, Construction Management & Engineering Technology; Ph.D., Iowa State University
Allen John W (1971)  Professor, Physics; Ph.D., Harvard University
Allen Robert L (1976)  Program Head; Senior Instructor, Industrial Mechanics/Automation; B.A., Boise State University
Allen Calvin Kent (1990)  Assistant Professor, English; M.F.A., University of Montana
Andersson Rudy A (1992)  Assistant Professor, Community Environmental Health, D.D.S., Washington University
Anderson Calvin Kent (1990)  Assistant Professor, Mathematics; Ph.D., University of Michigan
Anderson Michael R (1990)  Assistant Professor, Mathematics; Ph.D., University of Michigan
Andersen Rudy A (1992)  Assistant Professor, Teacher Education; Ph.D., Utah State University
Anderson Jeffrey M (1986)  Director, Clinical Education, Respiratory Therapy; Assistant Professor, Respiratory Therapy; B.S., University of Wisconsin Madison
Anderson Michael R (1990)  Assistant Professor, Mathematics; Ph.D., University of Michigan
B
Bahruth Robert (1988)  Associate Professor, Teacher Education; Ph.D., University of Texas, Austin
Baker Charles W (1968)  Professor, Biology; Ph.D., Oregon State University
Baker Richard P (1973)  Professor, Sociology; Ph.D., Washington State University
Balderas Joseph A (1975)  Associate Professor, Music; D.M.A., Case Western Reserve University
Baldric Ronald (1978)  Program Head; Senior Instructor, Welding; M.Ed., University of Idaho
Baldwin John B (1971)  Professor, Music; Ph.D., Michigan State University
Bammel Brad P (1988)  Assistant Professor, Chemistry; Ph.D., University of New Orleans
Banks Richard C (1968)  Chair and Professor, Chemistry; Ph.D., Oregon State University
Barney Lloyd Dwayne (1986)  Associate Professor, Marketing & Finance; Ph.D., Texas A & M
Barr Robert (1991)  Dean and Professor, College of Education; Ph.D., Purdue University
Bartoszynski Tomasz (1990)  Assistant Professor, Mathematics; Ph.D., Warsaw University, Poland
Bauer-Simon Elizabeth (1991)  Assistant Professor, Art; M.F.A., Rochester Institute of Technology
Bauwens Jeanne (1984)  Associate Professor, Teacher Education; Ed.D., University of Idaho
Beckman Terrie L (1990)  Instructor, Dental Assisting; Certificate, Boise State University
Belley Jeanne Marie (1983)  Associate Professor, Music; Ph.D., University of Kentucky
Benson Elmo B (1975)  Associate Professor, Art; Ed.D., University of Idaho
Bentley Elton B (1980)  Professor, Geosciences; Ph.D., University of Oregon
Benton Danny (1983)  Standard Instructor, Drafting Technology; B.S., La Salle Extension University
Bernard Lynn R (1984)  Associate Professor, Music; D.M.A., University of Wisconsin, Madison
Bernstein Louis (1991)  Assistant Professor, History; Ph.D., University of Kansas
Bigelow John D (1982)  Professor, Management; Ph.D., Case Western Reserve University
Bible Michael B (1981)  Professor, Management; J.D., University of Michigan
Blair Michael (1983)  Associate Professor, Sociology; Ph.D., University of Illinois
Blankenship Jim (1977)  Professor, Art; M.F.A., Otis Art Institute
Boen Robert R (1971)  Chair & Associate Professor, Communication; Ph.D., Purdue University
Borman LeAnne (1987)  Standard Instructor, Practical Nursing; B.S., Idaho State University
Bounds Karen J (1973)  Professor, Business and Office Education; Ed.D., North Texas State University
Boyce Dale K (1968)  Professor, English; Ph.D., University of Missouri, Columbia
Brett J Wallis (1970)  Associate Professor, Music; M.M., University of Utah
Breder Susan I (1969)  Chair & Professor, Computer Information Systems & Production Management; Ph.D., University of Iowa
Brinks Alan P (1975)  Chair & Professor, Philosophy; Ph.D., University of Minnesota
Brown Marcellus (1989)  Associate Professor, Music; M.M., University of Michigan
Brown Timothy (1977)  University Librarian; Associate Professor, Library Science; M.S., University of Illinois
Brownfield Theodore E (1979)  Advanced Instructor, Heavy-Duty Mechanics (Diesel)
Buffenbarger James (1991)  Assistant Professor, Mathematics, Ph.D., University of California-Davis
Buhler Peter (1980)  Professor, History; Ph.D., University of California, San Diego
Bykerk Ralph (1973)  Program Head; Senior Instructor, Drafting Technology
Burmaster Orvis (1968)  Assistant Professor, English; M.A., University of Montana
Buss Stephen R (1979)  Chair & Associate Professor, Theatre Arts; Ph.D., Washington State University
Butler Doris A (1981)  Advanced Instructor, Business & Office Education; Diploma, Boise State University
Cadwell Jan E (1981)  Professor, Health, Physical Education and Recreation; Ph.D., University of Utah

C
Cade Tom J (1987)  Director, Raptor Research; Professor, Raptor Biology; Ph.D., University of California, Los Angeles
Cadwell Jan E (1981)  Professor, Health, Physical Education and Recreation; Ph.D., University of Utah
Senior Instructor, Business Systems & Computer Repair; A.A.S., Boise State University

Callaghan Kathleen (1988) Professor, Chemistry; Ph.D., Washington State University

Casner Nicholas A (1992) Assistant Professor, History; M.S., Carnegie-Mellon University

Carter Loren S (1970) Assistant Professor, Nursing; M.S., University of Wyoming

Carlton Janet (1974) Associate Professor, Business & Office Education; M.A., Boise State University

Cissell Rusty (1996) Professor, Biology; Ph.D., University of Montana

Dakin Chastain (1978) Professor, Psychology; Ph.D., University of Texas, Austin

Davidson Susan M (1990) Assistant Professor, Teacher Education; Ph.D., University of Missouri-Columbia

Dickerson Steve (1988) Associate Professor, Computer Information Systems & Production Management; Ph.D., University of Minnesota, Minneapolis

Dixon Colby Conrad (1970) Professor, Respiratory Therapy; Ph.D., University of Montana

Dodson Robert B (1979). Assistant Instructor, Water/Wastewater Environmental Technology

Dodson Jerry (1970) Professor, Psychology; Ph.D., Purdue University

Donahue Robert B (1979) Senior Instructor, Electronics Service Technology; B.S.E.E., Seattle University

Donelson Paul R (1975) Chair & Professor, Geosciences; Ph.D., Colorado School of Mines

Donoghue Dennis J (1973) Professor, Political Science; Ph.D., Miami University of Ohio

Dorman Patricia (1967) Professor, Sociology; Ph.D., University of Utah

Douglas Dorothy P (1981) Professor, Biology; Ph.D., University of California, Berkeley

Douglas J D Jr (1972) Professor, Art; M.F.A., Cranbrook Academy of Art

Downs Richard R (1975) Counseling Psychologist, Counseling & Testing Center; Associate Professor, Psychology; Ed.D., Ball State University

Draayer Gerald F (1976) Director, Center for Economic Education; Associate Professor, Economics; Ph.D., Ohio University

Dubert LeeAnn (1992) Assistant Professor, Teacher Education; M.A., University of Iowa

Dufty Alfred M (1988) Associate Professor, Zoology; Ph.D., State University of New York, Binghamton

Dykstra Dewey I, Jr (1981) Associate Professor, Physics; Ph.D., University of Texas Austin

E

Eastman Phillip (1977) Associate Dean, Arts & Sciences; Professor, Mathematics; Ph.D., University of Texas

Edmundson Eldon (1976) Dean and Professor, College of Health Science; Ph.D., Washington State University

Edmundson Phyllis J (1974) Associate Dean and Professor, College of Education; Ed.D., University of Northern Colorado

Eisley Mark (1990) Program Head and Assistant Professor, Instructional/Performance Technology; Ph.D., Brigham Young University

Elison Patt (1986) Chair & Assistant Professor, Health Information Management; M.A., Boise State University

Elliott Catherine (1986) Associate Professor, Music; M.A., Boise State University

Elliott Wilber D (1969) Professor, Music; M.Ed., Central Washington University

Ellis Robert W (1971) Professor, Chemistry; Ph.D., Oregon State University

Engle-Dennis M (1987) Assistant Professor, Accounting; Ph.D., Indiana University

English Thomas J (1987) Associate Professor, Accounting; Ph.D., Arizona State University

Erickson Leslie (1992) Interim Instructor & Program Head, Horticulture; BAS, Boise State University

Evett Stuart D (1972) Assistant Professor, English; M.A., Vanderbilt University

F

Fahleson Genger A (1974) Associate Professor, Health, Physical Education and Recreation; Ph.D., University of Wyoming

Famular Judy (1989) Assistant Professor, Nursing; Ph.D., University of Utah

Feldman Alex (1989) Assistant Professor, Mathematics; Ph.D., University of Wisconsin, Madison

Ferguson David J (1970) Associate Professor, Mathematics; Ph.D., University of Idaho

Fletcher Allan W (1970) Professor, History; Ph.D., University of Washington

Fonaker-Thompson Jane (1982) Associate Professor, Criminal Justice Administration; Ph.D., Stanford University

Fountain Carol E (1967) Associate Professor, Nursing; M.N., Montana State University

Frankle Alan (1984) Chair and Professor, Marketing & Finance; Ph.D., University of Arizona

Freemuth John C (1986) Associate Professor, Political Science; Ph.D., Colorado State University

French Judith (1976) Professor, Teacher Education; Ph.D., Florida State University

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<tr>
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<th>Institution</th>
<th>Year</th>
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# Boise State University

## Campus Guide

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