The Boise State University College of Technology provides a focused response to the technological 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 intended to effectively address deficiencies in these areas and to create an environment that attracts new industry and helps existing industry prosper. The College 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 to be offered through the College of Technology are in direct response to the needs of current and new 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 the 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 divided into two schools—the School of Applied Technology and the School of Vocational Technical Education. The School of Applied Technology houses the Bachelor of Applied Science, Construction Management, Manufacturing Technology, Electronics Technology, Drafting Technology, and Pre-engineering programs. The College has a cooperative arrangement with the University of Idaho, College of Engineering, for upper-division and graduate engineering courses on the Boise State University campus. The School of Vocational Technical Education 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 Applied Technology

The School of Applied Technology fulfills its mission within the College of Technology by providing technical and engineering-related needs of the region and state, 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 in a Vocational Technical field. 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 of Postsecondary Accreditation are eligible for admission. The minimum requirements for the A.A.S. degree include:

- Vocational or Technical education courses ........ 42 credits
- Vocational or Technical support courses ........... 10 credits
- General education courses .......................... 12 credits

TOTAL .... 64 CREDITS

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.

Recommendations for admission to the Bachelor of Applied Science Degree must be obtained from the Dean, College of Technology. 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 .......................... 6
   Arts & Humanities .......................... 12
   Three fields must be represented
4. Area II Requirements .......................... 12
   Social Sciences ............................ 12
   Three fields must be represented
5. Area III Requirements .......................... 12
   Natural Sciences and Mathematics .......... 12
   Two fields must be represented
   NOTE: Student 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 Sciences-Mathematics must be represented):
   • Anthropology
   • Biology
   • Chemistry
   • Communication
   • Economics
   • Engineering
   • Geography
   • Geology
   • History
   • Mathematics
   • Physical Science
   • Physics
   • 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 Pre-Engineering

Technology Building, Room 240    Telephone (208) 385-3764
Chairperson and Professor: Norm Dahm; Professors: Affleck, Gabert, Parks; Associate Professor: Haefler; Assistant Professors: Gains, Mason.

Degrees Offered

- BS in Construction Management
- BS in Manufacturing Technology
- Pre-Engineering
- 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 education in mathematics, science, communication, engineering, business and construction so that the constructor can intelligently relate to and coordinate the efforts of owners, architects, engineers, craftsmen, contractors and other professionals to provide society with construction services indicative of skill, responsibility and integrity.

1st SEM  2nd SEM

FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>English Composition E 101, 102</td>
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<tr>
<td>Calculus and Analytical Geometry M 204*</td>
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<tr>
<td>Materials &amp; Methods of Architecture AR 290</td>
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<td>Engineering Fund and Comp Prog EN 107</td>
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<tr>
<td>Engineering Graphics EN 106</td>
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<td>Engineering Measurements EN 216</td>
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<td>Intro to Financial Accounting AC 205</td>
<td>3</td>
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<td>The Legal Environment of Business GB 202</td>
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<td>Principles of Microeconomics EC 205</td>
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<td>Construction Blue Print Commun CO 235</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Contracts and Specifications CO 246</td>
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<td>Intro to Mechanics EN 205</td>
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<td>Intro to Managerial Accounting AC 206</td>
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JUNIOR

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<tr>
<td>Construction Equipment &amp; Methods CO 320</td>
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<td>Mechanical Installations CO 351</td>
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<tr>
<td>Cost Estimating and Bidding CO 370</td>
<td>4</td>
<td>4</td>
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<td>Statistical Tech Dec Making \ PR 207</td>
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<td>Principles of Finance FI 303</td>
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<td>Mechanics of Materials EN 306</td>
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<td>Soil Mechanics and Foundation Const CO 330</td>
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<td>Soil Mechanics Lab GO 305</td>
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<td>Electrical Installations CO 352</td>
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<td>Construct Operations &amp; Improve CO 374</td>
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<td>***Labor Relations Course</td>
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SENIOR

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<th>Course</th>
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<tr>
<td>Concrete &amp; Formwork Construction CO 410</td>
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<tr>
<td>Project Scheduling &amp; Control CO 417</td>
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<tr>
<td>Fund of Speech Communication CM 111</td>
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<td>Technical/Management Electives**</td>
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<td>Area I Electives</td>
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</tbody>
</table>
Department of Construction Management and Pre-Engineering

153

Project Management CO 475 2
Project Controls CO 460 3
Organizational Behavior MG 401 3
General Electives 3

15 14

Math — Competency Exam is required: M 020, M 108 and/or M 111 may be required prior to M 204.

**APPROVED TECHNICAL/ENGINEERING ELECTIVES: CO 493, 497; EN 206, 301, 320, 382; CO 101; AC 351; FI 201; MG 305, 340, 415; MK 301; PR 345; AS 328; CB 360.

**Chosen from: MG 305, MG 330, MG 340 or MG 415.

1. All Construction Management majors must complete at least 57 credits and have a cumulative grade point average of 2.40 or better before being admitted to any upper division (number 300 and above) business or construction management classes.

2. All construction management classes take several field trips during the semester (scheduled on Friday afternoons).

3. No more than 32 credits may be taken from the College of Business.

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 4
Const Operations & Improvements CO 374 2
Project Scheduling CO 417 3

Math and/or Physics prerequisite.

TOTAL 19

MANUFACTURING TECHNOLOGY PROGRAM Bachelor of Science Degree

The B.S. in Manufacturing Technology utilizes coursework 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 the world class manufacturing concepts.

FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
<th>1st SEM</th>
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<tr>
<td>English Composition E 101, 102</td>
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<td>Algebra &amp; Trig/Calculus M 111, 204</td>
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<td>Essen of Chemistry C 107-108</td>
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<td>Engr Fund &amp; Comp Prog EN 107</td>
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<td>Engr Graphics EN 108</td>
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<tr>
<td>Industrial Organ &amp; CIM MF 102</td>
<td>3</td>
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<td>Industrial Safety MN 112</td>
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17 16

SOPHOMORE

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<td>General Physics PH 101, 102</td>
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<td>Statistical Techn I PR 207</td>
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<tr>
<td>Circuit Analysis EN 227</td>
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<td>Fund of Speech CM 111</td>
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<td>Manuf Materials &amp; Process I MF 202</td>
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<tr>
<td>Manuf Materials &amp; Process II MF 204</td>
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<tr>
<td>Computer Aided Design MF 210</td>
<td>3</td>
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<tr>
<td>Computer Aided Manufact MF 220</td>
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<td>Mechanics/Statics EN 205</td>
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JUNIOR

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<tr>
<th>Course</th>
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<tr>
<td>Digital Circuits EN 230</td>
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<td>Print Microeconomics EC 205</td>
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<td>Print Macroeconomics EC 206</td>
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<tr>
<td>Mechanics/Dynamics EN 206</td>
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<td>Print Product Mgmt PR 345</td>
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<tr>
<td>Product Process MF 310</td>
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<tr>
<td>Microprocessor Applic MF 320</td>
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<tr>
<td>Instrum &amp; Control MF 324</td>
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Area I Elective 3

*Major Core Electives 3

SENIOR

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<th>Course</th>
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<tbody>
<tr>
<td>Engineer Economy EN 382</td>
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<tr>
<td>Robotics MF 410</td>
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<tr>
<td>Quality Control Techniques PR 380</td>
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<td>Quality Systems Lab MF 380</td>
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<td>Mfg Cost Reduce &amp; Contl MF 430</td>
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<td>Material Handlg &amp; Plant Layout MF 440</td>
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<td>Manufacturing Simulation MF 480</td>
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<td>*Major Core Electives</td>
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*Chosen from: E 202; EN 301, 330; MF 308, 312, 346, 350, 406, 450, 470; or Uol ME 409.

Recommended Program

PRE-ENGINEERING MAJOR

All of the following courses will transfer to either of Idaho's two schools of engineering as well as most all other engineering colleges. BSU offers at least 82 of the 128 credits required for an engineering degree in each of the engineering branches offered at Idaho. Therefore, it is possible to complete a degree in three semesters after transferring from Boise State.

B.S. degrees in electrical engineering and computer engineering are available on the Boise State campus from the University of Idaho. Contact your BSU advisor or the University of Idaho Director of Engineering Education for details.

Recommended Freshman Year

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<tr>
<th>Course</th>
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<tr>
<td>English Composition E 101, 102</td>
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<tr>
<td>Calculus &amp; Analytical Geometry M 204, 205</td>
<td>5</td>
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<tr>
<td>College Chemistry C 131, 132, 133</td>
<td>4</td>
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<td>Engineering Fund &amp; Comp Prog EN 107</td>
<td>5</td>
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<tr>
<td>Engineering Graphics EN 108</td>
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<tr>
<td>Humanistic Social Elective</td>
<td>-</td>
<td>3</td>
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<tr>
<td>*Chemical and Metallurgical majors add C 134.</td>
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<td></td>
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<tr>
<td># Electrical and Mechanical majors substitute EN 221.</td>
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<tr>
<td>✩ Electrical majors select one course from EN 301, EN 306 or EN 330.</td>
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TOTAL 15 15

COMMON CORE FOR ALL BRANCHES

Humanistic-Social Electives (See Advisor) 12
Electrics, Magnetism & Optics + Lab PH 213, 214 5
Elect. Engr. Circuits EN 227# 3
Mechanics/Statics EN 205 3
Calculus & Analytical Geometry M 206 4
Differential Equations M 311 3
Mechanics of Materials EN 3061 3
Fluid Mechanics EN 301✩ 3

TOTAL 41

ADDITIONAL TRANSFERRABLE COURSES

BRANCH VARIATION

Agricultural Engineering

FRESHMAN YEAR PLUS COMMON CORE

<table>
<thead>
<tr>
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<tr>
<td>Principles of Macroeconomics EC 206 (Hum-Soc)</td>
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<td>Thermodynamics and Heat Transfer EN 320</td>
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<tr>
<td>Engineering Measurements EN 216</td>
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<td>Biological Science Elective</td>
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TOTAL 83

Chemical Engineering

FRESHMAN YEAR PLUS COMMON CORE

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<td>Organic Chemistry C 317, 318, 319, 320</td>
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<tr>
<td>Physical Chemistry C 321, 322, 323, 324</td>
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TOTAL 95

Civil Engineering

FRESHMAN YEAR PLUS COMMON CORE

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<td>Organic Chemistry C 317, 318, 319, 320</td>
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## Course Offerings

**CO CONSTRUCTION MANAGEMENT**

<table>
<thead>
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<th>Course Title</th>
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<tbody>
<tr>
<td>Technical Writing E 202</td>
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<tr>
<td>Engineering Measurements EN 216</td>
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<tr>
<td>Physical Geology GO 101</td>
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**Electrical Engineering**

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<tbody>
<tr>
<td>FRESHMAN YEAR PLUS COMMON CORE Systems and Circuits II EN 223</td>
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<tr>
<td>Technical Writing E 202</td>
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<tr>
<td>Digital Circuits I EN 230</td>
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<tr>
<td>Electricity &amp; Magnetism PH 381, 382</td>
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**Mechanical Engineering**

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<td>FRESHMAN YEAR PLUS COMMON CORE Prin of Economics EC 205, 206 (Hum-Soc)</td>
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**Geological Engineering**

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<td>Thermodynamics and Heat Transfer EN 320</td>
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<tr>
<td>Technical Writing E 202</td>
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<tr>
<td>Physical Geology GO 101</td>
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**Metallurgical Engineering**

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<td>FRESHMAN YEAR PLUS COMMON CORE Technical Writing E 202</td>
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<td>Physical Chemistry C 321-322-323-324</td>
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<td>Math Elective</td>
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<td><strong>TOTAL</strong></td>
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**Mining Engineering**

<table>
<thead>
<tr>
<th>Course Title</th>
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<tr>
<td>FRESHMAN YEAR PLUS COMMON CORE Technical Writing E 202</td>
<td>3</td>
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<tr>
<td>Engineering Measurements EN 216</td>
<td>3</td>
</tr>
<tr>
<td>Physical Geology GO 101</td>
<td>4</td>
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<tr>
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**General Engineering (IDAHO STATE)**

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<tr>
<td>FRESHMAN YEAR PLUS COMMON CORE Mechanics/Dynamics EN 206</td>
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</tr>
<tr>
<td>Thermodynamics and Heat Transfer EN 320</td>
<td>3</td>
</tr>
<tr>
<td>Engineering Measurements EN 216</td>
<td>3</td>
</tr>
<tr>
<td>Fund of Speech Communication CM 111</td>
<td>3</td>
</tr>
<tr>
<td>Science Elective</td>
<td>3</td>
</tr>
<tr>
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</table>

## Upper Division

**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, slope stability, retaining walls, pile foundation, 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 ducts, and 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, switchgear; 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 370 COST ESTIMATING AND BIDDING (3-3-4)(F).** Extracting quantity takeoffs 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 (3-0-3)(F).** The use of statistical sampling, time and motion studies, time and motion study, crew balance analysis, flow and process charts to improve methods, labor efficiency, equipment and materials usage, safety and employee motivation. Field trips are required. PREREQ: PR 207.


**CO 417 PROJECT SCHEDULING (3-0-3)(F).** Use of Gantt Charts, S-Curves, Critical Path Method (CPM), PERT Charts, Resource Leveling and Time Cost Trade Offs as planning, scheduling and management techniques. PREREQ: EN 107 and PR 207.

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

**CO 475 PROJECT MANAGEMENT (2-0-2)(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

**EN 100 ENERGY FOR SOCIETY (3-2-4)(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 104 (CS 124) DIGITAL COMPUTER PROGRAMMING (2-2-2)(F).** An introduction to FORTRAN programming principles and logic including input-output, flow charting, handling, arrays and subprograms, all applied to problem solving. PREREQ: M 106 or M 108.

**EN 107 ENGINEERING FUNDAMENTALS AND COMPUTER PROGRAMMING (3-0-3)(F).** An introduction to engineering analysis including subdivisions and organization of the professions, methods of analysis, including vectors, computer Fortran programming, use of spread sheets, an introduction to computer drafting systems, and general use of the personal computer. PREREQ: M 106 or equivalent.

**EN 108 ENGINEERING GRAPHICS (2-2-2)(F).** Engineering graphical analysis and graphic transmission of information including use of micro computer design and drafting systems. PREREQ: EN 107 or EN 101.

**EN 205 MECHANICS/STATICS (3-0-3).** Covers basic statics including equilibrium, analysis of trusses, frames and machines, centroids, static friction and moments of inertia. PREREQ: M 204 or PERM/INST.
EN 206 MECHANICS/DYNAMICS (3-0-3)(S). Kinematics and kinetics of both particles and rigid bodies using the concepts of force, mass acceleration, work and energy plus impulse and momentum for general plane motion. PREREQ: EN 205.

EN 215 BASIC SURVEYING (1-3-2)(F). A basic course in surveying for non-engineering majors. Course covers use of transit, level, plane table and computations related to evaluation, traverse and stadia surveys. PREREQ: M 111 or equivalent.

EN 216 ENGINEERING MEASUREMENTS (2-3-3)(S). Theory and practice; manipulation of instruments for horizontal and vertical distance measurements and angle measurements; types and distribution of errors; route and land surveying; construction surveying introduction to photogrammetry. PREREQ: M 111 or equivalent.

EN 221 SYSTEMS AND CIRCUITS I (3-0-3)(F). The fundamental course in electrical engineering which provides an introduction to electrical circuits and basic network analysis. Topics covered are simple resistive, capacitive and inductive circuits, network theorems and circuit analysis methods. There is one three-hour laboratory per week. COREQ: M 331.

EN 223 SYSTEMS AND CIRCUITS II (4-3-5)(S). A continuation of EN 221 extending into second order circuits, the use of phasors, AC steady-state analysis and frequency-domain analysis, polyphase circuits, transformers, filters and Fourier analysis. PREREQ: EN 221 and M 205.

EN 227 ELECTRICAL ENGINEERING CIRCUITS (3-0-3)(F). A survey course in circuit analysis for engineering majors other than electrical and mechanical. Topics covered include D.C. and A.C. circuit analysis using the basic network theorems and analysis methods. PREREQ: M 204.

EN 230 DIGITAL CIRCUITS I (3-0-4)(F). An introduction to number systems, Boolean algebra, logic gates, Karnaugh mapping, combinational circuits, registers, and arithmetic operations. PREREQ: Math equivalent to M 106, 108, 111; offered every odd numbered year.

Upper Division

EN 301 FLUID MECHANICS (3-0-3)(S). Physical properties of fluids: fluid mechanics and measurements; viscous and turbulent flow, momentum, lift, drag, and boundary layer effects; flow in pipes and open channels. PREREQ: EN 205 and EN 206.

EN 306 MECHANICS OF MATERIALS (3-0-3)(S). Elasticity, strength, and modes of failure of engineering materials; theory of stress and strains for columns, beams and shafts. Three class periods per week. PREREQ: M 205 or PERM/INST and EN 205.

EN 320 THERMODYNAMICS AND HEAT TRANSFER (3-0-3)(F). First and second laws of thermodynamics, thermodynamic processes; thermodynamic properties of fluids; flow processes; heat to work conversion; refrigeration, conduction and radiation. PREREQ: M 206 and PH 211.

EN 382 ENGINEERING ECONOMY (3-0-3)(S). Economic analysis and comparison of engineering alternatives by annual-cost, present-worth, capitalized cost, and rate-of-return methods; income tax considerations. PREREQ: M 206 or PERM/INST and EN 205.


EN 406 COMPUTER SYSTEMS INTEGRATION (3-0-3)(F). The integration of the various elements in the computer systems required in a CIM factory. A study of the interfacing problems associated with various system vendors. LAN's, machine controllers and bridging systems. PREREQ: MF 220 or PERM/INST. Offered on demand.

EN 410 ROBOTICS (2-4-3)(F). A lecture/laboratory course concerned with the capabilities 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.


EN 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 324.

EN 450 FOOD PROCESS TECHNOLOGIES (3-2-3)(F). The design of food processing systems. A study of food properties and thermal and physical processes. PREREQ: MF 350. Offered on demand.

EN 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: EN 440. Offered on demand.

EN 480 MANUFACTURING SIMULATION (2-4-3)(F). 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.

University of Idaho Engineering in Boise Program

University of Idaho Engineering in Boise Program

Technology Building, Room 201
Telephone (208) 385-1309
Director and Associate Professor of Computer Science: Robert Rinken;
Electrical Engineering Faculty: Dr. Richard Wall; Mechanical Engineering Faculty: Dr. Paul Dawson; Assistant to the Director: Kathy Kelknap.

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 be offering engineering education opportunities in the Boise area. We are presently offering complete bachelor of science degrees in Electrical Engineering and Computer Engineering, plus coursework leading to bachelor degrees in Chemical, Civil and Mechanical Engineering.
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 1968. 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 time. 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 coursework through the BSU pre-engineering program. After two years, the student “transfers” to UI and then continues by taking UI courses taught on the BSU campus.

Admission to Classes
As prerequisite to any upper-division course normally taken in the junior or senior year and offered by the Engineering in Boise Program, students must have completed selected courses from the required courses in chemistry, computer science, engineering, mathematics, and physics that are normally to be taken by them during their first two years and must have attained a grade of C or better in each of those courses. These courses are marked with a “*” in each individual curriculum.

Fees
Students enrolled in the Engineering in Boise Program pay fees through BSU. For part-time students (less than eight total credits) you pay on a per credit basis the same as you would if you were attending either University. For full time students, you pay one full-time fee regardless of the combination of credits taken from the two universities. You may take classes from both UI and BSU at the same time 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.

Curriculums
All curriculums are subject to review by the departmental faculty. Please refer specific questions to the UI Engineering in Boise Program Office.

Recommended Program

### COMPUTER ENGINEERING CURRICULUM

<table>
<thead>
<tr>
<th>FRESHMAN</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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<tbody>
<tr>
<td>Discrete Math M 156</td>
<td>BSU*</td>
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<tr>
<td>Pascal Prog CS 125</td>
<td>BSU*</td>
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<tr>
<td>College Chem &amp; Lab C 131, 132</td>
<td>BSU*</td>
<td>3</td>
</tr>
<tr>
<td>Anal Geom &amp; Calc I M 204</td>
<td>BSU*</td>
<td>5</td>
</tr>
<tr>
<td>Intro Comp Science CS 127</td>
<td>BSU*</td>
<td>4</td>
</tr>
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<td>English Composition E 102</td>
<td>BSU</td>
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<td>Elective HS</td>
<td>BSU</td>
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<td>Elective HS</td>
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<td>3</td>
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<tr>
<td><strong>SEMESTER CREDITS</strong></td>
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<td><strong>18</strong></td>
</tr>
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</table>

| SOPHOMORE | |
|-----------|
| Anal Geom & Calc II M 205 | BSU* | 4 |

### ELECTRICAL ENGINEERING CURRICULUM

<table>
<thead>
<tr>
<th>FRESHMAN</th>
<th>1st SEM</th>
<th>2nd SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anal Geom &amp; Calc I M 204</td>
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<td>5</td>
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<tr>
<td>College Chem &amp; Lab C 131, 132</td>
<td>BSU*</td>
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<tr>
<td>Eng Fund &amp; Comp Prog EN 107</td>
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<td>Engr Graphics EN 108</td>
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<td>Electives HS</td>
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<td><strong>SEMESTER CREDITS</strong></td>
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| SOPHOMORE | |
|-----------|
| Anal Geom & Calc III M 206 | BSU* | 4 |
| Mech Waves & Heat & Lab PH 211, 212 | BSU* | 5 |
| Intro Mechanics EN 205 | BSU* | 3 |
| Systems & Circuits I EN 221 | BSU* | 3 |
| Elective HS | BSU | 3 |
| Ord Diff Equations M 331 | BSU* | 3 |
| Elective HS | BSU | 3 |
| Elective HS | BSU | 3 |
| **SEMESTER CREDITS** | **18** | **16** |

| JUNIOR | |
|---------|
| Electronics I & Lab EE 316, 317 | BSU | 4 |
| Dig Comp Fund EE 340 | BSU* | 3 |
| Dig Logic Lab EE 344 | BSU | 1 |
| Signal & Systems EE 350 | BSU | 3 |
| Technical Writing E 202 | BSU | 3 |
| Elective HS | BSU | 3 |
| Elective HS | BSU | 3 |
| **SEMESTER CREDITS** | **18** | **16** |

| SENIOR | |
|---------|
| Principals of Design EE 480 | BSU | 3 |
| Senior Seminar EE 491 | BSU* | 1 |
| Eng Science Elective ES | BSU | 3 |
| Principals of Design EE 481 | BSU* | 3 |
| Engineering Economics EN 382 | BSU | 3 |

**TE** = Technical upper-division electives (at least 9 credits from either EE or CS courses).
### Chemical Engineering Curriculum

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<th>Semester</th>
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<tr>
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<tr>
<td>Junior</td>
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<tr>
<td>Senior</td>
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**Technical Electives TE**

Technical upper-division electives (at least 12 credits must be in EE courses).

**SENIOR SEMESTER CREDITS**

15 18

**TOTAL CREDITS**

131

**MECHANICAL ENGINEERING CURRICULUM**

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<th>Semester</th>
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<tr>
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**SENIOR SEMESTER CREDITS**

18 16

**TOTAL CREDITS**

138

**Civil Engineering Curriculum**

<table>
<thead>
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<th>Semester</th>
<th>1st</th>
<th>2nd</th>
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<tr>
<td>Freshman</td>
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<td>BU</td>
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<tr>
<td>Sophomore</td>
<td>BU</td>
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</table>

**SENIOR SEMESTER CREDITS**

18 17

**TOTAL CREDITS**

134

### University of Idaho Engineering in Boise Program

- Mech Waves & Heat & Lab PH 211, 212
- Intro to Mechanics EN 205
- Elec Engr Circuits EN 227
- Engr Measurements EN 216
- Dynamics Rigid Bodies EN 206
- Elec Magn & Optics & Lab PH 213, 214
- Ord Diff Equations M 341
- Mech of Materials EN 306

**SENIOR SEMESTER CREDITS**

18 16

**MECHANICAL ENGINEERING CURRICULUM**

<table>
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<th>Semester</th>
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<tr>
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</table>

**SENIOR SEMESTER CREDITS**

18 17

**TOTAL CREDITS**

138

- Fuel & Heat Transfer EN 320
- Thermo/Heat Transfer EN 320
- Technical Elective TE
- Design (CE 421 recomd) TE

**SENIOR SEMESTER CREDITS**

18 16

**TOTAL CREDITS**

138

**Civil Engineering Curriculum**

<table>
<thead>
<tr>
<th>Semester</th>
<th>1st</th>
<th>2nd</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>BU</td>
<td>BU</td>
</tr>
<tr>
<td>Sophomore</td>
<td>BU</td>
<td>BU</td>
</tr>
</tbody>
</table>

**SENIOR SEMESTER CREDITS**

18 17

**TOTAL CREDITS**

134

- Fluid Mechanics EN 301
- Applied Thermodynamics ME 322
- Mech Waves & Heat & Lab PH 211, 212
- Systems & Circuits EN 221
- Technical Writing E 202
- Intro to Civil Engr CE 215

**SENIOR SEMESTER CREDITS**

18 17

**TOTAL CREDITS**

138

- Fluid Mechanics EN 301
- Applied Thermodynamics ME 322
- Mech Waves & Heat & Lab PH 211, 212
- Systems & Circuits EN 221
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**SENIOR SEMESTER CREDITS**

18 17

**TOTAL CREDITS**

138

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**SENIOR SEMESTER CREDITS**

18 17

**TOTAL CREDITS**

138

- Fluid Mechanics EN 301
- Applied Thermodynamics ME 322
- Mech Waves & Heat & Lab PH 211, 212
- Systems & Circuits EN 221
- Technical Writing E 202
- Intro to Civil Engr CE 215

**SENIOR SEMESTER CREDITS**

18 17

**TOTAL CREDITS**

138
UI at Boise Course Offerings

EE/CE ELECTRICAL ENGINEERING/COMPUTER ENGINEERING

EE 292/CE 292 SOPH SEMINAR (0 cr)(S). Curriculum options, elective courses, prep for graduate study, and current tech topics. Field trip may be required. Graded PF.

EE 316/CE 316 ELECTRONICS (3 cr)(F). Introduction to application of electronic devices in electrical networks; diodes, rectifiers, power supplies, and thermal management; bipolar junction transistor principles, biasing, modeling and low-frequency, small signal applications; field effect transistor principles, biasing modeling and low-frequency small-signal application; operational amplifier fundamentals and applications. Preregistration required; consult department administrator. PREREQ: BSU’s EN 221 and EN 223.

EE 317/CE 317 ELECTRONICS LAB I (1 cr)(F). Lab to accompany or follow EE 316. Preregistration required; consult department administrator. PREREQ or COREQ: EE 316.

EE 318/CE 318 ELECTRONICS II (3 cr)(S). Electronic amplifier frequency response (magnitude and phase); RC coupled amplifiers in cascade; large-signal amplifiers; implications of saturation and cut-off; feedback amplifiers; intro to analog IC implementation. Preregistration required; consult department administrator. PREREQ: EE 316, 317.

EE 319/CE 319 ELECTRONICS LAB II (1 cr)(S). Lab to accompany or follow EE 318. Preregistration required; consult department administrator. PREREQ: EE 316, 317. COREQ: EE 318.

EE 320/CE 320 ELECTRIC MACHINERY (5 cr)(S). Theory and application of electric machinery and transformers. Four lectures and one 3-hour lab a week. Preregistration required; consult department administrator. PREREQ: BSU’s EN 221, EN 223 and PH 213.

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

EE 340/CompE 340/CE 340 DIGITAL COMPUTER FUNDAMENTALS (3 cr)(F). Number systems, truth tables, logic gates, elementary combinatorial and sequential logic, concepts of machine language programming, introduction to data structures and subroutines, hands-on use of mini-computer stressed. Preregistration required; consult department administrator. PREREQ: BSU’s EN 223.


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

EE 440/CompE 440/CE 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 circuits, combinational and sequential circuit design with PLA’s; register transfer language design of digital system including data path and control structures with TTL including timing analysis. Preregistration required; consult department administrator. PREREQ: EE 340, 344, CompE 340, 344 or EE 340, 344.

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

UI at Boise Course Offerings

EE/CE ELECTRICAL ENGINEERING/COMPUTER ENGINEERING

EE 292/CE 292 SOPH SEMINAR (0 cr)(S). Curriculum options, elective courses, prep for graduate study, and current tech topics. Field trip may be required. Graded PF.

EE 316/CE 316 ELECTRONICS (3 cr)(F). Introduction to application of electronic devices in electrical networks; diodes, rectifiers, power supplies, and thermal management; bipolar junction transistor principles, biasing, modeling and low-frequency, small signal applications; field effect transistor principles, biasing modeling and low-frequency small-signal application; operational amplifier fundamentals and applications. Preregistration required; consult department administrator. PREREQ: BSU’s EN 221 and EN 223.

EE 317/CE 317 ELECTRONICS LAB I (1 cr)(F). Lab to accompany or follow EE 316. Preregistration required; consult department administrator. PREREQ or COREQ: EE 316.

EE 318/CE 318 ELECTRONICS II (3 cr)(S). Electronic amplifier frequency response (magnitude and phase); RC coupled amplifiers in cascade; large-signal amplifiers; implications of saturation and cut-off; feedback amplifiers; intro to analog IC implementation. Preregistration required; consult department administrator. PREREQ: EE 316, 317.

EE 319/CE 319 ELECTRONICS LAB II (1 cr)(S). Lab to accompany or follow EE 318. Preregistration required; consult department administrator. PREREQ: EE 316, 317. COREQ: EE 318.

EE 320/CE 320 ELECTRIC MACHINERY (5 cr)(S). Theory and application of electric machinery and transformers. Four lectures and one 3-hour lab a week. Preregistration required; consult department administrator. PREREQ: BSU’s EN 221, EN 223 and PH 213.

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

EE 340/CompE 340/CE 340 DIGITAL COMPUTER FUNDAMENTALS (3 cr)(F). Number systems, truth tables, logic gates, elementary combinatorial and sequential logic, concepts of machine language programming, introduction to data structures and subroutines, hands-on use of mini-computer stressed. Preregistration required; consult department administrator. PREREQ: BSU’s EN 223.


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

EE 440/CompE 440/CE 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 circuits, combinational and sequential circuit design with PLA’s; register transfer language design of digital system including data path and control structures with TTL including timing analysis. Preregistration required; consult department administrator. PREREQ: EE 340, 344, CompE 340, 344 or EE 340, 344.

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

Technical Division

Technology Building, Room 240

Telephone (208) 385-3764

Division Manager and Professor: Norm Dahm.

Degrees Offered

• AAS in Drafting Technology
• AAS in Electronics Service Technology
• AAS in Electronics Technology
• AAS in Semiconductor Technology
• AAS in Manufacturing Technology

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 Vocational Technical Education Admission Requirements listed on page 164.

**FIRST SEMESTER**

- Drafting Lab and Lecture DT 101 ........................................ 4
- Fundamentals of Computer Drafting DT 109 ......................... 1
- Fund Speech Comm CM 111 .............................................. 3
- Mathematics DT 131 ...................................................... 4
- Applied Physics DT 141 .................................................... 3
- *Elective (from approved list) ........................................... 3

**TOTAL** 18

**SECOND SEMESTER**

- Drafting Lab and Lecture DT 102 ........................................ 4
- English Composition E 101 .............................................. 3
- Introduction to Surveying DT 122 ....................................... 2
- Mathematics DT 132 ...................................................... 3
- Applied Physics DT 142 .................................................... 3
- Fundamentals of Computer Design DT 110 ......................... 1

**TOTAL** 16

**THIRD SEMESTER**

- Drafting Lab and Lecture DT 201 ........................................ 4
- Descriptive Geometry & Development DT 221 ......................... 3
- Applied Mathematics DT 231 ........................................... 3
- Statics DT 241 ............................................................... 4
- Graphics DT 261 ............................................................ 1
- Occupational Relations DT 262 .......................................... 2

**TOTAL** 17

**FOURTH SEMESTER**

- Drafting Lab and Lecture DT 202 ........................................ 4
- Technical Report Writing DT 222 ....................................... 2
- Applied Mathematics DT 232 ........................................... 3
- Specialized Graphics DT 263 .......................................... 2
- Strength of Materials DT 242 ........................................... 4
- *Elective (from approved list) ........................................... 3

**TOTAL** 18

All courses require a minimum 'C' grade to receive the Associate's Degree.

*Approved General Electives List

*Electives chosen from following course offerings to fulfill Occupational Area core requirements. These selections are also chosen with the intent of fulfilling the general education requirements for the Associate of Applied Science degree

- Principles of Macroeconomics EC 206 ................................ 3
- Introduction to Business GB 101 ........................................ 3
- General Psychology P 101 .............................................. 3
- Career Life Planning P 151 ............................................. 3
- Introduction to Sociology SO 101 .................................... 3

Course Offerings

See page 20 for definition of course numbering system

**DT DRAFTING TECHNOLOGY**

**DT 101 DRAFTING LABORATORY AND LECTURE (1-14-4)(F).** Mechanical drafting with basic drafting techniques, standards, methods, and basic block and schematic diagrams for electronics and piping with introduction to computer-assisted drafting.

**DT 102 DRAFTING LABORATORY AND LECTURE (1-14-4)(S).** Architectural drafting includes facility planning, remodeling and details for commercial buildings. PREREQ: DT 101.

**DT 109 FUNDAMENTALS OF COMPUTER-AIDED DRAFTING AND DESIGN (1-1-1)(F/S).** 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 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 copies using a computer-driven plotter. COREQ: Familiarity with basic drafting procedures and standards.

**DT 110 ADVANCED COMPUTER-AIDED DRAFTING AND DESIGN (1-1-1)(F/S).** This course provides the student with skills in three dimensional CAD drafting, developing shape files and menus, digitizing, and illustrations. PREREQ: DT 105.

**DT 122 SURVEYING (2-3-2)(S).** Introduction to surveying, methods and computation. Required field work with emphasis on compiling data and office computation. PREREQ: or COREQ: DT 132.

**DT 131 MATHEMATICS (4-1-4)(F/S).** Fundamentals of algebra with review of arithmetic and applications of applied problems. Arithmetic operations with fractions, decimals, percentage. Basic algebraic operations with signed numbers, powers, solutions of simple equations, factoring operations with algebraic expressions. One year high school algebra with satisfactory grade or equivalent required.

**DT 132 MATHEMATICS (3-0-3)(F).** Plane geometry, basic coordinate geometry, spatial geometry, and basic trigonometry. This course includes many applied problems related to drafting technology. These problems require application of the fundamentals acquired in DT 131, trigonometry and geometry. PREREQ: DT 131 or equivalent.

**DT 141 APPLIED PHYSICS (3-0-3)(F).** Course covers properties of solids, liquids and gases with emphasis on introduction to strength of materials. Also temperature and effects of heat, heat transfer and change of state of matter are covered. Emphasis placed on problem solving. One year high school algebra with satisfactory grade or equivalent.

**DT 142 APPLIED PHYSICS (3-0-3)(S).** Course covers vectors and graphic methods with emphasis on forces exerted on structural members in a static position; force and motion; work energy and power and basic machines. COREQ: DT 132 or equivalent.

**DT 201 DRAFTING LABORATORY AND LECTURE (1-14-4)(F).** Civil drafting, mapping, highway curves and earthwork using conventional and computer drafting techniques. PREREQ: DT 122, 132, 102.

**DT 202 DRAFTING LABORATORY AND LECTURE (1-14-4)(S).** Structural drafting terminology, structural and reinforcing steel specifications and drawing practice with manual and computerized methods. PREREQ: DT 201, 221.

**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 231 APPLIED MATHEMATICS (3-1-3)(F).** Solution of practical problems involving concepts from DT 131 and DT 132 Math. PREREQ: DT 132.

**DT 232 APPLIED MATHEMATICS (3-1-3)(S).** Application and expansion of mathematics, statics and strength of materials. Related to lab projects. PREREQ: DT 231.

**DT 241 STATICS (4-0-4)(F).** Introductory course in statics with emphasis on analysis of simple structures. PREREQ: DT 132.

**DT 242 STRENGTH OF MATERIALS (4-0-4)(S).** Analysis of stress and strain in torsion, tension, compression and stress. Introduction to limited structural design. PREREQ: DT 132.

**DT 261 GRAPHICS (1-1-1)(F).** Introduction to graphic presentation methods used in industry, such as isometric and perspective rendering, charts, graphs and pictorial representations. (Open to non-drafting technology majors—space permitting.

**DT 262 OCCUPATIONAL RELATIONS (2-0-2)(F).** Course is designed to enable a student to become skilled in dealing effectively with people and for applying-getting, maintaining and advancing in employment. One semester course.

**DT 263 SPECIALIZED GRAPHICS (2-1-2)(S).** An intensive study of perspective and rendering as used in industrial illustration, architectural rendering and civil engineering, including mechanical and electronic methods. Lecture-Laboratory. PREREQ: DT 261 (Open to non-drafting technology majors—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, telecommunication and electromechanical systems.

To be accepted into this program students must meet Vocational Technical Education Admission Requirements listed on page 164.

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>Program</th>
<th>1st SEM</th>
<th>2nd SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronics Laboratory I ES 106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Composition E 101</td>
<td>3</td>
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<tr>
<td>Electronics Theory ES 122</td>
<td>5</td>
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</tr>
<tr>
<td>Electronics Mathematics ES 133</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Computer Literacy for Elect Tech ES 188</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Intro to Digital Electronics ES 123</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
### Course Offerings

**See page 20 for definition of course numbering system**

<table>
<thead>
<tr>
<th>Course Offerings</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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</thead>
<tbody>
<tr>
<td><strong>ES—ELECTRONICS SERVICE TECHNOLOGY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES 122 ELECTRONIC THEORY (S-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>
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<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></td>
<td></td>
</tr>
<tr>
<td>ES 133 ELECTRONICS MATHEMATICS (S-0-5)(F/S). The number system, algebra and algebraic equations, exponential and logarithmic equations, vectors and graphing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES 186 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></td>
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<tr>
<td>ES 206 ELECTRONICS LAB (0-15-3). Combined electronics lab covering circuits and equipment used in ES 237, ES 214, and ES 281. Lab will stress hands-on exposure to circuits and equipment and will provide various troubleshooting techniques.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES 232 TELECOMMUNICATION SYSTEMS I (2-0-2)(F/S). Introduction to electronic communication systems. Amplitude modulation and detection, percentage of modulation, band width of AM signals, RF power calculations. Radio frequency transmitter and receiver systems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES 281 ELECTRO-MECHANICAL SYSTEMS I (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 servos actuators.</td>
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</tbody>
</table>

### EXTENDED PROGRAMS OFFERING

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 Service Industry. PREREQ: Minimum of two years employment as an Electronic Service Technician, or PERM/INST.

### Course Offerings

**Two Year Program**

Associate of Applied Science Degree

Instructors: Robert Dodson, Bob Jull, Joe Schreffler, 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 164.

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course Offerings</th>
<th>1st SEM</th>
<th>2nd SEM</th>
</tr>
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<tbody>
<tr>
<td>Electronics Laboratory ET 101</td>
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<tr>
<td>Communication Skills ET 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Technical Report Writing ET 113</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Electronics Math I ET 131</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Basic Physical Science ET 142</td>
<td>3</td>
<td></td>
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<tr>
<td>Electronic Theory ET 151</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Intro to Digital Electronics ET 161</td>
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<tr>
<td>Electronics Laboratory ET 102</td>
<td>1</td>
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<tr>
<td>Communication Skills ET 112</td>
<td>3</td>
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</tr>
<tr>
<td>Electronics Math II ET 132</td>
<td>3</td>
<td></td>
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<tr>
<td>Electronic Theory ET 152</td>
<td>3</td>
<td></td>
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<tr>
<td>Digital Systems I ET 162</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

*School of Applied Technology*
**Semiconductor Technology—Two Year Program**

**Associate of Applied Science Degree**

To be accepted into this program students must meet Vocational Technical Education Admission Requirements listed on page 164.

The successful completion of ET 131-132 or M 111, or the equivalent is prerequisite for this major.

<table>
<thead>
<tr>
<th>Course Title</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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<tbody>
<tr>
<td>FIRST YEAR</td>
<td></td>
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<tr>
<td>General Physics PH 101, 102</td>
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<tr>
<td>College Chemistry C 131</td>
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<tr>
<td>Chemistry Lab C 132</td>
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<tr>
<td>Advanced Electronics Math ET 231-232</td>
<td>3</td>
<td>3</td>
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<tr>
<td>*Communication Skills ET 111-112</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Intro to Digital Electronics ET 161</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Intro to Integrated Circuit Industry ET 181</td>
<td>2</td>
<td></td>
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<tr>
<td>Integrated Circuit Processing ET 182</td>
<td>2</td>
<td></td>
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<tr>
<td>*Elective</td>
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<td><strong>TOTAL</strong></td>
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**SECOND YEAR**

<table>
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<tr>
<th>Course Title</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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<tbody>
<tr>
<td>Digital Systems I and II ET 162, ET 264</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Technical Report Writing ET 113</td>
<td>2</td>
<td></td>
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<tr>
<td>Intro to Solid State Physics ET 291</td>
<td>3</td>
<td></td>
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<tr>
<td>Solid State Device Physics ET 292</td>
<td>3</td>
<td></td>
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<tr>
<td>Integrated Circuit Layout ET 281</td>
<td>2</td>
<td></td>
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<tr>
<td>Electronics Theory I and Lab ET 151-101</td>
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<tr>
<td>Electronics Theory I and Lab ET 152-102</td>
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<tr>
<td>Solid State Devices I ET 172</td>
<td>3</td>
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<tr>
<td>*Elective</td>
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Total Number of Credit Hours: 69

**Course Offerings**

See page 20 for definition of course numbering system

**ET ELECTRONIC TECHNOLOGY**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>ET 101 ELECTRONICS LABORATORY I (0-10-2)(F/S)</td>
<td>1</td>
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<tr>
<td>Digital Systems Lab I ET 163</td>
<td>3</td>
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<tr>
<td>Solid State Devices Lab I ET 172</td>
<td>1</td>
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<tr>
<td><strong>TOTAL</strong></td>
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**SOPHOMORE YEAR**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Linear Systems Lab ET 201</td>
<td>1</td>
</tr>
<tr>
<td>Calculus I ET 231</td>
<td>3</td>
</tr>
<tr>
<td>Instrumentation Lab ET 242</td>
<td>2</td>
</tr>
<tr>
<td>Linear Systems ET 251</td>
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</tr>
<tr>
<td>Occupational Relations ET 262</td>
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<tr>
<td>Digital Systems II ET 264</td>
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<tr>
<td>Digital Systems Lab II ET 265</td>
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<tr>
<td>Solid State Devices ET 273</td>
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<td>Solid State Devices Lab II ET 274</td>
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<tr>
<td>Telecommunications Lab ET 202</td>
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<tr>
<td>Calculus II ET 232</td>
<td>3</td>
</tr>
<tr>
<td>Telecommunications Systems ET 252</td>
<td>3</td>
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<tr>
<td>Digital Systems III ET 275</td>
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<tr>
<td>Digital Systems-Lab III ET 276</td>
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<tr>
<td>Microprocessor Systems ET 277</td>
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<tr>
<td>Microprocessor Systems Lab ET 278</td>
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<td>*Occupational Electives</td>
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<td><strong>TOTAL</strong></td>
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</table>

Total Number of Credit Hours: 71

*Elective chosen from following course offerings to fulfill Occupational Area core requirements. These selections are also chosen with the intent of fulfilling the general education requirements for the associate of applied science programs. List of courses on page 164.

**ET 102 ELECTRONICS LABORATORY II (0-5-1)(F/S)** Experiments in alternating current electronics. Study of reactance, impedance, ac circuit behavior, ac transistor circuits, ac circuit devices, and characteristics of ac test equipment. PREREQ: ET 101.

**ET 111, 112 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 formal logic and symbolic techniques, industrial applications include organization and delivery of technical reports in written and oral forms, business correspondence, and resume preparation.

**ET 113 TECHNICAL REPORT WRITING (1-4-2)(F/S)** Composition of standardized technical reports, proper usage of electrical schematic drawings and proper use of headings and punctuation.

**ET 131 ELECTRONICS MATHEMATICS I (3-2-3)(F/S)** The number system, algebra and algebraic equations, functions and the graphing of functions, exponential and logarithmic equations, and plane geometry and trigonometry.

**ET 132 ELECTRONICS MATHEMATICS II (3-2-3)(F/S)** Complex numbers, vectors and vector mathematics, trigonometric functions and equations, and graphs of trigonometric functions. PREREQ: ET 131.

**ET 142 BASIC PHYSICAL SCIENCE (3-0-3)(F/S)** Course covers concepts of force, displacement, power and energy and mechanical physical principles including mass, inertia, momentum, velocity and acceleration, and moment of inertia. Emphasis is placed on problem solving. PREREQ: One year high school algebra with satisfactory grade or equivalent.

**ET 151 ELECTRONIC THEORY I (4-1-4)(F/S)** Theory of direct current electricity, its behavior in dc circuits, resistance and physical properties contributing to resistance, errors in calculation, dc power, dc current and voltage laws, dc circuit analysis, and physical properties of circuit components.

**ET 152 ELECTRONIC THEORY II (4-1-4)(F/S)** Theory of alternating current electricity, its behavior in electric circuits, properties of reactance and impedance, ac circuit analysis, tuned circuits and resonance, mutual inductance and transformers. PREREQ: ET 151.

**ET 161 INTRODUCTION TO DIGITAL ELECTRONICS (2-2-0)(F/S)** Introduction to binary number system, Boolean functions and mathematics, basic logic gates and logic families, Karnaught mapping and Boolean simplification of logic functions.

**ET 162 DIGITAL SYSTEMS I (2-2-0)(F/S)** Basic TTL and MOS gate operations, combinational logic circuits, tri-state logic gates, expanders functions of gates, fanout specifications, propagation delay and operating speed. Basic sequential logic operations, R-S and J-K flip-flop fundamentals. PREREQ: ET 161.

**ET 163 DIGITAL SYSTEMS LAB I (0-4-1)(F/S)** Laboratory exercises to complement ET 162. See ET 162 course description. PREREQ: ET 161.


**ET 173 SOLID STATE DEVICES LAB I (0-4-1)(F/S)** Laboratory exercises to complement ET 172. Diode rectification circuits, transistor biasing and amplifying circuits. Class A, AB, B, and C amplifier circuits, troubleshooting of diode and transistor circuits.

**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 stress 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 equivalent.

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

**ET 201 LINEAR SYSTEMS LAB (0-5-1)(F/S)** Laboratory exercises to complement ET 251. Linear amplification and signal processing circuits including integrators, differentiators, active filters, oscillators, comparators, differential amplifiers, and specialized non-linear amplifiers. PREREQ: ET 152, ET 172.

**ET 202 TELECOMMUNICATIONS LAB (0-5-1)(F/S)** Laboratory exercises to complement ET 252. Communication experiments in radio frequency generation and measurement, amplitude and frequency modulation, frequency shift keying, pulse width and position modulation, radio frequency reception circuits, demodulation and detection, heterodyne systems, and automatic frequency control. PREREQ: ET 251.

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course Offerings</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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<tbody>
<tr>
<td>Material &amp; Process Manufacturing MN 100</td>
<td>2</td>
<td></td>
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<tr>
<td>Technical Drawing EN 101</td>
<td>2</td>
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<tr>
<td>Indus Organ &amp; Intro CMI MN 102</td>
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<tr>
<td>AC/DC Theory MN 121</td>
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<tr>
<td>Mathematics DT 131</td>
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<tr>
<td>Intro to Machining Processes I MN 141</td>
<td>3</td>
<td></td>
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<tr>
<td>Comp Literacy for Electronic Tech ES 188</td>
<td>2</td>
<td></td>
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<tr>
<td>Engineering Graphics EN 108</td>
<td>2</td>
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<tr>
<td>Industrial Safety MN 112</td>
<td>-</td>
<td>2</td>
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<tr>
<td>English Composition E 101</td>
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<tr>
<td>Welding Processes MN 122</td>
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<tr>
<td>Mathematics DT 132</td>
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<tr>
<td>Adv Machining Processes II MN 180</td>
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</table>

TOTAL 18 17

SOPHOMORE YEAR

| Fund of Speech Comm CM 111 | 3 | |
| Quality Assurance & Stat Proc Control MN 201 | 4 | |
| Robotics & Automated Machine Tool Prog MN 211 | 2 | |
| Unified Tech Concepts-Physics MN 231 | 4 | |
| Jig, Fixture & Tool Design MN 261 | 3 | |
| Manufact Plan & Facil Design/Mod MN 202 | 3 | |
| Prin of Microeconomics EC 205 | 3 | |
| Comp Aided Design/Comp Aided Manuf MN 212 | 3 | |
| Interpersonal Comm CM 221 | 3 | |
| Electrical/Electronics Drafting MN 222 | 3 | |
| Hazardous Material Handling MN 232 | 2 | |

TOTAL 16 17

Course Offerings

See page 20 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 shearing; and the basic surface protection processes such as cleaning, painting and plating.


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 (1-4-2)(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 122 WELDING PROCESSES (2-8-4)(F/S). Oxy/acetylene welding, cutting and metallic shielded arc welding. Lecture and demonstrations in gas tungsten arc, gas metal arc, plasma arc welding/cutting and robotic welding. Weldability of metals and welding metallurgy.

MN 141 INTRODUCTION TO MACHINING PROCESSES I (2-4-3)(F/S). This sequence covers safety, shop practice and production rates. Also included are the set-up 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 201 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: DT 132 or equivalent.

MN 202 MANUFACTURING PLANNING & FACILITY DESIGN/MODIFICATION (2-4-3)(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 firmware, 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.

MN 222 ELECTRICAL/ELECTRONICS DRAFTING (1-8-3)(F/S). Mechanical and Computer Assisted Drafting (CAD) techniques and standards for developing electrical and electronic schematics and drawings.

MN 231 UNIFIED TECHNICAL CONCEPTS PHYSICS (3-4-4)(F/S). The study of technical principles in such a manner as to make them readily understood 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: DT 132 or equivalent.


School of Vocational Technical Education

- Business/Special Programs Division: Barbara Egland, Division Manager.
  Business and Office Education: Bounds, Butler, Carlton, Madarieta, Metzgar, TenEyck, Williamson.
- Health/Services Division: Bonnie J. Sumter, Division Manager.
  Child Care and Development: Gourley, Noonan; Culinary Arts: Hickman, Kuhl, Slough; Dental Assistant: Beckman, Imbs, Dr. Gurnell; Horticulture Service Technician: Moen, Oyler; Practical Nursing: Borman, Lagerstrom, McCullough, Noreen, Tisdale, Towle; Respiratory Therapy Technician: Nuernberg, Read, M.D., Voigt; Surgical Technology: Gollick.
- Canyon County Division: Dennis Griffin, Division Manager.
  Business and Office Occupations: Bounds, Madarieta; Electrical Lineworker: McKie; Professional Truck Driving: Anchestegui, Castleberry, Hibbard, Rhodomyre; Refrigeration, Heating and Air Conditioning: Messick; Water/Wastewater Technology: Dennis.
- Industrial/Mechanical Division: Gary Arambarri, Division Manager
- Technical Division: Refer to School of Applied Technology, Technical Division.

Department Chairpersons:
- Adult Basic Education Learning Center: Elaine Simmons
- College of Technology Student Services: Sharon L. Cook
- Vocational Counselors: Daigle-Pateck, Henry, Quinowski

School of Vocational Technical Education Emeriti: Buchanan, Callies, Dallas, Fleshman, Fuehrer, Hager, Hoff, King, Krigbaum, Lamborn, Leigh, Lingenfelter, MacInnis, Olson, Tennyson, Thompson, Trapp, Weston

Objectives of Vocational Education

To provide the opportunity for state and local citizens to acquire the education necessary:
1. To become employed, to succeed, and to progress in a Vocational Technical field.

2. To meet the present and anticipated needs of the local, state and national economy for employees with a Vocational Technical education.
3. To become contributing members of the social, civic, and industrial community.

Admissions Requirements

Students who plan to enter a program in the School of Vocational Technical Education, Boise State University, must complete the following through the College of Technology Student Services 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, a high school equivalency certification, or a GED certificate showing scores earned.
4. Complete an entrance assessment. May be either acceptable ASSET Assessment scores, acceptable ACT or SAT scores, or completion of an Associates or Bachelor degree program as proven by official transcripts. (The ASSET is given at any Idaho Post Secondary Vocational Technical School without a fee.) *NOTE: Health and Technical programs have additional admission requirements.
5. Pay a $75.00 security deposit to hold your place in the program once you receive your Letter of Acceptance. This is applied to fees upon registration and is refundable only with justifiable cause. The deadline for the refund is thirty calendar days before classes begin.

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

No Credit Granted

The Adult Learning Center operates an open entry/open exit program with individualized assistance provided by staff and volunteers. The following instruction and services are provided to adults at the Boise location on campus as well as at many outreach sites throughout the 10 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.
- Tutorial assistance for those needing help in meeting entrance requirements for B.S.U. College of Technology programs.
- Job Training Partnership Act opportunities through the Southwest Idaho Private Industry Council. JTPA Options provides an indepth basic skills and career exploration process for those who are eligible and enrolled.
- Southwest Center for New Directions—assistance to homemakers and single parents through counseling, workshops and support groups.
- Career counseling, assistance in developing employability skills and the Career Information System for program participants.
- Computer literacy instruction for program participants.
All services except GED and American Government testing are provided at no cost to those enrolled at the Adult Learning Center. For information or assistance, please call the Adult Learning Center at (208) 385-3681.

Graduation Requirements
All candidates for a Certificate of Completion, Diploma, or Associate of Applied Science Degree must have a minimum of a ‘C’ grade in the major (technical) coursework. A 2.0 grade point average is required in all other required coursework.

Curriculum Changes
The curriculum in vocational technical programs must reflect the changes and current practices of Business & Industry. Program and course curricula are changed as needs dictate. An approved process is followed prior to implementation of curriculum changes.

Certificate of Completion
The Certificate of Completion is conferred upon students who successfully complete a vocational technical program which is less than a two year curriculum.

Diploma
A Diploma is conferred upon students that successfully complete a two year program but opt not to complete the academic requirements for the Associate of Applied Science degree.

Associate of Applied Science Degree
Two year programs in the School of Applied Technology and the School of Vocational Technical Education 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 Core 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. Local advisory committees may provide additional information.
   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.
      Example: Mathematics/Physical Science/Etc.
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) coursework. A 2.0 grade point average is required in all other required coursework.
   b. Students requesting admittance to the Bachelor of Applied Science program must make application through the College of Technology Student Services. The College of Technology requires that all students admitted to the BAS degree program have no grade lower than a ‘C’ in their major. The AAS degree is the major in a Bachelor of Applied Science degree program.

Apprenticeship, Trade Extension and Job Upgrading
Managers: Gary Arambarri, Barbara Egland, Dennis Griffin, Bonnie Sumter.

Through cooperative arrangements with the State Board for Vocational Education, Boise State University School of Vocational Technical Education sponsors a wide range of trade extension programs for beginning, apprentice, and journeyman workers. Such courses are designed to meet the specific needs of industry, labor, agriculture, and government. Classes usually meet in the evening. Flexibility of scheduling, content, place of meeting is maintained in order to meet the growing educational needs of the community. Typically, though not invariably, such courses provide related technical education for those workers receiving on-the-job instruction in such vocations as sheetmetal, carpentry, plumbing, welding, electricity, electronics, word processing, automobiles, nursing, and farming.

Information concerning admission requirements, costs, dates, etc., may be obtained from Boise State University Outreach Division. Phone: (208) 385-1974.

Programs Offered

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

Course Offerings
See page 20 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). Theory and principles of operation, classifications and identification. The use of shop math and measuring instruments for precision parts measuring.
CB 109 BASIC ELECTRICITY AND ELECTRONICS (1-3-1)(F,S). Principles of electric and electric circuits. Compare voltage, current and resistance. Principles of magnetism and magnetic fields, battery testing and service, 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 bearing fundamentals and service: Exhaust system identification of basic parts and design changes. 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.
CB 129 INTRODUCTION TO MICROCOMPUTERS (2-0-1)(F,S). Introduces the student to microcomputer skills related to the mechanical technology service field, including DOS and basic word processing.

Agricultural Equipment Technology—Nine Month Program

Certificate of Completion
Instructor: Marlin Gaines
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 four 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 coursework to graduate with a certificate of completion.

**SUBJECTS**

<table>
<thead>
<tr>
<th>Course Block Mechanics CB</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
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<td>8</td>
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</tbody>
</table>

**First Eight Week Block**

- *Engine Component Systems DM 157* 5
- *Power Take-Off & Drive Lines DM 161* 2
- *Engine Fuel Systems DM 158* 2

**TOTAL** 9

**Second Eight Week Block**

- *Clutches & Transmissions DM 160* 2
- *Basic Hydraulics DM 165* 1
- *Differential, Power Dividers, Final Drive & Planetary Systems DM 162* 2
- Advanced Hydraulics AE 170 1
- Hydr Assist Transm & Hydrost Drives AE 175 2

**TOTAL** 8

**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 20 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, refrigerants, 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 diagnosis and repair procedures associated with open and closed-center hydraulic systems, and tracing hydraulic flows through circuits. 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.

**Auto Body—Eleven Month Program**

**Certificate of Completion**

**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, wirefed), painting (laccuer, acrylic enamel, urethanes, blending, matching), metal working (repair, replace, shrinking), frame alignment and repair, repair of new cars (UniCoupe Repair, UniCoupe Bench System). A Certificate of Completion is issued upon satisfactory completion of all skills in the eleven month program.

**SUBJECTS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
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<tr>
<td>Auto Body Lab AB 101, 102, 103</td>
<td>6</td>
<td>6</td>
<td>7</td>
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<tr>
<td>Auto Body Theory AB 151, 152</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Auto Body Theory AB 161, 162</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Auto Body Theory AB 171</td>
<td>2</td>
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<tr>
<td>Occupational Relationships AB 180</td>
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<td>1</td>
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<tr>
<td>Auto Body Theory AB 181</td>
<td>2</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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</tbody>
</table>

**TOTAL** 16 14 7

See Auto Body Program for detailed course descriptions.

**Automated Industrial Technician Program**

**Associate of Applied Science**

This double-major option combines the Industrial Mechanics/Automation and Welding/Metals Fabrication curriculums. The required general education coursework for the AAS Degree are CM 111 Fundamentals of Speech Communication (3 credits) and 6 credits from EC 205, 206, GB 101, P 101, 151, or SO 101.

**SUBJECTS**

<table>
<thead>
<tr>
<th>Course</th>
<th>SEM</th>
<th>SEM</th>
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<tbody>
<tr>
<td>Maintenance Welding Technology IM 101</td>
<td>1</td>
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<tr>
<td>Maintenance Machine Fundamentals IM 102</td>
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<td>3</td>
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<tr>
<td>Electro-Mechanical Systems IM 114</td>
<td>3</td>
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<tr>
<td>Electro-Mechanical Systems IM 115</td>
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<td>3</td>
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<tr>
<td>Basic Fluid Power Operations-Hydraulics IM 124</td>
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<td></td>
</tr>
<tr>
<td>Basic Fluid Power Operations-Pneumatics IM 125</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Industrial Mechanical Laboratory IM 134</td>
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</tr>
<tr>
<td>Industrial Mechanical Laboratory IM 135</td>
<td></td>
<td>5</td>
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<tr>
<td>Industrial Technology Communications IM 162</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Occupational Relationships IM 262</td>
<td></td>
<td>2</td>
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</tbody>
</table>

**TOTAL** 16 16

See Industrial Mechanics/Automation for detailed course descriptions.
The program is designed to provide students with classroom and on-the-job training in the fundamentals of automatic transmissions and transaxle design. This course introduces the student to the theory and practice of two and four wheel alignment service, including shoe and pad replacement, drum and rotor machining and rebuilding. AM 205 AUTOMATIC TRANSMISSION/TRANSAXLE (4-8-4)(FS). This course covers the use of advanced diagnostic equipment to troubleshoot and repair automobile performance, with emphasis placed on electrically related problems. PREREQ: Core Block or PERM/INST.

AM 220 AUTOMOTIVE ELECTRICAL SYSTEMS (4-12-5)(FS). 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 225 EMISSION SYSTEMS (1-3-1)(FS). 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)(FS). The student will be taught the use of advanced diagnostic equipment to troubleshoot and repair automobile performance, with emphasis placed on electrically related problems. PREREQ: Core Block or PERM/INST.

AM 240 AUTOMOTIVE ELECTRICAL SYSTEMS (4-12-5)(FS). 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 and command control systems will also be covered. PREREQ: Core Block or PERM/INST.

AM 245 ENGINE REPAIR (4-9-4)(FS). This course introduces students to transmission and differential design, proper disassembly techniques, parts evaluation, and proper assembly. PREREQ: Core Block or PERM/INST.

AM 250 MANUAL TRANSMISSION AND DIFFERENTIAL REPAIR (4-9-4)(FS). 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)(FS). 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.

Business & Office Education—Nine Month or Two Year Program

Certificate of Completion
Instructors: Karen Bounds, Doris Butler, Janet Carlton, Barbara Egland, Susan Madarieta, Wanda Metzgar, Theresa TenEyck, Marge Williamson

The Business and Office Education Program is designed to meet the needs of students as they prepare 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 Certificate of Completion in Business and Office Education, or a two-year Associate of Applied Science degree in Business and Office Education in one of the following: Word Processing or Bookkeeping.

The one-year (Nine Month) Certificate of Completion is available both on campus and at the Canyon County facility. The AAS degree is available only on the Boise State University campus.

Approved internships in an office and/or competency testing may be substituted for coursework with special permission of the program head and Division Director. This coursework 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 coursework to graduate with a Certificate of Completion or Associate of Applied Science degree.

See Welding & Metal Fabrication for detailed course descriptions.

Auto Mechanics—Eleven Month Program

Certificate of Completion
Instructors: Lee Hall, Charles Mikesh

The program is designed to provide students with classroom and laboratory experiences that will prepare them for employment in new-car dealerships or independent garages. The proper use of diagnostic equipment, shop machine tools and shop safety are emphasized.

Students will be offered entry into the Auto Mechanics program five times a school year during the fall, spring and summer semesters, depending on available seating.

A minimum grade of 'C' is required in all course work to graduate with a Certificate of Completion.

Course Offerings

See page 20 for definition of course numbering system

AM AUTO MECHANICS

AM 200 TWO AND FOUR WHEEL ALIGNMENT (2-4-2)(FS). 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)(FS). This course teaches the fundamentals of automatic transmissions and transaxle design features including the function, servicing, diagnosis, troubleshooting and proper removal, adjustment, installation, and testing procedures. PREREQ: Core Block or PERM/INST.

AM 210 ENGINE PERFORMANCE (2-12-5)(FS). 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 (3-4-2)(FS). 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)(FS). 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)(FS). 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)(FS). The student will be taught the use of advanced diagnostic equipment to troubleshoot and repair automobile performance, with emphasis placed on electrically related problems. PREREQ: Core Block or PERM/INST.

AM 240 AUTOMOTIVE ELECTRICAL SYSTEMS (4-12-5)(FS). 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 and command control systems will also be covered. PREREQ: Core Block or PERM/INST.

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AM 255 AUTOMOTIVE HEATING AND AIR CONDITIONING (2-6-2)(FS). 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.

TOTAL 8

TOTAL 10

TOTAL 20

TOTAL 28

TOTAL 28

TOTAL 30

TOTAL 38
This area of specialization is designed for the student to obtain a basic knowledge of the business world and to develop the necessary skills to perform competently the duties required of an entry-level bookkeeper.

Upon successful completion of this area of specialization, the learner 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, data base management, spreadsheets, proofreading and spelling, and Business English.

**SOPHOMORE YEAR**

### Fall

- Bookkeeping I OF 108
- Spreadsheet I OF 201
- Intro to Data Base Management OF 202
- Applied Business Communications OF 252
- Legal Environment of Business GB 202
- *Technical Support Courses
- Bookkeeping II OF 152
- Computerized Bookkeeping OF 225
- Computerized Bookkeeping II OF 226
- Fundamentals of Supervision OF 256
- Spreadsheet II OF 254

**TOTAL 16**

### Spring

- Production Typing OF 141
- Technical Typing OF 142
- Spreadsheet I OF 201
- Technical Support Courses
- **Electives
- TOTAL 17**

### Associate of Applied Science Degree

**Business and Office Education (Bookkeeping)**

This area of specialization is designed for the student to obtain a basic knowledge of the business world and to develop the necessary skills to perform competently the duties required of an entry-level bookkeeper.

Upon successful completion of this area of specialization, the learner 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, data base management, spreadsheets, proofreading and spelling, and Business English.

**SOPHOMORE YEAR**

### Fall

- Bookkeeping I OF 108
- Spreadsheet I OF 201
- Intro to Data Base Management OF 202
- Applied Business Communications OF 252
- Legal Environment of Business GB 202
- *Technical Support Courses
- Bookkeeping II OF 152
- Computerized Bookkeeping OF 225
- Computerized Bookkeeping II OF 226
- Fundamentals of Supervision OF 256
- Spreadsheet II OF 254

**TOTAL 16**

### Spring

- Production Typing OF 141
- Technical Typing OF 142
- Spreadsheet I OF 201
- Technical Support Courses
- **Electives
- TOTAL 17**

### Associate of Applied Science Degree

**Business and Office Education (Word Processing)**

This area of specialization is designed for the student to obtain a basic knowledge of the business world and to develop the necessary skills to perform competently the duties required of an entry-level word processing operator.

Upon successful completion of this area of specialization, the learner will not only possess the necessary skills and knowledge to enter the word processing field, but will also have developed basic skills in proofreading and spelling, English usage, word processing, machine transcription, record keeping, spreadsheets, data base management, and information processing.

**SOPHOMORE YEAR**

### Fall

- Business Communications OF 252
- Production Typing OF 141
- Technical Typing OF 142
- Spreadsheet I OF 201
- *Technical Support Courses
- **Electives
- Word Processing II OF 255
- Word Processing III OF 262
- Machine Transcription II OF 169
- Fundamentals of Supervision OF 256
- Model Office Simulation OF 257
- Records Management Procedures OF 251
- Spreadsheet II OF 254

**TOTAL 17**

### Spring

- Applied Business Communications OF 252
- Production Typing OF 141
- Technical Typing OF 142
- Spreadsheet I OF 201
- *Technical Support Courses
- **Electives
- Model Office Simulation OF 257

**TOTAL 17**

### *Approved Technical Support Courses for the Associate of Applied Science Degree*

- Machine Transcription II OF 169
- Bus & Off Educ Internship OF 293
- Word Processing II OF 255
- Word Processing III OF 262
- Model Office Simulation OF 257

**TOTAL 17**

### **Approved Electives for the Associate of Applied Science Degree**

- Fund of Speech Communication CM 111
- Listening CM 131
- Interpersonal Communications CM 221
- Assertiveness Training P 161
- General Psychology P 101
- Intro to Business GB 101

**TOTAL 17**

### Course Offerings

**See page 20 for definition of course numbering system**

**OF OFFICE OCCUPATIONS**

**OF 105 BUSINESS MATH (3-2-3/F/S).** Fundamental operations of arithmetic in business usage. Applications of business math as used in accounting, management, consumer education, and retailing are stressed.

**OF 107 BASIC OFFICE PROCEDURES (2-4-2/F/S).** This course provides training in filing, telephone techniques, mailing procedures, making appointments, arranging conferences, preparing itineraries, receiving and routing callers, practice in typing the various office forms. PREREQ: Demonstrated proficiency in typing. Eight-week course.

**OF 108 BOOKKEEPING I (3-2-3/F/S).** Designed to prepare students for the new environment in the modern office. Teaches the use of the general and specialized journals, general and subsidiary ledgers, how to prepare and analyze financial statements, and an introduction to computerized bookkeeping. PREREQ: OF 105.

**OF 109 BUSINESS ENGLISH (4-1-4/F/S).** Emphasis on development of skills in grammar, sentence structure, word usage, punctuation, and vocabulary. Coverage of capitalization and number usage rules as well as abbreviations. Must complete course with C or better to continue. PREREQ: Demonstrated competency/pretest.

**OF 119 PROOFREADING AND SPELLING (3-2-3/F/S).** Emphasis on learning proofreading techniques with practical applications. Spelling rules and patterns with a mnemonics approach spelling will be covered and applied.

**OF 126 KEYBOARDING I (2-4-2/F/S).** Beginning class introducing the alphabetic and numeric keyboard and basic typing skills. Eight-week course.

**OF 127 KEYBOARDING II (2-4-2/F/S).** Emphasis on formatting business correspondence, tables and manuscripts. A speed of 35 wpm should be attained upon completion of this course. Eight-week course.

**OF 131 GENERAL CORRESPONDENCE TYPING (2-4-2/F/S).** Experience in typing a variety of business letter styles with special features, memorandums, and administrative communications. Proofreading skills are stressed. PREREQ: OF 127 or acceptable performance on entrance test and keyboarding speed of at least 35 wpm. Eight-week course.

**OF 132 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 127 or acceptable performance on entrance test 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 on high-quality work and development of ability to make decisions without direct supervision. PREREQ: OF 131, 132 or acceptable performance on entrance test 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 131, 132 or acceptable performance on entrance test 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 108.

**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 general office correspondence from recorded media using automated office systems. Emphasis on the development of correct techniques. PREREQ: OF 109 and a typing speed of 35 wpm. Eight-week course.

**OF 159 BUSINESS WRITING (3-2-3/F/S).** Emphasis on building a foundation in effective business writing principles by planning, organizing, and writing memos and various types of business letters such as credit, collection, sales, claims adjustments. Psychology, format, content, and style of business letters will be covered. 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 microcomputers and specialized microcomputer business applications such as spreadsheets and graphics. Eight-week course.
School of Vocational Technical Education

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, OR 119, OR 158, OR PERM/INST, and a typing speed of at least 35 wpm. Eight-week course.

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

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

OF 203 WORD PROCESSING I (2-4-2/F/S). Students will learn basic word processing functions such as merging, column functions, and headers and footers. PREREQ: OF 127 or typing speed of at least 35 wpm. 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 225 COMPUTERIZED BOOKKEEPING I (2-4-2/F/S). An introduction to the principles utilizing computers to set up and to maintain a set of books that are common in many business operations. An integrated system of accounting software will be used to demonstrate the entire bookkeeping cycle. PREREQ: OF 155 or PERM/INST. 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 (2-4-2/F/S). A study of the principles and procedures of records management, including retention, processing, maintenance, protection, and 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 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 students the knowledge and skills necessary to create spreadsheets performing advanced functions. Emphasis will be on creating typical business documents such as: budgets and payrolls. PREREQ: OF 201. Eight-week course.

OF 255 WORD PROCESSING II (2-4-2/F/S). A continuation of Word Processing I with emphasis on intermediate functions such as outlining, table of contents, advanced merge, and math. PREREQ: OF 203. 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 (2-4-2/F/S). Students are "employed" in a classroom simulated office to experience a variety of supervisory positions within a company. PREREQ: OF 256 or PERM/INST. Eight-week course.

OF 262 WORD PROCESSING III (2-4-2/F/S). Students will learn a variety of advanced word processing concepts and applications used in industry today. Emphasis on advanced applications such as hard disk management, troubleshooting, files management, and macros. PREREQ: OF 255 or PERM/INST. Eight-week course.

OF 293 BUSINESS AND OFFICE INTERNSHIP (0-1-3-3/F/S). A practical application of technical knowledge and skills 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

The program in Business Systems and Computer Repair has been developed to give the student the basic knowledge to perform as an entry-level technician. The student will be qualified to make electronic and mechanical adjustments as they relate to computers, computer peripheral, xerography and other electro-mechanical devices.

FRESHMAN YEAR

First Eight Week Block
- Business Systems Mechanical Principles BC 155
- Xerography and Photocopier Theory BC 156

Second Eight Week Block
- Communication Skills BC 111
- Basic Electronic Theory BC 157
- Basic Electronic Lab BC 158

Third Eight Week Block
- Customer Relations BC 113
- Electronics Lab BC 103
- Semiconductor Electronics Theory BC 159

Fourth Eight Week Block
- Electronics Lab BC 104
- Digital Electronics Theory BC 171

SOPHOMORE YEAR

Fifth Eight Week Block
- Intro Computer Technology BC 255
- Computer Tech I BC 256

Sixth Eight Week Block
- Computer Repair BC 257
- Computer Tech II BC 258

Seventh Eight Week Block
- Computer Peripheral Repair BC 260
- Business Equipment Repair I BC 261
- Business Tech III BC 262
- *General Education Communication Skills Elective

Eighth Eight Week Block
- Business Equipment Repair II BC 263
- Business Equipment Lab IV BC 264
- Business Systems Sales Techniques BC 265
- **General Educ Elect in Econ or Indus/Hum Relations

Course Offerings

See page 20 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 use language effectively as a tool for the Office Systems Technician: i.e., effective writing and verbal 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 (8-10-5/F/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 PHOTOCOPIER 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 hands-on experiments which assist student understanding of DC circuits, Ohms law, magnetism and properties of electronic components.

BC 159 SEMICONDUCTOR ELECTRONICS THEORY (8-0-4/F/S). Study of semiconductor electronic devices and circuits with emphasis on analyzing the relationships of components in circuits and troubleshooting malfunctioning circuits. PREREQ: BC 157.


BC 255 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 (10-0-3)(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.

BC 260 COMPUTER PERIPHERAL REPAIR (10-0-2)(S). This course deals with the maintenance, repair and troubleshooting of computer peripheral. Concepts in the different types of printers, modems, disk drives and etc. with methods of repair and maintenance. This is a four week block.

BC 261 BUSINESS EQUIPMENT REPAIR I (12-2-3)(S). This course deals with the maintenance, repair and troubleshooting of electronic word processors. This is a four week block.

BC 262 BUSINESS TECHNOLOGY LAB III (0-20-2)(S). A hands-on lab where the principals taught in BC 261 can be studied and analyzed as they apply to a computer and its peripheral.

BC 263 BUSINESS EQUIPMENT REPAIR II (10-0-3)(S). This course deals with the maintenance, repair and troubleshooting of electronic cash registers, and electronic calculators.

BC 264 BUSINESS TECHNOLOGY LAB IV (0-20-2)(S). A hands-on lab where the principals taught in BC 263 can be studied and analyzed as they apply to a computer and its peripheral.

BC 265 BUSINESS SYSTEMS SALES TECHNIQUES (3-0-1)(S). This course deals with different types of printers, modems, disk drives and etc. with methods of sale techniques of maintenance contracts, and office equipment.

Child Care and Development

Day Care Assistant—Nine Month Program
Certificate of Completion
Instructors: Peg Gourley, Bonnie Noonan

This program is planned for people interested in working with children as an assistant in day care centers, nurseries, private kindergartens, child development centers and recreation programs for young children.

Day Care Supervisor—Two Year Program
Associate of Applied Science Degree

Graduates will be trained to teach in or operate a preschool program which provides for physical care, emotional support and social development of children in groups.

This two-year course will provide students with the opportunity to direct children's play and learning, provide meals, supervise staff, and manage resources in nursery school settings and day care centers. Completion of the Child Care Assistant program is a prerequisite to the supervisor level program.

Day Care Assistant

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<tr>
<th>Course</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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<tr>
<td>Introduction to Child Development CC 101</td>
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<tr>
<td>Introduction to Child Development CC 151</td>
<td>3</td>
<td></td>
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<tr>
<td>Health and Care of the Young Child CC 141</td>
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<td></td>
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<tr>
<td>Curriculum of the Young Child CC 171-172</td>
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<tr>
<td>Child Care Laboratory CC 181-182</td>
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<td></td>
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<tr>
<td>Contract Fld Exper in Early Child Prg CC 125-126</td>
<td>1</td>
<td></td>
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<tr>
<td>Plan and Eval of Laboratory Exper CC 135-136</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Infant/Child CPR &amp; First Aid CC 185</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Intro Comp Appl Occup Relat CC 261</td>
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Day Care Teacher/Supervisor

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<tr>
<th>Course</th>
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<th>2nd SEM</th>
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<tbody>
<tr>
<td>Advanced Child Care CC 255</td>
<td>3</td>
<td></td>
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<tr>
<td>Intro to Kindergarten Curriculum CC 256</td>
<td>2</td>
<td></td>
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<tr>
<td>Infant Care CC 257</td>
<td>2</td>
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<tr>
<td>Child Care Center Management CC 232</td>
<td>3</td>
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<tr>
<td>Fam &amp; Commn Involv with Child CC 252</td>
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<td>Child Care Center Supervision CC 201-202</td>
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<tr>
<td>Contr Prct in Early Child Superv CC 225-226</td>
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<td>Nutrition for Young Children CC 241</td>
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Child Care and Development

**Approved Elective ........................................... 3

TOTAL 17 17

*Chosen from: CM 111, CM 131, CM 221, CM 251.

**Approved Elective ........................................... 3

Course Offerings

See page 20 for definition of course numbering system

CC CHILD CARE

CC 101-151 INTRODUCTION TO CHILD DEVELOPMENT (3-0-3)(F/S). 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.

CC 125-126 CONTRACTED FIELD EXPERIENCE IN EARLY CHILDHOOD PROGRAMS. Contracted experiences arranged by the student and instructor. The student will participate in at least one of the settings. (F/S).

CC 135-136 PLANNING AND EVALUATION OF LABORATORY EXPERIENCE (2-8-2)(F/S). Classroom lecture and discussion to include lab observation and records, methods of evaluation and communication, 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). 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). Observation and participation in the laboratory preschool. Student will serve as aide and assistant teacher, working directly 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, etc. Responsibilities.

CC 185 INFANT/CHILD CPR AND FIRST AID (1-0-1)(F). Introduction 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 (4-0-8)(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 (3-3-3)(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 day care centers.

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). 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). 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). Total care of infants and toddlers in group day care homes and centers. Besides physical care emphasis is also placed on the emotional and social nurturing of infants and toddlers. PREREQ: CC 101-151.

CC 261 INTRO 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.
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.
- 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 not only to 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, bar management, menu, facilities planning, cost controls, supervisory development, storeroom and stewarding.

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

### Course Offerings

See page 20 for definition of course numbering system

#### CA CULINARY ARTS

**CA 102 CULINARY SKILLS DEVELOPMENT (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 include: 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 revised and approved by 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 112 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, quiches, 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 gourdon service is explained.

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

**CA 118 CHARCUTERIE (SAUCE 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 and sausage.

**CA 119 SUPERVISORY DEVELOPMENT (2-0-2)(F/S)**. Basic principles of effective supervision, including human relations, motivation, communications, proper training procedures, interviewing, staffing, and discipline are covered. Stewarding functions and responsibilities of personnel scheduling, cleaning scheduling and purchasing services are.

**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 highlight 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, and resume preparation.

**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.

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**FIRST SEMESTER**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>CA 102</td>
<td>Culinary Skills Development</td>
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<td>CA 103</td>
<td>Sanitation, Safety, Health</td>
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<tr>
<td>CA 104</td>
<td>Introductory Baking</td>
<td>2</td>
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<tr>
<td>CA 105</td>
<td>Cost Controls</td>
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<td>CA 109</td>
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<td>CA 112</td>
<td>Introductory Hot Foods</td>
<td>3</td>
</tr>
<tr>
<td>CA 113</td>
<td>Pantry, Basic Garde Manger</td>
<td>3</td>
</tr>
<tr>
<td>CA 114</td>
<td>Communications Skills</td>
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</tr>
<tr>
<td>CA 126</td>
<td>Hospitality Purchasing</td>
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<td><strong>TOTALS</strong></td>
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**SECOND SEMESTER**

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<tr>
<th>Course Code</th>
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<tr>
<td>CA 115</td>
<td>Dining Room Procedures</td>
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<td>CA 116</td>
<td>Meat Identification &amp; Fabrication</td>
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<td>CA 118</td>
<td>Charcuterie (Sausage Making)</td>
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<tr>
<td>CA 119</td>
<td>Supervisory Development</td>
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<tr>
<td>CA 123</td>
<td>Communication Skills II</td>
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<tr>
<td>CA 124</td>
<td>Kitchen Laboratory</td>
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<tr>
<td>CA 127</td>
<td>American Regional/A La Carte</td>
<td>2</td>
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<tr>
<td>CA 262</td>
<td>Occupational Relations</td>
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**THIRD SEMESTER**

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<tr>
<td>CA 207</td>
<td>Wine Appreciation</td>
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<tr>
<td>CA 212</td>
<td>International &amp; Oriental Cuisine</td>
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<tr>
<td>CA 214</td>
<td>Kitchen Laboratory</td>
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<tr>
<td>CA 227</td>
<td>Advanced/Classical Baking</td>
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<td>CA 228</td>
<td>Advanced Food &amp; Beverage Cost Controls</td>
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<td>CA 229</td>
<td>Food &amp; Beverage Operation Planning</td>
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<tr>
<td>CA 230</td>
<td>Cake Decorating</td>
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<td>CM 111</td>
<td>Funds of Speech</td>
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**FOURTH SEMESTER**

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<td>CA 215</td>
<td>Classical Cuisine</td>
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<td>CA 224</td>
<td>Kitchen Laboratory</td>
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<td>CA 226</td>
<td>Advanced Culinary Skills</td>
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<td>CA 231</td>
<td>Banquet &amp; Catering Operation</td>
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<td>CA 232</td>
<td>Culinary Nutrition</td>
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**Approved Electives:** Two required:

- GB 101 Intro to Business | 3
- EC 202 Principles of Economics-Micro | 3
- CM 112 Reasoned Discourse | 3
- MM 250 Intro Microcomputers in Retailing | 3

**TOTALS: 19**
CA 126 HOSPITALITY PURCHASING (2-0-2)(F/S). Management concepts and specific techniques in purchasing commodities essential to successful purchasing in hospitality operations.

CA 127 AMERICAN REGIONAL/A LA CARTE (1-4-2)(F/S). This course explores the history and preparation of American specialties. Items prepared in the kitchen will follow established American cuisine preparation standards based on the region studies. Items served A La Carte on a daily basis.

CA 207 WINE APPRECIATION (1-0-1)(F/S). The wines of France, Italy, Germany, and America are discussed. Students learn through actual tasting of the wines studied. History, label interpretation, vocabulary, wine laws, and various methods of processing are covered in the lectures. Majors only.

CA 212 INTERNATIONAL AND ORIENTAL CUISINE (1-0-1)(F/S). Students research and prepare menus representative of different countries and cultures. Cuisines emphasized are Middle Eastern, Spanish, South American, German and Austrian, 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 canapes, hors d'oeuvres, appetizers, pates, galantines, chaud-froids, terrines, tallow and ice carving, aspics, mousses, cold sauces, vegetable carving, and food decoration are all demonstrated and prepared.

CA 214 KITCHEN LABORATORY (0-24-6)(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 A La Carte menu items as students 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). Coursework emphasizes an understanding of the complexities of controlling the primary resources of hospitality operations—food, beverage, labor and sales income. Control systems developed 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, frosting and designing wedding, anniversary, birthday, bar 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.


Dental Assistant—Nine Month Program

Certificate of Completion

Instructors: Terrie Beckman, Dr. Richard Gunnell, Bonnie Imbs

The Dental Assistant Program consists of Dental Assistant Theory, Dental Laboratory instruction and Clinical Experience. Boise State University works with the Dental Advisory Board in planning and promoting the program and curriculum. Changes may be made at any time to take advantage of advances in the Dental profession. Entrance requirements: High School Diploma or Equivalency Certificate, personal interview and aptitude testing. Typing is a prerequisite. The dental assistant courses are taught by dental assistant instructors, dentists, and guest dental lecturers.

The program in Dental Assisting is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. Students are eligible to take the Certification Examination upon completion of this course.

<table>
<thead>
<tr>
<th>Course Offering</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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<tbody>
<tr>
<td>Dental Laboratory DA 101-102</td>
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<tr>
<td>Dental Radiology DA 104</td>
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<td>Dental Assisting Clinical Experience DA 106</td>
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<td>Dental Office Management DA 108</td>
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<td>Public Health and Dental Hygiene DA 109</td>
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<td>Communication Skills DA 111-112</td>
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<td>Dental Theory DA 151-152</td>
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<td>Intro Comp Appl Occup Relat DA 180</td>
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<td>Professional &amp; Legal Concepts DA 181</td>
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<tr>
<td>Fundamentals of Speech DA 111</td>
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<tr>
<td>Standard First Aid and CPR PE 121</td>
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</table>

Course Offerings

See page 20 for definition of course numbering system

DA DENTAL ASSISTING

DA 101-102 DENTAL LABORATORY (2-10-4)(F), (1-5-2)(S). Provides practical laboratory experience in handling dental materials and instruments.

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 109 PUBLIC HEALTH AND DENTAL HYGIENE (2-0-2). The class work deals with preventive dentistry and patient education.

DA 111-112 COMMUNICATION SKILLS (3-0-3)(F/S). Enables the students to use our language effectively as a tool for logical thinking, problem solving, technical writing and speaking required in their major field of preparation.

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

Certificate of Completion

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.

SUBJECTS

<table>
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<tr>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Electrical Lineworker Lab EL 101-102</td>
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<tr>
<td>Electrical Lineworker Basics EL 151-152</td>
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<tr>
<td>Design/Construction EL 161-162</td>
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<tr>
<td>Occupational Relationships EL 262</td>
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<td>TOTAL</td>
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</table>

Course Offerings

See page 20 for definition of course numbering system

EL ELECTRICAL LINEMAN

EL 101-102 ELECTRICAL LINEMAN LABORATORY (0-20-5)(F/S). The field operation offers the actual "job" experience for the student. Course content includes live climbing experiences using ropes and rigging, pole setting and removal with suitable guys and anchors including installation of transformers, construction and maintenance of underground distribution networks, troubleshooting all systems including hot stick care and use, plus preventative maintenance on associate systems or equipment.

EL 151-152 ELECTRICAL LINEMAN BASICS (5-0-5)(F/S). This course provides the student with the basics of electrical theory, power generation, materials identification and application, and current and protective devices, related equipment application, and personal/occupational safety.

EL 161-162 ELECTRICAL LINEMAN SYSTEMS DESIGN/CONSTRUCTION (5-0-5) (F/S). This course emphasizes electrical power systems, power systems design and construction techniques, transformer theory, design of transformers and their construction and transmission networks.

EL 262 OCCUPATIONAL RELATIONS (2-0-2)(S). Course is designed to enable a student to become skilled in dealing effectively with people and for applying, getting, maintaining and advancing in employment. One semester course.

Fire Service Technology

Associate of Applied Science

The Fire Service Technology program is designed to upgrade the fire fighting skills and knowledge of volunteer and paid firefighters. In some instances a volunteer firefighter may use this degree as a means to enter the fire service as a paid professional. The program covers all phases of fire fighting. The intent is to provide fire fighters with the skills needed to save lives and protect property in a safe and efficient manner. Special fees apply to this program.

SUBJECTS

<table>
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<tbody>
<tr>
<td>Orientation FR 101</td>
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<tr>
<td>Safety FR 102</td>
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<td>First Aid FR 103</td>
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<td>Fundamentals of Fire Service FR 104</td>
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<td>Water Supply FR 105</td>
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<td>Fire Stream, Hydraulics FR 106</td>
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<td>Ropes, Knots, and Rescue FR 107</td>
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<td>Forcible Entry FR 108</td>
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<td>Breathing Apparatus FR 109</td>
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<tr>
<td>Hose Techniques FR 110</td>
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<td>Ladder Techniques FR 111</td>
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<td>Building Construction FR 112</td>
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<td>Ventilation FR 113</td>
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<td>Salvage and Overhauls FR 114</td>
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<td>Skills Maintenance FR 115</td>
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<td>Ground Cover FR 116</td>
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<td>Fire Apparatus FR 117</td>
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<td>Applied Communication FR 121</td>
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<td>Applied Communication FR 122</td>
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<td>Human Relations FR 131</td>
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<td>Industrial Relations FR 132</td>
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<td>Fire Cause Determination FR 201</td>
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<td>Fire Ground Management FR 202</td>
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<td>Portable Fire and installed detection alarm and Extinguishing systems/agents FR 203</td>
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<td>Hazardous materials Incident Analysis FR 204</td>
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<td>Fire Risk Analysis FR 205</td>
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<tr>
<td>Fire Service and the Law FR 206</td>
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<td>High Rise FR 207</td>
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<td>Industrial Fire Protection FR 208</td>
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<td>Aircraft Fire Protection FR 209</td>
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<td>Cooperative Voc Ed (on-the-job training) FR 210</td>
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*Approved Electives | 9 |

*Students must complete 270 instructional hours of approved coursework (in addition to those prescribed in the certification program) which may include any National Fire Academy resident or field programs described in the current Fire Service Training Program Catalog and/or any combination of state or federally sponsored fire classes, courses or schools—except those already used for credit toward completion of previous courses in the certification program. Students may use courses that they have attended prior to or any time during enrollment in the certification program. Copies of all course certificates must be on file at the fire department.
ladder carries, materials used in ladder construction, ladder inspection, care maintenance, and testing are also topics of instruction in this course. PREREQ: PERM/INST.

FR 112 BUILDING CONSTRUCTION (1-4-2). This course is designed to provide the student with a thorough background in building construction principles as they relate to fire fighting. Included are general construction principles, wood and ordinary construction, masonry construction, concrete and steel construction. Concepts of "fire proof" and fire resistant materials are also covered. PREREQ: PERM/INST.

FR 113 VENTILATION (0-4-1). This course is designed to instruct the student in the use of hand and power tools as they apply to ventilation and forcible entry, and will instruct the student in breaking and clearing windows, forcing windows, breaking and clearing doors, proper ventilation methods, and prevention of backdraft and safety precautions to be taken during ventilation. PREREQ: PERM/INST.

FR 114 SALVAGE AND OVERHAUL (0-4-1). This course will demonstrate the construction and use of a water chute and a water catchall, explain different methods of routing water and removing debris from a structure, demonstrate proper methods for folding and spreading salvage covers, explain main reasons for salvage and overhaul operations and precautions to be taken during them towards the prevention of evidence destruction. PREREQ: PERM/INST.

FR 115 SKILLS MAINTENANCE (0-8-2). This course is designed to assist students in maintaining proficiency in practical skills that were learned during course work in the certification levels. A selected number of practical skills are reviewed during this activity. PREREQ: PERM/INST.

FR 116 GROUND COVER (1-0-1). This course is designed to provide the student with knowledge of the following as they relate to ground cover fire fighting, apparatus and equipment, ground cover fire behavior, fire ground management, fire suppression methods, water supply and use, and personnel safety. PREREQ: PERM/INST.

FR 117 FIRE APPARATUS (0-4-1). This course is designed to provide the student with knowledge of the following as they relate to fire apparatus practices: types of fire apparatus, the driver and the apparatus, driving exercises, positioning and spotting apparatus, operating fire department pumps, operating aerial ladder apparatus, operating elevating platform apparatus, fire ground management, fire suppression methods, water supply and use, and personnel safety. PREREQ: PERM/INST.

FR 121 APPLIED COMMUNICATIONS (3-0-3). This course is taught in conjunction with the orientation and fire cause determination courses. The student demonstrates the ability to organize ideas, interpret facts, assimilate thoughts and ideas and effectively communicate this knowledge in proper written form by responding in depth to essay questions regarding such topics as: Success with Fire Service Leadership; Focusing on Fire Education and Professional Development in the Fire Service. PREREQ: PERM/INST.

FR 122 TECHNICAL WRITING/COMMUNICATIONS (3-0-3). This course is taught in conjunction with Fire Risk Analysis, fire ground management and hazardous materials. The student learns proper writing techniques for preparing pre-fire plans and reports for a wide variety of structures and occupancies as part of fire risk analysis. PREREQ: PERM/INST.

FR 131 HUMAN RELATIONS/SUPERVISION (3-0-3). In this course the student learns about human relations as they apply to: strike team interactions; Incident Command System Camp organization and unit of operation relationships; management span-of-control; organization functions and structure; and principles of command. PREREQ: PERM/INST.

FR 132 INDUSTRIAL RELATIONS (3-0-3). In this course the student learns the importance and effective techniques of public relations and education in the field of fire prevention. Discussed in depth are: fire prevention public relations programs; promotional activities, industrial or functional activities; public relations while making an inspection; and the fire inspector promoting a positive image through impressions. PREREQ: PERM/INST.

FR 201 FIRE CAUSE DETERMINATION (1-0-1). This course is designed to prepare the student with the knowledge and skills needed in order to correctly determine fire causes, including: the fire department's responsibility, the fire company's role, fire setters, preserving and documenting evidence for the investigator and courtroom testimony. PREREQ: PERM/INST.

FR 202 FIRE GROUND MANAGEMENT (1-0-1). The assumption of command of operation in a fire situation is the main subject of this course, dealing with the specific performances of sizing up, positioning of vehicle equipment and personnel, determining point of attack, how to use lay or lay is required, type and size of hose and nozzles to be used, and the supervision of personnel in accomplishing forcible entry, rescue and other fire suppression activities. PREREQ: PERM/INST.

FR 203 PORTABLE FIRE AND INSTALLED DETECTION AND EXTINGUISHING SYSTEMS/AGENTS (1-4-2). This course will cover the principles of wet and dry sprinkler systems; control valves, piping system, detection and control systems; classes of standpipe systems, and the purpose and operation of accelerators and exhausters on drypipe systems. It will also contain instruction in the operation and extinguishment principle for carbon dioxide, halogenated agent, dry and wet chemical and foam extinguishing systems. Water flow alarms, alarm test valves, infrared flame, detection devices; smoke detectors; and the servicing, recharging, testing, and maintenance of extinguishers are also topics of instruction within this course. PREREQ: PERM/INST.

FR 204 HAZARDOUS MATERIALS INCIDENT ANALYSIS (2-0-2). This course is designed to give the fire fighter student information on target hazards, configuration, local disaster plans and the process of locating and notifying agencies on the disaster preparedness directory. The fire department's participation in the following disasters will also be covered: train derailment, building collapse, hazardous physical material incident; fire, gas released, earthquake, fuel spill, forest fires, flood and riots. PREREQ: PERM/INST.

FR 205 FIRE RISK ANALYSIS (2-0-2). This course is designed to provide the student with the skills necessary to do a systematic risk analysis of a community and examination of problem solving methods. It examines fire protection as a total system and provides methods to identify and estimate a community's risk level and level of protection. PREREQ: PERM/INST.

FR 206 FIRE SERVICE AND THE LAW (2-0-2). This course will cover the application of statutory, common and constitutional law of the fire fighter, organization of the local governing body, responsibilities and liabilities on the part of the fire fighter, the department and municipalities. It will also explain the fire fighter's right to compensation, rules governing the employment and termination of the fire fighter, a fire fighter's right to make arrests, etc., PREREQ: PERM/INST.

FR 207 HIGH RISE (1-0-1). This course is designed to provide the student with knowledge of the following as they relate to high rise fire fighting: improve problems in high rise buildings; heat, smoke and fire gases; life hazards; exposure problem; water supplies; access problems; logistics problems; coordination problems; salvage and overhaul; loss of electrical power; smoke proof stairways and special problems. PREREQ: PERM/INST.

FR 208 INDUSTRIAL FIRE PROTECTION (1-0-1). This course is designed to provide the student with knowledge of the following as they relate to industrial fire protection: the need for plant fire protection, emergency planning, cooperation and coordination with outside agencies, plant fire prevention, plant fire brigades, managing fire brigade training problems, fire brigade training, fire protection system, and inspection and testing fire protection systems. PREREQ: PERM/INST.

FR 209 AIRCRAFT FIRE PROTECTION (1-0-1). This course will cover fire service equipment applicable to aircraft fires, methods of water application, chemical application, and size of fire hose nozzle patterns for use on aircraft fire. Other topics of instruction in this course include the methods of extinguishing and the hazards of magnesium and titanium fires, hazards presented by aircraft jet engine intake and exhaust systems; aircraft escape systems, and emergency incidents involving nuclear weapons or materials. PREREQ: PERM/INST.

FR 210 COOPERATIVE VOCATIONAL EDUCATION (on-the-job training)(0-10-10). A maximum of 10 credits will be awarded for supervised on-the-job training, upon completion of all course work. The on-the-job training consists of the practical application of the principles and practices taught in the prescribed courses. The credits will be granted upon written recommendation of the instructor of record and the local Fire Chief. PREREQ: PERM/INST.

Heavy Duty Mechanics—Diesel—
Eleven Month Program

Certificate of Completion

Instructors: Ted Brownfield, Ken Hogue

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. Students will be offered entry into the Heavy Duty Mechanics-Diesel program five times per school year during the fall, spring and summer semesters, 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 coursework to graduate with a Certificate of Completion.

SUBJECTS

<table>
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<tr>
<th>Fall</th>
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<th>Summer</th>
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<tbody>
<tr>
<td>Core Block Mechanics CB</td>
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<td>First Eight Week Block</td>
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<tr>
<td>Engine Component Systems DM 157</td>
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<td>Engine Brakes DM 169</td>
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<tr>
<td>Engine Fuel Systems DM 158</td>
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<tr>
<td>TOTAL</td>
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</tbody>
</table>
The objective of the Horticulture Program is to prepare students for employment in the Landscape, Nursery, Floral, Greenhouse, and Fruit and Vegetable industries. This includes the production, sales and 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, Gardens, 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.

**FRESHMAN YEAR**
- Horticulture Laboratory HO 101-102: 4 4
- Communication Skills HO 111-112: 3 3
- Related Basic Mathematics HO 131-132: 3 3
- Related Basic Science HO 141-142: 2 2
- Horticulture Theory HO 151-152: 7 7
- TOTAL: 19 19

**SOPHOMORE YEAR**
- Horticulture Laboratory HO 201-202: 4 4
- Related Science HO 241-242: 2 2
- Horticulture Theory HO 251-252: 7 7
- Occupational Relationships HO 262: 2 2
- Individual Project HO 271: 3 3
- Consumer Marketing MM 201: 3 3
- Salesmanship MM 101: 3 3
- TOTAL: 18 19

**Course Offerings**

*See page 20 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 procedures. Intake and exhaust systems, lubrication systems, cooling systems, repairing cylinder heads, theory and principles of turbo chargers, and superchargers, 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 five major types of diesel fuel injection pumps, injection nozzle design and testing procedures, gasoline fuel systems, carburetors, 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 & 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.

**DM 165 BASIC HYDRAULICS (2-1-5)(F,SU).** Introduction to basic hydraulic theory and practices of hydraulic systems, lines, fittings, accumulators, oil coolers, circuits, valves, pumps and motors. PREREQ: Core Block or PERM/INST.

**DM 166 AIR BRAKE SYSTEM (2-4-2)(F,SU).** Air compressors, air brakes, air conditioning, spring brake cans, slack adjusters, brake shoes, air tanks and air piping. PREREQ: Core Block or PERM/INST.

**DM 167 HYDRAULIC BRAKES (2-4-2)(F,SU).** System components and functions of brake systems including brake shoes, drums, wheel bearings, wheel spindles, seals, brake adjustments. PREREQ: Core Block or PERM/INST.

**DM 168 STEERING AND SUSPENSION SYSTEMS (2-4-2)(F,SU).** Suspension system including torsion bars, springs, air suspensions, wheels, tires, frames. PREREQ: Core Block or PERM/INST.

**DM 169 ENGINE BRAKES (1-4-1)(F,SU).** Jacobs and Cummins compression brake components and operation, retarders, construction and operation. PREREQ: Core Block or PERM/INST.

**Horticulture Service Technician—Two Year Program**

(Landscape Construction and Maintenance)

Instructors: Gary Moen, Neldon Oyler

**Course Offerings**

*See page 20 for definition of course numbering system*

**HO HORTICULTURE**

**HO 101 HORTICULTURE LABORATORY (0-15-4).** Applying the related theory and content to the solution of practical problems in horticulture. Specific areas of application include to exploring occupational opportunities. Identification of plants, use of descriptive names; classification and botanical structures of plants, climatic and other factors limiting growth; plant propagation, greenhouse, flower, plant production, and floral design.

**HO 102 HORTICULTURE LABORATORY (0-15-4).** Applying the related theory and content to the solution of practical problems in horticulture. Specific areas of application include soils and soil amendments; construction of growing containers and houses, implementation of entire greenhouse operation and bedding plant production; the use of insecticides; pesticides, etc., and precautions necessary during use; pruning.

**HO 111-112 COMMUNICATION SKILLS (3-0-3)(F,S).** Objectives: to enable students to use language effectively as a tool for logical thinking, problem solving, technical writing and speaking required in their major field of training.

**HO 131-132 RELATED BASIC MATHEMATICS (3-9-3).** First semester—developing comprehension of the basic principles of mathematics. Specific areas include: addition, subtraction, multiplication, division, fractions, denominator numbers, square root, mensuration. Second semester—developing comprehension of the principles of related bookkeeping and accounting. Specific areas to be covered include: income and expense accounts, general journal and ledger, sales and purchases, inventories, payroll, etc.

**HO 141-142 RELATED BASIC SCIENCE (2-0-2).** First semester—developing comprehension of the scientific principles utilized in plant identification, plant growth and development, limiting factors, development which aid plant propagation. Second semester—developing comprehension of the scientific principles utilized in: developments which aid plant propagation, construction materials, insecticides, pesticides, soils and fertilizers.

**HO 151-152 HORTICULTURE THEORY (7-0-7).** First semester—developing comprehension, analysis and evaluation of: introduction to the field of horticulture, plant classification and growth, climate and other growth limiting factors, soil and soil amendments. Second semester—developing comprehension, analysis and evaluation of: plant propagation; growing containers; insect and disease control; pest identification; and 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. Installation of walls, patios, arbors and retaining walls, plant identification including evergreens and deciduous shrubs, ground cover and vines.
Industrial Environmental Tech. / Industrial Mechanics/Automation / Machine Shop

HO 241 RELATED SCIENCE (2-0-2). Developing comprehension of the scientific principles utilized in growing, materials of construction, and weed control.

HO 242 RELATED SCIENCE (2-0-2). Developing comprehension of the scientific principles utilized in electrical power, lawn and garden maintenance, plant wounds, basic first aid, and insect control.

HO 251 HORTICULTURE THEORY (7-0-7). Landscape maintenance. Plant identification and uses. Landscape design, turf management, and shade tree identification and installation.

HO 252 HORTICULTURE THEORY (7-0-7). Principles of Landscape Design. Horticulture power machines and maintenance of tillers, mowers, shredders, construction design, nursery production, and garden center management.

HO 262 OCCUPATIONAL RELATIONS (2-0-2). Course is designed to enable a student to become skilled in dealing effectively with people and for applying, getting, maintaining and advancing in employment. One semester course.

HO 271 INDIVIDUAL PROJECTS (3-0-3). Providing the opportunity for the student to apply all his prior education in planning, developing, and completing a unique, practical horticulture project.

Industrial Environmental Technician Program

Associate of Applied Science

This double major option combines the Industrial Mechanics/Automation and Refrigeration, Heating and Air Conditioning curricula. The required general education coursework 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 Certificate of Completion that is available for each respective program is retained. The AAS Degree program is an option beyond the Certificate of Completion level.

SUBJECTS

<table>
<thead>
<tr>
<th>SUBJECTS</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Air Conditioning Lab RH 121-122</td>
<td>5</td>
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</tr>
<tr>
<td>Air Conditioning Theory RH 141-142</td>
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<td>10</td>
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<tr>
<td>Occupational Relationships RH 262</td>
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</table>

- Maintenance Welding Tech IM 101 | 3 |
- Maintenance Machine Fund IM 102 | 3 |
- Electromechanical Systems IM 114 | 3 |
- Electromechanical Systems IM 115 | 3 |
- Basic Fluid Power Operations-Pneumatics IM 124 | 3 |
- Basic Fluid Power Operations-Hydraulics 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 |

*IM 262 OR RH 262 required for AAS Degree.

Industrial Mechanics/Automation—Nine Month Program

Certificate of Completion

Instructor: Bob Allen

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.

<table>
<thead>
<tr>
<th>SUBJECTS</th>
<th>1st SEM</th>
<th>2nd SEM</th>
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<tbody>
<tr>
<td>Maintenance Welding Technology IM 101</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Maintenance Machine Fundamentals IM 102</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Electromechanical Systems IM 114</td>
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</tr>
<tr>
<td>Electromechanical Systems IM 115</td>
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</tr>
<tr>
<td>Basic Fluid Power Operations-Hydraulics IM 124</td>
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</tbody>
</table>

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 20 for definition of course numbering system

IM 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.

IM 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 machine) as are required to effectively service or repair increasingly sophisticated industrial devices. Preventive maintenance techniques utilizing this equipment are covered.

IM 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, troubleshooting, and maintenance of these systems. Test meter usage is stressed.

IM 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 circuitry is given using modern testing equipment.

IM 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.

IM 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.

IM 135 INDUSTRIAL MECHANICAL LABORATORY (0-20-5)(F). Laboratory experiences key 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, electromechanical systems are enhanced by computer assistance where applicable.

IM 155 INDUSTRIAL MECHANICAL LABORATORY (0-20-5)(S). Laboratory experience key 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, electromechanical systems enhanced by computer assistance where applicable.

IM 162 INDUSTRIAL TECHNOLOGY COMMUNICATIONS (3-0-2)(F). Computer/numerical control literacy for the Industrial Technician. Problem solving with the Hewlett-Packard HP41 CV/IL System. Demonstrations of programming and operating techniques are given the student for controlling/communicating with automated production equipment.

IM 262 OCCUPATIONAL RELATIONS (2-0-2)(S). Course is designed to enable a student to become skilled in dealing effectively with people in an industrial environment. Communication and writing skills for applying for, obtaining, retaining and advancing in employment are offered.

Machine Shop—Two Year Program

Associate of Applied Science Degree

Instructors: Gus Glassen, Don Wertman

Boise State University offers a specialized Machine Shop program for students desiring to become machine tool operators. Students receive instruction in the set-up and use of all basic machines including engine lathes, milling machines, grinders, surface grinders, computer numerical control machines and bench work 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.

Students who choose not to take CM 111 and two approved electives will receive a Diploma in Machine Shop.

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course Offerings</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Machine Shop Laboratory MS 103, 104</td>
<td>6</td>
<td>6</td>
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<tr>
<td>Communication Skills MS 111</td>
<td>3</td>
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<tr>
<td>Related Blueprint Reading MS 126, 127</td>
<td>2</td>
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</table>
Basic Math MS 132 ........................................ 2
Machine Shop Theory MS 153, 154 ........................ 3
Occupational Relationships MS 262 .......................... 2
Fundamentals of Speech Commun CM 111 ...................... 3
TOTAL ................................................. 16 18

**SOPHOMORE YEAR**

Advanced Machine Shop Lab MS 203, 204 ...................... 6
Fund Computer-Aided Draft & Design MS 211 .............. 1
Blueprint Read & Layout for Machinist MS 223 .......... 1
Total Design for Manufacturing MS 221 ...................... 2
Advanced Math MS 233, 234 .................................. 6
Advanced Machine Shop Theory MS 253, 254 .......... 2
Electives (on approval) ....................................... 3
TOTAL ................................................. 19 19

**Course Offerings**

*See page 20 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, horiztontal 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). 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 sketching 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 153.

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, 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 skills in the use of inspection and layout tools, engine lathe, vertical milling machine, 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 hard wiring of computer numerically controlled parts and computer numerically controlled tools as applied to the machinist 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)(S). 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 geometry and trigonometry. PREREQ: MS 233.

MS 253 ADVANCED MACHINE SHOP THEORY (2-0-2)(F). The advanced programming of computer numerical controlled 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 workmen's compensation laws, CPR, and first aid skills.

**Marketing—Mid-Management—Two Year Program**

**Associate of Science Degree**
**Instructor: Richard Lane**

**FRESHMAN YEAR**

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<tr>
<th>Course Offerings</th>
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<tr>
<td>Introduction to Business GB 202</td>
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<tr>
<td>Math or Information-Decision Science Elective</td>
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<td>Salesmanship MM 101</td>
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<tr>
<td>Introduction to Financial Accounting AC 205</td>
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<tr>
<td>Principles of Macroeconomics EC 206</td>
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<tr>
<td>Mid-Management Practicum MM 100</td>
<td>2</td>
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<tr>
<td>Elements of Management MM 105</td>
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<tr>
<td>Fundamentals of Speech Comm CM 111</td>
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**SOPHOMORE YEAR**

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<th>2nd SEM</th>
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<tbody>
<tr>
<td>Consumer Marketing MM 201</td>
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<tr>
<td>Principles of Microeconomics EC 205</td>
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<tr>
<td>Principles of Advertising MM 203</td>
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<tr>
<td>Report Writing MM 205</td>
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<tr>
<td>Intro/Microcomputer Appl In Retailing MM 250</td>
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<tr>
<td>Retail Merchandising MM 204</td>
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<tr>
<td>General Psychology P 101</td>
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<tr>
<td>Mid-Management Practicum MM 100</td>
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<td>Electives</td>
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<tr>
<td>TOTAL</td>
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**NOTE:** The Marketing: Mid-Management program is also listed in this Catalog in the College of Business section.

**Practical Nursing—Eleven Month Program**

**Certificate of Completion**
**Instructors:** Leanne Borman, Dessa Lagerstrom, Donna McCulloch, 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, newborn mothers and infants, rehabilitation and remotivation 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-five 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**
- **Anatomy and Physiology for Prac Nurs PN 102**
- **Medical-Surgical Nursing Clinical PN 104**
- **Nutrition and Diet Therapy PN 105**
- **Emergency Nursing Concepts PN 106**
- **Pharmacology for Practical Nursing PN 107**
- **Pharmacology Clinical PN 108**
- **Geriatric Nursing PN 109**
- **Geriatric Clinical PN 110**
- **Maternal and Infant Clinical PN 112**
- **Pediatric Clinical PN 113**
- **Fundamentals of Nursing PN 114**
- **Clinical Foundations PN 115**
- **Community Health and Microbiology PN 120**
- **Medical-Surgical Nursing I PN 121**
- **Medical-Surgical Nursing II PN 122**
- **Growth and Development PN 123**
- **Maternal and Infant Health PN 124**
- **Pediatric Nursing PN 125**
- **Mental Health and Mental Illness PN 126**
- **Intro Comp Appl Occup Relat PN 180**

**Certificate of Completion**

Instructor: Bob Castleberry

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 Certificate of Completion is issued upon satisfactory completion of the program. All students must meet the Department of Transportation’s physical standards and have a Department of Motor Vehicles driver’s record check.

**Subjects**

- Basic Operation TD 100 3
- Safe Operating Procedures TD 105 3
- Advanced Operating Practice TD 110 2
- Vehicle Maintenance TD 115 4
- Transportation Systems Management TD 120 3

**TOTAL** 15

**Course Offerings**

See page 20 for definition of course numbering system.

**Professional Truck Driving Program—Ten Week Program**

**Course Offerings**

See page 20 for definition of course numbering system.

**Ten Week Program**

**Certificate of Completion**

Instructor: Bob Castleberry
Refrigeration, Heating and Air Conditioning—Nine Month Program

Certificate of Completion
Instructor: Alan Messick

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.

SUBJECTS

- Refrigeration-Nine Month laboratory experience, theory classes and related subjects, designed to help practitioners, students will cover all phases of skills and knowledge necessary to secure, maintain and advance in employment. It also helps students deal with stress and become more efficient in time management.

Course Offerings

- Fall
  - Air Conditioning Lab RH 121-122: 5
  - Air Conditioning Theory RH 141-142: 10
  - Occupational Relationships RH 262: 2
  - Total: 17

- Spring
  - Air Conditioning Lab RH 121-122: 5
  - Air Conditioning Theory RH 141-142: 10
  - Occupational Relationships RH 262: 2
  - Total: 17

Respiratory Therapy Technician

Certificate of Completion
Instructors: David Nuenenberg, Dr. Charles Reed, Denise Voigt

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.

The program is fully accredited by the Council on Allied Health Education and Accreditation of the American Medical Association.

A Certificate of Completion is awarded upon completion of the program.

FALL SEMESTER

- Anatomy & Physiology RS 111: 6
- Basic Science RS 112: 2
- Clinical Assessment RS 113: 2
- Gas Therapy Theory RS 114: 2
- Gas Therapy Lab RS 115: 2
- Intro to Respiratory Therapy RS 116: 2
- Communications RS 117: 1
- Intermittent Positive Pressure Breathing RS 118: 1
- Microbiology RS 119: 1
- Pharmacology RS 120: 3
- Clinical Practicum I RS 121: 2
- Total: 22

SPRING SEMESTER

- Cardiopulmonary Pathophysiology RS 151: 5
- Cardiopulmonary Resuscitation RS 152: 2
- Electrocardiography RS 153: 1
- Mechanical Ventilation Theory RS 154: 1
- Mechanical Ventilation Lab RS 155: 1
- Pulmonary Function Theory RS 156: 2
- Pulmonary Function Lab RS 157: 2
- Clinical Practicum II RS 158: 2
- Total: 18

SUMMER SEMESTER

- Clinical Lecture Series RS 175: 3
- Respiratory Care Review RS 176: 5
- Clinical Practicum III RS 179: 8
- Total: 16

Course Offerings

See page 20 for definition of course numbering system

- RS 111 ANATOMY AND PHYSIOLOGY (6-0-6)(F). A study of the body systems, functions and their interrelationships with a focus on the cardiovascular systems. 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 (2-0-2)(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 116 INTRODUCTION TO RESPIRATORY THERAPY (1-0-1)(F). The introduction to clinical practice, basic patient care and charting. 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 118 INTERMITTENT POSITIVE PRESSURE BREATHING (1-0-1)(F). A study and application of intermittent positive breathing therapy and including basic, indications, contraindications, advantages, and hazards. 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 (0-8-2)(F). The student will obtain experience under the direct supervision of clinical instructors in community medical facilities. PREREQ: PERM/INST.
- RS 151 CARDIOPULMONARY PATHOPHYSIOLOGY (4-0-4)(S). A study of the cardiopulmonary systems and their effects on other body systems, normal physiology, and pathological entities including the role of respiratory care in certain disease states. PREREQ: PERM/INST.
- RS 152 CARDIOPULMONARY RESUSCITATION (1-4-2)(S). A study of the biologically dead patient, the physiology of cell, tissue, organ and system death. C.P.R. techniques, airway management, and intubation will be practiced. Students will meet American Heart Association CPR certification. PREREQ: PERM/INST.
- RS 153 ELECTROCARDIOGRAPHY (1-0-1)(S). 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 (1-0-1)(S). A comprehensive study of ventilators, including the mechanical and physiological aspects of long-term ventilatory support, and care of the patient on life support systems. PREREQ: PERM/INST.
- RS 155 MECHANICAL VENTILATION LAB (0-4-1)(S). Lab practice with models of ventilators including special techniques and augmented by clinical experience. PREREQ: PERM/INST.
- RS 156 PULMONARY FUNCTION THEORY (2-0-2)(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.
Small Engine Repair—Nine Month Program

(Recreational Vehicles)
Certificate of Completion
Instructor: Jeff Schroeder

The Small Engine Repair Program will include classroom, math, and shop experiences directed to maintaining and repairing of a variety of two and four cycle engines used on portable power equipment, e.g., lawn mowers, outboard motors, chain saws, rotary tillers and recreational vehicles. The instructional units will emphasize the complete repair of all types of small engine equipment.

SUBJECTS

<table>
<thead>
<tr>
<th>SUBJECTS</th>
<th>Fall</th>
<th>Spring</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 CB 129</td>
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<td>1</td>
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<tr>
<td>Occupational Relationships SE 181</td>
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</tr>
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</table>

*See Core Block Mechanics for course description.

Course Offerings

See page 20 for definition of course numbering system

ST SMALL ENGINE REPAIR

SE 101 SMALL ENGINE LABORATORY (0-33-8F). Includes application and instruction in repair and overhaul of small engine units with emphasis on lawn and garden equipment.

SE 102 SMALL ENGINE LABORATORY (0-32-8S). Repair and maintenance of recreational vehicles, motorcycles, snowmobiles and outboard marine engines.

SE 141 SMALL ENGINE THEORY (6-6-6F). Provides a basic understanding of internal combustion engine and principles of two and four cycle engines. Fundamentals in carburetion and electrical systems are covered.

SE 142 SMALL ENGINE THEORY (6-6-6S). Includes instruction in power train, clutching, trouble shooting, fuel systems, tune-up, marine engines and chain saws.

SE 181 OCCUPATIONAL RELATIONS (1-6-1X). Course is designed to enable a student to become skilled in dealing effectively with people and for applying, getting, maintaining and advancing in employment.

Surgical Technology—Nine Month Program

Certificate of Completion
Instructor: Sharon Gollick

The Surgical Technology Program, in cooperation with two local hospitals, is 9 months in length and consists of competency-based classroom, laboratory and clinical instruction. The program is accredited by the American Medical Association, Committee on Allied Health and Education and Accreditation. A Certificate of Completion is awarded upon graduation from the program. Students are then eligible to take the National Certification Exam for Surgical Technologists.

Course offerings include instruction and practice in operating room techniques, infection: process, prevention and control, care of surgical patient and human anatomy and physiology. Clinical experience is supervised hands-on hospital experience in scrubbing for a variety of surgical procedures. Failure to meet both the theory and clinical areas may result in termination from the program.

Small Engine Repair / Surgical Technology / Water/Wastewater Technology

Classes begin Fall Semester only.

<table>
<thead>
<tr>
<th>Course Offerings</th>
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<tbody>
<tr>
<td>Operating Room Techniques ST 100</td>
</tr>
<tr>
<td>Sterilization &amp; Disinfection ST 102</td>
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<tr>
<td>Preparation of Surgical Patient ST 110</td>
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<tr>
<td>Surgical Procedures ST 111</td>
</tr>
<tr>
<td>Peri Operative Care Surgical Patient ST 116</td>
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<tr>
<td>Advanced Clinical Practice ST 132</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology for Surgical Tech ST 140</td>
</tr>
<tr>
<td>Intro Comp Appl Occup Rel ST 262</td>
</tr>
</tbody>
</table>

TOTAL 18

Course Offerings

See page 20 for definition of course numbering system

ST SURGICAL TECHNOLOGY

ST 100 INTRODUCTION AND BASIC SCIENCES (3-0-3SP). Includes modules: (1) The Health Care Team and Its Language; (2) The Evolution of Health Care, Medical Moral and Legal responsibilities; (3) The Operating Room Suite, (4) Principles of Asepsis; (5) Introductory to Pharmacology; (6) Introductory to Oncology; (8) Disease Conditions; (9) Diagnostic Procedures; (10) Communication in Surgical Technology, including introduction to computers.

ST 101 OPERATING ROOM TECHNIQUES (3-3-4SP). Includes modules: (1) Safety and Economy in the Operating Room; (2) Duties of the Scrub and Circulating Technician; (3) The Surgical Hand Scrub, Gowning and Gloving; (4) Draping Techniques; (5) Sutures and Needles; (6) Sponges, Dressings, Drains, Care of Specimens; (7) Instruments and Special Equipment.

ST 102 STERILIZATION AND DISINFECTION (1-1-1XS). Includes modules: (1) Introduction to Microbiology—The Microbe; (2) Introduction to Microbiology—The Body’s Defenses; (3) Injury, Wound Healing and Hemostasis; (4) Infection—The Process, Prevention and Control; (5) Sterilization and Disinfection Methods.

ST 110 PREPARATION OF THE SURGICAL PATIENT (2-4-3FX). The study and practice designed to enable the student to become skilled in assisting with the preparation, transportation, positioning and anesthesia of the surgical patient.

ST 111 SURGICAL PROCEDURES (6-4-7S). Modules: (1) General Surgical Procedures; (2) General Abdominal Procedures; (3) Orthopedic Surgery; (4) Obstetric and Gynecological Procedures; (5) Genitourinary and Transplant Surgery; (6) Plastic Surgery; (7) Ophthalmic Surgery; (8) Ear, Nose, Throat, Oral Surgery; (9) Neurosurgery; (10) Microsurgery; (11) Cardiovascular and Thoracic Surgery; (12) Pediatric and Geriatric Surgery. Each of the modules includes: a) Asepsis; b) Ethics, procedures, special considerations and the drugs used.

ST 116 PERI OPERATIVE CARE OF SURGICAL PATIENT (1-2-1XS). The study of patient care in recovery room, outpatient surgery, emergency room procedures.

ST 132 SURGERY CLINICAL PRACTICE (0-36-9S). Clinical experience in surgery, scrubbing, and orientation to circulating.

ST 140 ANATOMY AND PHYSIOLOGY FOR SURGICAL TECHNOLOGY (6-0-6SF). A study of the normal structure and function of the body cells, tissues, organs and systems, including interrelationship of body systems.

ST 262 INTRODUCTION COMPUTER APPLICATION TO OCCUPATIONAL RELATIONS (2-4-2S). A study of job seeking skills, written communication, interpersonal relations, and hands-on use of computer technology to complete personal data packet.

Water/Wastewater Technology—Eleven Month Program

Certificate of Completion
Instructor: Gerald Dennis

The Water/Wastewater Technology Program is designed to prepare a student for employment as an entry level water/wastewater treatment plant operator. The program covers all phases of treatment plant operations, related math and sciences, maintenance, public relations, communications and report writing. Hands-on experience is provided when the student works at an area water or wastewater facility.

Subjects

<table>
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<th>Course Offerings</th>
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<tr>
<td>Water/Wastewater Mechanical Lab I WW 110</td>
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<td>Water/Wastewater Mechanical Lab II WW 111</td>
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<tr>
<td>Water/Wastewater Bio-Chem Lab I WW 120</td>
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<td>Water/Wastewater Bio-Chem Lab II WW 121</td>
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<td>-</td>
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<tr>
<td>Water/Wastewater Math I WW 133</td>
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<tr>
<td>Water/Wastewater Math II WW 134</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Water/Wastewater Plant Operations I WW 153</td>
<td>3</td>
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</table>

TOTAL 18
Course Offerings

See page 20 for definition of course numbering system

**W W W A T E R WASTEWATER TECHNOLOGY**

WW 110 WATER/WASTEWATER MECHANICAL LAB I (3-8-5XF). Introduction to and general use of hand tools, power tools, and bench mounted tools. Nomenclature of the various types of pumps, installation of packing and mechanical seal and ball valve pressure test. Balancing of pumps, clarifiers and other mechanical devices used in water/wastewater treatment.

WW 111 WATER/WASTEWATER MECHANICAL LAB II (3-8-5XF). Hands on assembly and disassembly of the various pieces of machinery used in the treatment processes. Overview of the types and abilities of pumps and the purpose of the use of pumps in the operation of plant equipment. Trouble shooting of equipment will be emphasized. PREREQ: WW 110.

WW 120 WATER/WASTEWATER BIO-CHEM LAB I (3-8-5XF). Introduction to standard laboratory equipment, operator maintenance of laboratory equipment, laboratory safety procedures and practices. Basic water and wastewater testing will be performed.


WW 133 WATER/WASTEWATER TECHNICAL MATHEMATICS I (3-0-3XF). Calculations of length, area and volume of various shapes of tanks, channels, and containers. Calculations of flow rates, velocity, force/pressure and hydraulic heads, detention times, surface loading and other calculations relating to those treatment processes will be covered.

WW 134 WATER/WASTEWATER TECHNICAL MATHEMATICS II (3-0-3XF). Intermediate mathematics covering algebra, chemistry calculations, and horsepower calculations to include efficiency curves to determine power ratings and electrical requirements as related to the process. PREREQ: WW 133.

WW 135 WATER/WASTEWATER TREATMENT PLANT OPERATIONS I (3-0-3XF). Introduction to water treatment plant operations, including well construction, pretreatment, operation of distribution systems, and plan operation including general flow formation and the use of chemical addition, sedimentation, clarification, and storage. Wastewater collection systems, pretreatment, primary sedimentation, along with secondary treatment processes including trickling filters, aerobic biological filters, rotating biological contactors, oxidation ditches and lagoon operation and chlorination.

WW 154 WATER/WASTEWATER TREATMENT PLANT OPERATIONS II (3-0-3XF). Advanced treatment processes including coagulation, flocculation, sedimentation, softening, stabilization, fluoridation, chlorination, dechlorination, and secondary treatment processes including a heavy emphasis on activated sludge control. Aerobic and anaerobic digestion operation and the disposal of the solid waste will be discussed. Safety in and around tanks, digesters, and collection systems will be emphasized extensively along with street barricades and street work safety. Plant interaction, report writing, budget preparation. PREREQ: WW 153.

WW 161 WATER/WASTEWATER IN PLANT PRACTICUM II (3-0-3XSU). Supervised experience in area water and/or wastewater facilities. Students gain experience in all phases of treatment in a variety of facilities and with several processes.

WW 262 OCCUPATIONAL RELATIONS (2-0-2XS). Course is designed to enable a student to become skilled in dealing effectively with people and for applying, getting, maintaining and advancing in employment.

Welding and Metals Fabrication—Eleven Month Program

**Certificate of Completion**

**Instructor: Ron Baldner**

The Welding/Metal Fabrication Program provides the student with instruction, practical experience, and related theory in shielded metallic arc welding (SMAW), gas metal arc welding (GMAW/MIG), flux cored arc welding (FCAW), gas tungsten arc welding (GTAW/WTG), oxy-acetylene, oxy-fuel, and gas welding, plasma arc cutting of ferrous and non-ferrous metals, and the use of carbon arc cutting equipment. The first 9 months will be basic to intermediate welding. The summer session will be a two-tract design. First, the design will permit students who need more time to satisfy requirements on performance based objectives for the basic portion of the program; and second, to permit the advanced student to further their skills, and to concentrate in more technical areas.

The program is designed to produce skilled workers in the areas of welding and blueprint interpretation as well as layout and fitting. The student will do all lab work based upon performance based objectives. Students will utilize all tools and equipment in their trade with a continual emphasis on safety.

**SUBJECTS**

**Fall** | **Spring** | **Summer**
---|---|---
Welding Lab W 106-107 | 5 | 5 | 6
Welding Lab W 108 | 6 | 6 | 6
Blueprint Reading & Layout W 125-126 | 3 | 3 | 3
Welding Theory W 155-156 | 4 | 1 | 7
Intro Microcomputers W 157 | 1 | 1 | 1
Occupational Relations W 262 | 2 | 2 | 2
TOTAL | 15 | 15 | 15

Course Offerings

See page 20 for definition of course numbering system

**W W E L D I N G**

W 106 WELDING LABORATORY (6-20-5XF). 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 (6-20-5XS). This course will allow the student to apply those skills discussed in the WELDING THEOREY 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 (6-24-6XSU). 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 operation procedures is given. PREREQ: W 107 or PERM/INST.

W 111 WELDING COMMUNICATIONS (3-0-3XF). 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 (3-0-3XF). 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 developments, and the related math required to accomplish the above listed developments.

W 126 BLUEPRINT READING AND LAYOUT (7-0-7XS). This course involves using advanced bluepring 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 (4-0-4XF). The purpose of this course is to provide the student with a practical working knowledge of the following topics:


W 156 WELDING THEORY (1-0-1X5). 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.

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

W 262 OCCUPATIONAL RELATIONS (2-0-2XS). An examination of occupational relations. Focuses on job seeking skills, employee and employer relations, social security, job safety laws and workmen's compensation laws, Cardio Pulmonary Resuscitation and First Aid.
Graduate College

Dean: Kenneth M. Hollenbaugh, Ph.D.
Math/Geology Building, Room 124
Telephone (208) 384-3647

Graduate Program Coordinators

Business: David F. Groebner, Ph.D., Professor, College of Business
Communication: Robert R. Boren, Ph.D., Chairperson and Professor of Communication
Education: Kenneth L. Hill, Ed.D., Associate Dean, College of Education
English: Dale K. Boyer, Ph.D., Professor of English
Exercise & Sports Studies: Linda M. Petlichkoff, Ph.D., Assistant Professor of Health, Physical Education, and Recreation
Geology: Walter S. Snyder, Ph.D., Associate Professor of Geology and Geophysics
Geophysics: John R. Pelton, Ph.D., Associate Professor of Geology and Geophysics
History: Errol D. Jones, Ph.D., Associate 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 Belfy, 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

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. Students should contact the Graduate Admissions Office for clarification of this policy.

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 Arts in Communication, 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 in cooperation with Idaho State University, Master of Science in Geophysics, and a Master of Science in Instructional/Performance Technology.


The Master of Public Administration Degree Program has four areas of emphasis: (1) General Public Administration, (2) Human Services Administration, (3) Criminal Justice Administration, and (4) Environmental and Natural Resources Administration.

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 the graduate programs and supervise graduate students. Members of the graduate faculty are reviewed on a three year cycle to document their participation in graduate education activities.

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 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 specific 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 advisement, 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 towards 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 through the Graduate Evaluators Office. Determination of what constitutes a senior for the purposes 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 his or her senior year. However, as these credits will not prejudice his or her graduation during that academic year. The necessary Senior Permit Forms are available at the Graduation Evaluators Office. Credits earned in this manner are "reserved" to count toward a graduate degree at BSU. (MBA courses are excluded from this policy.)

Scholarship Requirements
Academic excellence is expected 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 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 coursework 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 chairperson 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 to be granted this requirement. The requirement does not apply to students enrolled in any inter-institutional cooperative graduate program offered jointly by BSU and the other Idaho universities.

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. All appropriate graduate work taken through inter-institutional cooperative graduate programs, if approved by the college fielding the program, can be accepted as residence credit.

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 the examination office. Examination students are not required to take a predictive examination.

Students wishing to pursue graduate study in Business Administration should contact the Office of the Dean, College of Business, Boise State University, or the Graduate Admissions Office to secure the forms necessary to make application for taking the predictive examination called the GMAT. 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 wishing to pursue graduate study in Geology, Geophysics, Interdisciplinary Studies, Public Administration, or Raptor Biology 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 College. Each change in program must be completed by filing a new Program Development Form showing the changes from the previous form.

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 and graduation as soon as they have completed twelve 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.

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 is 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 from 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: Courses numbered 500 and above are intended primarily for graduate students. Some graduate courses have a standard numbering system throughout the university.

University-wide Numbers of Graduate Offerings:

- 580-589 Selected Topics
- 590 Practicum
- 591 Project
- 592 Colloquium
- 593 Research and Thesis
- 594 Extended Conference or Workshop (graded A through F)
- 595 Reading and Conference
- 596 Directed Research
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 500 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 118. This form, with all appropriate signatures, is to be submitted to the Graduation Office, Administration Building, Room 102 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

College of Business

Objectives

The objective of the Boise State University program leading to the graduate degree is to prepare candidates for top level administrative positions in their chosen field. The MBA degree emphasizes the traditional approach of preparing students for general management; with a common body of functional knowledge given to all students. Once a student satisfies the functional core of courses, electives are available for achieving a minor degree of concentration.

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.

In addition to the application requirements of the Graduate College, all MBA applicants should submit:

1. a demonstration of written communication skills (particulars available from the MBA Program Coordinator); and
2. two letters of reference, one, preferably, from an academic source, and
3. current professional resume.

Specific Prerequisites for Applicants: All applicants must meet the following undergraduate requirements or must fulfill these requirements prior to enrolling in advanced 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 the October or November test date.)

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 previous college record, score on the GMAT, personal goals, leadership potential, and work experience.
3. A GMAT score of 475 and a cumulative GPA of 2.9 (C=2.0) are generally considered minimal.
4. For foreign students a score of 550 on the TOEFL, or its equivalent, is necessary.
5. Two years of significant work experience is expected but may be waived if the entrance committee determines the student will make a substantial contribution to the program.
6. A minimum GMAT score of 600 is required of students without two years significant work experience.
7. A student must be admitted to the MBA program in order to take MBA classes.
8. 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 30

Degree Requirements

The MBA Degree

The Master of Business Administration degree consists of a maximum 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 27
Advanced Courses 21
Electives 9

Depending upon their undergraduate coursework, students may select 3-6 credit hours from the 400 level "G" 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 20 for definition of course numbering system

MBA—Course Descriptions

FOUN DATION COURSES

These courses assume that the student has had no previous coursework 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 X 3). 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 X 3). 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 X 3). Concepts and techniques of corporate institutional and investment finance are examined. These include time value of money; corporate banking relationships, current assets management, and efficient markets. PREREQ: AC 511, PR 513.
GB 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 supports a manager's duties to the company, 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 data-base, MIS, the impact of information systems on management and the management decision process, and the actual management and control of information systems. PREREQ: IS 514 or equivalent computer work experience.

MG 528 ORGANIZATIONAL THEORY AND 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.

MK 529 MARKETING MANAGEMENT (3-0-3)(S). This course includes a comprehensive examination of the activities and models used in marketing. It also includes identifying and interpreting buyers' needs, market segmentations, and designing a balanced marketing program.

PR 513 BUSINESS STATISTICS (3-0-3)(F). This course examines 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 and 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 dependency, and mergers and acquisitions analysis. 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 strategy, 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 in 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). An analysis and integration of marketing concepts and models with organizational and environmental constraints. Emphasis on identifying opportunities, problems, selection, and development of alternatives. Also formulation and implementation of strategies, plans, and programs. Consumer, industrial, institutional and international marketing and related issues. PREREQ: MK 529 or equivalent.

PR 533 DECISION ANALYSIS (3-0-3). 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 requirements 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). Contribution of economic analysis to the justification, design and implementation of economic policy. The issues 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). An overview of (1) the international business environment; (2) country characteristics and conditions affecting firms that conduct business overseas; and (3) long-term decisions about marketing, finance and personnel, and other functions.

MG 541 HUMAN RESOURCE MANAGEMENT (3-0-3)(F). Effective management of human resources including discussion of the supervisory processes conducive to reducing labor costs and increasing productivity. Special attention is given 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. Covers 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 581 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 "G" 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)(S)
EC 421G-422G ECONOMETRICS (3-0-3)(F,S)
FI 410G WORKING CAPITAL MANAGEMENT (3-0-3)(S)
FI 411G CAPITAL BUDGETING AND PLANNING (3-0-3)(S)
FI 420G MANAGEMENT OF FINANCIAL INSTITUTIONS (3-0-3)(F,S)
FI 421G DECISION PROCESSES IN BANKING (3-0-3)(S)
FI 450G INVESTMENT MANAGEMENT (3-0-3)(F)
FI 451G FRONTIERS IN FINANCIAL MARKETS (3-0-3)(S)
GB 441G GOVERNMENT AND BUSINESS (3-0-3)(F,S)
MK 415G MARKETING RESEARCH (3-0-3)(F)

Master of Arts in Communication

College of Social Sciences and Public Affairs

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
Course Offerings

See page 20 for definition of course numbering system

CM Course Descriptions

GRADUATE

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 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
CM 581 SELECTED TOPICS — COMMUNICATION RESEARCH METHODOLOGY
CM 582 SELECTED TOPICS — COMMUNICATION EDUCATION
CM 583 SELECTED TOPICS — COMMUNICATION TECHNOLOGY
CM 584 SELECTED TOPICS — JOURNALISM AND MASS COMMUNICATION
CM 585 SELECTED TOPICS — COMMUNICATION LAW AND POLICY
CM 586 SELECTED TOPICS — COMMUNICATION AND PUBLIC AFFAIRS
CM 587 SELECTED TOPICS — ORGANIZATIONAL COMMUNICATION
CM 588 SELECTED TOPICS — INTERPERSONAL COMMUNICATION
CM 589 SELECTED TOPICS — COMMUNICATION HISTORY
CM 598 GRADUATE SEMINAR (1-4.5).

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
CM 598 SEMINAR

Master of Arts or Science in Education

College of 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 chairperson of the candidate's advisory committee is listed in the letter of acceptance to the applicant. Candidates should contact the assigned committee chairperson (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 chairperson 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 chairperson 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 a competency identified in 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 respective departments: Art, Earth Science (Department of Geology/Geophysics), 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.

TE 570 Graduate Core-Issues in Education ........................................ 3
TE 563 Conflicting Values in Education ............................................ 1

Elective Courses (Select two from the following)

TE 561 Law for the Classroom Teacher ............................................ 1
TE 562 School Organization and Finance ......................................... 1
TE 564 Instructional Techniques—Secondary School ......................... 1
TE 565 Interpreting Educational Research ....................................... 1
TE 567 Learning Theory and Classroom Instruction ........................... 1
TE 568 Techniques of Classroom Management .................................. 1
TE 569 Testing and Grading ............................................................ 1
TE 573 Instructional Techniques—Elem School ................................ 1
TE 578 Parents in the Educational Process ..................................... 1

TOTAL .............................................. 6

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

Master of Arts in Education

Department of Teacher 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.

OPTION I

(Thesis/Project)

Graduate Core ................................................................. 6
TE 551 Fundamentals of Education Research ................................ 3
TE 591 or TE 593 Thesis or Project ......................................... 6
Approved electives and specific requirements ............................ 18

TOTAL ................................................................. 33

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
TE 559 Philosophy of Education ................................. 3
TE 551 Fundamentals of Educational Research
NOTE: Students selecting Option II are required to 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 and specific requirements ........ 12
TOTAL ......................................................... 18

A Comprehensive Written Examination is required at the end of the coursework. This examination is to be tailored by each candidate's committee specifically for that candidate following guidelines established by the committee. After the candidate has written the examination, the committee will meet with the candidate to review the examination prior to final approval or rejection.

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 ............................................ 6
5. Elective options (choose I or II, below)
   I. Graduate Core .................................................. 6
   II. Reading Electives (choose I or II below)
   III. Comprehensive Written Examination
   TE 559 Philosophy of Education ................................ 3
   TE 551 Fundamentals of Educational Research
   or
   Total 9

   Early Childhood Emphasis
   1. Graduate Core .................................................. 6
   2. TE 543 Early Childhood: Readings ............................ 3
   3. 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
   4. TE 590 Practicum: Early Childhood .......................... 3
   5. Option electives (choose I or II below)
      I. Thesis/Project
      TE 559 Philosophy of Education ................................ 3
      or
      TE 551 Fundamentals of Educational Research
      or
      Total 9

   Reading Emphasis
   For Those Primarily Responsible for Elementary School Instruction
   1. Graduate Core .................................................. 6
   2. TE 501 Foundations of Reading Instruction .................. 3
   3. TE 502 Diagnosis & Correction of Read. Prob.—Elem ....... 3
   4. TE 504 Seminar in Reading Education ......................... 3

   Master of Arts or Science in Education

   5. Option electives (choose I or II below)
      I. Thesis/Project
      TE 559 Philosophy of Education ................................ 3
      or
      Note: Completion of the required courses in the Master of Arts in Education, Reading emphasis may not qualify the candidate for a reading endorsement for state certification. With the assistance of his or her advisor, the candidate can select appropriate electives to meet certification requirements.

   For Those Primarily Responsible for Secondary 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 I or II below)
      I. Thesis/Project
      TE 559 Philosophy of Education ................................ 3
      or
      TE 551 Fundamentals of Educational Research
      or
      Total 9

      Special Education Emphasis
      For Students Interested in an Emphasis in
      Educationally Handicapped and/or Severe Retardation

      Educationally Handicapped:
      1. Graduate Core .................................................. 6
      2. TE 514 Counseling/Consulting Skills for Educators .......... 3
      3. TE 515 Fundamentals of Inst Design in Spec Educ .......... 3
      4. TE 523 Emotionally Disturbed Child in the Classroom ...... 3
      5. TE 524 Student with Exceptionalities: Spec Educ .......... 3
      6. TE 534 Issues and Trends in Special Educ ................. 3
      7. Option electives (choose I or II below)
   I. Thesis/Project
   TE 559 Philosophy of Education ................................ 3
   or
   TE 551 Fundamentals of Educational Research
   or
   Total 9

   For Those Primarily Responsible for Elementary School Instruction
   1. Graduate Core .................................................. 6
   2. TE 501 Foundations of Reading Instruction .................. 3
   3. TE 502 Diagnosis & Correction of Read Prob.—Elem ....... 3
   4. TE 504 Seminar in Reading Education ......................... 3

   For Those Primarily Responsible for Secondary 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 I or II below)
   I. Thesis/Project
   TE 559 Philosophy of Education ................................ 3
   or
   TE 551 Fundamentals of Educational Research
   or
   Total 9
The Master of Science Degree in Education with an emphasis in Educational Technology is intended to prepare students to work in educational settings requiring expertise in improving performance, design or a thesis investigating an important and timely issue.

Requirements:
1. Meet the admission standards of graduate study (G.P.A. of 2.75 or 3.00).
2. A candidate must meet all program requirements prescribed by the state University.
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.

Program Requirements
1. TE 582 Instructional Theory ........................................... 3
2. TE 538 Instructional Courseware Design .................................. 3
3. IP/TE 583 Selected Topics-Educational Technology .......................... 3
4. IP 520 Video Delivery Systems ........................................... 3
5. TE 591 Project or TE 593 Thesis ........................................... 6

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
   TE 551 Fundamentals of Educational Research .......................... 3
   TE 559 Philosophy of Education ........................................... 3
   TE 581 Curriculum Planning and Implementation .......................... 3
3. A minimum of 9 credits of content courses .............................. 9
4. Electives ............................................................................ 12

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

First Year

Second Year

Teaching Assignment

Third Year

Fourth Year

Fifth Year
This is not a degree or certification program. If, as a result of coursework 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 20 for definition of course numbering system

**P PSYCHOLOGY**

**Undergraduate**

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

P 421G PSYCHOLOGICAL MEASUREMENT (3-0-3)(F).

P 450G ADVANCED STATISTICAL METHODS (3-2-4)(S).

Graduate

P 502 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.

P 505 PERSONALITY DEVELOPMENT (3-0-3)(S). Critical consideration of the main personality theories, particularly those which emphasize current concepts regarding learning, perception and motivation. Study of the interaction of emotional and cognitive factors in personality development at different age levels is pursued. PREREQ: P 101. Offered on demand.

P 506 ADVANCED SOCIAL PSYCHOLOGY (3-0-3)(F/S). Theoretical and empirical approaches to explaining behavior in social contexts. The course will focus both on the individual level (internal factors such as attitudes, attributions, stereotypes, and self-perceptions, including those relevant to understanding psychopathology) and on the nature of social behavior in interactions (altruism, aggression, communication, influence, attraction, and intimacy). PREREQ: PERM/INST.

P 507 COGNITIVE PSYCHOLOGY (3-0-3)(F/S). The course will examine the fundamental principles of memory and thought, the experimental evidence to support these principles, and the theoretical perspectives used to understand them. Specific topics include pattern recognition, attention, memory, theories and processes, concepts and categorization, and problem solving. PREREQ: PERM/INST.

**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)(S).

TE 463G INFANT EDUCATION (3-0-3)(SU).

**Graduate**

TE 501 FOUNDATIONS OF READING INSTRUCTION (3-0-3)(F/S/SU). 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)(F/S). 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 be written that describes the course. PREREQ: TE 501 or PERM/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 or PERM/INST.

TE 504 SEMINAR IN READING EDUCATION (3-0-3)(F/S/SU). 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: TE 502 or TE 508 or permission of instructor.

TE 505 INDIVIDUAL TESTS & MEASUREMENTS (3-0-3)(S). An intense 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). This course is designed for the teacher of the required high school reading courses 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.

**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, phonology, and orthography.

**TE 513 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING ELEMENTARY SCIENCE (3-0-3)(S).** 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, parents and other professionals. Instruction will focus on developing skills to work with students who experience various social and emotional concerns relating to learning. Major areas 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 concepts and to effectively instruct special education children and adults. This course will include the theoretical and programmatic 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).** 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 recognition, 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)(S).** 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 classroom, libraries, and other settings. Odd years.

**TE 521 ELEMENTARY PHYSICAL EDUCATION ACTIVITIES (3-0-3)(S).** Methods and techniques for classroom and playground activities for physical education, curriculum development will be presented. Emphasis upon corrective physical education procedures will be given. Alternate years.

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

**TE 523 THE EMOTIONALLY DISTURBED CHILD IN THE CLASSROOM (3-0-3)(F).** This course is designed to assist teachers, counselors, and administrators in understanding the educational and psychological needs of the emotionally disturbed child. Emphasis is placed on developing skills in identifying emotional problems and planning the remedial steps needed for correction. PREREQ: PERM/INST.

**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 comparative relationship to existing values. The lifestyle of various minority groups and implications for education will be examined. Major topics include culturally different learner; (1) learning styles, (2) media, (3) process of change, (4) communication, influence, attraction, and intimacy). PREREQ: TE 421 or PERM/INST.

**TE 532 ISSUES & TRENDS IN SPECIAL EDUCATION (3-0-3)(S).** Emphasis is placed on organizational approaches to special education. The course will cover 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 based on research 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 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 542 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)(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 dependence in family members and future 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)(S). 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 given and students will analyze current research related to education. 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 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)(S). Students will analyze and evaluate past and contemporary philosophies and the values derived from them as they apply to education. A formal paper will be required.

TE 560 SCHOOL LAW FOR THE CLASSROOM TEACHER (1-0-1)(S). This course will provide school personnel with an overview of school law designed to help them become aware of students and teacher rights and how those rights can be legally asserted. The emphasis will be on "preventive" law, thus avoiding litigation.

TE 561 SCHOOL ORGANIZATION AND FINANCE (1-0-1)(S). This course will provide a brief overview of the federal, state and local organizational structures of schooling in America with particular attention given to 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)(S). Students will explore ideological positions which have affected educational programs and the values derived from them as they apply to education. A formal paper will be required.

TE 566 LEARNING THEORY AND CLASSROOM INSTRUCTION (1-0-1)(S). This course will provide students to read, understand, and critically analyze educational research in their own fields. It includes basic research terminology, strengths and weaknesses in research design, and interpretation of research results. COREQ: TE 570.

TE 567 TESTING AND GRADING (1-0-1)(S). 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 better tests and systems of grading. COREQ: TE 570.

Master of Arts in Education—Art Emphasis

1. The Master's Degree in Education, Art Emphasis, is designed to meet the needs of art specialists.
2. The following will be submitted to the Art Department Admissions Committee:
   a. The names and addresses of three art educators or professional persons who are acquainted with the student's academic qualifications to pursue graduate study.
   b. A minimum of twenty (20) slides or portfolio of recent art work.
   c. A statement of the student's professional objectives and philosophy of art education and how these will be furthered by graduate study.
3. Program areas of study are as follows:
   a. Required Courses:
      - Art Appreciation in the Educational Program AR 501
      - Special Methods: Curr & Develop in Art Educ AR 551
      - Project AR 591
      - Thesis (or additional hours) AR 593
   b. Education Core courses
   c. Studio or Content: Six (6) credits in the studio. Studio concentration and emphasis will be determined by the student and his committee.
   d. Electives: The remainder of the student's work may be elected in relation to his background, interests, and professional objectives in consultation with his major advisor and committee.

Course Offerings

See page 20 for definition of course numbering system

AR ART

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)(S). (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)(S). 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. Sum- mers 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 560-589 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 of concentrated, distribution determined by the graduate student and committee.

AR 580 SELECTED TOPICS—DRAWING.

AR 581 SELECTED TOPICS—PAINTING.

AR 582 SELECTED TOPICS—SCULPTURE.

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 591 PROJECT (6 credits). See below.

1. A scholarly paper embodying results of original research which are used to substantiate a specific view.
2. Art show with a full faculty review.
3. A submitted portfolio of work with a full faculty review.
PREREQ: Graduate status.

AR 593 THESIS (V-V-6). The thesis, or culminating project, may be defined, but is not limited to a combination of any two of the following:
1. A scholarly paper embodying results of original research which are used to substantiate a specific view.
2. Three written reports directed toward the student's particular area of study.
3. A curricular proposal in written form which could be considered for implementation in the schools.
PREREQ: Graduate status.

AR 598 SEMINAR IN ART (3-0-35). (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.

Master of Science in Education—Earth Science Emphasis

The curriculum for the Master of Science in Education, Earth Science emphasis, stresses current developments in the earth science disciplines. In addition to subject matter knowledge emphasis is placed on the varied methods that can be used for teaching earth science. Because of the varied backgrounds of candidates, the course offerings are designed to allow flexibility in planning individual programs. A preliminary examination, oral or written, will be administered to each candidate.

Required courses include the Graduate Core, and a thesis, project, or additional courses as determined by the committee. All other courses to be taken in the degree program are planned by the student and the graduate committee. A final comprehensive oral and/or written examination over course work and the thesis or project is required.

Course Offerings

See page 20 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.

AR 403G ENGINEERING GEOLOGY (2-3-3)(S) (Field trip required).

AR 412G HYDROGEOLOGY (3-0-3)(F) (Field trip required).

AR 460G VOLCANOLOGY (2-0-2)(F) (Field trip) (Odd years).

AR 471G REGIONAL FIELD STUDY (1, 2, or 3 CRK/SSU).

Master of Arts or Science in Education—Mathematics Emphasis

This degree requires 30 hours of coursework, including the Graduate Core in Education (see page 187), 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 coursework
   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
      a. 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.
      b. 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 requirements.
      c. 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 pro-
         gram cannot be guaranteed.

Course Offerings

See page 20 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 THEOREY OF FUNCTIONS OF A COMPLEX VARIABLE (3-0-3)(F).
   M 456G LINEAR PROGRAMMING (4-0-4(X).
   Graduate
   M 501-502 REAL ANALYSIS I, II (3-0-3). The real number system. Set theory
   and metric spaces. Sequences and series. Continuity of real functions. Differentia-
   tion, The Riemann-Stieltjes integral. Sequences and series of functions. PREREQ:
   M 314 or PERM/INST.
   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, con-
   nectionedness, 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,
   subgroups, morphisms, rings, integral domains, polynomial rings, fields, field ex-
   tensions. 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 cen-
   tury. PREREQ: PERM/INST.

M 561 MATHEMATICS FOR OPERATIONS RESEARCH (4-0-4)(F/S). The mathematici-
  安 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)(S). Introduction to mathematical
   modeling through case studies. Deterministic and probabilistic models; optimiza-
   tion. 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 recommenda-
   tions; 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 cur-
   riculum 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.

C CHEMISTRY
   See page 20 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.
   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 (3-0-1)(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 503 SPECTROSCOPY (3-0-3). Concepts and practical usage of ultraviolet,
   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 stu-
   dent 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 depend to the various 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.
Master of Arts in English
College of Arts and Sciences

Applicants who have at least twelve semester credit hours of upper division work in English with a grade point of 3.0 in those courses and who meet general Graduate College requirements will be accepted as regular graduate students. Students who do not have the required upper division English work may be admitted on a provisional basis and will be advised what steps to take to qualify for regular status.

Program Requirements

The course of study for the Master of Arts in English will consist of a minimum of 33 hours to be chosen by the students and their advisory committee from one of two alternatives.

1. An introductory seminar, twelve hours of graduate English courses and fifteen general graduate electives. At least nine hours of the English courses must be at the 500 level.
   - E 500 ....... 3
   - Graduate English electives ............... 15
   - Project or Thesis ......................... 3
   - *General Graduate electives (may include E 501) .............. 12
   - TOTAL ........................................ 33

2. An introductory seminar, fifteen hours of graduate English courses and fifteen general graduate electives and a comprehensive exam. At least nine hours of the English Courses must be at the 500 level.
   - E 500 ....... 3
   - Graduate English electives (except E 501) ...................... 15
   - *General Graduate Electives (may include E 501) ............. 15
   - Comprehensive Exam (Not credit related) ...................... 0
   - TOTAL ........................................ 33

*Students wishing an Advanced Secondary Certificate should take at least 9 credits in the College of Education.

The introductory Seminar (E 500) is prerequisite to other 500 level seminars. However, with the consent of the student's committee, the student may concurrently take another seminar. With the exception of E 501 and E 597, all seminars will be in specified areas of American and British literature and linguistics, though they may cover influences from other literatures. A maximum of 6 hours in 400G English courses may be substituted for seminar work in the English core. E 501 may be taken as a general elective, but may not be counted toward a student's English core.

Since the content of courses E 510, 520, 530, 540, 550, 560, 570 and 597 may vary from term to term, a student may repeat any of these courses for credit but may not count more than 6 hours toward his English core.

Course Offerings

See page 20 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 487G MODERN BRITISH AND AMERICAN POETRY (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 301, E 500, and teaching experience or PERM/CHAIR.

E 502 ADVANCED TECHNICAL AND PROFESSIONAL WRITING (3-3)(S). Provides advanced work in the researching, writing, editing, and designing of technical documents. Major projects are related to each student's field of interest. Topics of study include editing technical documents, audience analysis, graphic design, and the rhetoric of technical writing. PREREQ: E 202 or PERM/INST.

E 503 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, hyphenation, keying, troubleshooting, and graphics. PREREQ: E 502 or PERM/INST.

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. PREREQ: E 500 and L 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 popular magazines market, and looks at tradebook publication with the intention of preparing the student to complete manuscripts for publication. PREREQ: An advanced writing course or PERM/INST.

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 academic bookworks. Course culminates in production 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/INST.

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 in the genre in which he/she worked, his/her use or disregard 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 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 topic. 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 as a source of content and structure. The nature and working of myth and the way it enters conscious creation of 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 originates. 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. This course is recommended for students electing 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 trainers and teachers of literacy in GED centers, workplace literacy projects, and community education projects. PREREQ: E 501 or E 501 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.)

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). A literary content course for prospective teachers of secondary school English. Primary emphasis on critical reading of literature for adolescent 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. 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 projects, and community education programs. 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 literature, discussion, and a paper or project, depending on the nature of the topic. Replaces more than once for credit. PREREQ: UI 365.

E 591 PROJECT (0-0-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 (0-0-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 (0-0-V). A project may include, but is not limited to, a library research paper or experimental research on some aspect of pedagogy or preparation of written curriculum with teaching materials. PREREQ: Admission to candidacy and approval of the student's graduate committee.

Master of Science in Exercise and Sport Studies
College of Education

Objectives
The objective of this program is to provide a scholarly approach to the academic discipline of exercise and sport studies. Along with the required core, students will elect an area of focus from the scientific or behavioral dimensions and culminate their study with some form of scholarly endeavor (project or thesis).

Degree Requirements
Master of Science in Exercise and Sport Studies

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

- Advanced Statistical Methods P 405G or P 405G Lab ........................................... 3
- or Stat Meth in Physical Education PE 552 ........................................... 3
- Fund of Educational Research TE 551 ........................................... 3
- Research Design in Phy Educ PE 551 ........................................... 3
- TOTAL 6

ELECTIVES 6-9 CREDITS

- Psycho/Soc Aspects of Act PE 417G ........................................... 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
- 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 3

A revolving three year draft of graduate offerings is available upon request from the Department of HPER, G 209.

Course Offerings
See page 20 for definition of course numbering system

Undergraduate

PE 401G PSYCHO/SOCIAL ASPECTS OF ACTIVITY (3-0-3)(F/S).

PE 402G ADVANCED ATHLETIC TRAINING (3-3-3V).

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 (3-2-3). Practical application of the principles that govern response and adaptation of the human body to exercise, utilizing laboratory equipment to collect data and analyze results.

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.

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/auroral, 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 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 behavior area. The techniques to be covered include measures of central tendency and variability; correlation measures; probability; analysis of variance and regression analysis. PREREQ: High school algebra, equivalent of PE 309 or P 295.

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 590 PRACTICUM (0-0-3). 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.
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

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Leadership &amp; Management HPE 605 (AA 505)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy of Athletics PE 615 (AA 515 or PE 550)</td>
<td>3</td>
</tr>
<tr>
<td>Athletics &amp; the Law PE 631 (AA 531)</td>
<td>2</td>
</tr>
<tr>
<td>Management of Athletics PE 635 (AA 535)</td>
<td>3</td>
</tr>
<tr>
<td>Research &amp; Writing HPE 640 (AA 540 or PE 551)</td>
<td>3</td>
</tr>
<tr>
<td>Issues in Administration HPE 649 (AA 549)</td>
<td>3</td>
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Thesis Option

<table>
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<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis HPE 650 (AA 550)</td>
<td>6</td>
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<tr>
<td>Approved Electives</td>
<td>7</td>
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Non-Thesis Option

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Advanced Theory of Competitive Coaching PE 610 (AA 510 or PE 530)</td>
<td>3</td>
</tr>
<tr>
<td>Sports Medicine PE 645 (AA 545)</td>
<td>2</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>11</td>
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</tbody>
</table>

Master of Science, Geology
College of Arts and Sciences

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 committee 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 biostatigraphy, tectonic geology, environmental geology, geomorphology, exploration geophysics, hydrogeology, mineral exploration, ore deposits, paleontology, petrography and petrology of igneous rocks, stratigraphy, structural geology, shallow 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 Chairperson, Department of Geology, Idaho State University.

Course Offerings

See page 20 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 for graduate courses are listed under the Master of Science in Education, Earth Science Emphasis, program description.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>GO 403G</td>
<td>Engineering Geology</td>
</tr>
<tr>
<td>GO 410G</td>
<td>Exploration Well Logging</td>
</tr>
<tr>
<td>GO 412G</td>
<td>Hydrology</td>
</tr>
<tr>
<td>GO 431G</td>
<td>Petroleum Geology</td>
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<tr>
<td>GO 460G</td>
<td>Volcanology</td>
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<tr>
<td>GO 471G</td>
<td>Regional Field Geology</td>
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<tr>
<td>GO 511</td>
<td>Environmental Geology</td>
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<tr>
<td>GO 514</td>
<td>Advanced Structural Geology</td>
</tr>
<tr>
<td>GO 523</td>
<td>Advanced Igneous Petrology</td>
</tr>
<tr>
<td>GO 531</td>
<td>Regional Geology of North America</td>
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</tbody>
</table>
The BSU Master of Science program in geophysics interacts cooperatively with thermal systems, earthquake seismology and seismic hazards, through the Department of Geoscience. The objective of the program is to prepare students for professional employment and for geoscience study at the Ph.D. level. The degree requires 30 total credits distributed as follows: 12 graduate geophysics course credits; 12 credits in approved science, engineering, or business courses; and 6 thesis research credits leading to an approved thesis. Current research emphases at BSU are in high-resolution geophysical methods, petroleum geophysics, geothermal systems, earthquake seismology and seismic hazards, computer-aided interactive interpretation, and studies of crustal deformation.

The BSU Master of Science 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 BSU graduate geophysics courses for UoI credit, and the application of UoI graduate geophysics courses for BSU credit. Cooperation is 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 BSU or UoI. In addition, faculty at BSU, UoI, and ISU may form joint supervisory committees when expertise from 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 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 a previous university course, professional position, or research experience is also requested as evidence of the applicant’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 requested from Graduate Admissions, Boise State University, 1910 University Drive, Boise, ID 83725, telephone (208) 385-3903.

Graduate Assistantships: Current information on graduate assistantships is available from the Coordinator of the Geophysics Graduate Program. (Dr. John R. Pelton, Office: (208) 385-3640.)

Supervisory Committee: Each admitted student will be assigned a supervisory committee whose purpose is to approve the program of courses and the final thesis. The supervisory committee consists of at least three members: a chairman from BSU who will suggest an appropriate program of courses and guide the student’s research, and at least two members chosen in any combination from BSU, UoI, ISU, or other institution (selection based on a direct interest in the student’s research). The Coordinator of the Geophysics Graduate Program will serve as advisor to each new student until a supervisory committee can be assigned.

Credit Requirements: The BSU Master of Science in geophysics requires 30 semester credits distributed as follows:

A. 12 credits in BSU GP 500-level geophysics courses (see selection below).
B. 6 credits for research leading to a written thesis (BSU GP 593).
C. 12 additional credits in courses approved by the supervisory committee (normally selected from geophysics, geology, hydrology, engineering, physics, mathematics, chemistry, or economics/business).

A maximum of 9 transfer credits from institutions other than UoI and ISU may be applied to meet requirement C; all 12 credits of requirement C may be satisfied with transfer credits from UoI and/or ISU. Transfer credits may not be used for requirements A or B except that a maximum of 6 credits of requirement A may be satisfied with UoI 500-level geophysics courses. Certain courses are normally ineligible for requirements A and C including courses applied to a previously obtained degree, courses used to meet admission requirements, and courses required to remedy background deficiencies. In all cases the courses applied to meet the credit requirements must be approved by the chairman of the student’s supervisory committee, 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 final written thesis must be approved by the supervisory committee and the research results must be presented at a formal public defense.

Graduate College Requirements: The general requirements of the BSU Graduate College also govern the Master of Science in geophysics degree program.

BSU Course Offerings

See page 20 for definition of course numbering system

GP GEOPHYSICS

See appropriate department listing for detailed description of undergraduate courses (400G 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).

Graduate Programs

GP 510 INTEGRATED GEOLOGY AND GEOPHYSICS IN PETROLEUM, MINERAL AND GROUNDWATER EXPLORATION AND DEVELOPMENT (4-0-4)(F). Role of integrated geological and geophysical methods in the design and implementation of natural resource exploration and development projects. Emphasis depends on class interests, but typical examples will be drawn from petroleum, mineral and groundwater industries. Requires extensive outside reading and study of case histories. Project and report required. PREREQ: PERM/INST.

GP 515 STRATIGRAPHIC INTERPRETATION OF SEISMIC DATA (3-0-3)(S). Seismic sequence and seismic facies analysis, isochronous reflections, seismic stratigraphy of depositional systems, sea level cycles, seismic modeling, hydrocarbon indicators, lithology from velocity and seismic amplitude with offset, use of shear waves and vertical seismic profiling. Interpretation project involving seismic modeling. PREREQ: GP 330G.

GP 520 ENGINEERING GEOPHYSICS (3-0-3)(F). Geophysical techniques applied to the evaluation of shallow subsurface structure and physical properties at engineering, industrial, waste disposal, and construction sites. Application of high-resolution geophysical methods to problems in seismic hazards, groundwater, hazards, land subsidence, construction of critical facilities and landslides. Field and laboratory exercises. PREREQ: GP 301, GP 410G.


GP 530 INVERSION THEORY AND GEOPHYSICAL APPLICATIONS (3-0-3)(S). Backus-Gilbert theory; objective functions and relation to distribution of measurements error; linear least squares including linearization of forward problem, eigenvalue decomposition, generalized inverse, statistics. Nonlinear op
The Master of Arts in History will consist of a minimum of thirty-three hours. - .

1. Option 1: 33 hours with thesis
   - Major field
   - Minor field
   - Project

2. Option 2: 33 hours with project
   - Core

REQUIRED COURSES (CORE): All students must take HY 500 Historians and Historical Interpretations, 3 credits. Depending on students’ major field they must choose one course from the following:
   - Sources of American Values HY 520
   - Sources of Western Traditions HY 512
   - Sources of Nonwestern Traditions HY 513
   - A maximum of six hours in 300G or 400G History courses may be substituted for seminar work in the History offering. Elective courses are additional courses from History or allied fields as planned by the student and his/her graduate committee to meet program requirements.

Course Offerings

See page 20 for definition of course numbering system

HY HISTORY

See appropriate department listing for detailed course descriptions of these 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 20th century. Discussion concentrates in 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 THOUGHT (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 one’s 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). A study of the principal themes or problems with well-defined periods of particular fields of U.S. History. Emphasis will be placed in reading, discussion, writing and research. Reports and discussion on various aspects of the controlling subject will be performed by the students with the assistance of the instructor. PREREQ: Admission to the graduate program or PERM/CHAIR.
HY 591 PRACTICUM (3 credits).
HY 592 HISTORY COLLOQUIUM (3 credits).
HY 593 RESEARCH AND THESIS (6 credits).
HY 594 WORKSHOP
HY 595 READING AND CONFERENCE (Variable 1 to 3). This is a rigorous reading course designed to fit the personal interests of the student in collaboration with the directing faculty member. It is not intended to duplicate courses already taught in a classroom setting, but to supplement those offerings. Requirements will be established by the directing faculty member based on the difficulty of material to be analyzed and the number of credits to be granted.
HY 596 DIRECTED RESEARCH (3-0-3). The purpose of this course is to provide the student with an opportunity to do individual research on a topic within one of the areas of specialization offered by the department. While it is expected that a research paper will result from this work, the directing faculty member will determine the requirements for the course.
HY 597 SPECIAL TOPICS
HY 598 HISTORY SEMINAR (3 credits).
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 School of College oversees the program. The Director of Interdisciplinary Studies serves as the chairperson 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 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 application for admission to the Graduate College in room MG 118, 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 two 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 9 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 or School 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 chairperson, the Director of Interdisciplinary Studies, and the Graduate Dean.

Master of Science in Instructional/Performance Technology

College of Technology

The Master of Science in Instructional/Performance Technology is intended to prepare students for careers as training and development professionals in industry and government. The program prepares students with skills needed to identify, analyze, and solve a variety of human performance problems in work settings. Students are equipped with a broad range of skills in instructional design, program development, consulting, and using a variety of instructional delivery systems.

Requirements:

Intro Instructional Technology IP 536
Instructional Design IP 537
Fundamentals of Educational Research TE 551
Instructional Theory TE 582
Instructional Courseware Design TE 538
Selected Topics—Instructional Technology IP 583
Video Delivery Systems IP 520
Project IP 591

Requirements sub-total 27

Electives 6

Students are expected to take at least 6 credits of relevant elective course work. Appropriate electives will be selected by the student and his/her advisor based on an evaluation of the student's educational and professional goals.

Electives sub-total 6

PROGRAM TOTAL 33

*See pages 190 and 191 for definition of course descriptions.

Course Descriptions

See page 20 for definition of course numbering system.

IP INSTRUCTIONAL/PERFORMANCE TECHNOLOGY

IP 520 VIDEO DELIVERY SYSTEMS (3-0-3)(S). Students will investigate the video and audio applications of technology for instruction such as Instructional Television Fixed Service (ITFS), teleconferences, and educational television. PREREQ: IP 537.

IP 536 INTRODUCTION TO INSTRUCTIONAL TECHNOLOGY (3-0-3)(F). This course provides students with an overview of the field of Instructional/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 the processes involved in designing instructional interventions, such as analyzing
in instructional needs, determining and organizing content and processes, selecting appropriate media, evaluating, and revising.

IP 539 ARTIFICIAL INTELLIGENCE APPLICATIONS (3-0-3)(Demand). Students will investigate instructional technology in the creation of knowledge-based systems as a method of instruction. Students will create instructional programs using expert systems and artificial intelligence.

IP 583 SELECTED TOPICS—INSTRUCTIONAL TECHNOLOGY (3-0-3S). The students explore issues and topics of current interest. Content will be revised continually to reflect current developments in instructional/performance technologies. PREREQ: IP 536.

IP 590 PRACTICUM (Variable).

IP 591 PROJECT (0-V-60).

IP 593 THESIS (0-V-6).

IP 596 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
College of Arts & Sciences

Master of Music—Music Education Emphasis

1. The Master's in Music—Music Education emphasis is designed to meet the needs of music specialists. Admission will be granted to applicants who hold a Bachelor's degree from an accredited college or university, and who give promise of meeting the standards set by the Music Department.

2. All regular and provisional graduate students will be required to take diagnostic examinations during the first part of their program. The purpose of these examinations is to determine the student's strengths and weaknesses so that the student and her/his committee will be able to set up a program according to the student's needs. The examinations will be in the areas of music theory, music history, and performance. After taking the core courses in music education, the student will take a comprehensive examination in the area of music education. The results of these examinations will be interpreted by the Music Department faculty. The student's advisor will consult with the student about action towards remedying any deficiencies. Any undergraduate course used to make up the deficiencies will not count toward the student's degree. A student who has any deficiencies will be granted Provisional Status in the graduate program; when all deficiencies are removed he may then seek Regular Status. A description of the material covered on these examinations is available from the Music Department.

a. Required Music Core Classes

   1. Intro to Music Research MU 503 .......................... 3
   2. New Developments in Music Education MU 570 .......................... 3

b. Required College of Education Core Classes

   1. Issues in Education TE 570 ........................................ 3
   2. Conflicting Values Influencing Education TE 563 .................. 1

Elective courses (Select two from the following):

   1. Law for the Clsrn Teacher TE 561 .......................... 1
   2. School Organ & Finance TE 562 .......................... 1
   3. Instruct Tech-Second School TE 564 .......................... 1
   4. Interpreting Educ Research TE 565 .......................... 1
   5. Learn Theory & Clsrn Instruct TE 566 .......................... 1
   6. Tech of Clsrn Mgmt TE 568 .......................... 1
   7. Testing & Grading TE 569 .......................... 1
   8. Instruct Techniques-Elem School TE 573 .......................... 1

c. Elective Courses .......................................................... 15

   A minimum of 10 elective music credits must be taken in the areas of performance, conducting, theory and analysis and/or history and literature. These courses include all MC 500 (private lessons) courses, ME 510, ME 515, ME 520, MU 501, MU 511, and MU 561. Additional courses will be planned by the student and his graduate committee.

d. Culminating Project

   1. Thesis MU 593 OR .................................. 3-6
   2. Project MU 591 OR .................................. 3

In lieu of a culminating project 6 additional hours of course work would be required with a special written examination following completion of the courses.

MASTER OF MUSIC—PERFORMANCE/PEDAGOGY EMPHASIS

a. Performance/Pedagogy Core

   1. Intro to Music Research MU 503 .......................... 3
   2. Music Lit of Major Instrum MU 557 or Voice .......................... 3
   3. Music Literature Elective ........................................... 3
   4. Music History Elective ........................................... 3

b. Performance Option

   1. Pedagogy or additional Theory or History .......................... 6
   2. Graduate Music Elective ........................................... 3
   3. Private Lessons MU 54 2 Semester Minimum .................................. 8
   4. Graduate Performance Recital MA 546 .......................... 3

c. Pedagogy Option

   1. Pedagogy MU 563-564 ........................................... 6
   2. Additional Theory or History ........................................... 6
   3. Private Lessons MU 52 2 Semester minimum .................................. 4
   4. Grad Recital or Thesis (Choose 1, 2, or 3 below) .......................... 3-6
      1. Graduate Performance Recital MA 546 .......................... 3
      2. Lecture Recital MA 544 .......................... 3
      3. Thesis MU 593 ........................................... 6

   TOTAL .......................................................... 31-32

Course Offerings

See page 20 for definition of course numbering system

MA MUSIC APPLIED — PERFORMANCE CLASSES, RECITALS

GRADUATE

MA 544 LECTURE/RECITAL (0-V-3). A full lecture/recital 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 to present supportive musical examples. PREREQ: PERM/INST/CHAIR. Graded Pass/Fail.

MA 546 GRADUATE SOLO PERFORMANCE RECITAL (0-V-3). A full recital to be presented as the culminating project for the Master of Music degree, Performance/Pedagogy emphasis. PREREQ: PERM/INST/CHAIR. Graded Pass/Fail.

MC MUSIC PRIVATE LESSONS PERFORMANCE STUDIES

Graduate

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 for credit to a maximum of 6 credits. 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 (0-5-1), 552 (0-5-2), 554 (0-1-4). Fretted string instruments private lessons.

ME MUSIC ENSEMBLE

Graduate

ME 510 CHORAL ENSEMBLE (0-2-1)(F/S). A general chorus open to all interested students. The format of the classes will be related to the size of the enrollment, i.e., choir, chamber ensemble or college 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 for up to 4 credits maximum. PREREQ: PERM/INST.

ME 520 INSTRUMENTAL ENSEMBLE (0-V-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 FORMAND ANALYSIS (3-0-2S).

MU 423G SIXTEENTH CENTURY COUNTERPOINT (3-0-3F).

MU 424G COUNTERPOINT SINCE 1600 (3-0-3F).

Graduate

MU 501 HISTORY OF MUSIC IN THE UNITED STATES (3-0-3F). 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 (3-0-3F). 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 (3-0-3F). 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 standard art repertoire. Analytic techniques and the reading of primary sources of pertinent information.

MU 506 SEMINAR IN INSTRUMENTAL MUSIC: PERFORMANCE PRACTICES AND STYLES (3-0-3F). 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 (3-0-3F). A study of 20th century compositional techniques and performance practices through analysis, discussion of aesthetics, listening, performance, and creative writing. Contemporary techniques (and their notation), such as quarter 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 (3-0-3F). 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 (3-0-3F). 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 (1750-1980) (3-0-3F). The study of art music in the Western World from 1750 through the present, with emphasis on selected masterworks. Includes score analysis, performance practice, textual background and historical context.

MU 557 MAJOR INSTRUMENT LITERATURE (3-0-3F). Advanced survey of the major instrument literature. The student will prepare a research paper on several typical or important works in the repertoire.

MU 561 ADVANCED CONDUCTING (3-0-3F). 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 MAJOR INSTRUMENT PEDAGOGY (3-0-3F). 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 (3-0-3S). 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 (3-0-3F). Designed to acquaint the music specialist with recent ideas in music education, including major trends in curriculum, new methodology, music integrated courses, and reports of major conferences and symposia.

MU 571 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING MUSIC IN THE ELEMENTARY SCHOOL (3-0-3F). 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 PERM/INST.

MU 572 LISTENING AND SINGING EXPERIENCES FOR THE ELEMENTARY SCHOOL (3-0-3F). 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 PERM/INST.

MU 573 ADVANCED METHODS AND TECHNIQUES FOR THE INSTRUMENTAL INSTRUCTOR (3-0-3F). 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 (3-0-3F). 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 (3-0-3F). A seminar in problems of music supervision and administration covering areas such as budget, scheduling, curriculum, personnel and philosophy.

MU 591 PROJECT (6-V-3). Details for the culminating project can be found in requirements for Master's degree in secondary education, music education.

MU 593 THESIS (0-V-6). A scholarly paper embodying results of original research which are used to substantiate a specific view.

Master of Public Administration
College of Social Sciences and Public Affairs

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 agencies 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

Persons who wish to enter the MPA Program 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.

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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 agencies 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

Persons who wish to enter the MPA Program must meet the following requirements prior to enrollment in MPA courses:

1. Meet with the Director of the Public Affairs Program to discuss the admission process, the applicant's career interests, and reasons for entering 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 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 Office.
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 coursework or approved equivalent experience):
   b. State and Local Government (3 semester credits).
   c. Introduction to Public Administration (3 semester credits).
   d. At least three semester credits in each of the following disciplines: Sociology, Economics, or Psychology.
   e. At least three 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.

Applicants who do not meet these 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 area.” 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. Each MPA student must complete a program development form in consultation with the student’s MPA academic advisor. In completing this form, courses from the “core area” and “area of emphasis” are selected.

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 are accepted into the Boise State University program. Transfer of credit from all other institutions is limited to nine (9) semester credits.

Core Area Requirements: Each MPA student is required to complete 18 semester credit hours of approved MPA course work in the following “core areas.”

1. Administration in the Public Sector
2. Research Methods in Public Administration
3. Budgeting in the Public Sector
4. Public Policy Process
5. Human Resources Management
6. Organization and Management Concepts and Behavior

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.

“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.” Areas of emphasis are concentrations or majors in the program. Included in the 15 semester credit hours of the selected area of emphasis is the directed research project (3 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 appropriate public affairs organization, such as 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 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

Designated Core Area

NOTE: Selection of courses is to be made in consultation with the student’s academic advisor.

a. Administration in the Public Sector: Administration in the Public Sector PA 500.


e. Human Resources Management: Public Personnel Administration PA 505.


Optional “Areas of Emphasis”

a. General Public Administration: This area of emphasis is provided to accommodate those students desiring preparation in public administration as a “generalist,” rather than a “specialist” in a particular area of specialization. At BSU the student may select the remaining 15 credit hours of coursework from these courses: Administrative Law PA 530, Intergovernmental Relations PA 521, Program Evaluation PA 510. Any of the courses identified as “selected topics,” which will be offered as staff availability permits, may be selected to satisfy the General Public Administration area of emphasis. Arrangements may also be made in the following courses: Reading and Conference PA 595, Directed Research PA 596, Conference/Workshop PA 599.


d. Environmental and Natural Resources Policy and Administration: Natural Resource Policy and Administration PA 540, Environmental and Regulatory Policy and Administration PA 541, Energy Politics PA 542, and Public Land Policy and Administration PA 543. “Selected Topics” courses will be offered to supplement area of emphasis requirements.

e. State and Local Government Administration and Human Resources Management may be offered in the near future.

Course Offerings

See page 20 for definition of course numbering system.

PA PUBLIC AFFAIRS COURSES

PA 500 ADMINISTRATION IN THE PUBLIC SECTOR (3-0-3/F). 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). 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). Theories of organizational behavior and management, with special attention given to public sector organizational behavior. Problems relevant to the non-profit sector will also be addressed.

PA 503 TECHNIQUES OF ANALYSIS IN PUBLIC ADMINISTRATION (3-0-3/F). 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). 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). An examination of the personnel/human resource management role as it has evolved in the public sector. The multi-level 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). Methods for operations research and management science are used to analyze decisions as well as to plan and monitor program implementation. The usefulness of these methods 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). Inter-unit 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/S). Sources of power and duties of administrative agencies, rules and regulations made by agencies through investigations 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/S). A case study of the trends and development of the legal context of labor-management relations in the public sector. Includes collective bargaining, 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 behavior 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 policies 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/S). 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 ADMIN 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 and discussion of these materials, 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 documental 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

Graduate


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 preventive 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

Graduate

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 effects 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 rate; mobility, fertility and fecundity as these affect the societal patterns, especially planning for human service programs.

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

College of Arts and Sciences

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 the techniques of captive breeding and release of rare and endangered birds of prey. 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 required 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 List (BSU)

Organic Evolution B 401G ........................................ 3
General Parasitology B 412G ........................................ 3
Applied and Environmental Microbiology B 415G .............. 4
Immunology B 420G .................................................. 3
Ecology B 423G ..................................................... 4
Biometry B 501 ....................................................... 4
Population and Community Ecology B 502 ..................... 3
Raptor Ecology B 506 .............................................. 3
Seminar B 598 (1 credit) ........................................... 2
Thesis B 593 .......................................................... 6
Directed Research B 596 ..............................................
(6 credits maximum in a semester) ................................ 1-9
Mycology BT 330G ................................................... 4
Advanced Writing E 401 ............................................ 3
Mathematical Modeling M 564 .................................... 3
Public Policy Process PA 501 ..................................... 3
Entomology Z 305G .................................................... 4
Ornithology Z 341G ................................................... 3
General & Comparative Physiology Z 409G .................... 4
Mammalogy Z 421G .................................................. 3

In addition, approved upper division and graduate courses at Idaho State University and/or the University of Idaho may serve as part of the graduate program at the determination of the student’s thesis committee.

Thesis/Project

By the end of the eighth week of the second semester in which the student is enrolled, an outline of the proposed research project must be submitted to the committee members. A budget must be included as part of the research proposal. During the second semester, the student must present a seminar on the proposed research which may consist of a literature review, current research, or progress on the research project.

Course Offerings

See page 20 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 MYCOLOGY (3-3-4)(F).

Z ZOOLOGY

Z 305G ENTOMOLOGY (2-6-4)(F).
Z 341G ORNITHOLOGY (2-3-3)(S).
Z 409G GENERAL AND COMPARATIVE PHYSIOLOGY (3-3-4)(S).
Z 421G MAMMALOGY (2-3-3)(S).

Graduate

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, demography, population regulation, and species diversity 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.
### Boise State University Faculty

**Full-Time Official Faculty as of February, 1991**

*NOTE: The date in parentheses is the year of first appointment.*

<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ackley Louise</td>
<td>Assistant Professor, English; A.M., University of Washington</td>
</tr>
<tr>
<td>Affleck Stephen B</td>
<td>Associate Professor, Engineering; Ph.D., Iowa State University</td>
</tr>
<tr>
<td>Allen John W</td>
<td>Professor, Physics; Ph.D., Harvard University</td>
</tr>
<tr>
<td>Allen Robert L</td>
<td>Program Head; Senior Instructor, Industrial Mechanics/Automation; B.A., Boise State University</td>
</tr>
<tr>
<td>Alm Leslie</td>
<td>Assistant Professor, Political Science; Ph.D., Colorado State University</td>
</tr>
<tr>
<td>Anderson Calvin Kent</td>
<td>Assistant Professor, English; M.F.A., University of Montana</td>
</tr>
<tr>
<td>Anderson Holly L</td>
<td>Assistant Professor, Teacher Education; M.A., University of Utah</td>
</tr>
<tr>
<td>Anderson Jeffrey M</td>
<td>Director, Clinical Education, Respiratory Therapy; Assistant Professor, Respiratory Therapy; B.S., University of Wisconsin, Madison</td>
</tr>
<tr>
<td>Anderson Michael R</td>
<td>Assistant Professor, Mathematics; Ph.D., University of Michigan</td>
</tr>
<tr>
<td>Anderson Robert</td>
<td>Professor, Mathematics; Ph.D., Michigan State University</td>
</tr>
<tr>
<td>Anooshian Linda James</td>
<td>Department Chair and Professor, Psychology; Ph.D., University of California, Riverside</td>
</tr>
<tr>
<td>Anson Robert</td>
<td>Assistant Professor, Computer Information Systems &amp; Production Management; Ph.D., Indiana University</td>
</tr>
<tr>
<td>Arambarr Gary</td>
<td>Manager, Technical Division; Senior Instructor, Welding; Diploma, Boise State University</td>
</tr>
<tr>
<td>Ashworth Lonny J</td>
<td>Associate Professor, Respiratory Therapy; M.Ed., College of Idaho</td>
</tr>
<tr>
<td>Attaklo Philip</td>
<td>Assistant Professor, Theatre Arts; M.A., State University of New York, Binghampton</td>
</tr>
<tr>
<td>Ayers Kathleen L</td>
<td>Associate Professor, Mathematics; Ph.D., University of Idaho</td>
</tr>
<tr>
<td>Bahruth Robert</td>
<td>Assistant Professor, Teacher Education; M.A. University of Texas, San Antonio</td>
</tr>
<tr>
<td>Bain Craig E</td>
<td>Assistant Professor, Accounting; Ph.D., Texas A &amp; M</td>
</tr>
<tr>
<td>Baker Charles W</td>
<td>Professor, Biology; Ph.D., Oregon State University</td>
</tr>
<tr>
<td>Baker Richard P</td>
<td>Professor, Sociology; Ph.D., Washington State University</td>
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<tr>
<td>Baldassarre Joseph A</td>
<td>Associate Professor, Music; D.M.A., Case Western Reserve University</td>
</tr>
<tr>
<td>Balthard Ronald</td>
<td>Program Head; Senior Instructor, Welding; M.Ed., University of Idaho</td>
</tr>
<tr>
<td>Baldwin John B</td>
<td>Professor, Music; Ph.D., Michigan State University</td>
</tr>
<tr>
<td>Bammel Brad P</td>
<td>Assistant Professor, Chemistry; Ph.D., University of New Jersey</td>
</tr>
<tr>
<td>Banks Richard C</td>
<td>Chairperson, Chemistry Department; Professor, Organic Chemistry; Ph.D., Oregon State University</td>
</tr>
<tr>
<td>Barney Lloyd Dwayne</td>
<td>Associate Professor, Finance; Ph.D., Texas A &amp; M</td>
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<tr>
<td>Barrett Gwynn W</td>
<td>Professor, History; Ph.D., Brown University</td>
</tr>
<tr>
<td>Barness Wylla D</td>
<td>Professor, Psychology; Ph.D., University of Minnesota</td>
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<tr>
<td>Bartoszynski, Tomasz</td>
<td>Assistant Professor, Teacher Education; Ed.D., University of Idaho</td>
</tr>
<tr>
<td>Bechard Marc Joseph</td>
<td>Graduate Program Coordinator, Raptor Biology; Professor, Biology; Ph.D., Washington State University</td>
</tr>
<tr>
<td>Beckman Terrie L</td>
<td>Instructor, Dental Assisting; Certificate, Boise State University</td>
</tr>
<tr>
<td>Begg Jeanne Marie</td>
<td>Assistant Professor, Music; Ph.D., University of Kentucky</td>
</tr>
<tr>
<td>Bentley Elton B</td>
<td>Associate Professor, Art; Ed.D., University of Idaho</td>
</tr>
<tr>
<td>Bentley Jon</td>
<td>Professor, Geoscience; Ph.D., University of Oregon</td>
</tr>
<tr>
<td>Benton Danny</td>
<td>Standard Instructor, Drafting Technology; B.S., La Salle Extension University</td>
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<tr>
<td>Berg Lynn R</td>
<td>Assistant Professor, History; Ph.D., University of Kansas</td>
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<tr>
<td>Bier J Patrick</td>
<td>Professor, Teacher Education; Ed.D., University of Idaho</td>
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<tr>
<td>Bigelow John D</td>
<td>Professor, Management Systems; Ph.D., Washington State University</td>
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<tr>
<td>Bingham Ronald</td>
<td>Associate Professor, Management; J.D., University of Michigan</td>
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<tr>
<td>Blain Michael</td>
<td>Associate Professor, Sociology; Ph.D., University of Illinois</td>
</tr>
<tr>
<td>Blankenship Jim</td>
<td>Professor, Art; M.F.A., Otis Art Institute</td>
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<tr>
<td>Boren Robert R</td>
<td>Chairperson, Communication Department; Professor, Communication; Ph.D., Purdue University</td>
</tr>
<tr>
<td>Borman LeAnne</td>
<td>Instructor, Practical Nursing; B.S., Idaho State University; B.S., University of Colorado</td>
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<tr>
<td>Bound Karen J</td>
<td>Professor, Business and Office Education; Ed.D., North Texas State University</td>
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<tr>
<td>Boyer Dale K</td>
<td>Professor, English; Ph.D., University of Missouri, Columbia</td>
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<tr>
<td>Bratt J Wallis</td>
<td>Associate Professor, Music; M.M., University of Utah</td>
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<tr>
<td>Breden Susan I</td>
<td>Professor, Computer Systems; Ph.D., University of Iowa</td>
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<tr>
<td>Brien Alan P</td>
<td>Chair, Philosophy Department; Professor, Philosophy; Ph.D., University of Minnesota, Minneapolis</td>
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<tr>
<td>Brown Marcellus</td>
<td>Associate Professor, Music; M.M., University of Michigan</td>
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<tr>
<td>Brown Timothy</td>
<td>University Librarian; Associate Professor, Library Science; M.S., University of Illinois</td>
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<tr>
<td>Brownfield Theodore E</td>
<td>Advanced Instructor, Heavy-Duty Mechanics (Diesel)</td>
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<td>Buhler Peter</td>
<td>Professor, History; Ph.D., University of California, San Diego</td>
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<td>Burma Ralph</td>
<td>Program Head; Senior Instructor, Drafting Technology</td>
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<td>Burmaster Orvis</td>
<td>Assistant Professor, English; M.A., University of Montana</td>
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<tr>
<td>Buss Stephen R</td>
<td>Chairperson, Theatre Arts Department; Associate Professor, Theatre Arts; Ph.D., Washington State University</td>
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<td>Butler Dennis A</td>
<td>Advanced Instructor, Business &amp; Office Education; Diploma, Boise State University</td>
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<td>Button Sherman G</td>
<td>Professor, Physical Education; Ph.D., University of Utah</td>
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<tr>
<td>Cade Tom J</td>
<td>Director, Raptor Research; Professor, Raptor Biology; Ph.D., University of California, Los Angeles</td>
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<td>Name</td>
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<tr>
<td>Cadwell Dan E.</td>
<td>Senior Instructor, Business Systems &amp; Computer Repair; A.A.S., Boise State University</td>
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<td>Callaghan Kathleen</td>
<td>Assistant Professor, Nursing; M.S., University of Wyoming</td>
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<td>Carlson Janet</td>
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<td>Carpenter Connie S.</td>
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<td>Centanni Russell</td>
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<td>Chastain Garvin</td>
<td>Professor, Psychology; Ph.D., University of Idaho</td>
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<td>Chevalier Susan M.</td>
<td>Assistant Professor, Teacher Education; Ph.D., University of Missouri-Columbia</td>
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<td>Christensen Steve</td>
<td>Associate Professor, Teacher Education; Ph.D., University of Idaho</td>
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<td>Clark Marvin A.</td>
<td>Professor, Computer Information Systems; Ph.D., University of Michigan, Minneapolis</td>
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<tr>
<td>Colby Conrad</td>
<td>Chairman, Respiratory Therapy; Professor, Respiratory Therapy; Ph.D., University of Montana</td>
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<td>Corbin A Robert</td>
<td>Assistant Professor, Sociology; Th.M., Iliff School of Theology</td>
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<td>Cornell Robert</td>
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<td>Cox T Virginia</td>
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<td>Craner G Dawn</td>
<td>Associate Professor, Communication; M.A., Purdue University</td>
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<td>Dahm Norman</td>
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<td>Dalton Jack I.</td>
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<td>Davis Charles</td>
<td>Director, Interdisciplinary Studies Program; Professor, English; Ph.D., University of North Carolina, Chapel Hill</td>
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<td>Dayley Jon Philip</td>
<td>Associate Professor, English; Ph.D., University of California, Berkeley</td>
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<td>Dennis Gerald R.</td>
<td>Instructor, Water/Wastewater Technology</td>
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<td>Dodson Jerry</td>
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<td>Senior Instructor, Electronics Service Technology; B.S.E.E., Seattle University</td>
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<td>Donaldson Paul R.</td>
<td>Professor, Geoscience; Ph.D., Colorado School of Mines</td>
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<td>Donoghue Dennis J</td>
<td>Professor, Political Science; Ph.D., Miami University of Ohio</td>
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<td>Dorman Patricia</td>
<td>Professor, Sociology; Ph.D., University of Utah</td>
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<td>Douglas Dorothy P.</td>
<td>Professor, Biology; Ph.D., University of California, Berkeley</td>
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<td>Douglass J D Jr</td>
<td>Professor, Art; M.F.A., Cranbrook Academy of Art</td>
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<td>Downs Richard R.</td>
<td>Counseling Psychologist, Counseling &amp; Testing Center; Associate Professor, Psychology; Ed.D., Ball State University</td>
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<td>Dryer Gerald F.</td>
<td>Director, Center for Economic Education; Associate Professor, Economics; Ph.D., Ohio University</td>
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<td>Duffy Alfred M.</td>
<td>Assistant Professor, Zoology; Ph.D., State University of New York, Binghamton</td>
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<td>Dykstra Dewey I, Jr.</td>
<td>Associate Professor, Physics; Ph.D., University of Texas, Austin</td>
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<td>French Judith.</td>
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<td>Fry Phillip C.</td>
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<td>Fuhrman Jay R.</td>
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<td>F</td>
<td>Fuller Eugene G.</td>
</tr>
</tbody>
</table>
Faculty

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Assistant Professor, Management; J.D., University of Illinois, Urbana-Champaign

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Huff Daniel D ........................................ (1970)
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Huff Howard L ........................................ (1965)
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Hughes Robert B ................................... (1971)
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<table>
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<tr>
<th>Name</th>
<th>Title and University</th>
<th>Year</th>
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<td>Kenny G Otis</td>
<td>Associate Professor, Mathematics; Ph.D., University of Kansas</td>
<td>1976</td>
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<td>Kjellander Paul</td>
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<td>Kraker Thomas L</td>
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<td>L. Cava Gerald</td>
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<td>Leon Manuel</td>
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<th>Name</th>
<th>Degree(s)</th>
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<tr>
<td>Pomerance Andrea Lynn</td>
<td>M.S.</td>
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<td>Purdy Craig A.</td>
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