LOWER COLUMBIA COLLEGE

The Smart Choice!

2014-15 CATALOG ADDENDUM
2014-15 Catalog Addendum

COURSE LISTINGS
From accounting to welding, LCC offers a wide range of classes to help students achieve professional success and personal enrichment. The college may add classes for new programs or to update current programs during the year. Visit our web site at lowercolumbia.edu or check the quarterly class schedule publication for the most up-to-date course offerings.

### Symbols used in course description

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Course meets distribution credit in Humanities.</td>
</tr>
<tr>
<td>HA</td>
<td>Course meets distribution credit in Humanities only for AAS and AAS-T degrees.</td>
</tr>
<tr>
<td>SS</td>
<td>Course meets distribution credit in Social Science.</td>
</tr>
<tr>
<td>SSA</td>
<td>Course meets distribution credit in Social Science only for AAS and AAS-T degrees.</td>
</tr>
<tr>
<td>NS</td>
<td>Course meets distribution credit in Natural Sciences.</td>
</tr>
<tr>
<td>NSA</td>
<td>Course meets distribution credit in Natural Sciences only for AAS and AAS-T degrees.</td>
</tr>
<tr>
<td>NSL</td>
<td><strong>Course meets distribution credits in Natural Sciences as a lab course.</strong></td>
</tr>
<tr>
<td>P</td>
<td>*Course meets distribution credits as a performance based course.</td>
</tr>
<tr>
<td>&amp;</td>
<td>Course is part of the Washington Community Colleges’ Common Course Numbering system.</td>
</tr>
<tr>
<td>F</td>
<td>Course usually offered Fall Quarter.</td>
</tr>
<tr>
<td>W</td>
<td>Course usually offered Winter Quarter.</td>
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<tr>
<td>Sp</td>
<td>Course usually offered Spring Quarter.</td>
</tr>
<tr>
<td>S</td>
<td>Course usually offered Summer Quarter.</td>
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</tbody>
</table>

### Adult Basic Education (ABE)

**ABE 010 F,W,Sp,S 1-20 credits**

**Beginning ABE Literacy Reading-Level 1**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE reading course. 

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

**ABE 011 F,W,Sp,S 1-20 credits**

**Beginning ABE Literacy Writing-Level 1**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE writing course. 

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

**ABE 012 F,W,Sp,S 1-20 credits**

**Beginning ABE Literacy Math-Level 1**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated math course. 

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

**ABE 013 F,W,Sp,S 1-20 credits**

**Beginning ABE Literacy Reading & Writing Level 1**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated reading course. 

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.
ABE 014  F,W,Sp,S  1-20 credits
Beginning ABE Literacy Integrated-Level 1
Strengthen basic academic literacy skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 015  F,W,Sp,S  1-20 credits
Beginning ABE Literacy Computer Technology & Job Readiness-1
Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE and survival ESL technology and job readiness course.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 016  F,W,Sp,S  1-20 credits
Beginning ABE Literacy-Spanish Integrated-Level 1
Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 020  F,W,Sp,S  1-20 credits
ABE Beginning Basic Education Reading-Level 2
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education reading course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 021  F,W,Sp,S  1-20 credits
ABE Beginning Basic Education Writing-Level 2
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 022  F,W,Sp,S  1-20 credits
ABE Beginning Basic Education Math-Level 2
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 023  F,W,Sp,S  1-20 credits
ABE Beginning Basic Education Reading & Writing-Level 2
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 024  F,W,Sp,S  1-20 credits
ABE Beginning Basic Education Integrated-Level 2
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 025  F,W,Sp,S  1-20 credits
ABE Beginning Basic Education Computer Technology & Job Readiness-2
Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education Level 2 technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 026  F,W,Sp,S  1-20 credits
ABE Beginning Basic Education-Spanish Integrated-Level 2
Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social and workplace environments in an ABE Beginning Basic Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 030  F,W,Sp,S  1-20 credits
ABE Low Intermediate Basic Education Reading-Level 3
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education reading course.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 031  F,W,Sp,S  1-20 credits
ABE Low Intermediate Basic Education Writing-Level 3
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education writing course.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 032  F,W,Sp,S  1-20 credits
ABE Low Intermediate Basic Education Math-Level 3
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 033  F,W,Sp,S  1-20 credits
ABE Low Intermediate Basic Education Reading & Writing-Level 3
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.
ABE 033 F,W,Sp,S 1-20 credits
ABE Low Intermediate Basic Education Reading & Writing-Level 3
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 034 F,W,Sp,S 1-20 credits
ABE Low Intermediate Basic Education Integrated-Level 3
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 035 F,W,Sp,S 1-20 credits
ABE Low Intermediate Basic Education Computer Technology & Job Readiness-3
Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Low Intermediate Basic Education Level 3 ABE technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 036 F,W,Sp,S 1-20 credits
ABE Low Intermediate Basic Education Spanish Integrated-Level 3
Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social and workplace environments in an ABE Low Intermediate Basic Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 040 F,W,Sp,S 1-20 credits
ABE High Intermediate Basic Education Reading-Level 4
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education reading course.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 041 F,W,Sp,S 1-20 credits
ABE High Intermediate Basic Education Writing-Level 4
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 042 F,W,Sp,S 1-20 credits
ABE High Intermediate Basic Education Math-Level 4
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 043 F,W,Sp,S 1-20 credits
ABE High Intermediate Basic Education Reading & Writing-Level 4
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 044 F,W,Sp,S 1-20 credits
ABE High Intermediate Basic Education Computer Technology & Job Readiness-4
Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a High Intermediate Basic Education Level 4 ABE technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 045 F,W,Sp,S 1-20 credits
ABE High Intermediate Basic Education Spanish Integrated-Level 4
Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 046 F,W,Sp,S 1-20 credits
ABE High Intermediate Basic Education-Spanish Integrated-Level 4
Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 050 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Reading-Level 5
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education reading course.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 051 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Writing-Level 5
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.
ABE 051 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Writing-Level 5
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 052 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Math-Level 5
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 053 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Reading & Writing-Level 5
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 054 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Integrated-Level 5
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 055 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Computer Technology & Job Readiness-Level 5
Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Low Adult Secondary Education Level 5 ABE technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 056 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Spanish Integrated-Level 5
Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social and workplace environments in an ABE Low Adult Secondary Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 061 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Writing-Level 6
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 062 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Math-Level 6
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 063 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Reading & Writing-Level 6
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 064 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Integrated-Level 6
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 065 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Computer Technology & Job Readiness-Level 6
Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a High Adult Secondary Education Level 6 ABE technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.
**ABE 066** F,W,Sp,S 1-20 credits
**ABE High Adult Secondary Education Spanish Integrated-Level 6**

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

**ABE 070** F,W,Sp,S 1-20 credits
**Educational Interview-ABE**

Develop and monitor a personal plan of action to reach personal, educational, and workplace goals through an orientation to the college community and the Transitional Studies program, resources, and services.

**ABE 071** F,W,Sp,S 1-20 credits
**I-BEST Academic Support-Level 1**

A Beginning Literacy Level ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

**ABE 072** F,W,Sp,S 1-20 credits
**I-BEST Academic Support-Level 2**

A Beginning Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 201 to 210, or instructor permission.

**ABE 073** F,W,Sp,S 1-20 credits
**I-BEST Academic Support-Level 3**

A Low Intermediate Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 211 to 220, or instructor permission.

**ABE 074** F,W,Sp,S 1-20 credits
**I-BEST Academic Support-Level 4**

A High Intermediate Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 221 to 235, or instructor permission.

**ABE 075** F,W,Sp,S 1-20 credits
**I-BEST Academic Support-Level 5**

A Low Adult Secondary Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 236 to 245, or instructor permission.

**ABE 076** F,W,Sp,S 1-20 credits
**I-BEST Academic Support-Level 6**

A High Adult Secondary Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 246 to 255, or instructor permission.

**ABE 080** F,W,Sp,S 1-20 credits
**High Adult-Electives-ABE**

Strengthen a student’s communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in a high adult secondary education level 6 ABE Electives course. The course reflects knowledge gained through student selected classes and can be quantified by writing, demonstration and evidence collection.

**ABE 081** F,W,Sp,S 1-20 credits
**High Adult English-ABE**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.
ABE 082 F,W,Sp,S 1-20 credits
High Adult Math-ABE
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 083 F,W,Sp,S 1-20 credits
High Adult Sci & Lab-ABE
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE high adult secondary education science and lab science course.
Students will gain an understanding of the natural world and science as a field of study. Intended for students with little or no science background. Includes lab.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 084 F,W,Sp,S 1-20 credits
High Adult History/Government-ABE
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE high adult secondary US History and Government education course. Focuses on the causes and effects of social, cultural, political, intellectual and economic change over the years in the United States. Examines the foundation of US government: key political ideas, theories, processes, and institutions.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 085 F,W,Sp,S 1-20 credits
High Adult Washington State History-ABE
Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a high adult secondary education ABE Washington State history course. Provides a social, political, economic history of the Pacific Northwest with particular emphasis on the State of Washington, including Native American history and gender/ethnic history.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 086 F,W,Sp,S 1-20 credits
High Adult Contemporary History-ABE
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE high adult secondary Contemporary History course. Focus on current world events, issues and problems. Highlights recent historical events and examines the causes and effects on geopolitics, environments, and population.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 087 F,W,Sp,S 1-20 credits
High Adult Occupational Education-ABE
Strengthen a student's communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in a high adult secondary education level 6 ABE Occupational Education course. The course reflects knowledge gained through prior life experience, occupational achievement, or demonstrable skill and can be quantified by writing, display and evidence collection.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 088 F,W,Sp,S 1-20 credits
High Adult Health & Physical Education-ABE
Strengthen basic academic skills while focusing on health, nutrition, and fitness in order to enhance their personal, social, and workplace environments in an ABE high adult secondary Health and Physical Education course. Students will gain an understanding of the effects nutrition, exercise and environmental factors have on the body and how to set personal goals to improve their overall health.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 089 F,W,Sp,S 1-20 credits
High Adult Fine Arts-ABE
Strengthen basic academic skills while focusing on artistic understanding and appreciation in order to enhance the personal, social, and workplace environments of students in an ABE high adult secondary Fine Arts course. Students will gain a deeper understanding of the arts and how to evaluate the impressions gained by exposure to different forms of media.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

**Accounting (ACCT)**

**ACCT 101 F,W,Sp** 5 credits
*Introduction to Accounting Concepts*
Provides students with an introduction to the field of accounting. Topics include the accounting cycle, accounting for and presentation of assets, liabilities, and owner's equity.
Prerequisite: MATH 078/079 or TECH 078/079 or higher with a grade of Cor better.

**ACCT 150 Sp** 5 credits
*Payroll Accounting and Business Tax Reporting*
Gives students experience in payroll accounting and business tax reporting. Topics include: payroll processing, payroll tax return preparation, and preparation of excise tax returns.
Prerequisite: MATH 088/089 or TECH 088/089 and ACCT 101 or instructor permission.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Type</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT&amp; 201</td>
<td>F,W</td>
<td>Principles of Accounting I</td>
<td>Includes an introductory study of financial accounting and accounting theory. Includes an in-depth study of the accounting cycle for service organizations, provides an introduction to merchandising transactions, cash, marketable securities, receivables, and inventory. Prerequisite: MATH 088/089 or TECH 088/089. No previous accounting courses are required.</td>
</tr>
<tr>
<td>ACCT&amp; 202</td>
<td>W,Sp</td>
<td>Principles of Accounting II</td>
<td>Studies the components of a simple corporate balance sheet including application to transactions in areas such as current liabilities, long-term assets, bonds, and stocks. Also introduces the statement of cashflows and financial statement analysis. Financial accounting theory is discussed and applied throughout the course. Prerequisite: ACCT&amp; 201 with a grade of C or better.</td>
</tr>
<tr>
<td>ACCT 203</td>
<td>Sp</td>
<td>Principles of Accounting III</td>
<td>Emphasis on accounting information as a planning and analysis tool to support management decision-making. Topics include manufacturing costs, job order costing, budgeting, break-even and cost-volume-profit analysis, relevant costs, capital investment decisions, and performance measurement. Prerequisite: ACCT&amp; 201 (was ACCT 231) with a grade of C or better and basic spreadsheet skills.</td>
</tr>
<tr>
<td>ACCT 241</td>
<td>F</td>
<td>Intro To Quickbooks</td>
<td>Provides students experience with a multi-function electronic accounting system. Students will learn to enter business transactions in the general ledger and subsidiary accounts such as payroll, accounts receivable, accounts payable, inventory, and fixed assets. Students will solve common accounting problems associated with the electronic accounting process. Prerequisite: ACCT 101 or ACCT&amp; 201 and CS 110 or CS 111 or instructor permission.</td>
</tr>
<tr>
<td>ACCT 244</td>
<td>F</td>
<td>Individual Income Taxation</td>
<td>Explores the fundamental concepts of federal income taxation as it relates to individuals with some attention to sole proprietorships. Topics include federal tax structure, income inclusions and exclusions, deductions, and credits. The course also includes practice in preparing individual returns and related schedules. Prerequisite: MATH 078/079 or TECH 078/079.</td>
</tr>
<tr>
<td>ACCT 260</td>
<td>W</td>
<td>Certified Bookkeeper Prep</td>
<td>Designed to prepare students for the national Certified Bookkeeper examination. Topics include adjusting entries, correction of accounting errors, basic book and tax depreciation, payroll, inventory, and internal controls. Prerequisite: ACCT&amp; 202 with a C or better or instructor permission.</td>
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### Allied Health (AH)

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<thead>
<tr>
<th>Course Code</th>
<th>Type</th>
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<tr>
<td>AH 094</td>
<td></td>
<td>Fundamentals of Caregiving</td>
<td>Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum on client and caregiver rights, community resources, personal care, prevention of injury and infection, nutrition, assisting with medications, mobility needs, requirements for nurse delegation and observation and recording, and medical and physical conditions.</td>
</tr>
<tr>
<td>AH 095</td>
<td>1</td>
<td>Modified Fundamentals of Caregiving</td>
<td>Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum providing an in-depth understanding of the nurse delegation law, basic medical knowledge of body systems and selected nursing tasks that may be delegated by a Registered Nurse.</td>
</tr>
<tr>
<td>AH 096</td>
<td>1</td>
<td>Nurse Delegation Training for Caregivers</td>
<td>Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum providing an in-depth understanding of the nurse delegation law, basic medical knowledge of body systems and selected nursing tasks that may be delegated by a Registered Nurse.</td>
</tr>
<tr>
<td>AH 100</td>
<td>1</td>
<td>Bloodborne Pathogens and Infection Control</td>
<td>Examines bloodborne illnesses: etiology, epidemiology, clinical manifestations, treatment, transmission, testing, infection control, legal, ethical, psychosocial and counselling issues. Fulfills Washington state Department of Licensing requirement for license renewal for persons governed by chapter 18. 130. RCW.</td>
</tr>
<tr>
<td>AH 104</td>
<td>2</td>
<td>Healthcare Foundations</td>
<td>Provides introductory foundational skills for health care careers. Explores health care career opportunities, the history of health care, the structure and function of health care systems, as well as foundational legal, ethical, regulatory and safety issues in health care. Prerequisite: None. Concurrent requirement: For nursing students, must be taken concurrently with or before NURS 101.</td>
</tr>
</tbody>
</table>
AH 114 F,W,Sp,S 2 credits
Healthcare Communication Skills
Provides introductory content on the communication process in health care settings. Introduces principles of communication, therapeutic communication skills, barriers to effective communication, and principles of verbal and written reporting in health care. Explores communication with clients who have complex needs, conflict resolution, team work, health care informatics, and cultural competency in health care. Techniques for acquiring employment will be discussed, and internet websites will be evaluated for credibility.

AH 230 F,W,Sp 1 credit
Management Issues in Health Care
Explores leadership, management, legal, ethical, and research issues essential to nursing practice.
Prerequisite: Concurrent enrollment in NURS 201

American Sign Language (ASL)

ASL& 121 F,W,S 5 credits
American Sign Language I
Introduces the basics of American Sign Language (ASL). Designed for students who have little or no previous knowledge of ASL. Readiness for learning will be approached via visual-gestural communication techniques, visual discrimination, and visual memory exercises. ASL questions, commands, and other sentence structures are introduced to develop rudimentary conversational skills in ASL. Information about the Deaf Community and Deaf Culture will be introduced.

ASL& 122 W,Sp 5 credits
American Sign Language II
Continues development of American Sign Language (ASL) skills, with primary focus on refining the use of basic ASL sentence types. Pronominalization, classifiers, spatial referencing, pluralization, and temporal and distributional aspects are introduced. Students learn routine communicative functions of the language: asking, requesting, providing clarification, and giving and asking for directions. Information about the Deaf Community and Deaf Culture is included.
Prerequisite: ASL& 121 with a grade of C or better.

ASL& 123 Sp 5 credits
American Sign Language III:DIV
Builds on skills learned in American Sign Language (ASL) II, adding more complex ASL grammatical features and vocabulary, short stories, narratives, and dialogues. Includes description of general surroundings, appropriate sequencing, temporal aspects and conditionals. Information about the Deaf Community and Deaf Culture will be included.
Prerequisite: ASL& 122 with a grade of C or better.

Anthropology (ANTH)

ANTH 109 S 5 credits
American Cultural Diversity:DIV SS
Examines the cultures of the United States from the perspectives of ethnicity, race, gender and class. Special emphasis is placed upon anthropological methods and approaches to enhance student’s understanding of contemporary socio-cultural variables in peoples’ lives.

ANTH& 205 F,S 5 credits
Biological Anthropology
Examines the essential facts of human biological evolution by providing a thorough understanding of the concept of evolution and applying it to the particular details of the evolution of human populations and the fossil record. Attention will also be given to the methodology of contemporary research and its application to the study of primate and human evolution.

ANTH& 206 W 5 credits
Cultural Anthropology:DIV SS
Examines the impact that the concept of culture has upon the anthropological understanding of humanity. Attention will be given to a thorough understanding of the concept of culture as a source of human diversity and its relationship to historical, economic, political, social, linguistic and religious development.

Art (ART)

ART& 100 F,W,Sp,S 5 credits
Art Appreciation:DIV H
Introduces basic art vocabulary and concepts, and provides a basis for understanding and appreciating art from a variety of cultures and time periods through visual presentations, demonstrations, discussion, and field trips. ART& 100 is a transferable course. It fulfills the requirements of the AA-DTA Humanities distribution list.

ART 101 F,W,Sp,S 3 credits
Beginning Drawing H, P
Introduces basic drawing techniques with a variety of media. Hands-on experience in the effective use of composition, line, shape, surface quality, and perspective. Intended for the beginning student. Focuses on learning to draw what is actually seen, i.e. drawing from the “right” brain.

ART 102 F,W,Sp,S 3 credits
Intermediate Drawing H, P
Continues the skills and concepts from ART 101 and applies them to a broader range of media and subject matter. Part of the term is devoted to introductory figure drawing working from a model.
Prerequisite: ART 101 or instructor permission.
ART 103  F,W,Sp  3 credits
Advanced Drawing  H,P
Expands on the experiences from ART 101 and 102 and adds more in-depth understanding of the materials and concepts in visual communication. This is a project oriented class.
Prerequisite: ART 102 or instructor permission.

ART 106  F,W,Sp,S  5 credits
Basic Design  H,P
Introduces the theory and fundamentals of visual organization through the explanation of black and white media.

ART 107  F,W,Sp,S  5 credits
Basic Design I  H,P
Introduces the theory and application of color to specific two-dimensional and three-dimensional design problems.

ART 108  Sp  3 credits
Basic Design II  H, P
Introduces three-dimensional form and space with emphasis on materials, spatial composition, and fabrication.

ART 111  F,W,Sp,S  3 credits
Beginning Painting  H, P
Introduces the use of oil and acrylic painting media and the study of traditional and contemporary painting concepts and techniques.

ART 112  F,W,Sp,S  3 credits
Intermediate Painting  H, P
Presents more in-depth exploration of painting materials, techniques, and subject matter.
Prerequisite: ART 111 or instructor permission.

ART 113  F,W,Sp,S  3 credits
Advance Painting  H, P
Offers advanced painting theory and practice and the development of individual expression in subject matter and composition.
Prerequisite: ART 112 or instructor permission.

ART 130  W  4 credits
Introduction to Graphic Design  H,P
Provides an overview and introduction to pre-press electronic publishing using pagination software covering page layout design principles, font use, copy fitting and color as they relate to both printed products and web work. Includes file management, copyright and ethical issues related to the publishing industry.
Prerequisite: Basic computing skills using the Windows O/S recommended.

ART 154  5 credits
Beginning Analog Film Photography  H,P
Introduces the fundamentals of analog (film) photography in the creation of fine-art black and white prints. Explores the fundamentals of camera and lens operation, exposure, creative controls, and composition to design photographs. Includes the processing of black and white film to make custom photographic prints in a darkroom. The history of photography, including great works of photography that have influenced the field, will be discussed. Students must provide their own analog (film) camera with manually adjustable focus, exposure, aperture, and shutter speed. This is a beginning photography course that serves as an art elective. It fulfills the requirements of the AA-DTA Humanities distribution list. It is designed for students without previous photography or art background, and is one of two entry level courses in a series of photography courses offered.

ART 155  5 credits
Beginning Digital Photography  H,P
Introduces the fundamentals of digital photography in the creation of custom fine-art digital prints. Explores the fundamentals of camera and lens operation, exposure, creative controls, and composition to design digital photographs. Photoshop software tools will be used with digital photographs to edit, correct or enhance the photo. The history of photography, including great works of photography that have influenced the field, will be discussed. Students must provide their own digital camera with manually adjustable focus, exposure, aperture, and shutter speed.

ART 156  3 credits
Intermediate Photography-Studio  H,P
Further explores camera vision and pushes the limit of camera controls to create photographic images with digital or film cameras. Students will explore adjusting ISO/film speeds for advanced exposure control, and will gain more understanding and control over lighting. Focused on studio photography, students will also refine camera and digital lab or darkroom printing skills as they relate to photography. Students also participate in photo critiques.
Prerequisite: ART 154 or 155 or instructor permission.

ART 157  3 credits
Intermediate Photo-Documentary  H,P
Provides both digital and analog students, who have completed ART 151 or 155 the opportunity to further advance their camera, printing, and editing critiquing skills. Learn how to utilize ISO adjustments with both digital and film cameras to maximize, exposure control, and use flash as it relates to different applications on location in order to visually document people and events. Learn how to create effective layouts for series and photo essays. Learn about the ethics and legal aspects related to photography.
Prerequisite: ART 154 or 155 or instructor permission.
ART 158  3 credits  
**Advanced Photography Digital/Analog**  
H,P  
Provides students with a continuation of photographic exploration, with an emphasis on fine art applications, some of which may blend both traditional and new technologies. Students will continue to fine tune their technical skills as well as develop their own visual style.  
Prerequisite: ART 156 or ART 157 or instructor permission.

ART 162  F,W,Sp  3 credits  
**Photoshop for Web & Print**  
Introduces Adobe Photoshop basic skills including palettes, tools, layers, masks, image correction and manipulation. Emphasizes skill building applicable to photography, web design, and graphic design essentials. Basic computer skills required.

ART 206  F  5 credits  
**Arts of the Americas:**DIV  
H  
A comparative investigation into the development of artistic themes and styles within the cultures of North, Central, and South America past and present. Study will include an exploration into the migration and settlement of indigenous peoples of the Americas as represented by their art forms, the impact of European colonization on art and culture, and a look at cultural and historical interpretations addressed by contemporary artists.

ART 207  W  5 credits  
**Arts of the World:**DIV  
H  
A comparative investigation into the development of artistic themes and styles in Asia, Africa, and Oceania past and present. Study will include an exploration into the components of society, the development of belief systems, and the formation of world views as represented by art and architecture. In addition, emphasis will be placed on cultural and historical interpretations that inform the ideology and art of contemporary artists in terms of contemporary cultural identities and the challenges they pose.

ART 208  Sp  5 credits  
**Arts of the Pacific Northwest:**DIV  
H,D  
A comparative investigation into the development of artistic themes and styles within the cultures of the Pacific Northwest past and present. Study will include an exploration into the migration and settlement of indigenous peoples of the Pacific Northwest as represented by their art forms, the impact of European colonization on art and culture, and a look at cultural and historical interpretations addressed by contemporary artists.

ART 226  F  5 credits  
**History of Western Art**  
H  
History of Western Art is an investigation into the development of art from before history through the Roman Empire, approximately 35,000 BCE to 1600 CE. This study includes a conceptual look at the emergence of the creative spark and why art and architecture exists. A comprehensive look at art from the prehistoric natural world, through the emergence of civilization and social organization in ancient cultures, to the glory of Greece and Rome, art continues to interpret culture and to shape contemporary lives.

ART 227  W  5 credits  
**History of Western Art**  
H  
History of Western Art is an investigation into the development of art from early medieval through Renaissance Europe, approximately 500 CE to 1600 CE. This study includes a comprehensive look at art and architecture as it reflects changing world views as art continues to interpret culture and to shape contemporary lives.

ART 228  Sp  5 credits  
**History of Western Art:**DIV  
H,D  
Investigates the development of art from 17th century Europe, through its introduction to America, and into 21st Century Europe and the United States. This study includes a critical evaluation of interpretations by artists through their art to address issues of difference, power, power, and discrimination. Art continues to reflect culture and to shape contemporary lives.

ART 241  F,W,Sp,S  3 credits  
**Beginning Ceramic Art, Pottery**  
H, P  
Introduces the study of ceramic materials and techniques including hand construction and wheel throwing.

ART 242  F,W,Sp,S  3 credits  
**Intermediate Ceramic Art, Pottery**  
H, P  
Involves more advanced techniques of hand construction and wheel throwing. Beginning glaze formation and kiln-firing processes are included.  
Prerequisite: ART 241 with a grade of C or better.

ART 243  F,W,Sp,S  3 credits  
**Advanced Ceramic Art, Pottery**  
H, P  
Continues wheel and hand forming techniques with emphasis on aesthetics, including decoration and glazing.  
Prerequisite: ART 242 with a grade of C or better.

ART 290  F,W,Sp,S  1-3 credits  
**Art Studio Lab-Ceramics**  
Provides lab opportunity in ceramics for students who have completed ART 241, 242, 243.  
Prerequisite: Instructor permission.

ART 295  F,W,Sp  1-3 credits  
**Art Lab-Photography**  
Provides lab opportunity in photography for students who have completed ART 153. Students will develop a description/contract of what they would like to focus their study on.  
Prerequisite: ART 158 or instructor permission.
### Astronomy (ASTR)

**ASTR & 101 W,Sp 5 credits**  
**Introduction to Astronomy NSL**  
Provides for student investigation of information gathered on distant objects by telescope, spectrometer, radio, satellites, and other instruments. Students pursue both the knowledge and processes for acquiring knowledge of the moon, sun, planets, comets, and meteors of the solar system, distant stars, nebulae, clusters, and galaxies, and their theoretical evolution.

### Automotive Technology (AMTC)

**AMTC 100 W 5 credits**  
**Essential of Mechanics**  
Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventative/predictive maintenance. This is an introductory course for beginning students of Automotive or Diesel Technology. Course can be waived if student has completed principles of technology and auto program in high school.

**AMTC 101 F 5 credits**  
**Electrical Systems I**  
Covers the theory of electricity from fundamentals through solid state and electrical safety. Includes solving and proving Ohm’s Law, in series, parallel, and series-parallel circuits. Automotive wiring and circuits are included, as well as how to read wiring diagrams and use them to effectively diagnose an electrical malfunction, circuit tracing and wiring repair techniques.

**AMTC 102 F 10 credits**  
**Electrical Systems II**  
Presents brief review of the theory of electricity. Covers theory, diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, (e.g., power windows, power seats), and computer operation and circuit analysis. Also covered are high voltage energy, distributorless, and breaker point ignition systems. Prerequisite: AMTC 101 (was ADT 101) or instructor permission.

**AMTC 104 Sp 8 credits**  
**Vehicle Climate Control**  
Covers the theory of operation, design, diagnosis and repair of both manual and automatic heating, ventilation and air conditioning systems (HVAC) used in automobiles, trucks and heavy equipment. Emphasis is on component identifications, performance testing, recovering, evacuation and recharging. Covers materials necessary to pass ASE (A7) test. Prerequisite: AMTC 102 or instructor permission.

**AMTC 111 W 5 credits**  
**Hydraulic Brakes**  
Covers the theory of hydraulics, fundamentals of manual, power, drum, and disc brake systems. This is a first-year course and may be waived with the instructor permission.

**AMTC 112 W 3 credits**  
**Antilock Brakes and Traction Control**  
Presents brief review of hydraulic brakes giving complete coverage of theory, diagnosis, and how to repair antilock brakes and traction control systems. This will include scan tool diagnosis as well as functional and visual tests. Prerequisite: AMTC 111 (was ADT 111) or instructor permission.

**AMTC 121 Sp 5 credits**  
**Gas Engines I**  
Provides an introductory course for the student with little or no experience with gasoline engines. Covers theory of operation, performance factors, and routine diagnosis and maintenance of spark ignition engines. This is a core course in the AMTC program and the first part of a two-part sequence in gasoline engine repair. Course can be waived with instructor permission based on experience or successful completion of high school automotive program.

**AMTC 122 Sp 1-10 credits**  
**Gas Engines II**  
Covers all facets of the internal gasoline engine. Includes theory of operation, removing, inspecting, cleaning, measuring, machining, reassembling, reinstalling, and testing. The student will completely rebuild a gasoline engine. Prerequisite: AMTC 121 (was ADT 121) or instructor permission.

**AMTC 201 W 12 credits**  
**Fuels and Emissions**  
Covers the theory of operation, design, diagnosis and repair of automotive fuel systems. Includes injection, storage, and delivery systems. Covers materials necessary to pass ASE (A8) certification. Prerequisite: AMTC 102 or instructor permission.

**AMTC 202 Sp 12 credits**  
**Automotive Computer Systems**  
Covers advanced theory, operation, diagnosis and repair of automotive fuel systems. Includes injection, storage, and delivery systems. Covers materials necessary to pass ASE (A8 and L1) certification. Prerequisite: AMTC 201 or instructor permission.

**AMTC 215 W 8 credits**  
**Suspension and Alignment**  
Prepares the student to perform all aspects of automotive type suspension and alignment work, including powered and non-powered steering systems, inspection, diagnosis, adjustment, and repair of front and rear suspension systems, and related components such as tires and wheels. Use of four-wheel alignment equipment is an integral part of this course.
AMTC 216 F  8 credits
Automatic Transmission
Studies hydraulic principle of pressure and force multiplication, operation, diagnosis and repair of automotive automatic transmissions and transaxles.

AMTC 217 F  6 credits
Powertrains
Studies the theory of operation, diagnosis and repair of clutches, manual transmission/transaxles, drivelines, drive axles and transfer cases. Covers all of the mechanical components used to transfer power from the engine to the drive wheels - both 2 and 4 wheel drive. Automatic transmissions are not covered in this course.

Biology (BIOL)

BIOL& 100 F,W,Sp  5 credits
Survey of Biology NSL
Examines major concepts in biology -- The science of life -- and the nature of science itself and includes survey of fundamental life processes by which organisms live, grow, reproduce, and interact with their environment. This course is recommended for students interested in a brief overview of biology. Laboratory is included.

BIOL 109 Sp  5 credits
Energy and Life: Biological Sciences NSL
Explores energy and life on earth through the study of biodiversity, metabolism, cell structure, genetics, evolution, and ecosystems. Students will gain an understanding of the natural world, science as a field of study, and develop skills to apply and teach scientific principles in everyday life. Intended for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab.

BIOL 130 Sp  5 credits
Plants of the Pacific Northwest NSL
Introduces biological diversity of the major ecosystems of the Pacific Northwest (e.g. forest, riparian, wetland, estuary, and marine intertidal). Surveys common organisms of these ecosystems and students will learn fundamental biological principles as they relate to biodiversity (e.g. ecology, evolution, genetics) and the importance to human well-being, as well as the intrinsic value of biodiversity at three levels: genetic, species, and ecosystems. Students will learn methods in the lab and field for surveying, identifying, and measuring biodiversity. Students will complete original research on a group and/or ecosystem of their choice. Class will meet often outdoors and three day-long field trip(s) are required.
Prerequisite: ENGL& 101, MATH 089, or instructor permission.

BIOL 150 W  5 credits
Human Genetics and Society:DIV NSL,D
Introduces the discipline of human genetics by interweaving classical genetics concepts with current issues in genetics, including genetic diversity, the human genome, biotechnology, and genetic disorders. Presents the tools necessary for making informed decisions regarding the impact of genetic advances on individual lives and society. Laboratory includes exploration of DNA structure, DNA identification, and problem solving using activities, specimens and biotechnology equipment.

BIOL& 160 F,W,Sp,S  5 credits
General Biology w/Lab NSL
Provides an introduction to cell biology, including the chemistry of life, the structure, reproduction, and metabolism of cells, genetics, and evolutionary biology. Topics are similar to BIOL& 211 but are covered in less depth.

BIOL& 170  5 credits
Human Biology NS
Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune and others. Also surveyed are heredity and human ecology.

BIOL& 211 F  5 credits
Majors Biology Cellular NSL
Covers three major themes in biology: cellular, genetics, and evolution. Cell biology includes cell structure, organization, metabolism, and energetics. Genetics includes gene structure and function, molecular and chromosomal mechanisms of inheritance, and Mendelian and microbial patterns of inheritance. Evolution is a central theme in biology that ties together all other major themes. Laboratory is included.
Prerequisite: CHEM& 161 or CHEM& 121 or instructor permission.

BIOL& 212 W  5 credits
Majors Biology Animal NSL
Continues this series for science majors emphasizing the biological diversity and evolution of animals and comparing general principles of physiology, growth, development, and behavior across animal groups. Laboratory included.
Prerequisite: BIOL& 211 (was BIOL 201) with 2. 0 or better.

BIOL& 213 Sp  5 credits
Majors Biology Plant NSL
Continues this series for science majors emphasizing prokaryotes, fungi, algae, and plants including their diversity, anatomy and physiology; includes general evolutionary theory, including population genetics, and ecological principles. Laboratory included.
Prerequisite: BIOL& 212 (was BIOL 202) with 2. 0 or better.
BIOL& 241  F,W,Sp,  6 credits
Human Anatomy and Physiology 1  NSL
Provides a study of structure and function of the human body. Topics include the cell, tissues, skeletal system, articulations, muscular system, and nervous system. This is the first of a two-course sequence. This course may not be transferable unless the entire sequence (BIOL& 241 and 242) is taken at LCC.
Prerequisite: BIOL& 160 or BIOL& 211, with a grade of C or above, or instructor permission.

BIOL& 242  W,Sp,S  6 credits
Human Anatomy and Physiology 2  NSL
Continues the study of structure and function of the human body. Topics include endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems; and fluid and electrolyte balance. This is the second part of a two-course sequence. This course may not be transferable unless the entire sequence (BIOL& 241 and 242) is taken at LCC. Laboratory is included.
Prerequisite: BIOL& 241 with a C- or better, or instructor permission.

BIOL& 260  F,Sp  5 credits
Microbiology  NSL
Introduces the fundamentals of microbiology, including: evolution, microbial structures and functions, metabolism, growth, genetics, classification and pathogenesis; virology; principles of infectious disease; host defenses and antimicrobial drugs. Laboratory includes techniques for isolation, cultivation and identification of microbes.
Prerequisite: BIOL& 160 or BIOL& 211 with a grade of C or better or instructor permission.

Blueprint (BLPT)

BLPT 150  W  5 credits
Machinists Blueprint Reading
Provides basic general information in reading and understanding plans and drawings that will be useful to vocational students. Focusing on line and symbol conventions used in industrial blueprints and visualization of solid objects from orthographic and isometric projections, the course leads to development of required skills for industrial design and problem solving. It also provides comprehensive information needed by persons in the machine trades for reading industrial blueprints and emphasizes specifications of materials, geometrical tolerancing, surface finishes, AWS welding symbols, and related foundry processes.

BLPT 160  Sp  5 credits
Blueprint Reading for Welders
Provides basic general information in reading and understanding plans and drawings that will be useful to students in the welding field, focusing on identifying basic lines, dimensions, structural shapes, welding symbols, and basic joints for welding fabrication and practical layout design.
Prerequisite: MATH 106 or higher or instructor permission.

Business Administration (BUS)

BUS 100  5 credits
Personal Finance
Introduces basic concepts necessary for students to develop skills and gain confidence in the successful management of their financial affairs. Topics include: goal setting, budgeting, controlling debt and expense, saving and investing, determining insurance needs, consumer strategies, and mitigating exposure to tax liabilities.
Prerequisite: MATH 079 or TECH 079 with a grade of C or better or instructor permission.

BUS& 101  F,W,Sp,S  5 credits
Introduction to Business  SS
Surveys the business environment and many important elements of business including marketing, finance, accounting, computers, labor unions, small business management, economics, and the functions of management.

BUS 104  F,W,Sp  5 credits
Business Math Applications
Teaches the use of basic mathematical processes to solve business applications. Topics include percentages, simple interest, compound interest, annuities, markups and markdowns, payroll, trade and cash discounts, banking, and solving problems with equations and formulas.
Prerequisite: MATH 078/079 or TECH 078/079 with a grade of C or better or instructor permission.

BUS 118  W  5 credits
Ethics in Management
Surveys current business ethical issues and concerns and is presented using the case study method. Through interactions, students will gain an understanding of how ethical considerations become a part of business decisions. Emphasis will be placed on advertising, affirmative action, product liability, employee rights, management/supervisory interactions, and corporate morality.

BUS 119  F,W,Sp  5 credits
Business Communications
Emphasizes planning, organizing, and writing clear, concise business letters. Includes a review of grammar, punctuation, and word usage as applied to written business communication; experience in writing favorable messages. Students will present information orally and prepare a job resume and letter of application.
Prerequisite: ENGL 099 (was ENGL 100) or TECH 105 with a grade of C or better or placement test into ENGL& 101.
BUS 144  F,W,Sp,S  5 credits
Management of Human Relations:DIV D
Introduces and emphasizes the many aspects of human behavior as they affect individuals and groups in the workplace. Teaches human relations skills in the context of understanding human needs, attitudes, perceptions and motivations, workforce diversity teamwork, stress management, and interpersonal communications. Focus is on management of human relations factors within an organization and understanding the effects of discrimination, prejudice, and intolerance, in the pluralistic workplace.

BUS 150  F,W,Sp,S  5 credits
Customer Service/Management:DIV D
Introduces the philosophy of “service excellence” as it pertains to organizations in today’s business environment. Emphasis on the effects of globalization, cultural diversity, and workforce diversity in organizations. Topics include developing interpersonal skills, interacting effectively with employees and customers, and establishing positive relationships with employees and customers with regard to their gender and culture. Students will learn to identify the challenges and advantages of a diverse workforce. Meets the Diversity requirement.

BUS 159  F,Sp  5 credits
Principles of Retailing
Surveys retailing principles and concepts and studies store management, merchandise management, pricing, customer services, advertising, and display.

BUS 165  W  5 credits
Salesmanship
Surveys multiple aspects of selling, including the importance of selling and salespeople in business and the rewards of a sales career. Topics include: buying behaviors, the ethical and legal issues in sales, the buying process, the approach, the presentation, demonstration of merchandise, handling of objectives, closing the sale, follow-up and effective sales management.

BUS& 201  F,W,Sp  5 credits
Business Law SS
Introduces the law, sources of law, legal thinking, structure of courts, alternative dispute resolution, basic civil procedure, business organization, government constitutional authority and regulation, agency, employment and criminal law as relating to business, real property and landlord/tenant law, torts, international business law issues and ethics. Includes extensive concentration on contract law including Article 2 of the Uniform Commercial Code.
Prerequisite: ENGL& 101 OR BUS 119, or equivalent, with a grade of Cor better, or instructor permission.

BUS 206  F,W,Sp,S  5 credits
Statistical Methods NS
Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BUS 206 and MATH 210.
Prerequisite: MATH 098/099 or TECH 098/099 with a grade of C or better.

BUS 207  3 credits
Statistical Projects NS
Provides an opportunity for students to apply the statistical processes learned in MATH 210/BUS 206 by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This course, in conjunction with MATH 211 may be offered as a Capstone course.
Prerequisite: MATH 210 or BUS 206 with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206.

BUS 240  F  5 credits
Principles of Supervision
Analyzes basic functions of the supervisory-level management along with emphasis on skills needed to be an effective leader/manager of a diverse workforce. Emphasis will be on the differences between supervisors and upper management.

BUS 244  W  5 credits
Human Resource Management
Introduces the fundamental concepts of Human Resource Management, including hiring skills, long-term planning, employee laws, recruitment, staffing, training, compensation programs (both direct and indirect), collective bargaining, employee relations, safety training, health and EAPs (employee assistance programs).

BUS 245  Sp  5 credits
Principles of Management
Offers the student a history of management and its various theories. Covers the principles and application of planning, organizing, leading and controlling. Students also view management from the roles of supervisory, middle and top management.

BUS 259  F  5 credits
Starting/Managing a Small Business
Surveys the characteristics of small businesses, and includes the study of planning and organizing a new business, starting up a new business, producing products or services, marketing, planning, and control.
Prerequisite: ACCT 101, BUS& 101 and CS 121 with a grade of C- or better, or instructor permission.

BUS 264  W  5 credits
Principles of Marketing
Presents marketing functions and their roles in the economic process, emphasizing marketing systems, product planning, promotion, and sales.
Prerequisite: BUS& 101 (was BSAD 110) or instructor permission.
BUS 265  Sp  5 credits
Advertising
Provides an overview of the related fields of sales and advertising. The course encompasses economics of selling and selling processes and studies field of advertising with emphasis on planning, implementing, and controlling the advertising process.

BUS 270  5 credits
Introduction to Project Management
Focuses on management principles, methods, and tools to effectively plan and implement complex projects. Includes project scoping, preparation, planning, and monitoring. Covers classical techniques and new methodologies; spreadsheet-based tools; and probabilistic project simulation from strategic, tactical, and operational perspectives. Prerequisite: CS 121 and BUS 144 with a grade of C or better, or instructor permission.

BUS 294  F,W,Sp  2 credits
Career Success
Provides preparation for pursuing a career in business, with a focus on self-assessment, job search, application process documents, and interviewing techniques. This course is intended for Business students in their second year. Students should enroll in this course during one of the last two quarters of their program. Prerequisite: Program advisor permission.

Business Technology (BTEC)

BTEC 100  F,W,Sp,S  1-3 credits
Computer Keyboarding
Introduces keyboarding using the computer and individualized instruction media. Provides instruction and practice on the alphabet, number, and symbol keys, and the 10-key numeric keypad. Graded on a pass/fail basis.

BTEC 104  F,W  5 credits
Introduction to Business Technology
Introduces current business software and technology. Basic computer concepts and navigating within the Windows environment are discussed. Electronic communication, information retrieval, word processing, spreadsheet analysis, graphic presentation, and database management are practiced.

BTEC 105  F,W,Sp,S  1-4 credits
Keyboarding Speed/Accuracy Building
Provides an individualized skill-building program for students who need or want to increase their keyboarding accuracy. Graded on a pass/fail basis. Prerequisite: Passing grade in BTEC 100 or instructor permission.

BTEC 109  F,W,Sp,S  1 credit
MS Office Upgrade
Introduces new concepts of the MS Office Suite. Students will learn through hands-on application in word processing, spreadsheet design, graphic presentation, and database management. Prerequisite: Experience in previous version of MS Office.

BTEC 111  F,W  5 credits
Intermediate Word Processing
Utilizes Microsoft Word features to format, edit, maintain, merge, and reference business documents. Includes creating tables and using SmartArt graphics. Prerequisite: BTEC 104 with a grade of C or better or instructor permission, and a minimum keyboarding speed of 35 wpm or concurrent enrollment in BTEC 105.

BTEC 112  Sp  5 credits
Advanced Word Processing
Presents advanced word processing features using Microsoft Word. Examines creating letters, reports, research papers, brochures, newsletters, and other documents. Introduces customizing, proofing, automation, specialized navigation and referencing, working with shared documents, and document protection and security. Prerequisite: BTEC 111 with a grade of C or better or instructor permission, and a minimum keyboarding speed of 45 wpm or concurrent enrollment in BTEC 105.

BTEC 130  F,W,Sp,S  1-2 credits
Electronic Calculators
Develops speed and accuracy by touch on the ten-key electronic calculator and the computer numeric keypad. Includes using special features of a calculator and applying learned skills to business problems.

BTEC 144  1 credit
Onenote Fundamentals
Introduces the electronic note-taking and information management application, Microsoft OneNote. Topics include using this application to gather, format, organize, and share information.

BTEC 145  1-5 credits
Introduction To MS Word
Introduces students to Microsoft Word features that may be used in both personal and business environments. Topics include basic and intermediate-level document formatting. Prerequisite: BTEC 100 or instructor permission.

BTEC 146  F,W,Sp,S  1 credit
PowerPoint Fundamentals
Introduces presentation graphics, using Microsoft PowerPoint to create electronic slide shows. Students create and edit slide shows, apply templates, format slides, enter text, print presentations, create charts, and employ other graphical functions and features. Includes a basic coverage of design for presentation best practices.
BTEC 147  F,W,Sp,S  1-3 credits
Introduction to Desktop Publishing
Provides hands-on instruction using Microsoft Publisher. Emphasizes formatting and enhancing text, developing styles, using columns and tables with special effects, and working with art to create professional looking publications. Prerequisite: CS 110 or BTEC 104 with a grade of C or better or instructor permission.

BTEC 148  F,W,Sp  2 credits
Introduction to Outlook
Offers an introduction to using Microsoft Outlook communication and scheduling as a business tool. This course is designed to prepare students with a full understanding of features available in Microsoft Outlook. Topics include email, contacts, schedule management, and instant messaging.

BTEC 149  F,W,Sp,S  1 credit
Internet Fundamentals
Offers an introduction to the Internet, the organizations that manage the Internet, and capabilities of the Internet in today's world. A Web browser is used to access the World Wide Web, to search for information, and to perform other basic Internet functions.

BTEC 150  F,W,Sp,S  5 credits
Introduction to Google Apps
Introduces students to Google Application features that may be used in both personal and business environments. Topics include web-based communication, collaboration, media, and locational tools. This is an elective course and may be suitable for other majors.

BTEC 155  F,W,Sp,S  3 credits
Website Management
Covers the processes involved in identifying client needs, target audience, and content management for website deployment. Students will explore domain name management, ISP relationships, media management, user group management, and integration of evolving technology. Prerequisite: BTEC 104 or CS 110 or BTEC 149 or Instructor Permission.

BTEC 161  F  5 credits
Introduction to ICD-9 Coding in the Medical Office (Part I)
Covers the rules and guidelines utilized in the assignment of ICD-10 codes. Students will select and assign the appropriate codes to diagnoses and procedures performed in both inpatient and outpatient settings, and learn to extract diagnoses from a patient's record. Prerequisite: BTEC 181 and MEDA 120, both with a grade of C or higher or Instructor Permission.

BTEC 162  W  5 credits
Introduction to ICD-9 Coding in the Medical Office (Part II)
Continues to develop and reinforce the rules and guidelines utilized in the assignment of ICD-10 codes. Students will select and assign the appropriate codes to diagnoses and procedures performed in both inpatient and outpatient settings. Prerequisite: BTEC 161 with a grade of C or better or instructor permission.

BTEC 163  Sp  5 credits
CPT Coding
Introduces the rules and guidelines of Current Procedural Terminology (CPT) coding, which are utilized in the reimbursement of outpatient procedures and surgeries. Students learn to use the CPT coding book. Course also introduces the evaluation and management processes used for physician reimbursement and the government regulations regarding CPT coding. Prerequisite: BTEC 162 with grade C or better or instructor permission.

BTEC 164  F,W,Sp,S  1-2 credits
Legal Aspects of the Medical Office
Presents the legal, ethical, and bioethical issues relevant to medical office settings. Course features legal cases and legislation. Topics include patient confidentiality, advance directives, consents, professional liability, medical malpractice, release of information, and the professional code of ethics.

BTEC 165  F,W,Sp,S  2 credits
Cultural Awareness for Healthcare Professionals
Explores the cultural disparities in healthcare. Examines cultural and linguistic differences which limit the access to healthcare or prevent the adoption of health promoting or harm-reducing behaviors. Presents effective cross-cultural communication through the use of relevant languages, respectful attitudes, and cultural knowledge. Provides strategies to apply cultural awareness skills in all aspects of work with clients, families, community members, and colleagues.

BTEC 171  F  3 credits
Medical Reception Procedures
Provides a foundation of basic knowledge and skills for employment in a physician's office or clinic. Topics include reception techniques, medical records and related laws, appointment scheduling, telephone use procedures, and office maintenance. Prerequisite: ENGL 099 or higher.

BTEC 172  W  3 credits
Medical Office Procedures
Provides instruction and practice for advanced administrative support skills in the medical office. Topics include payroll procedures, banking; fees, credit and collections; patient and insurance billing; bookkeeping, including practice in single-entry methods; and diagnostic and procedural coding. Prerequisite: ENGL 099 or TECH 105 or instructor permission, MATH 079 or TECH 079 or instructor permission, and BTEC 171, each with a grade of C or better.
BTEC 173 Sp 3 credits
Computers in the Medical Office
Prepares students for administrative talks in healthcare practices. Using computer software students learn to enter patient information, schedule appointments, and handle billing and insurance claims.
Prerequisite: BTEC 172 with grade C or better.

BTEC 181 F,W,Sp,S 1-3 credits
Medical Terminology I
Provides a foundation for building a medical vocabulary including the study of prefixes, roots, suffixes, combining forms, and pronunciation. Emphasis is on using medical terms accurately in documenting and reporting patient care procedures.

BTEC 182 F,W,Sp,S 1-3 credits
Medical Terminology II
Continues the focus of BTEC 181 incorporating actual medical records and demonstrating how medical terminology is used in the clinical setting.
Prerequisite: BTEC 181 or MEDA 101 each with a grade of C or better.

BTEC 230 F,W,Sp,S 1-3 credits
Legal Terminology
Provides instruction in legal terminology including definitions of terms and correct pronunciation. Emphasis is placed on understanding legal terminology through the study of legal concepts and their application in the federal and state court systems, trial procedures, and translation into layperson language.
Prerequisite: ENGL& 101 or BUS 119 with a grade of C or better or instructor permission.

BTEC 260 Sp 5 credits
Office Procedures
Provides and enhances essential skills for administrative professionals including time management, basic finance, critical thinking, office technology, web tools, communication, teamwork and cultural diversity awareness to prepare for the workplace.
Prerequisite: ENGL& 101 or BUS 119, BUS 104 and BTEC 104 with a grade of C or better, or instructor permission.

BTEC 294 F,W,Sp 2 credits
Career Success
Provides preparation for pursuing a career in business technology, with a focus on self-assessment, job search, application process documents, and interviewing techniques. This course is intended for Business Technology students in their second year. Students should enroll in this course during one of the last two quarters of their program.
Prerequisite: Program advisor permission.

Chemical Dependency Studies (CDS)

CDS 101 F,Sp 5 credits
Intro to Addictions & Chemical Dependency
Introduces the student to the basic theories of drug/alcohol use and abuse. Explores the scope of chemical substance dependency. Topics include socio-cultural aspects of drug usage, patterns and progression, definitions of substance abuse and dependency recovery and prevention. This course is the primary course for students interested in a career counseling the chemically dependent.

CDS 102 W 3 credits
Introduction to Theories and Counseling of Chemically Dependent Clients
Introduces the student to the need for a theoretical base for CD counseling. Students will learn the fundamental concepts of at least three contemporary theories of counseling, and will gain a working knowledge of brief therapy.
Prerequisite: CDS 101 with a grade of C or better.

CDS 105 W 3 credits
Chemically Dependency/Domestic Violence
Provides students with a basic understanding of social problems and legal issues relative to domestic violence and its impact on children and families.

CDS 107 Sp 3 credits
Adolescent Developmental Issues and Chemical Dependency
Examines the special issues and challenges of working with adolescent chemical abuse and dependency. This class will cover the following: adolescent development tasks, assessment process and tools, diagnostic challenges, treatment and recovery considerations, co-occurring disorders and relapse prevention. It will also cover information about family assessment, treatment, and recovery issues.

CDS 108 F 4 credits
Community and School-Based Prevention and Intervention
Presents history of the prevention discipline, including theories and research-based approaches. Presents various models of prevention, such as the risk and protective factor model, developmental asset model and resiliency model. Addresses the Strategic Prevention Framework. Reviews media models for prevention. Presents principles and dynamics of group development. Discusses various types of community and school groups. Presents advocacy methods and grant writing.
COURSE DESCRIPTIONS

CDS 110  Sp  3 credits
Alcohol/Drug Pathophysiology and Pharmacology
Reviews the human body with emphasis on the action of alcohol and other frequently abused drugs on each of the systems. Drug classification, prescription and non-prescription, drug interactions, poly-drug abuse, detoxification process, acute and post-acute withdrawal signs and systems will be studied. Fetal effects from substance abuse will be examined.
Prerequisite: CDS 101, 102, and 113 all with a grade of C or better.

CDS 111  Sp  3 credits
Record Keeping and Case Management
Introduces the student to case management and record keeping techniques. Assessment, diagnosis, individual treatment planning, charting, and continuing care planning will be explored. Confidentiality utilization review and staffing techniques will be discussed.
Prerequisite: CDS 101, 102, and 113 all with a grade of C or better.

CDS 113  F  3 credits
Treatment Principles and Chemical Dependency
Presents the principles and processes needed to effectively treat individuals suffering from addiction. Explores the four phases of the developmental treatment model. Discusses goal setting and objectives related to each phase of the individual’s recovery. Presents the basics of motivational interviewing to become a more effective professional.
Prerequisite: Previous completion of or concurrent enrollment in CDS 101

CDS 114  F  2 credits
Suicide Assessment and Prevention

CDS 121  W  3 credits
Legal and Ethical Issues in Chemical Dependency Studies
Explores legal and ethical issues in chemical dependency counseling. Includes topics of ethical decision making, confidentiality and malpractice, as well as maintaining a professional counselor/client relationship. Addresses issues and values involved in counseling clients from different cultures and with diverse needs.

CDS 201  Sp  3 credits
Dynamics of the Family and Chemical Dependency
Introduces students to the dynamics of the chemically dependent family. Studies the effects of addiction on the family. ACOA (adult children of alcoholics) issues will be addressed. Education and treatment strategies will be explored. Students must enroll concurrently in CDS 111, and either enroll concurrently in CDS 110 or obtain instructor permission.
Prerequisite: CDS 101, 102, 113 and 215 with a C or better.

CDS 202  F  3 credits
Chemical Dependency Counseling with Diverse Populations
This course is designed to prepare the chemical dependency counselor for working with individuals and families from diverse populations. The goal of the course is to raise the level of awareness and cultural sensitivity of the chemical dependency counselor. It will challenge the student to examine culturally learned assumptions that shape their interactions with clients. It helps the chemical dependency counselor become more knowledgeable about social structures that cause inequality and its effect on treatment.
Prerequisite: CDS 101, 102, 113, and 121 or instructor permission.

CDS 203  W  3 credits
Relapse Prevention and Intervention
This course is designed to educate the chemical dependency counselor on all aspects of the relapse process. This includes assessment, education, intervention, relapse treatment plans, family involvement, and stress management.
Prerequisite: CDS 101, 102, and 113 or instructor permission.

CDS 215  F  3 credits
Group Counseling: Theories and Application
Provides the student with the theory and the practice of group counseling with chemical dependent clients and their families being studied. Students will gain a working knowledge of group counseling theories. Styles of group decision-making will also be applied. Role playing and modeling techniques will enhance the students’ skills.
Prerequisite: CDS 101 and 113 both with a grade of C or better.

CDS 220  Sp  3 credits
Co-Occurring Disorders: Mental Health Disorders in CDs
Examines the mental/emotional alterations and their impact on the client with chemical dependency. Materials covered include use of the current edition of the Diagnostic and Statistical Manual, as it relates to diagnosis.
Prerequisite: CDS 101, 102, and 113 all with a grade of C or better or instructor permission.

CDS 240  3 credits
Compulsive Sexual Behaviors
Focuses on the assessment, clinical and theoretical clarification, and treatment of a number of forms of compulsive sexual behaviors. A distinction between addictive, compulsive, and impulsive sexual behavior will be presented as well as various theories of the condition’s development. A variety of treatment modalities will be reviewed.
## COURSE DESCRIPTIONS

### Chemistry (CHEM)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Type</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
</table>
| CHEM& 100   | F,W,Sp,S | 5 | Preparatory Chemistry
Introduces the world of chemistry through the exploration of matter and the basic properties related to what our surroundings are composed of. Students will examine laws, formulas, reactions, and structure governing all substances and their interactions. Prepares students for further study in chemistry. No credit is given to those with one year of recent high school chemistry credit. |
| CHEM& 110   | F,W,Sp,S | 5 | Chemical Concepts w/Lab
Provides an exploration of our universe through the study of atomic structure, interactions between matter and energy, and everyday encounters with chemistry (technology, environment, energy, materials, foods, etc.). This course is primarily for non-science majors planning to transfer. Laboratory is included. |
| CHEM& 121   | F,W,Sp,S | 5 | Intro to Chemistry
Provides an exploration of the matter that makes up our universe through the study of atomic structure, gases, solutions, acids and bases, stoichiometry, and reactions. This course is primarily for non-science majors preparing for careers in the health sciences and related fields. Laboratory is included. |
| CHEM& 131   | Sp   | 5 | Intro to Organic/Biochem
Explores the chemistry of carbon compounds including structures, nomenclature, and properties of basic organic compounds with an emphasis on biochemical substances and applications. Includes families of alkanes, alkenes, alcohols, ethers, aldehydes, ketones, acids, proteins, carbohydrates, and other biochemical materials. This course is primarily for non-science majors preparing for careers in the health sciences and related fields. Laboratory is included. |
| CHEM& 161   | F    | 5 | General Chem w/Lab I
Provides an in-depth study of chemistry formulas and equations, mathematics, gas laws, atomic theory, solution chemistry, periodic law, electron configurations, the mole concept and stoichiometry. This is the first of a three-quarter sequence designed for science majors. Laboratory is included. |
| CHEM& 162   | W    | 5 | General Chem w/Lab II
Provides the applications portion of the year-long study of chemistry. This course examines bonding and molecular theory, intermolecular forces, solids, liquids, and gases, solutions, acids, bases, salts, pH, kinetics, equilibrium, electrochemistry, and an introduction to thermodynamics. This is the second in a three-quarter sequence designed for science majors. Laboratory is included. |
| CHEM& 163   | Sp   | 5 | General Chem w/Lab III
Examines, in more detail, kinetics, thermodynamics, and descriptive chemistry of elements and their compounds. Topics in kinetics and equilibrium are revisited to enhance students' comprehension and understanding. The course ends with a survey of several areas of chemistry including coordination chemistry, nuclear and radiochemistry, nanochemistry, organic chemistry, and biochemistry with special emphasis on relevant and inspiring aspects of these topics. Laboratory is included. |
| CHEM 231    | Sp   | 5 | Quantitative Analysis
Provides a study of the qualitative and quantitative analytical applications of chemistry including the mathematical treatment of data collected. It will examine gravimetric and volumetric wet chemical analysis, instrumental analysis of both organic and inorganic substances will be done. This is a one-quarter course required for students who are chemistry and chemical engineering majors. |
| CHEM& 261   | F    | 5 | Organic Chem w/Lab I
Explores the chemistry of organic compounds including structures, nomenclature, bonding, and properties of basic organic compounds. The course covers the families of alkanes, alkenes, and alkynes, and discusses functional groups and stereochemistry and their roles in chemical properties. This is the first in a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included. |
| CHEM& 262   | W    | 5 | Organic Chem w/Lab II
Continues the exploration of the chemistry of organic compounds including structures, nomenclature, and synthesis of basic organic compounds. The course covers the families of alkyl halides, alcohols, aldehydes, ketones, and other groups of compounds. Reactions and synthesis of various compounds of these families will be studies and performed. Products of the processes will be examined using physical and spectroscopic means. This is the second in a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included. |
CHEM& 263 Sp 5 credits
Organic Chem w/Lab III NSL
Continues the exploration of the chemistry of organic compounds including structures, nomenclature, and synthesis of basic organic compounds. The course covers the families of amines, carbonyls, aromatics, biochemical compounds and other groups of compounds. Reactions and synthesis of various compounds will be studied and performed. Products of these processes will be examined using physical and spectroscopic means. The course includes a qualitative analysis of organic compounds. This is the third of a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included. Prerequisite: CHEM& 262.

Chinese (CHIN)
CHIN& 121 F 5 credits
Chinese I:DIV H
Introduces Mandarin language and Chinese culture. Emphasizes listening, pronunciation, basic vocabulary and fundamentals of grammar. Introduces Chinese characters. Explores Chinese culture, including social interaction, family relationships, artistic expression, and values.

CHIN& 122 W 5 credits
Chinese II:DIV H
Continues the study of the Mandarin language and Chinese culture, building on the basic language skills. Enhances abilities with pronunciation, grammar and vocabulary. Further explores Chinese culture, including proverb and folk stories. Expands on recognition and writing of Chinese characters.

CHIN& 123 Sp 5 credits
Chinese III:DIV H
Continues the study of the Mandarin language and Chinese culture, expanding on previous knowledge to develop beginning fluency in understanding, speaking, reading, and writing Mandarin. Further explores Chinese culture and regional identities.

College Success (COLL)
COLL 093 F,W,Sp,S 1 credit
Test Taking
Offers strategies to help students improve test-taking abilities such as scheduling time, preparing for exams, finding exam cues, writing essay responses, and answering objective questions.

COLL 094 F,W,Sp,S 1 credit
Note Taking
Prepares students to effectively take lecture notes. Techniques include active listening, looking for main ideas, using signal words, and organizing notes.

COLL 095 F,W,Sp,S 1 credit
Time Management
Offers strategies to help students organize time effectively, improve the study environment, prioritize goals, control procrastination, and use support resources as needed.

COLL 096 F,W,Sp,S 1 credit
Textbook Reading Techniques
Provides techniques that improve ability to read and comprehend college textbooks. Skills include pre-reading, skimming, scanning, marking, highlighting, and annotating.

COLL 100 F,W,Sp,S 5 credits
College Success
Emphasizes development of necessary skills for successful completion of college courses. Provides techniques and strategies to improve time management, memory, lecture note taking, textbook reading, outlining, learning styles, use of library, test preparation, and test taking. Focuses on how individuals become independent learners and critical thinkers. Empowers students to apply learning strategies in all other content classes. Prerequisite: Reading and writing skills at or above ENGL 075.

COLL 101 F,W,Sp,S 2 credits
First Year Seminar I
Explores foundational issues for success in college including an introduction to campus resources and college culture. Students will develop behaviors and attitudes characteristic of successful students; develop basic reading, study, and test-taking strategies; and create a plan for success during the next quarter and beyond. Prerequisite: COLL 101.

COLL 102 F,W,Sp,S 2 credits
First Year Seminar II
Continues the exploration of foundational issues for success in college including an introduction to campus resources and college culture. Students will continue to develop behaviors and attitudes characteristic of successful students; continue to develop and evaluate basic reading, study, and test-taking strategies; and create a plan for success during the next quarter and beyond. Prerequisite: COLL 101.

COLL 103 F,W,Sp,S 2 credits
First Year Seminar III
Continues the exploration of foundational issues for success in college with an emphasis on critical thinking strategies. Students will continue to develop behaviors and attitudes characteristic of successful students; continue to develop and evaluate basic reading, study, and test-taking strategies; and create a plan for success during the next quarter and beyond. Prerequisite: COLL 102.

COLL 104 F,W,Sp,S 1 credit
College Knowledge
Prepares students to transition from Basic Skills, Career Education Options, or Developmental Education courses to college level courses or employment by providing students with tools to create a plan for success.
COLL 105  F,W,Sp,S  5 credits
Career Plan/Exploration
Launches students into an investigation of interests, values, and careers, followed by decision-making and goal setting.

Computer Science (CS)

CS 100  F,W,Sp,S  5 credits
Introduction to Information Systems
Presents a general overview of information technology. Introduces the student to the complex array of components that make up an information system. The technology and human issues involved in developing a successful information system as well as career paths and ethical issues facing these professionals will be covered.

CS 102  F,W  5 credits
Introduction to Internet Theory, Application, and Web Page Design
Offers concepts, fundamentals, and techniques of web page design, and introduction to Internet networking principles. Topics include web page usability, design principles and development, site planning, and implementation. (X)HTML scripting language and Cascading Style Sheets are used to create structural and presentational web pages. Students will use concepts presented in the course for development of personal and commercial web pages.
Prerequisite: CS 100 with a grade of C or better, or instructor permission.

CS 104  S  5 credits
Intermediate Web Page Design
Continuation of Web Page Design using client and server side scripted/programming languages and dynamic page coding to extend design capabilities and Web Site effectiveness. Methods introduced include browser control, security related issues, and Web Page structural/presenational control using these languages. (Formerly known as CIS 104)
Prerequisite: CS 102, CS 170 or equivalent, or instructor permission.

CS 110  F,W,Sp,S  3 credits
Introduction to Microcomputer Applications
Introduces the student to microcomputers and software applications. Windows, word processing, and electronic spreadsheets basics are presented.
Prerequisite: Ability to use a keyboard.

CS 111  F,W,Sp  4 credits
Intro to Windows
Offers an introduction to the study of the Microsoft Windows operating systems. Presents fundamental concepts of a Microsoft Windows client operating system such as file management and customizing a graphical user interface (GUI).

CS 121  F,W,Sp  5 credits
Introduction to Spreadsheets
Introduces the use of spreadsheet programs in business applications. Provides practical experience in using a spreadsheet to solve common business problems.
Prerequisite: BTEC 104 or CS 110, and MATH 089 or TECH 089 or BUS 104, or instructor permission.

CS 122  5 credits
Advanced Spreadsheet Applications
Introduces advanced spreadsheet topics. Explores complex features such as macros, data management, and advanced formulas and functions to solve business problems. Demonstrates spreadsheets as business analytics and statistical analysis tools.
Prerequisite: CS 121 with a grade of C or better, or instructor permission.

CS 130  F,W,Sp  5 credits
Introductory Database Applications
Offers an introduction to the study and use of computerized database management systems. This course provides basic database theory and application in a disciplined approach to problem solving in a business environment.
Prerequisite: CS 121 with a grade of C or better, or instructor permission.

CS 141  F,W  5 credits
PC Technician I
Provides an overview of the roles of the PC technician. Prepares students for PCPro and CompTIA A+ certification exams. The roles of a PC Technician including protection and safety of users, acting in a professional manner, communication and documentation are examined. Technical topics covered include installation, maintenance and troubleshooting of system components, peripheral devices, storage, printers, and networking.
Prerequisite: CS 100 with a C or better, or concurrent enrollment with CS 100, or instructor permission. Concurrent requirements: MATH 078/079 or instructor permission.

CS 142  5 credits
PC Technician II
Continues student's preparation for the PC Pro and the A+ certification exams. Topics include installation, maintenance and troubleshooting mobile devices, Microsoft Windows system management and installation, security and troubleshooting stand-alone and networked systems.
Prerequisite: CS 141 and MATH 078/079 with a C or better or instructor permission. Concurrent requirement: MATH 088/089 or instructor permission.

CS 143  Sp  5 credits
Configuring Windows Operating Systems
Prepares students for Microsoft's Certification: Configuring Windows operating system. It focuses on installing, deploying, configuring, monitoring, and maintaining systems that run Microsoft Windows OS. Installation, system images, application, networking, resource allocation, mobile computing, monitoring, maintenance, backup and recovery topics are included.
Prerequisite: CS 142 with a C or better, or concurrent enrollment with CS 142, or instructor permission.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Term</th>
<th>Credits</th>
<th>Course Title</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 170</td>
<td>F,W,Sp</td>
<td>5</td>
<td>Fundamentals of Computer Programming</td>
<td>NS&lt;br&gt;Offers an introduction to computer programming concepts and the development of applications. Program development, style, testing, and documentation are presented, discussed and applied using the C++ programming language. This course is a beginning course for CS majors and others, such as engineering transfer students, wishing an introduction to structured computer programming. Prerequisite: MATH 089 or TECH 089 with a grade of C or better, and knowledge of Windows is required; or instructor permission.</td>
</tr>
<tr>
<td>CS 175</td>
<td>Sp</td>
<td>5</td>
<td>Event-Driven Programming</td>
<td>Offers an introduction to designing and implementing Windows applications using Visual Basic. Concepts involving event-driven programming, graphical user interface design, and algorithm implementation are covered. Prerequisite: CS 170 with a grade of C or better, or instructor permission.</td>
</tr>
<tr>
<td>CS 208</td>
<td>W</td>
<td>5</td>
<td>Introduction to Management Information Systems</td>
<td>Introduction to the principles, roles, and application of Management Information Systems (MIS) in business. Investigations into MIS include hands-on lab experiences and case studies. Prerequisite: BUS&amp; 101, ENGL&amp; 101, or instructor permission. CS 110 recommended.</td>
</tr>
<tr>
<td>CS 211</td>
<td>F</td>
<td>5</td>
<td>Networking Basics</td>
<td>Prepares students for Test Out’s Network Pro and CompTIA’s Network+ certification exams. Focuses on configuring, managing and troubleshooting the elements of a basic network infrastructure. Emphasis is on network fundamentals including design, hardware, software and security. Prerequisite: CS 141 with a grade of C or better or instructor permission.</td>
</tr>
<tr>
<td>CS 212</td>
<td>W</td>
<td>5</td>
<td>Local Area Networks: Theory and Application</td>
<td>Prepares students for Microsoft’s Configuring Windows Server active Directory Exam. Focuses on configuring, managing and troubleshooting the computing environment of medium to large companies. Prerequisite: CS 211 with a grade of C or better or instructor permission.</td>
</tr>
<tr>
<td>CS 213</td>
<td>Sp</td>
<td>5</td>
<td>Local Area Networks: Theory and Application</td>
<td>Prepares students for the Microsoft Technology Specialist exam: Windows Server Network Infrastructure Configuring. Focuses on the details of configuring the infrastructure of a network. Prerequisite: CS 212 with a grade of C or better or instructor permission.</td>
</tr>
<tr>
<td>CS 230</td>
<td>F</td>
<td>5</td>
<td>Database Development</td>
<td>Offers further study and use of computerized database management systems. Provides intermediate theory and practice in a disciplined approach to problem solving using a database management system in a business environment. Prerequisite: CS 130 with a grade of C or better or instructor permission.</td>
</tr>
<tr>
<td>CS 249</td>
<td>W</td>
<td>5</td>
<td>Linux Operating Systems</td>
<td>Prepares students for application of Linux+ certification knowledge and skills. Course is focused on meeting Comptia Linux+ certification objectives in both knowledge and hands on lab practice. It is recommended that most students will need some experience with Linux in the workplace prior to attempting the Linux+ exam. Prerequisite: CS 143 and CS 211 each with a grade of C or better, or instructor permission.</td>
</tr>
<tr>
<td>CS 250</td>
<td>W</td>
<td>4</td>
<td>Digital Forensics &amp; Law</td>
<td>Covers legal topics related to the process of digital forensics including case law, legal/administrative procedure, and forensic protocols. Students will study topics through case examples, readings, and guest speakers. This course is for students who are CS majors, Business and Law Enforcement personnel. Prerequisite: Instructor permission.</td>
</tr>
<tr>
<td>CS 251</td>
<td>Sp</td>
<td>5</td>
<td>Digital Forensics Incident</td>
<td>Introduces students to the basic procedures and methods used in digital forensics to properly capture digital content from digital devices and complete a preliminary analysis of data. This is a hands-on course focused on following sound forensic procedures and methods. Prerequisite: CS 250.</td>
</tr>
<tr>
<td>CS 252</td>
<td>S</td>
<td>5</td>
<td>Collect/Exam Digital Evidence</td>
<td>Continues collection and examination of evidence and preparation of reports of findings through a full digital forensics situation. Topics include finding data, encryption and passwords, log and history analysis, event and registry methods, metadata, and handling virus and malware in case analysis. Prerequisite: CS 251 AND CS 142 or instructor permission.</td>
</tr>
<tr>
<td>CS 253</td>
<td>F</td>
<td>4</td>
<td>Digital Forensics Live &amp; Mobile</td>
<td>Covers digital forensics skills, procedures, and methods used in acquiring potential digital evidence in live network and computer environments. Students will also investigate and apply skills to a variety of mobile digital devices encountered by the digital forensics analyst. Prerequisite: CS 252 AND CS 142 or instructor permission.</td>
</tr>
</tbody>
</table>
Degrees/Certificates

COURSE DESCRIPTIONS

CS 260 Sp 5 credits
Info Tech Security
Prepares students for application of Security+ certification knowledge and skills. Course is focused on meeting Comptia Security+ certification objectives in both knowledge and hands on lab practice. It is recommended that most students will need some experience with Linux in the work place prior to attempting the Security+ exam. Completion of this course does not guarantee passing the certification exam. Prerequisite: CS 211 with a grade of C or better, or instructor permission.

CS 270 F 5 credits
Data Structures I
Offers a detailed study of structured and object-oriented programming, including algorithms, searching and sorting, and data structures using the programming language C++. Prerequisite: MATH 099 or TECH 099 and CS 170, both with a grade of C or better, or instructor permission.

CS 275 W 5 credits
Object-Oriented Programming in Java
Offers an introduction to the object-oriented programming paradigm using Java. Various object-oriented programming concepts will be discussed. Object-oriented programs will be developed and implemented. Prerequisite: CS 170 with a grade of C or better, or instructor permission.

CS 280 Sp 5 credits
Advanced Data Structures
Offers a detailed study of advanced data structures, including the analysis of algorithms and object-oriented programming using the programming language C++. Prerequisite: CS 270 and MATH& 141 (was MATH 112) both with a grade of C or better, or instructor permission.

CS 281 S 5 credits
Digital Design/Comp Org
Introduces elementary digital logic design and the organization of computers. Prerequisite: MATH& 141 (was MATH 112) and CS 270, both with a grade of C or better, or instructor permission.

CS 282 W 5 credits
Assy Lang Prog
Introduces protected-mode assembly language programming. Covers assembly language concepts and code in the context of either “C” or C++. Prerequisite: CS 281 with a grade of C or better, or instructor permission.

CS 285 S 5 credits
Programming Tools
Covers tools and techniques which facilitate programming and debugging, including debuggers, profilers, scripting, and C and C++ programming under the Linux operating system. Prerequisite: CS 270 with a grade of C or better, or instructor permission.

Criminal Justice (CJ)

CJ 100 15 credits
Basic Law Enforcement
Addresses criminal law, evidence, administration of justice, investigation, patrol, traffic, and juvenile procedures. This 16-week course, containing 450 hours of instruction, is designed to meet the standards of the Washington Law Enforcement Officers Training Commission basic school for newly employed officers. This course is open only to active law enforcement officers.

CJ& 101 F 5 credits
Introduction to Criminal Justice SS
Introduces and provides an overview of the various agencies involved in the administration of criminal justice, including local, state, and federal agencies as well as a history of police and corrections. Students will study how our criminal justice system evolved and how it functions, examined from the perspective of the Constitution through the criminalization process of investigation, arrest, trial, and post-trial procedures.

CJ& 110 F 5 credits
Criminal Law
Focuses on an explanation of criminal law principles including a discussion on crimes against person and property.

CJ 154 W 5 credits
The American Legal System
Introduces students to the philosophy of our legal system as well as how the various actors within the system interrelate.

CJ 181 W 3 credits
Report Writing for Law Enforcement
Prepares students interested in law enforcement to write effective and concise police reports. Strong emphasis is placed on observation, note taking, and narrative skills.

CJ 183 W 5 credits
Administration of Justice
Studies criminal justice in the State of Washington, including analysis of the laws of arrest, search and seizure, grand jury proceedings, extraditing, pretrial procedures, conduct of criminal trials, rights of the accused, motions, appeals, probation, and parole. The course includes organization and jurisdiction of the Federal Court System and a study of U. S. Supreme Court decisions affecting law enforcement.

CJ 185 5 credits
Community Policing
Covers the evolution of community policing. It will address the need to understand and involve the community; communicating with diverse populations; building partnerships with the media and bringing youths into community policing. The course will focus on community policing, gangs, and preventing violence.
COURSE DESCRIPTIONS

**CJ 187** F,Sp 3 credits
**Crisis Intervention for Professionals**
Provides a basic multidisciplinary understanding of what a mental disorder/illness is and how to help a person experiencing a mental health crisis. De-escalation and communication techniques specific to professions such as education, medicine, and law enforcement - anyone who may encounter persons experiencing a mental health crisis - will be the focus of lecture and group discussions.

**CJ 260** Sp 5 credits
**Physical Evidence and Criminalistics**
Studies collection and preservation of physical evidence, scientific aids, modus operandi, and crime scene search and includes examination of physical evidence and evaluation of findings in terms of legal questions involved. The course also surveys problems relating to homicide, drugs, arson, and burglary.

**CJ 286** 5 credits
**Criminal Law Administration**
Provides a study of legal limitations on law enforcement practices and procedures, including analysis of eye-witness identification procedures, criminal interrogations and confessions, the law of arrest, the exclusionary rule, search and seizure, and the constitutional limitations on legislative power to create and define criminal offenses.

**DANCE (DANCE)**

**DANCE 100** F,W 2 credits
**Introduction to Dance**
Students will study concepts and practice the fundamentals of ballet, modern, and jazz dance. Students will participate in some physical exercise including a full body warm-up to begin class. Prior dance experience is not necessary. Students will learn short dance combinations involving body awareness, mental and physical discipline, balance, bodytoning, strength and flexibility as well as rhythmic awareness.

**DANCE 105** Sp 2 credits
**Introduction to Jazz Dance**
Studies the concepts relevant to movement and practices the fundamentals of jazz dance. Students will learn short jazz dance combinations involving body awareness, mental and physical discipline, balance, bodytoning, strength, flexibility, and rhythmic awareness. Prior dance experience is not necessary.

**DANCE 110** 2 credits
**Introduction to Tap Dance**
Introduces fundamentals of tap dance. Students will learn short dance combinations involving body awareness, mental and physical discipline, balance, strength and rhythmic awareness. Students will participate in physical exercise while dancing. Classes incorporate a full body warm-up including stretching, balance, and leg strengthening exercises providing a moderate cardio exercise. Prior dance experience is not necessary.

**DANCE 151** F 1.5 credits
**Show Dance I**
Covers the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course is designed for Music Majors, Dance Majors and Theatre Majors planning to transfer and complete a four-year degree in music, dance or theatre; or for those students desiring to participate in a song and dance performance choir.
Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

**DANCE 152** W 1.5 credits
**Show Dance II**
Demonstrates the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course is designed for Music Majors, Dance Majors and Theatre Majors planning to transfer and complete a four-year degree in music, dance or theatre; or for those students desiring to participate in a song and dance performance choir.
Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

**DANCE 153** Sp 1.5 credits
**Show Dance III**
Explores the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.
Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

**DANCE 197** F,S 1-5 credits
**Rehearsal and Performance I**
Provides experience for students who participate in dance performances and performing arts productions not associated with current enrollment in a dance course. This includes dancers, choreographers, designers, technicians, and support personnel. Students must successfully complete the rehearsal process through the final performance.
Prerequisite: Instructor permission.
DANCE 251  F  1.5 credits
Show Dance IV  H,P
Distinguish the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.
Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 252  W  1.5 credits
Show Dance V  H,P
Expands on the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.
Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 253  S  1.5 credits
Show Dance VI  H,P
Further expand on the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.
Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

Diesel & Heavy Equipment Technology (DHET)

DHET 100  F  5 credits
Essentials of Mechanics
Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventative/predictive maintenance. This is an introductory course for beginning students of Automotive or Diesel Technology. Course can be waived if student has completed principles of technology and auto program in high school.

DHET 101  W  5 credits
Electrical Systems I
Covers the theory of electricity from fundamentals through solid state. Includes Ohm’s Law, series, parallel, and series-parallel circuits. Automotive wiring and circuits will be included as well as how to read wiring diagrams and circuit tracing and repair. Course can be waived if student has completed principles of technology and auto program in high school.

DHET 102  W  10 credits
Electrical Systems II
Presents brief review of the theory of electricity. Covers theory, diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, (e.g. power windows, power seats), and computer operation and circuit analysis. Also covered are high voltage energy, distributorless, and breaker point ignition systems.
Prerequisite: DHET 101 or instructor permission.

DHET 104  Sp  8 credits
Vehicle Climate Control
Covers the theory of operation, design, diagnosis and repair of both manual and automatic heating, ventilation and air conditioning systems (HVAC) used in automobiles, trucks and heavy equipment. Emphasis is on component identifications, performance testing, recovering, evacuation and recharging. Covers materials necessary to pass ASE (A7) test.
Prerequisite: DHET 102 or instructor permission.

DHET 111  Sp  5 credits
Hydraulic Brakes
Covers the theory of hydraulics, fundamentals of manual, power, drum, and disc brake systems. This is a first-year course and may be waived with the instructor permission.

DHET 115  Sp  5 credits
Air Brake System
Offers training on vehicle air brake systems with coverage of compressors, valves and brake foundation. Emphasis will be placed on maintaining Federal Motor Vehicle Safety Standards.

DHET 125  Sp  5 credits
Heavy Duty Chassis Maintenance
Offers training in the repair, maintenance, and diagnosis of heavy equipment frames, steering, suspension, wheels, tires and undercarriage.

DHET 141  F  4 credits
Hydraulics I
Studies the basic principles, operation, maintenance and basic design of mobile hydraulic systems.
DHET 142 F 6 credits
Hydraulics II
Provides a more in-depth look at hydraulic pumps, valves, and actuators in mobile hydraulic systems. Emphasizes testing, diagnosis and the repair of hydraulic systems. Prerequisite: DHET 141 or MFG 140 or concurrent enrollment.

DHET 210 W 16 credits
Diesel Engine Rebuild
Studies the operation, maintenance, repair, and overhaul of diesel engines used in heavy equipment. Required course for all Diesel/Heavy Equipment Technology majors. Prerequisite: DHET 100.

DHET 215 F 15 credits
Heavy Duty Engine Performance
Studies factors and components that affect diesel engine performance, fuel economy, and exhaust emissions. Includes fuel system and valve train problem diagnosis, maintenance, repair, and adjustment. Prerequisite: DHET 102 or instructor permission.

DHET 216 F 5 credits
Auto/Diesel Tune Up and Performance
Provides a study of the diesel fuel systems and electronic engine controls found in modern high speed diesel engines. This course will introduce students to the theory of fuel system operation, troubleshooting and the servicing of modern high speed diesel engines found in light and medium duty vehicles, cars and boats. Prerequisite: DHET 102 or instructor approval.

DHET 220 Sp 10 credits
Heavy Duty Power Trains
Provides study of the principles of operation, maintenance, problem diagnosis, and repair of clutch systems, manual transmission, automatic transmission, power take-off, transfer cases, drive lines, differential assemblies and final drives used in trucks and heavy equipment.

DHET 228 2 credits
Truck Driving for Technicians
Prepares second-year Diesel students to pass Washington State CDL tests (written and driving) using a combination of classroom and driving time. This class is not intended to prepare students for a career in truck driving. Rather, it prepares diesel technology students to test drive and relocate commercial vehicles. Prerequisite: DHET 102, 141, and 142, or instructor permission.

DHET 230 Sp 5 credits
Advanced Shop Practices
Provides a review of key skills learned in previous diesel program courses and reinforce industry shop practices. Emphasis will be placed on time management and documentation. A course for Diesel AAS students. Prerequisite: Completion of 60 DHET credits.
**Drama (DRMA)**

**DRMA& 101**  
**F,W,Sp**  
**5 credits**  
**Introduction to Theatre:DIV**  
H,P  
Covers the development of theatre in western society from the ancient Greece up to today. The various areas of theatre required to produce a play are studied: set, light and costume design; various approaches to acting including working in small groups to understand the complexity of theatre in society today. Students read, write directed entries and seminar on plays from various playwrights to show how plays connect to the times in which they were written and how plays reflect upon and shape community values. The Center Stage production for the quarter focuses on a single play using acting, directing, designing, producing and its historical and social context to illustrate the complex nature of taking a play from the printed page to the stage.

**DRMA 106, 107, 108 F,W,Sp,S**  
**5 credits**  
**Introduction to Acting I, II, III**  
H, P  
A beginning acting course involving movement, voice production, improvisation, and scene work. Group work is used to allow each student to be comfortable in interactions with other people. Students are not required to be in the current Center Stage production. No prior acting is required.

**DRMA 116, 117, 118 F,W,Sp,S**  
**5 credits**  
**Stage Crafts I, II, III**  
Teaches technical areas involved in producing a play through lecture and application of skills learned in selected technical areas from design to construction to production. Practical experience is gained in sets, costumes, lights, and by serving on stage crew for the current Center Stage production.

**DRMA 119**  
**5 credits**  
**Introduction to Theatre Design and Technology**  
Introduces set, costume and light design, using the current production as the basis for exploring technology in the theatre. Current theatre practices using computer programs for each discipline in both analog and digital format are applied. Included are computer-assisted set, and light and sound production in both analog and digital formats. Computer programs include Vector Works, Adobe Soundbooth, Sketch Up Pro, and Show Cue System. Practical experience is gained through application of principles learned by using theatre facilities of Center Stage and the Wollenberg Concert Hall and by serving on stage crew for the current Center Stage production.

**DRMA 147**  
**F,W,Sp,S**  
**2 credits**  
**Audition Techniques**  
Introduces audition techniques through preparation, performance and workshops of monologues and musical theatre repertoire. Focuses on interpretation, stage presence, performance etiquette and repertoire selection. Additionally, this course will cultivate successful audition techniques and create a market audition package including, headshot, resume, and portfolio.

**DRMA 196, 197, 198, 296, 297, 298**  
**F,W,Sp,S**  
**1-5 credits**  
**Rehearsal and Performance I, II, III, IV, V, VI**  
Credit and experience for students who participate in the Center Stage production for the quarter. This includes actors, directors, designers, technicians, and support personnel. Students must successfully complete the rehearsal process through the final performance.

**DRMA 206, 207, 208 F,W,Sp**  
**5 credits**  
**Acting I, II, III**  
Emphasizes development and application of acting concepts used in creating a role. Includes voice, physical movement, audition techniques, styles and periods of acting. Designed for the advanced acting student. Students are not required to be in the current Center Stage production.

**DRMA 210**  
**5 credits**  
**Masks**  
Introduces masks as a component of actor training for use on the stage and for understanding various cultures throughout the world. The mask helps develop the ability to concentrate, diminish self-consciousness, center the body, expand the body awareness, and develop outward expressions through physicalization, improvisation and scene work.

**Early Childhood Education (ECED)**

**ECED 079**  
**1 credit**  
**Math Methodology for Educators I**  
This methodology course strengthens student understanding of arithmetic of pre-algebra concepts including operations on signed numbers, operations on fractions, operations on decimals, ratio and proportion, exponents, measurement, and geometry to prepare the student to teach math standards to children age birth through age 8. Concurrent enrollment in MATH 079 is required.

**ECED 089**  
**1 credit**  
**Math Methodology for Educators II**  
This methodology course strengthens student understanding of arithmetic of basic algebra skills including properties of real numbers, solving equations and inequalities, graphing, and factoring to prepare student to teach math standards to children age birth through age 8. Concurrent enrollment in MATH 089 is required. Prerequisite: MATH 079 with a grade of C or better.

**ECED 099**  
**1 credit**  
**Math Methodology for Educators III**  
This methodology course strengthens student understanding of arithmetic of concepts covered in Elementary Algebra in greater depth to prepare students to teach math standards to children age birth through age 8. Concurrent enrollment in MATH 099 is required. Prerequisite: MATH 089 with a grade of C or better.
ECED& 100  3 credits
Child Care Basics
Provides thirty-hours of coursework/training that meets the Washington State Training and Registry System (STARS) essential foundations for childcare. Upon completion, students will be guided through the Registry system. Designed to meet basic training outcomes for personnel in Early Childhood and School-age center as mandated by the Washington State Legislature and outlined by Washington State Training and Registry System (STARS).

ECED& 105  5 credits
Intro Early Childhood Ed
Provides an overview of the foundations of early childhood education. Examines theories defining the field, issues and trends, best practices, and program models. Provides observation of children, professionals, and programs in action.

ECED& 107  5 credits
Health Safety and Nutrition
Develops knowledge and skills to ensure good health, nutrition, and safety of children in a group care and education program. Recognizes the signs of abuse and neglect, responsibilities for mandated reporting, and available community resources.

ECED 116  1 credit
Building Bridges: Guiding Behavior of Young Children
Focuses on strengthening relationship-based care as an essential component of positive guidance. Participants will identify their own personal view or ‘image’ of the child and correlates this image with beliefs about guidance. Strategies to encourage caregivers to bond with children in their care will be introduced.

ECED 117  1 credit
Building Bridges: The Encouraging Classroom
Focuses on using the environment to support children’s positive behavior, developmentally appropriate guidance practices, guidance versus punishment, and involving families to support children’s social and emotional growth.

ECED 118  1 credit
Building Bridges: Positive Guidance
Focuses on positive communication and direct guidance techniques to support children’s social/emotional development and strategies for specific challenging behaviors.

ECED& 120  2 credits
Practicum-Nurturing Relationships
Applies theories of best practice in an early learning setting. Focuses on developing supportive relationships while keeping children healthy and safe.

ECED 127  3 credits
Practicum II/Curriculum
Integrates the practicum experience with Developmentally Appropriate Early Childhood observation techniques. Designed to increase objectivity and skill in recording the behavior of young children. Students are required to work in an Early Childhood setting and to plan and implement appropriate activities to facilitate observation and recording of behavior. Students will be observed by the instructor and meet with the instructor in weekly seminar sessions. Prerequisite: ECED 126 with a grade of C or better, or instructor permission.

ECED 128  3 credits
Practicum III/Learning Stories
Refines and continues skills acquired in Practicum I and II and continues to develop skills required of persons with primary responsibility for groups of young children as outlined by the Washington State Skills Standards Project. Skills are practices in an early childhood setting. Prerequisite: ECED 126 and 127 with a grade of C or better, or instructor permission.

ECED& 132  3 credits
Infants/Toddler Care
Examines the unique developmental needs of infants and toddlers. Study the role of the caregiver, relationships with families, developmentally appropriate practices, nurturing environments for infants and toddlers, and culturally relevant care.

ECED& 134  3 credits
Family Child Care
Presents the basics of home/family child care program management. Topics include: licensing requirements; business management; relationship building; health, safety & nutrition; guiding behavior and; promoting growth and development.

ECED 136  1 credit
Building Bridges: Infant Soc & Emotional Development
Early care and education professionals will learn about the emerging language of the young child, fostering secure caregiver-child relationships and the importance of culturally responsive partnerships with families.

ECED 137  1 credit
Building Bridges: Healthy Physical Development
Provides the early care and education professionals the components of quality infant/toddler care. This course will focus on care giving practices to support healthy and safe environments that support sensorimotor exploration. Participants will explore ways to partner with families to support the healthy development of the young child.
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<td>Building Bridges: Responsive Learning Environments</td>
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<td>ECED 261</td>
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<td>Practicum IV/Principles</td>
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**ECED 138 Sp 1 credit**

**Building Bridges: Responsive Learning Environments**

Provides the early care and education professionals tools to create safe, nurturing, and engaging environments to support culturally responsive early learning, brain and language development in the earliest years.

**ECED& 139 3 credits**

**Admin of Early Learning Programs**

Develops administrative skills required to develop, open, operate, manage, and assess early childhood education and care programs. Explore techniques and resources available for Washington State licensing and NAEYC standard compliance.

**ECED& 160 F 5 credits**

**Curriculum Development**

Provides an investigation of learning theory and its relationship to curriculum development for young children. Students will focus on methods for planning and evaluating developmentally appropriate curriculum to facilitate development in the areas of language, fine/gross motor, social-emotional, cognitive and creative based on the interests and cultures of families and children.

**ECED& 170 Sp 3 credits**

**Environments-Young Child**

Focuses on the adult’s role in designing, evaluation, and improving indoor and outdoor environments which ensure quality learning, nurturing experiences, and optimize the development of young children.

**ECED& 180 Sp 3 credits**

**Lang/Literacy Develop**

Develops teaching strategies for language acquisition and literacy skill development examined at each developmental stage (birth-age 8) through the four interrelated areas of speaking, listening, writing, and reading.

**ECED 186 F 3 credits**

**Social-Emotional Growth**

Studies the development of infant/toddler social and emotional competence including how infants grow in the context of nurturing environments and how their mental health involves the psychological balance of the infant-family system.

**ECED 187 W 3 credits**

**Language Development for Infants/Toddlers**

Explores the role of the care provider as a facilitator through observation and study in supporting cognitive and language development in infants and toddlers. Instructional strategies to foster language development including environmental design will be studied. Strategies are discussed to assist early childhood professionals in becoming culturally competent and responsive teachers who develop nurturing relationships with both children and families.

**ECED 188 Sp 3 credits**

**Group Care for Infants/Toddlers**

Explores the importance of a child’s attachment to primary care providers as a secure base for development. Emphasis will be given on creating a healthy, emotionally secure environment. Strategies are discussed to assist early childhood professionals in becoming culturally competent and responsive teachers who develop nurturing relationships with both children and families.

**ECED& 190 Sp 3 credits**

**Observation/Assessment**

Practice collecting and presenting observation data of children, teaching practices and learning centers in an early childhood setting.

**ECED 204 W 3 credits**

**Music and Movement for Young Children**

Provides ideas for creating movement and music programs appropriate for young children. The course emphasizes singing, movement, appropriate records, rhythm instruments, and other related media for creative activities throughout the day. Provides instruction on perceptual motor skills designed for young children.

**ECED 209 Sp 1 credit**

**Early Childhood Mentor Development**

Provides an overview of the phases of the mentor coach process. Includes instruction in the techniques of reflective practice, the benefits for the mentor partners, and the setting of goals and objectives which align with personal and organization values.

Prerequisite: Instructor approval required.

**ECED 219 Sp 3 credits**

**Math, Science and Computers in Early**

Designed to provide a working knowledge and understanding of math, science and computer concepts, developmentally appropriate activities and sequencing for the individual child as well as group experiences.

**ECED 220 W 3 credits**

**Arts and Crafts for Young Children**

Prepares students to present a developmentally appropriate creative art program to young children. Class will cover child developmental growth and the exploration of art process through media and materials.

**ECED 261 F 3 credits**

**Practicum IV/Principles**

Students will study the guiding Principles of Early Childhood Education and will have the opportunity to gradually assume the role of a lead teacher with a group of young children. Students observe and plan activities under the guidance of a mentor teacher and will also attend agency staff meetings.

Prerequisite: EDUC& 115, EDUC& 130, ECED& 105, ECED& 107, ECED& 120, ECED& 190, completed with a C or better and ENGL 099.
ECED 262  W  3 credits
Practicum V/Practice
Students will employ the guiding Practices of Early Childhood Education and will have the opportunity to assume the role of a lead teacher with a group of young children. Students observe and plan activities under the guidance of a mentor teacher and will also attend agency staff meetings.
Prerequisite: ECED 261.

ECED 263  Sp  3 credits
Practicum VI/Professionalism
Students will explore the Profession Code of Conduct as outlines by the National Association of Education of Young Children (NAEYC) and its application in the workplace. Students will have the opportunity to assume an in-depth role of a lead teacher with a group of young children. Students observe, assess and plan activities under the guidance of a mentor teacher and will also attend agency staff meetings.
Prerequisite: ECED 262.

Earth Science (ERSI)

ERSI 104  S  5 credits
Introduction to Earth Sciences  NSL
Provides a comprehensive picture of Earth and its unique place in the universe by examining major concepts from geology, oceanography, meteorology, and astronomy. Topics include Earth-Sun relationships, plate tectonics, rock cycle, evolution of stars, composition and structure of atmosphere, hydrosphere, and lithosphere, characteristics of oceans, solar systems, and stars.

ERSI 105  F,W,S  5 credits
Earth Systems  NSL
Presents a holistic view of Earth (our environment) as a system with emphasis on understanding the relationships of humans, atmosphere, hydrosphere, solid Earth, and biosphere. Major concepts are drawn from astronomy, meteorology, oceanography, geography, geology, biology, and ecology. Man’s part in the global ecosystem is analyzed, as is our dependence on natural resources. Presents a holistic view of Earth (our environments) as a system with emphasis on understanding the relationships of humans, atmosphere, hydrosphere, solid Earth, and biosphere. Includes lab.

ERSI 109  5 credits
Energy and Our Planet: Earth Sciences  NSL
Earth science is an explanation of the earth system and the energy that powers its subsystems. Concepts are from astronomy, meteorology, oceanography, geology, physical geography and ecology. Students will gain an understanding of the natural world and science, as well as develop skills to apply and teach how scientific principles apply to everyday life. Intended primarily for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab.

Economics (ECON)

ECON 104  S  5 credits
Contemporary Economic Issues  SS
Introduces basic economic models and applies these models to current economic problems. Addresses related policy options and choices.
Prerequisite: MATH 079 or TECH 079.

ECON 105  F,W,S  5 credits
Introduction to Economics  SS
Introduction to basic principles of macro and micro economics for the non-major. This course introduces the market and pricing system, the economics of the firm, the distribution of wealth and income, the institutional aspects of distribution, and international trade and monetary transaction, as well as the concepts of national wealth, operation of the United States economy, factors of production, and distribution of wealth. Additionally, this course discusses critical economic thought and its history.

ECON& 201  F,W,S  5 credits
Micro Economics  SS
Studies the market and pricing system, the economics of the firm, the distribution of wealth and income, the institutional aspects of distribution, and international trade and monetary transaction.
Prerequisite: MATH 088 or TECH 088 or BUS 104 and ENGL&101 or BUS 119.

ECON& 202  F,W,S  5 credits
Macro Economics  SS
Introduces concepts of national wealth, operation of the United States economy, factors of production, and distribution of wealth. Emphasis is on measurement and composition of national income and factors that affect its fluctuation.
Prerequisite: ECON& 201 with a grade of C or better.
**Education (EDUC)**

**EDUC& 115 F 5 credits**  
**Child Development**  
Builds a functional understanding of the foundation of child development, prenatal to early adolescence. Focus on the physical, social, emotional, and cognitive development of children, reflective of cross cultural and global perspectives. Develop skills in observing and documenting child growth and development, identify theory in practice, and critical reflection of assumptions.

**EDUC 119 W 2 credits**  
**Curriculum and Instruction**  
Investigates learning theories and their relationship to the curriculum design process, course development, implementation, and evaluation. Focus is placed on gaining a working understanding of the State Learning Goals and Essential Academic Learning Requirements.

**EDUC& 130 S,S 3 credits**  
**Guiding Behavior**  
Examines the philosophical principles and theories promoting social competence in young children and creating safe learning environments. Develop skills promoting effective interactions, providing positive individual guidance, and enhancing group experiences.

**EDUC& 136 F 3 credits**  
**School Age Care**  
Develops skills to provide developmentally appropriate and culturally relevant activities and care, specifically: preparing the environment, implementing curriculum, building relationships, guiding academic/social skill development, and community outreach.

**EDUC 140 Sp 3 credits**  
**Education And The Law**  
Surveys the legal, health, and safety issues as they pertain to the rights and responsibilities of teachers and students within the school setting, including safety in the workplace. Other topics include child abuse and neglect laws, reporting procedures, the Code of Ethics, ADA, contracts, tenure, dismissal procedures, and academic freedom.  
Prerequisite: ENGL 101& with a grade of C or better.

**EDUC& 150 Sp 3 credits**  
**Child/Family/Community**  
Integrates the family and community contexts in which a child develops. Explores cultures and demographics of families in society, community resources, strategies for involving families in the education of their child, and tools for effective communication.

**EDUC 191 F 3 credits**  
**Introduction To Tutoring**  
Trains tutors in the basic techniques involved in helping others learn how to learn. These techniques include effective communication, human relations training, teaching strategies and study skills. Practice in utilizing tutoring skills will be incorporated. Actual tutoring experience will be evaluated during the quarter.

**EDUC& 203 W 3 credits**  
**Exceptional Child**  
Provides an overview of programs for young children with special needs, including current issues and trends, the identification and assessment process, the IEP/IFSP process, and a look at some intervention and instructional strategies for working with young children with special needs.

**EDUC& 205 F,W,Sp 5 credits**  
**Intro to Education w/Field Experience:DIV**  
Introduces the field of education. Integrates readings, lectures, discussions, written assignments, student presentations, guest speakers, and participation in actual elementary classrooms to provide students with a broad survey of the K-12 educational system. Addresses the multicultural and diverse experiences of students in the educational setting.

**EDUC 214 3 credits**  
**Instructional Strategies**  
Provides an overview of the role of the teacher as facilitator. Includes instruction in knowledge and application of various classroom teaching techniques, lesson planning, and questioning skills. Provides a framework for understanding and applying fundamental elements and essential principles of instruction.

**EDUC 215 3 credits**  
**Classroom Management**  
Provides pre-service teachers the necessary skills to observe and manage all aspects of the classroom. Topics include discipline, student evaluations, record keeping, grouping strategies, classroom environments, safety in the classroom, and application of ‘best practices’ curriculum.

**Engineering (ENGR)**

**ENGR 106 Sp 3 credits**  
**Engineering Problems NS**  
Introduces engineering and the engineering professions. Emphasizes analysis of actual engineering problems at the mathematical and reasoning levels of introductory students. Within this analytical framework, tools and concepts such as measurement theory, error analysis, dimensional analysis, metric units, systems of modeling, engineering design, and principles of elementary physics are incorporated.  
Prerequisite: High school or 100-level physics or chemistry, or instructor permission. Concurrent enrollment in MATH& 142.
ENGR& 121 F,W,Sp,S 1-3 credits
Engineering Graphics I
Involves students in communicating design ideas, developing visualization abilities, and analyzing engineering data through the use of graphical techniques and practices. Includes free-hand sketching, use of drafting instruments, line work, lettering, orthogonal projection, pictorials, basic dimensioning, and an introduction to computer-aided design modeling.

ENGR& 122 F,W,Sp,S 1-3 credits
Engineering Graphics II
Involves students in the use of graphical techniques and practices applied towards engineering design and analysis. Includes dimensioning and tolerancing, descriptive geometry, production of working drawings, advanced computer-aided design modeling, and an introduction to parametric solid modeling.
Prerequisite: ENGR& 121 or instructor permission.

ENGR& 123 F,W,Sp,S 1-3 credits
Engineering Graphics III
Involves students in the use of parametric solid modeling towards design on three-dimensional part and assembly models. Includes creating part and assembly drawings from 3D models, modifications throughout the design process, and comparing the many parametric solid modeling software packages available.
Prerequisite: ENGR& 121 and ENGR& 122 or instructor permission.

ENGR& 204 Sp 6 credits
Electrical Circuits
Provides application of fundamental electrical principles in designing engineering solutions associated with linear circuit analysis, mathematical models of electrical components and circuits; sources, resistors, capacitors, inductors, operational amplifiers, and associated simple differential equations.
Prerequisite: PHYS 222, MATH& 152 and computer literacy.

ENGR 205 Sp 5 credits
Design Of Logic Circuits
Covers the design, analysis, and implementation of combinational logic circuits. Introduces sequential logic circuits.
Prerequisite: MATH& 141.

ENGR 206 W 5 credits
Microprocessor Systems
Covers microprocessor/microcontroller system architecture, instruction sets, interfacing, assembly and C language programming.
Prerequisite: CS 270, ENGR 205.

ENGR 210 5 credits
The Environmental Physics of Energy NS
Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. Students cannot receive credit for both ENGR 210 and PHYS 210.
Prerequisite: Algebraic, writing, and presentation skills; a previous distribution science course (e.g. PHYS& 100) would be helpful.

ENGR& 214 F 5 credits
Statics
Engages student use of vector algebra and the sweeping power of a few fundamental principles to design real engineering solutions to problems involving discrete and distributed forces, resultants, equations of equilibrium, moments about points and lines, centroids, moments of inertia, and the principle of virtual work.
Prerequisite: MATH& 151 and either PHYS 251 or ENGR 106.

ENGR& 215 Sp 5 credits
Dynamics
Engages student application of vector algebra and the sweeping power of a few fundamental principles to design real engineering solutions to problems involving translational and rotational motion associated with kinematics, kinetics, the impulse-momentum and work-energy principles, and related topics.
Prerequisite: ENGR& 214, MATH& 152, and PHYS 251 or instructor permission.

ENGR& 224 Sp 5 credits
Thermodynamics
Encourages student application of basic principles of macroscopic thermodynamics to design solutions to engineering problems involving energy transformations and state changes, the first and second principles of thermodynamics, macroscopic properties of substances, flow analysis, entropy, equations of state, power and refrigeration cycles, and thermodynamic relations.
Prerequisite: ENGR& 214, PHYS 251, and MATH& 152 or instructor permission.

ENGR& 225 Sp 5 credits
Mechanics of Materials
Engages students in application of fundamental principles and concepts of stress, strain and their relationships to design engineering solutions associated with axial loads, torsion and bending, combined stresses, properties of materials, columns, and repeated loadings.
Prerequisite: ENGR& 214, concurrent enrollment in MATH& 152, and PHYS 252 or instructor permission.
English (ENGL)

ENGL 065 F,W,Sp,S 5 credits
Reading and Writing Basics
Provides an understanding of the reading and writing process including how to write clear sentences and paragraphs. Instruction in vocabulary development and effective reading are also covered. Students have opportunities to work individually as well as in collaboration with others. Prerequisite: COMPASS score of 40-68 in reading.

ENGL 072 F,W,Sp,S 1-2 credits
Sentence and Paragraph Structure
Provides opportunity to improve skills writing complete and coherent sentences and paragraphs. Sentence patterns, paragraph development, and paragraph unity also are presented. This individualized course may be used to satisfy the high school English equivalency requirement.

ENGL 073 F,W,Sp,S 1-2 credits
The College Essay
Presents an opportunity for improvement in short essay writing. Topics include developing the introduction, body, and conclusion, and using transitions to aid coherence. This individualized, pre-college-level lab course may be used to satisfy the high school English equivalency requirement. Course designed for students needing a refresher course on essay-writing before entering, or concurrent with taking, ENGL 099 or TECH 105.

ENGL 075 F,W,Sp,S 5 credits
Reading and Writing Improvement
Provides instruction in improving reading and writing. Emphasizes on using steps of the writing process to achieve clear expression and, at the same time, how to improve literal and critical reading expression; also stresses improving literal and critical reading comprehension skills. Students needing additional remediation will complete individualized reading, spelling and/or grammar modules in Self-Paced Learning. Prerequisite: COMPASS scores of 69-80 in reading or completion of ENGL 065 with a grade of C or better.

ENGL 090 F,W,Sp,S 1 credit
Spelling Improvement
Provides a review of basic spelling patterns, including consonant and vowel sounds, blends, plurals, and common confusing words. Emphasis is placed on learning and using tools for catching and correcting spelling errors. An initial diagnostic test will determine placement.

ENGL 094 1-3 credits
SP Learn Lab Practicum
Provides individualized plans to master language, reading comprehension, and/or study skills as recommended by the instructor and/or student. This course is graded on a pass/fail basis.

ENGL 095 F,W,Sp,S 1 credit
Vocabulary Building
Improves vocabulary skills for reading, writing, and speaking. Develops skills for determining the meaning of unfamiliar words.

ENGL 096 F,W,Sp,S 2 credits
Reading Workshop I
Provides individualized and group instruction in reading. Students will explore their strengths and weaknesses in reading and learn to draw upon strengths to overcome comprehension barriers and successfully build from written texts.

ENGL 097 F,W,Sp,S 2 credits
Reading Workshop II
Continues individualized and group instruction in reading. Students will explore their strengths and weaknesses in reading and learn to draw upon strengths to overcome comprehension barriers and successfully build from written texts.

ENGL 098 F,W,Sp,S 5 credits
College-Ready English I
Introduces skills for reading college-level texts and writing college-level papers. Provides strategies for generating, developing, supporting, and organizing ideas, as well as revising for coherence, clarity, correctness, and documentation. This is an outcomes-based pathway to college-level composition courses.

ENGL 099 F,W,Sp,S 5 credits
College-Ready English II
Provides individualized plans to master language, reading comprehension, and/or study skills as recommended by the instructor and/or student. This course is graded on a pass/fail basis. Develops skills for reading college-level texts and writing college-level papers. Provides strategies for generating, developing, supporting, and organizing ideas, as well as revising for coherence, clarity, correctness, style, and appropriate documentation. This is an outcomes-based pathway to college-level composition courses. Credit cannot be earned for both ENGL 099 and TECH 105. Prerequisite: Satisfactorily meets outcomes for ENGL 098.

ENGL& 101 F,W,Sp,S 5 credits
English Composition I
Part one of the composition sequence. Introduces first-year college writing skills including thesis discovery, development, support, organization, sentence correctness, diction, style, and final editing. Assignments might include and integrate exposition, narration, argumentation and response. Emphasizes analytical reading and introduces formal academic documentation. Prerequisite: College level reading and writing skills or completion of ENGL 099 or TECH 105 with a grade of C or better.
ENGL& 102  F,W,Sp,S  5 credits  Composition II  HA
Part two of the composition sequence. Practices and develops first-year writing skills by emphasizing theme, argumentation, analysis, integration and documentation of evidence as part of a formal research paper, sentence correctness, diction, and style.
Prerequisite: ENGL& 101 with a grade of C or better.

ENGL 104  F,W,Sp,S  1-2 credits  Accelerated Review of Grammar and Punctuation
Develops knowledge of standard English grammar and punctuation for college and the workforce through individualized skill work with verbs, subjects, and modifiers. Emphasis is also placed on sentence structure, capitalization, and the following punctuation marks: the comma, apostrophe, semicolon, and quotation marks. Students develop the tools to spot and correct errors in their writing.

ENGL 106  2 credits  NW Voices Creative Writing
Provides exposure to regional writers and creative writing techniques. Students read and discuss the work of Northwest Voices authors, attend the Northwest Voices writing workshops, and revise and complete creative works inspired from that workshop.

ENGL 108  Sp  5 credits  Introduction to Literature  H
Provides a broad introduction to various genres of literature, such as the novel, play, poem, short story, and non-fiction essay through extensive reading, discussion, and writing about literary works. Students will gain an appreciation for the diversity of literary offerings and strategies for interpreting them. The course prepares students for more advanced literature courses.
Prerequisite: ENGL 099 or TECH 105 concurrent or passed.

ENGL 110  F,W,Sp,S  5 credits  Industrial Communication
Offers practical, job-related study of written and interpersonal communications. Writing includes resumes, memos, work orders, and short reports. Interpersonal communications involve active listening, as well as paraphrasing, perception checking, and group problem solving.

ENGL 124  F  2 credits  Arts Magazine Publication I  H, P
Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL& 101 required; ENGL 231 or 234 recommended.

ENGL 125  W  2 credits  Arts Magazine Publication II  H, P
Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL& 101 required; ENGL 231 or 234 recommended.

ENGL 126  Sp  2 credits  Arts Magazine Publication III  H, P
Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL& 101 required; ENGL 231 or 234 recommended.

ENGL 140  W  5 credits  Introduction to Women Writers:DIV  H
Examines literature written by women over a broad span of time to understand how social forces relating to gender, class, and race shaped their writing. Genres to be read will include poetry, short stories, non-fiction essays, and novels. Satisfies Diversity requirement.
Prerequisite: ENGL& 101 required; ENGL 231 or 234 recommended.

ENGL 161  3 credits  Speed Reading
Helps develop flexibility, versatility, speed of comprehension, and vocabulary acquisition skills. The emphasis is on developing good reading habits and adaptability to different types of materials.

ENGL 204  S  5 credits  The Novel  H
Provides extensive reading, discussing, and writing about the works by classic novelists. Through these novels, students will gain an understanding of how the novel works, how it has developed over a period of 200 years, and how its universal truths and insights are still applicable to the modern world.

ENGL 205  W,Sp  5 credits  Film and Drama Appreciation  H,D
Focuses on how film and drama reflect and shape community attitudes. The course looks historically at the development of narrative and style; however, particular attention is paid to how visual images shape our perceptions, reflect biases, or challenge stereotypes embedded in popular culture. Students watch and discuss plays and films to develop critical analysis skills for interpretation and evaluation. They read representative works from Asian, African, and native American authors and filmmakers.
Prerequisite: ENGL& 101 or instructor permission.
ENGL 215 F 5 credits
Introduction to Film Studies H
Examines the conventions and techniques of narrative cinema with some readings in film theory. Explores the development of narrative and style and how film reflects and shapes community attitudes. Studies watch and discuss select representative films to develop critical analysis skills for interpretation and evaluation.
Prerequisite: ENGL& 101 or instructor permission.

ENGL 221 F 3 credits
Teach/Tutor Writing I
Provides instruction in composition theory. Students will read theories from various composition pedagogies, will practice tutoring writing, will reflect and discuss how to teach and tutor writing effectively, and will design and implement a lesson on teaching writing.
Prerequisite: ENGL& 101.

ENGL 222 W 3 credits
Teach/Tutor Writing II
Continues the concepts and skills from English 221 and applies them to a broader range of composition theory and tutoring experience. Students will read additional theory from various composition pedagogies, will continue to practice and model tutoring writing, will analyze, and discuss how to teach and tutor writing effectively, and will design and implement a lesson on teaching writing.
Prerequisite: ENGL& 101, ENGL 221.

ENGL 223 Sp 3 credits
Teach/Tutor Writing III
Continues the concepts and skills from English 222 and applies them to a broader range of composition theory and tutoring experience. Students will deepen their understanding of various composition pedagogies, will gain further experience in tutoring writing, will analyze, and discuss how to teach and tutor writing effectively, and will design and implement a lesson on teaching writing.
Prerequisite: ENGL& 101, ENGL 221.

ENGL 224 F 2 credits
Arts Magazine Publication IV H, P
Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL 124 required; ENGL 231 recommended.

ENGL 225 W 2 credits
Arts Magazine Publication V H, P
Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL 125 required; ENGL 231 recommended.

ENGL 226 Sp 2 credits
Arts Magazine Publication VI H, P
Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL 126 required; ENGL 231 recommended.

ENGL 231 F,W,Sp 5 credits
Creative Writing H
Provides an introduction to the writing of short fiction and poetry. Assignments explore techniques of writing and revising, examining the elements of stories and poems. Students critique each other's work and study the published work of other writers.
Prerequisite: ENGL 101 or instructor permission.

ENGL 232 F,W,Sp 5 credits
Creative Writing H
Engages students in writing and revising short fiction and poetry. Assignments explore the elements of stories and poems but allow students to concentrate on one form or the other. Students critique each other's work and study the published work of other writers.
Prerequisite: ENGL 101 and 231 or consent of instructor.

ENGL 233 F,W,Sp 5 credits
Creative Writing H
Engages students in writing and revising short fiction and poetry. Students may choose to concentrate on stories or poems in individual projects. In class sessions, students critique each other's work and study the published work of other writers.
Prerequisite: ENGL 101, 231, and 232 or instructor permission.

ENGL 234 5 credits
Creative Writing:Life Stories H
Emphasizes the writing, constructive analysis, and revision of creative nonfiction, focusing on the personal experience. Students use journaling and respond to other exercises to develop ideas from personal experience; write, revise, and critique one another's work; and study the published work of other writers.
Prerequisite: ENGL& 101 or instructor permission.

ENGL& 235 W 5 credits
Technical Writing H
Emphasizes written workplace communications designed especially for the CIS, engineering, and science professions. Topics covered include document format, visual design, multi-tiered audience, formal and informal reports, instructions, letters, and memos.
Prerequisite: ENGL& 101 with a grade of C or better.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>ENGL&amp; 244</td>
<td>American Literature I</td>
<td>5</td>
<td>Presents the context for works of American literature and studies major works by authors such as Melville, Dickinson, and Hemingway. Explores the major forms and movements in American literature.</td>
<td>ENGL&amp; 101 or instructor permission</td>
</tr>
<tr>
<td>ENGL 245</td>
<td>Contemporary Literature</td>
<td>5</td>
<td>Explores contemporary films, drama, poetry, and fiction using analysis, interpretation, and evaluation. Field trips to view a movie or a play, or attendance at a poetry reading may be included. Essays and other written work are required.</td>
<td>ENGL&amp; 101</td>
</tr>
<tr>
<td>ENGL 246</td>
<td>Rainbow Readers: LGBTQ Literature:DIV H,D</td>
<td>5</td>
<td>Examines some of the major concepts of modern and contemporary queer culture through close readings of writers of the 20th Century Lesbian, Gay, Bisexual, Transgender and Queer community.</td>
<td>ENGL&amp; 101</td>
</tr>
<tr>
<td>ENGL 251</td>
<td>English Literature</td>
<td>5</td>
<td>Surveys major authors from Beowulf, Chaucer, Shakespeare, Donne, Johnson, and Milton through 18th Century authors including Swift, Pope, and Fielding. Seminar-discussion format.</td>
<td>ENGL&amp; 101 or instructor permission</td>
</tr>
<tr>
<td>ENGL 252</td>
<td>English Literature</td>
<td>5</td>
<td>Surveys major authors from Blake and Wordsworth among other Romantic writers, Tennyson and Browning among other Victorian writers, and poets and prose writers of the 20th century, including Conrad, Yeats, Joyce, Lawrence, Eliot, Becket, and Auden. The course is operated in a seminar-discussion format.</td>
<td>ENGL&amp; 101 or instructor permission</td>
</tr>
<tr>
<td>ENGL 254</td>
<td>Understanding Fiction and Poetry</td>
<td>5</td>
<td>Examines traditional and experimental fiction and poetry, presenting the short story and the poem as related literary forms. Students will gain an understanding of the elements of fiction and poetry, as well as the ways in which writers reflect or challenge prevalent societal values through literature. This experience provides an opportunity for students to demonstrate their progress in developing the knowledge, skills, attitudes and values contained in the course plan outcomes.</td>
<td>ENGL&amp; 101 or instructor permission</td>
</tr>
<tr>
<td>ENGL 255</td>
<td>Sci-Fi Literature &amp; Film</td>
<td>5</td>
<td>Examines science fiction as an important genre in literature and film. Explores historical and modern examples of science fiction, focusing on significant works in the history and development of the genre, such as H. G. Wells’ The Time Machine, William Gibson’s Neuromancer, and Kubrick’s 2001: A Space Odyssey. Considers science fiction’s power to engage with challenging social and political issues, and explores how it both inspires and is inspired by science and technology. This course meets the Humanities requirement for transfer degrees and professional/technical degrees.</td>
<td>ENGL&amp; 101 or ENGL 108 or instructor permission</td>
</tr>
<tr>
<td>ENGL 256</td>
<td>Special Topics in Literature</td>
<td>5</td>
<td>Focuses on special topics or genres of literature, identified each quarter. Students learn the literary depth of a specific genre or thematic topic while gaining an understanding of the different forms of literature. This experience provides transfer students an opportunity to demonstrate their progress in developing the knowledge, skills, attitudes and values.</td>
<td>ENGL&amp; 101 or instructor permission</td>
</tr>
<tr>
<td>ENGL 260</td>
<td>World Literature</td>
<td>5</td>
<td>Examines literature from a thematic approach, tracing the human struggle for intellectual identity and personal autonomy in such foundational works as Gilgamesh, the Bible, the Greek classics, and in more recent writings.</td>
<td>ENGL 102 or instructor permission</td>
</tr>
<tr>
<td>ENGL 270</td>
<td>Literature for Children</td>
<td>5</td>
<td>Offers a critical survey of literary materials appropriate for children from nursery through elementary school age with practice in using literature with groups.</td>
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<tr>
<td>ENGL 280</td>
<td>Multicultural Literature:DIV</td>
<td>5</td>
<td>Provides students with an introduction to multicultural literature. Emphasis is placed on increasing awareness and understanding of the values, beliefs, and experiences of people from different cultures, especially those of Asia, Latin America and Africa.</td>
<td>ENGL&amp; 101 with a grade of C or better or instructor permission</td>
</tr>
</tbody>
</table>
English as a Second Language (ESL)

**ESL 010**  F,W,Sp,S  1-20 credits
**Beginning ESL Literacy Reading-Level 1**
Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL reading course for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

**ESL 011**  F,W,Sp,S  1-20 credits
**Beginning ESL Literacy Writing-Level 1**
Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL writing course for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

**ESL 012**  F,W,Sp,S  1-20 credits
**Beginning ESL Literacy Speaking-Level 1**
Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL speaking course for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

**ESL 013**  F,W,Sp,S  1-20 credits
**Beginning ESL Literacy Listening/Observing-Level**
Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL listening/observing course for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

**ESL 014**  F,W,Sp,S  1-20 credits
**Beginning ESL Literacy Integrated-Level 1**
Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL course (integrating speaking, listening, reading, writing, and technology) for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

**ESL 015**  F,W,Sp,S  1-20 credits
**Beginning ESL Literacy Computer Technology & Job Readiness-Level 1**
Develop English communication skills in order to enhance personal, social, and workplace environments in a beginning ESL literacy level Computer Technology and Job Readiness course.
Prerequisite: CASAS Appraisal Exam 180 and below.

**ESL 016**  F,W,Sp,S  1-20 credits
**Beginning ESL Literacy Intensive Oral communication and Grammar-Level 1**
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance speaking skills at a beginning literacy ESL level.
Prerequisite: CASAS Appraisal Exam 180 and below.

**ESL 020**  F,W,Sp,S  1-20 credits
**Low Beginning ESL Reading-Level 2**
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a Low Beginning Level ESL reading course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

**ESL 021**  F,W,Sp,S  1-20 credits
**Low Beginning ESL Writing-Level 2**
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a Low Beginning Level ESL writing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

**ESL 022**  F,W,Sp,S  1-20 credits
**Low Beginning ESL Speaking-Level 2**
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a Low Beginning Level ESL speaking course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

**ESL 023**  F,W,Sp,S  1-20 credits
**Low Beginning ESL Listening/Observing-Level 2**
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a Low Beginning Level ESL listening/observing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

**ESL 024**  F,W,Sp,S  1-20 credits
**Low Beginning ESL Integrated-Level 2**
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL course (integrating speaking, listening, reading, writing, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

**ESL 025**  F,W,Sp,S  1-20 credits
**Low Beginning ESL Literacy Computer Technology & Job Readiness-Level 2**
Develop English communication skills in order to enhance personal, social, and workplace environments in a low beginning level ESL technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.
ESL 026  F,W,Sp,S  1-20 credits
Low Beginning ESL Literacy Intensive Oral Communication and Grammar-Level 2
Develop and practice ESL Level 2 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a beginning ESL level.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 030  F,W,Sp,S  1-20 credits
High Beginning ESL Reading-Level 3
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a High Beginning Level ESL reading course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 031  F,W,Sp,S  1-20 credits
High Beginning ESL Writing-Level 3
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL writing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 032  F,W,Sp,S  1-20 credits
High Beginning ESL Speaking-Level 3
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL speaking course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 033  F,W,Sp,S  1-20 credits
High Beginning ESL Listening/Observing-Level 3
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL listening/observing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 034  F,W,Sp,S  1-20 credits
High Beginning ESL Integrated-Level 3
Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL course (integrating speaking, listening, reading, writing, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 035  F,W,Sp,S  1-20 credits
High Beginning ESL Computer Technology & Job Readiness-Level 3
Develop communication skills in order to enhance personal, social, and workplace environments in a High Beginning Literacy Level ESL technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 036  F,W,Sp,S  1-20 credits
High Beginning ESL Intensive Oral Communication and Grammar-Level 3
Develop and practice ESL level 3 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal/situations to improve speaking skills at a Low Intermediate ESL level.
Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 040  F,W,Sp,S  1-20 credits
Low Intermediate ESL Reading-Level 4
Further develop communication skills for those who have mastered beginning ESL in order to enhance personal, social, and workplace environments in a Low Intermediate Level Integrated ESL reading course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 041  F,W,Sp,S  1-20 credits
Low Intermediate ESL Writing-Level 4
Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL writing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 042  F,W,Sp,S  1-20 credits
Low Intermediate ESL Speaking-Level 4
Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL speaking course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 043  F,W,Sp,S  1-20 credits
Low Intermediate ESL Listening/Observing-Level 4
Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL listening/observing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.
ESL 044 F,W,Sp,S 1-20 credits
Low Intermediate ESL Integrated-Level 4
Further develop communication skills for those who have mastered beginning literacy in order to enhance their personal, social, and workplace environments in a Low Intermediate Level ESL course integrating speaking, listening, reading, writing, and technology. Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 045 F,W,Sp,S 1-20 credits
Low Intermediate ESL Computer Technology & Job Readiness-Level 4
Develop English communication skills in order to enhance personal, social, and workplace environments in a High Intermediate Level ESL technology and job readiness course. Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 046 F,W,Sp,S 1-20 credits
Low Intermediate ESL Intensive Oral Communication and Grammar-Level 4
Develop and practice ESL Level 4 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a High Intermediate ESL level. Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 050 F,W,Sp,S 1-20 credits
High Intermediate ESL Reading-Level 5
Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance personal, social, and workplace environments in a High Intermediate Level Integrated ESL reading course. Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 051 F,W,Sp,S 1-20 credits
High Intermediate ESL Writing-Level 5
Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL writing course. Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 052 F,W,Sp,S 1-20 credits
High Intermediate ESL Speaking-Level 5
Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL speaking course. Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 053 F,W,Sp,S 1-20 credits
High Intermediate ESL Listening/Observing-Level 5
Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL listening/observing course. Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 054 F,W,Sp,S 1-20 credits
High Intermediate ESL Integrated-Level 5
Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL course integrating speaking, listening, reading, writing, and technology. Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 055 F,W,Sp,S 1-20 credits
High Intermediate ESL Computer Technology & Job Readiness-Level 5
Develop English communication skills in order to enhance personal, social, and workplace environments in a High Intermediate Level ESL technology and job readiness course. Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 056 F,W,Sp,S 1-20 credits
High Intermediate ESL Intensive Oral Communication and Grammar-Level 5
Develop and practice ESL Level 5 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in informal and formal conversations/situations to improve speaking skills at a Low Advanced ESL level. Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 059 F,W,Sp,S 1-20 credits
Advanced ESL Reading-Level 6
Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance personal, social, and workplace environments in an Advanced Level Integrated ESL reading course. Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 060 F,W,Sp,S 1-20 credits
Advanced ESL Writing-Level 6
Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance personal, social, and workplace environments in an Advanced Level Integrated ESL writing course. Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.
ESL 062 F,W,Sp,S 1-20 credits
Advanced ESL Speaking-Level 6
Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL speaking course. Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 063 F,W,Sp,S 1-20 credits
Advanced ESL Listening/Observing-Level 6
Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL listening/observing course. Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 064 F,W,Sp,S 1-20 credits
Advanced ESL Integrated-Level 6
Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL course (integrating speaking, listening, reading, writing, and technology). Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 065 F,W,Sp,S 1-20 credits
Advanced ESL Computer Technology & Job Readiness-Level 6
Develop English communication skills in order to enhance personal, social, and workplace environments in an Advanced Level ESL technology and job readiness course. Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 066 F,W,Sp,S 1-20 credits
Advanced ESL Intensive Oral Communication and Grammar-Level 6
Introduces and practices ESL Level 6 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a High Advanced ESL level. Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 070 F,W,Sp,S 1-3 credits
Educational Interview-ESL
Develop and monitor a personal plan of action to reach their personal, educational, and workplace goals by providing an orientation to the college community and the Transitional Studies program and their resources and services.

ESL 071 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level 1
A Beginning Literacy Level ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc. Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ESL 072 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level 2
A Beginning Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc. Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 201 to 210, or instructor permission.

ESL 073 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level 3
A Low Intermediate Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc. Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 211 to 220, or instructor permission.

ESL 074 F,W,Sp,S 1-20 credits
II-BEST Academic Support-Level 4
A High Intermediate Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc. Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 221 to 235, or instructor permission.
ESL 075 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level 5
A Low Adult Secondary Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 236 to 245, or instructor permission.

ESL 076 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level 6
A High Adult Secondary Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 080 F,W,Sp,S 1-20 credits
ESL High Adult Electives
Strengthen a student’s communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in a high adult secondary education level 6 ESL Electives course. The course reflects knowledge gained through student selected classes and can be quantified by writing, demonstration and evidence collection.

ESL 081 F,W,Sp,S 1-20 credits
ESL High Adult English
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL High Adult Secondary Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 082 F,W,Sp,S 1-20 credits
ESL High Adult Math
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL high adult secondary education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 083 F,W,Sp,S 1-20 credits
ESL High Adult Science & Lab
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL high adult secondary education science and lab science course. Students will gain an understanding of the natural world and science as a field of study. Intended for students with little or no science background. Includes lab.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 084 F,W,Sp,S 1-20 credits
ESL High Adult US History/Government
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL high adult secondary US History and Government education course. Focuses on the causes and effects of social, cultural, political, intellectual and economic change over the years in the United States. Examines the foundation of US government: key political ideas, theories, processes, and institutions.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 085 F,W,Sp,S 1-20 credits
ESL High Adult Washington State History
Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a high adult secondary education ESL Washington State history course. Provides a social, political, economic history of the Pacific Northwest with particular emphasis on the State of Washington, including Native American history and gender/ethnic history.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 086 F,W,Sp,S 1-20 credits
ESL High Adult Contemporary History
Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL high adult secondary Contemporary History course. Focus on current world events, issues and problems. Highlights recent historical events and examines the causes and effects on geopolitics, environments, and population.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 087 F,W,Sp,S 1-20 credits
ESL High Adult Occupational Education
Strengthen a student’s communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in a high adult secondary education level 6 ESL Occupational Education course. The course reflects knowledge gained through prior life experience, occupational achievement, or demonstrable skill and can be quantified by writing, display and evidence collection.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.
ESL 088 F,W,Sp,S  1-20 credits
ESL High Adult Health and Physical Education
Strengthen basic academic skills while focusing on health, nutrition, and fitness in order to enhance their personal, social, and workplace environments in an ESL high adult secondary Health and Physical Education course. Students will gain an understanding of the effects nutrition, exercise and environmental factors have on the body and how to set personal goals to improve their overall health.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission

ESL 089 F,W,Sp,S  1-20 credits
ESL High Adult Fine Arts
Strengthen basic academic skills while focusing on artistic understanding and appreciation in order to enhance the personal, social, and workplace environments of students in an ESL high adult secondary Fine Arts course. Students will gain a deeper understanding of the arts and how to evaluate the impressions gained by exposure to different forms of media.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission

Environmental Science (ENVS)

ENVS 150 W  5 credits
Environment and Society:DIV NS
Introduces the interdisciplinary field of environmental science with an emphasis on the disproportionate impacts environmental problems have on human societies, especially low-income and minority groups. Major concepts include ecology, biodiversity, natural resources, toxicology, population, climate change, and environmental justice. Explores current environmental problems and solutions through case studies set in Africa, Asia, Latin America, and North America.

ENVS 215 W,Sp  5 credits
Environmental Issues & Applications NSL
Examines, analyzes, and solves problems stemming from many of today’s most pressing issues: natural resources, energy, toxic and hazardous compounds, and human population. Uses a case study approach to investigate these issues with an emphasis on four overlapping themes: climate change, environmental toxicology, conservation biology and restoration ecology, and sustainability. Field trips may be required. Laboratory is included.
Prerequisite: ENGL& 101 or instructor permission, MATH 088 or TECH 088.

Fire Science (FISC)

FISC 101 F  3 credits
Introduction to Fire Protection
Studies the history and development of fire service as well as safety and security movements. Identifies general fire hazards and their causes and how to apply fire protection principles.

FISC 105 F  3 credits
Fundamentals of Fire Prevention
Studies fundamentals of fire inspection standards and techniques of evaluation, identification of hazards, and making practical recommendations. Students write reports and conduct on-site inspections of building to locate hazards and recommend improvements. Students study fire prevention and education programs and conduct presentations.

FISC 109 F  3 credits
Fire Service Safety
Studies firefighter health and safety as it relates to Washington State. Emphasizes day-to-day health and safety of department members. Addresses standards and regulations, the safety officer’s role, accident prevention and investigation, record keeping. Structural, EMS, hazardous materials, and wild land emergencies will be addressed.

FISC 110 W  3 credits
Fire Science I
Studies characteristics and behavior of fire, fundamental physical laws and chemical reactions occurring in fire and fire suppression. Analyzes factors contributing to fire’s cause, rate of burning, heat generation and travel, by-products of combustion, fire confinement, control, and extinguishing.

FISC 111 F  10 credits
Basic Fire Fighting Skills
Studies basic tools, procedures, techniques and safety precautions utilized by the fire fighter during fire ground operations based on nationally recognized professional standards and Washington State ‘basic fire fighter’ training requirements.

FISC 125 Sp  5 credits
Fire Service Rescue
Studies a variety of procedures, equipment, and tools utilized by emergency rescue personnel. Student will become familiar with building search, auto extrication, rope rescue, and water rescue.
Prerequisite: FISC 112 or instructor permission.

FISC 129  3 credits
Emergency Incident Management
Studies the emergency incident management (IMS) process as it applies to the fire service at the ‘fire company’ level. Emphasis to include basic command structure and components, incident safety considerations, personnel accountability, and application of the management process to a variety of emergency situations.
FISC 170 W 8 credits  
Emergency Medical Technician I
Provides skill development in recognition of symptoms of illness and injuries, and in proper emergency care problems. Includes proficiency tests and evaluation sessions. Prepares students to take the state certification examination for EMT I.

FISC 205 W 3 credits  
Fire Investigation and Cause Determination
Studies burning characteristics of combustibles. Interprets clues and burn patterns leading to point of origin. Identifies incendiary indications, sources of ignition and materials ignited, and how to preserve the fire scene evidence.

FISC 206 Sp 3 credits  
Hazardous Materials
Reviews basic chemistry as it applies to fire technology. Studies the identity of hazardous material by color, symbol, and marking. Covers recommended practices for storage and handling of solids, liquids, and gases, and studies fire control methods for these materials. Meets federal standards for awareness and operations level.

FISC 207 W 4 credits  
Fire Apparatus and Pumping Equipment
Provides an introduction to various fire pumps and their operation. Reviews operating principles and construction of various types of equipment, and covers preventive maintenance and troubleshooting. Also introduces ground flow and friction loss considerations, and pump discharge pressure calculations.

FISC 210 W 3 credits  
Building Construction for Fire Protection
Offers knowledge and skills in the various construction features of buildings. Includes structural features affecting fire spread and building collapse, the effect of fire on materials, fire stops and ratings. Use of blueprints and plans to understand building features and pre-fire planning is emphasized.

FISC 215 Sp 3 credits  
Fixed Systems and Extinguishers
Studies portable extinguisher equipment, fire alarm and detection systems, sprinkler systems and standpipes, protection systems for special hazards, explosion release, ventilated systems, inert atmosphere and static bonding.

FISC 220 3 credits  
Wildland Firefighter II
Trains persons in the basic skills of wildland fire fighting. Examines wildland fire behavior, fire control tactics, operation of fire pumps, standards for fire fighter safety and survival, and an introduction to the Incident Command System. Students completing this course will be qualified to suppress wildland fire under close supervision.

FISC 224 3 credits  
Fire Service Instructor I
Provides a basic understanding of the implementation strategies for specific fire service curricula and instructional methodology used in the workplace. Each student will demonstrate the knowledge of and the ability to deliver instruction from prepared materials, and effectively critique lesson deliveries of their peers.

FISC 230 1 credit  
Wildland Firefighter II Refresher
Refreshes basic skills of wildland fire fighting. Examines wildland fire behavior, fire control tactics, operation of fire pumps, standards for firefighter safety and survival, and an introduction to the Incident Command System. Students completing this course will be qualified to suppress wildland fire under close supervision.
Prerequisite: FISC 220 or equivalent.

FISC 255 Sp 3 credits  
Fire Fighting Tactics and Strategy
Studies fire ground tactics and strategy, responses and size-ups, protection of exposures, containment, extinguishing, the command post, combined operations, analysis and post-mortem evaluation, pre-fire surveys, and planning.

Geography (GEOG)

GEOG 105 F,S 5 credits  
Physical Geography  NSL
Examines our physical environment especially the global distribution and interrelationship of such factors as climate, soils, flora, fauna, and landforms. Topics include maps, Earth-Sun relationships, seasons, time, weather, hydrology, landforms, climate types, natural vegetation assemblages, biomes, ecosystems, and their significance in the biosphere. Laboratory includes use of globes, maps, aerial photographs, data tables, and graphs for analysis and problem solving. Use of the scientific method is emphasized.

Geology (GEOL)

GEOL& 101 F,S 5 credits  
Introduction to Physical Geology  NSL
Examines Earth’s internal composition and structure, its internal and superficial processes. Major topics: rocks, minerals, weathering, mass movements, erosion, deserts, coasts, ground water, plate tectonics, volcanoes, earthquakes, mountain building, and geologic resources and hazards. Laboratory work includes identification of rocks, minerals, and landforms, interpretation of topographic maps and cross-sections, stereograms, photographs, and satellite images.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Type</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 105</td>
<td>F,S</td>
<td>Geology: Earth Revealed</td>
<td>5</td>
<td>Offers a comprehensive one-term study of the Earth’s physical properties and processes. Major topics are rocks and minerals, weathering, erosion, deserts, coasts, ground water, plate tectonics, volcanoes, earthquakes, mountain building, and geologic hazards. Laboratory work, to be completed at home, includes identification of minerals and rocks and map interpretation. This telecourse is recommended only for the strongly self-motivated student. It is not intended for geology majors.</td>
</tr>
<tr>
<td>GEOL 118</td>
<td>W</td>
<td>Historical Geology</td>
<td>5</td>
<td>Examines the physical and biological evolution of Earth as determined from evidence preserved in rocks. Major topics include plate tectonics, evolution, biogeography, geologic time, and climate change. Laboratory includes identification of rocks and fossils, determination of relative and absolute ages, and interpretation of past environments. A field trip may be required.</td>
</tr>
<tr>
<td>GEOL 124</td>
<td>S</td>
<td>Geology Field Trip: Columbia Gorge</td>
<td>1</td>
<td>Primarily explores the geology in the Columbia River Gorge between The Dalles, Oregon and Vancouver, Washington. Provides students with the opportunity to observe, and make hypotheses about, the processes that shape our planet and that affect humans, salmon, and other organisms.</td>
</tr>
<tr>
<td>GEOL &amp; 208</td>
<td>F,S</td>
<td>Geology of the Pacific Northwest</td>
<td>5</td>
<td>Explores the rocks, plate tectonics and other geologic features, and evolution of the Pacific Northwest, including the Cascades, Columbia Plateau, Olympic Mountains, and Yellowstone. Laboratory includes rock identification, interpretation of topographic and geologic maps of the Northwest. Field trips may be required.</td>
</tr>
<tr>
<td>HLTH 100</td>
<td>F,W,Sp,S</td>
<td>Occupational Safety and Health</td>
<td>3</td>
<td>Introduces fundamental concepts and practices related to safety and hygiene in the work place, including bloodborne and airborne pathogens, AIDS awareness and risk reducing behaviors. First Aid/CPR-D training is included. Students are issued First Aid/CPR-D Health Care Provider card upon completion.</td>
</tr>
<tr>
<td>HLTH 105</td>
<td>W</td>
<td>First Aid/CPR/Bloodborne Pathogens</td>
<td>1</td>
<td>Instructs students in First Aid and adult, child and infant CPR through the American heart Association for healthcare providers including AED training. Students will receive first aid and CPR certification with completion of this course. This course will also cover bloodborne pathogen training, which students will also receive certification in with the completion of the course.</td>
</tr>
<tr>
<td>HLTH 106</td>
<td>F,W,Sp</td>
<td>Health Today</td>
<td>2</td>
<td>Analyzes a vast array of information on the dangers of risky health behaviors and the benefits of healthy decisions as it affects one’s life. Emphasis will be on personal decision-making and positive behavioral changes toward the goal of wellness as a lifestyle.</td>
</tr>
<tr>
<td>HLTH 110</td>
<td>W</td>
<td>Personal Health</td>
<td>2</td>
<td>Discusses a wide variety of major health topics. Students will look at the health topics from a personal perspective and will identify ways to enhance their own personal health and wellness. Topics may include but are not limited to: nutrition, fitness, cancer, cardiovascular disease, drugs, alcohol, tobacco, stress, relationships, psychological health, environmental health, pregnancy and childbirth, and weight management.</td>
</tr>
<tr>
<td>HLTH 135</td>
<td>F,W,Sp,S</td>
<td>Food and Fitness</td>
<td>2</td>
<td>Explores two components of a healthy lifestyle; nutrition and exercise. Introduces basic concepts of nutrition and healthy eating practices. Provides information necessary for developing a safe, well-rounded exercise program.</td>
</tr>
<tr>
<td>HSC 75</td>
<td>F,W,Sp,S</td>
<td>Introduction to Drama</td>
<td>1-5</td>
<td>Introduces the development of drama and genres of theater from ancient Greece to contemporary theater. Students will read, view, and perform plays as they learn to recognize literary themes in drama. Types of drama include tragedy, comedy, and melodrama. Course is intended for CEO and HSC students.</td>
</tr>
<tr>
<td>HSC 76</td>
<td>F,W,Sp,S</td>
<td>Family Life</td>
<td>1-5</td>
<td>Provides information to promote healthy family functioning. Explores family life issues and challenges. Introduces foundational concepts to effective parenting, such as safety, childhood illnesses, and behavior management. Presents decision-making and conflict resolution strategies. Promotes healthy choices, especially as they relate to families. Course is intended for CEO and HSC students.</td>
</tr>
<tr>
<td>HSC 79</td>
<td>F,W,Sp,S</td>
<td>Math Concepts-Geometry</td>
<td>1-5</td>
<td>Introduces elementary logic and mathematical proof using traditional geometry concepts. Prepares the student for future math courses while introducing critical thinking, problem-solving, and collaborative working math-related real world situations. Course is intended for CEO and HSC students.</td>
</tr>
</tbody>
</table>
HSC 080 F,W,Sp,S 1-5 credits
Mathematical Concepts-Algebra
Provides a review of arithmetic operations on whole numbers, fractions, and decimals. Covers applications of percent, proportions, and ratios in order to solve multi-step problems using the fundamentals of algebra. Prepares the student for future math courses while introducing critical thinking, problem-solving, and collaborative work in math-related real world situations. Course is intended for CEO and HSC students.

HSC 085 F,W,Sp,S 1-5 credits
Health
Integrates a variety of health concepts, skills, and behaviors to plan for personal and lifelong health goals. Topics include awareness and consequences of risky behaviors, disease prevention, overall wellness, and identification of community health resources. Students are taught how to access accurate information that they can use to promote health for themselves and others. Open to CEO and HSC students.
Prerequisite: Admission into the CEO program.

HSC 086 F,W,Sp,S 1-5 credits
Introduction to Literature
Explores elements of the short story: plot, character, setting, point of view, tone, theme, and symbol through a variety of genres. Students will explore fiction as social commentary, examine examples of regionalism, and study the relationship between visual arts and fiction. Course is intended for CEO and HSC students.

HSC 087 F,W,Sp,S 1-5 credits
Introduction to Poetry
Focuses on reading and writing poetry in both traditional and experimental forms. The elements of poetry are examined through tone, voice, rhyme, and rhythm. Students will also identify imagery created by figures of speech and explore the connection between art and poetry. Course is intended for CEO and HSC students.

HSC 088 F,W,Sp,S 1-5 credits
Introduction to Writing
Offers an introduction to patterns of development in writing and practice in the writing process.

HSC 089 F,W,Sp,S 1-5 credits
English Essentials
Provides a practical review of the grammar, punctuation, and usage skills that students need most. A diagnostic test determines students’ individual problem areas, and instruction is designed to give students immediate feedback using self-correcting practice. Students may study subject-verb agreement, fragments, run-ons, pronouns, commas, apostrophes, quotation marks, homonyms, capital letters, word choice, misplaced/dangling modifiers, and parallelism. Course is intended for CEO and HSC students.

HSC 090 F,W,Sp,S 1-5 credits
Natural Hazards
Surveys the physical characteristics, cultural characteristics, and locations of places on Earth’s surface, with an emphasis on human interaction on the environment and the geographic context of global issues.

HSC 091 F,W,Sp,S 1-5 credits
Environmental Science
Surveys ecological concepts, which include using the scientific method for gathering data, exposure to scientific laws and theories, population dynamics, making careful observation, humans and the environment, and basic theories of biodiversity.

HSC 092 F,W,Sp,S 1-5 credits
Civics
Surveys the foundations of citizenship through exploration of the United States system of government. Presents the Constitution, three branches of government, and the American legal system. Examines the impact of United States foreign policy, economy, and political systems on American society. Course is intended for CEO and HSC students.

HSC 093 F,W,Sp,S 1-5 credits
U.S. History I
Surveys United States history from pre-colonial times up to the beginning of the Civil War.

HSC 094 F,W,Sp,S 1-5 credits
U.S. History II
Surveys United States history from the Civil War to the present. Continuation of U.S. History I.

HSC 095 F,W,Sp,S 1-5 credits
Washington State History

HSC 096 F,W,Sp,S 1-5 credits
Contemporary World Problems
Surveys current world problems in the following areas: human rights, environment, globalization and the economy, and civic action and responsibility. Students will apply previous learning to current world problems by placing them in their proper historical, geographic, political, economic, and cultural contexts. Course is intended for CEO and HSC students.
HSC 097 F,W,Sp,S 1-5 credits
Consumer Finance
Presents topics for personal money management, including budgeting, banking, consumer credit, and taxes.

History (HIST)

HIST& 116 5 credits
Western Civilization I H
Traces the economic, political, social and cultural development of various western civilizations up to c. 1500. We will also endeavor to show that contemporary American culture is the living, breathing manifestation of ideas, beliefs, customs, habits and institutions of Western cultural traditions.

HIST& 117 5 credits
Western Civilization II SS
Examines the material and mental developments in Western religious, political, economic, social and cultural life from the early sixteenth century to the mid-nineteenth century. More specifically, the course explores the profound changes attending the Reformation, the scientific revolution, the rise of the modern nation state, the Enlightenment, and the projection of the Western presence abroad.

HIST& 126 F 5 credits
World Civilizations I:DIV H
Focuses on the origins, development, and features of various societies in the ancient and classical world, including the peoples of Asia, Africa, Europe, the Americas, and Oceania. This course examines the political, social, and cultural contours of particular societies and the interactions and relationships among people of different historical cultures.

HIST& 127 W 5 credits
World Civilizations II:DIV SS
Examines the dramatic changes in world history in the pre-modern and early modern period, a time of profound and unprecedented transformations in many societies around the world. Historical topics include: the development of new economic systems such as mercantile capitalism; large-scale interactions such as the Columbian exchange; scientific, philosophical, and political revolutions; and new global relationships such as colonialism. Attention will be paid to the increasing interdependence of Asia, Africa, Europe, the Americas, and Oceania.

HIST& 128 F,S 5 credits
World Civilizations III:DIV SS
Examines the ways people have shaped and reacted to the issues of the modern world, such as 1) the emergence of global economic systems and their political, social and cultural effects; 2) the role of warfare, empire, power relations, and revolution in shaping international events; and 3) the interactions and reactions when cultural values, ideas, and technologies of many societies are in sustained contact. Attention will be paid to the sustained interdependence of Asia, Africa, Europe, the Americas, and Oceania.

HIST& 136 F,W,S 5 credits
U.S. History I SS
Focuses on the causes and effects of social, cultural, political, intellectual and economic change, from the colonial period to the end of the Civil War. Attention will also be given to the events outside North America that contributed to the emergence of the United States.

HIST& 137 F,W,S 5 credits
U.S. History II SS
Focuses on the causes and effects of social, cultural, political, intellectual and economic change, from the end of the Civil War to the present. Attention will also be given to the events (e.g., immigration) outside North America that contributed to the emergence of the U.S. as well as the effects (e.g., imperialism) of its emergence on the rest of the world.

HIST 205 S 5 credits
History of East Asia:DIV SS,D
Explores the past two hundred years of East Asia history, paying particular attention to China and Japan. It examines a number of topics: 1) the political, economic, and cultural changes and continuities within East Asian societies, 2) the interrelations among these countries, and 3) their interactions with the world outside their region.

HIST 214 5 credits
Sports in American History SS
Examines the American sporting experience from the colonial period through the 21st century. Focuses on the rise of organized sports institutions and how race, class, gender, ethnicity, and religion have shaped the relationship between sport and society. Students will learn about the histories of various sports, the athlete and spectator experience, consumerism and celebrity culture.

HIST& 215 W 5 credits
Women in U.S. History:DIV SS,D
Focuses on the history of American women from pre-European settlement to the present. Lectures, readings, and assessments emphasize how female roles in family, work, politics, and culture have changed over time, creating new definitions of womanhood. Emphasizes the diversity among women in terms of race, ethnicity, class, and sexuality. Fulfills the Diversity requirement.

HIST 254 5 credits
History of Washington and the Pacific NW SS
Provides a social, political, economic history of the Pacific Northwest with particular emphasis on the State of Washington, including Native American history and gender/ethnic history. Course meets the Washington State History requirement for teacher certification. This may be offered as a Capstone.
Home and Family Life (HOFL)

HOFL 131, 132, 133  3 credits  
Parent/Child Experience  SSA
Provides knowledge of early childhood development and parenting skills. Educational experiences may take place in early learning environments such as the LCC Home and Family Learning Center and/or Head Start/ECEAP classrooms. Other options provided for students include parent seminars and independent parent/child projects.

Human Development (HDEV)

HDEV 075  2 credits  
Journeys-A Workshop for Women
Targets women in life transitions - divorce, empty nest, job loss, etc., and provides them with tools to understand the challenges involved in change and new beginnings. Explores the process of transition, models of adapting to change, self awareness, and self assessment. Participants will explore educational and career options, with a focus on non-traditional careers that offer high-wage, high-demand opportunities, and develop a personal Success Plan. Meets for seven weeks and is graded on a pass/fail basis.

HDEV 080  1-7 credits  
Transitions
Explores and develops the coping skills, attitudes, and behaviors needed to deal with job loss or underemployment and move forward with career and life planning. Main topics include dealing with job loss, assessing interests and skills, career exploration, goal setting, and job finding skills. Additional topics may include specialized skill assessment, financial management, utilizing community resources, advanced interview preparation, computerized job search. Skill building in reading, writing, math, and computers may also be integrated with these studies.

HDEV 090  2 credits  
Success by Your Design
Explores the connection between their thoughts and behaviors. Students will apply concepts in this interactive course to cultivate “Thought patterns for a Successful Career. Through self-reflection and discussion, students will examine thought processes and how to control them, as well as understand how the mind works to create beliefs, habits, and attitudes, thus re-calibrating them for success.

HDEV 100  1 credit  
New Student Orientation
Helps students gain in-depth knowledge of the enrollment process, student rights and responsibilities, and college policies and procedures. Emphasizes activities and services available in Career and Employment Services, Computer Labs, the Learning Center, Financial Aid, and the LCC Library. Students will be required to attend two student success series workshops.

HDEV 101  1-5 credits  
Career Planning
Launches students into an investigation of interests, values, and careers, followed by decision-making and goal setting. The course may be offered for various credits and emphasis in the content varies accordingly. Launches students into an investigation of interests, values, and careers, followed by decision-making and goal setting. Life planning component concentrates on self-esteem, self-exploration, emotions, relationships, and locus of control. The class may be offered for different 2 or 3 credits as well. Emphasis in the content will vary accordingly.

HDEV 106, 107, 108, 206, 207, 208  1-2 credits  
Activities/Events Programming
Involves students in development and implementation of variety of co-curricular activities. Students learn to organize educational, cultural, social, and recreational programs for campus community, as well as budget development, committee participation, and cooperative programming with campus and community organizations. Students enrolled for one credit either serve on the ASLCC Programming Board as a program director or some combination of programming committee(s) and or special projects assignment(s). Additional credit is available for additional committee or project responsibilities. This course is offered on a pass/fail basis.

HDEV 110  1-3 credits  
Job Finding Skills
Provides effective job search techniques, including identification of transferable skills, job applications, job readiness, and creative job search. Students should be ready to conduct an active job search.

HDEV 115  2 credits  
Stress Management
Focuses on developing effective life coping skills as related to interpersonal, work, family, and academic stressors. Students examine their beliefs, emotions, and self-defeating behaviors.

HDEV 116, 117, 118, 216, 217, 218  1-3 credits  
Leadership and Student Government
Offers experience in elections, meeting procedure, college and ASLCC committees, planning and conducting governance activities, planning and managing budgets, deliberating issues and setting goals for student welfare, and effective leadership responsibilities. Students enrolled in this class are voting members of the Executive Council of the ASLCC.

HDEV 120  1-6 credits  
Individual and Group Relations
Extends to students opportunities in transfer information, goal setting, and other areas related to behavior change. Course may be repeated up to six times for a total of 6 credits.
HDEV 125  2 credits
Assertiveness Training
Examines interpersonal dynamics of relationships and personality. Students explore fears and anxieties connected to their interpersonal conflicts, as well as the impact of their personality on communication and behavior.

HDEV 127  1-3 credits
Student Support Services
This variable 1 - 3 credit course is designed to increase the retention, graduation, and transfer rate of first-generation, low-income, and students with disabilities who are enrolled as Student Support Services participants. This course will expose students to strategies and activities designed to enhance a student's ability to learn, develop educational perspective, and improve academic performance. Emphasis on student's Individualized Academic Plan and personal needs will determine the class content for each student.

HDEV 128  F,W,Sp  1 credit
Transfer Planning
Facilitates the transfer process and increases the transfer rate of students who are first-generation, low-income, and/or DSS eligible, and who are enrolled as TRiO Student Support services participants. Exposes students to strategies and activities relevant to the process of choosing, applying, and enrolling as a transfer student at a 4-year institution. Emphasis on each student's long-range academic and career plan will determine the class content. This is a stand alone course that can be repeated for up to 3 credits. Tuition waived via TRiO-SSS Grant.

HDEV 145  2 credits
Anger Management
Encourages students to examine irrational beliefs and self-defeating behaviors. Focus is on covert and overt behaviors contributing to the power held by our “intimate enemies.”

HDEV 150  1-3 credits
Psychology of Humor
Engages students in laughter and play. Focuses on biological and psychological effects of humor. Designed to help students develop health-conscious environment, manage pain, cope with emotional issues, and reduce stress. Pass/Fail grade.

HDEV 165  F,Sp  2 credits
Lead:Leadership Expl/Dev
Develops leadership skills and abilities. Introduces philosophical, theoretical, and practical elements of leadership. Increases self-awareness of personality type, communication skills, and learning styles. Explores leadership styles, skills, qualities and situations. Develops self-reliance, conflict resolution strategies, and team building skills. Addresses transferability of skills from real-life settings (such as the athletic field or court) to the learning environment and work place. Open only to student athletes. Prerequisite: Instructor permission.

HDEV 221  F  2 credits
Peer Mentoring I
Introduces Peer Mentoring principles to Student Support services Peer Mentors to increase the retention, graduation, and transfer rate of first-generation, low-income, and students with disabilities who are enrolled as Student Support Services first-year participants. Exposes Student Support Services Peer Mentors to strategies and activities designed to enhance first-year students’ abilities to learn, develop educational perspective, and improve academic performance. Topics include leadership, communication, conflict resolution, stress management, and various other mentoring skill sets. Maximum number of credits possible: 2. Tuition waived. Prerequisite: Students must be chosen to be Student Support Services Peer Mentors to enroll in the course.

HDEV 222  W  2 credits
Peer Mentoring II
Provides additional instruction for Peer Mentoring principles to Student Support services Peer Mentors to increase the retention, graduation, and transfer rate of first-generation, low-income, and students with disabilities who are enrolled as Student Support Services first-year participants. Exposes Student Support Services Peer Mentors to strategies and activities designed to enhance first-year students’ abilities to learn, develop educational perspective, and improve academic performance. Topics include leadership, communication, conflict resolution, stress management, and various other mentoring skill sets. Maximum number of credits possible: 2. Tuition waived. Prerequisite: HDEV 221 or instructor permission.

HDEV 223  Sp  1 credit
Peer Mentoring III
Concludes training for Peer Mentoring principles to Student Support services Peer Mentors to increase the retention, graduation, and transfer rate of first-generation, low-income, and students with disabilities who are enrolled as Student Support Services first-year participants. Exposes Student Support Services Peer Mentors to strategies and activities designed to enhance first-year students’ abilities to learn, develop educational perspective, and improve academic performance. Topics include leadership, communication, conflict resolution, stress management, and various other mentoring skill sets. Maximum number of credits possible: 2. Tuition waived. Prerequisite: HDEV 222 or instructor permission.
Humanities (HUM)

HUM 104  5 credits
Ethics and Cultural Values:DIV  H,D
Explores and analyzes moral issues from various perspectives and examine elements of virtue, duty, obligation, and rights from various classical, traditional, and contemporary systems as presented in Western, Hindu, Buddhist, Confucian, Islamic, and/or African writings, films, literature, and/or practices.
Prerequisite: College-level reading.

HUM 106  1 credit
Community Conversations
A weekly presentation/discussion series addressing contemporary issues in American life. The areas and issues contemplated include politics, the family, religion, the environment, health care, the economy and other important issues.

HUM 107  1 credit
How to See a Play  H
Read play produced by LCC Center Stage and attend performance. After performance, actors, director, and designers participate in talkback session, answering questions prepared by students regarding play, production, and various elements required for a play presentation. Talkback includes social, political, philosophical and psychological components of the play and actor interpretation of the role(s) played.

HUM 110  5 credits
Intro to Cultures:DIV  H,D
Focuses on United States immigrant groups and introduces students to a specific culture each quarter. The course will explore language, history, and social structures of the country of origin to provide insight into values and customs. The class schedule will specify the group to be featured during a given quarter and may change from quarter to quarter. For example, one quarter may feature Vietnamese while another may focus on Russian, Mexican, or other immigrants. Meets the Diversity requirement.

HUM& 116  5 credits
Humanities I  H
Survey of major movements in philosophy, art, music, architecture, and literature from prehistory to 1300 C. E. Exploration, analysis, and discussion of the era's masterpieces from around the world as well as the historical and cultural influences of the Near East, the Classical Eras of Greece, Rome, and China, and the rise of Buddhism, Christianity, and Islam and cross-cultural encounters upon such works and the masters who created them.
Prerequisite: College-level reading required.

HUM& 117  5 credits
Humanities II  H
Survey of major movements in philosophy, art, music, architecture, and literature from 1300 to 1800 C. E. Exploration, analysis, and discussion of the era's masterpieces from around the world as well as the historical and cultural influences of the Renaissance, the Reformation, the Enlightenment, the Scientific Revolution, and cross-cultural encounters upon such works and the masters who created them.
Prerequisite: College-level reading required.

HUM& 118  5 credits
Humanities III  H
Survey of major movements in philosophy, art, music, architecture, and literature from 1800 C. E. to the present. Exploration, analysis, and discussion of the era's masterpieces from around the world as well as the historical and cultural influences of the Romantic Era, Freudian theory, World Wars I and II, totalitarianism, postmodernism, and the Information Age, and cross-cultural encounters upon such works and the masters who created them.
Prerequisite: College-level reading required.

HUM 164  5 credits
Cultural Journeys:DIV  H,D
Explores the rich cultural heritage of different nationalities, ethnic groups and regions as expressed through a people's music, literature, film, art and critical writing. Quarterly offerings will focus on different cultural groups and their attempts to develop a rich and complex understanding of human existence.

HUM 210  5 credits
Myths and Rites:DIV  H,D
Defines and explores examples of creation, flood, and resurrection myths as well as diverse examples of initiation, celebration, religious, and political rites from around the world and across time. The significance of such myths and rites are also explored through the analysis of works of drama, literature, and film.
Prerequisite: ENGL& 101

HUM 220  1-10 credits
Arts Alive  H
Introduces the basics of appreciation and criticism for the arts through study and attendance at college and regional events. Explores and compares ideas and themes expressed in art, literature, music, dance, and theatre around the world. Studies different cultures and styles each term, and may be taken out of sequence. Requires attendance at a minimum of three regional events.

HUM 230  5 credits
Thinking about Thinking  H
Examines and explores the role of critical thinking and analysis in evaluating written material to include literature, non-fiction prose, and media sources. Applies various models from formal logic and literary criticism to discover both the explicit and implicit meaning of fiction, non-fiction prose and media sources.
Prerequisite: ENGL& 101 or instructor permission.
Intensive English as a Second Language (IESL)

IESL 051  5 credits
**IESL LISTENING LEVEL I**
Provides practice in listening to everyday conversational vocabulary in a variety of meaningful contexts at a false-beginner level. Requires students to respond to simple questions, follow short dialogs, and identify topics in short passages with familiar or pre-taught vocabulary. Introduces culture of the American classroom.
Prerequisite: Instructor permission.

IESL 052  5 credits
**IESL LISTENING LEVEL II**
Provides practice in listening at the high-beginner level. Strengthens listening skills by building vocabulary and by listening to longer passages and dialogs. Requires students to listen regularly to and understand main ideas in authentic sources of English (TV, radio, video, interviews, etc.) and to comprehend paragraph-length listening passages with familiar or pre-taught vocabulary. Reinforces understanding of the culture of the American classroom.
Prerequisite: Successful completion of IESL 051 or instructor permission.

IESL 053  5 credits
**IESL LISTENING LEVEL III**
Provides practice in listening to intermediate-level English in both formal and informal contexts. Requires students to develop skills in pre- and post-listening activities, active listening, comprehension of reduced speech, and simple note taking in a variety of contexts. Reinforces understanding of the culture of the American classroom.
Prerequisite: Successful completion of IESL 052 or instructor permission.

IESL 054  5 credits
**IESL LISTENING LEVEL IV**
Provides practice in listening to high-intermediate-level English in both formal and informal contexts. Provides development of skills in listening to “real” English outside the classroom, comprehending reduced speech and fast idiomatic English, and lecture note taking. Reinforces understanding of the culture of the American classroom. If applicable, practice for the listening portion of the TOEFL test may be included.
Prerequisite: Successful completion of IESL 053 or instructor permission.

IESL 061  5 credits
**IESL SPEAKING LEVEL I**
Designed for student with some knowledge about English from previous study, this course provides practice in speaking English at a false-beginner level. Improves pronunciation through practice in production of consonant sounds, intonation and rhythm. Focuses on conversational language using familiar topics in a variety of everyday contexts. Introduces culture of the American classroom.
Prerequisite: Instructor permission.

IESL 062  5 credits
**IESL SPEAKING LEVEL II**
Provides speaking practice at the high-beginner level. Provides more practice in speaking natural situation language and functional language. Provides conversation practice on everyday topics. Stresses ability to discriminate and produce vocal and consonant sounds, to use correct word order, and to respond in complete sentences. Reinforces understanding of the culture of the American classroom.
Prerequisite: Successful completion of IESL 061 or instructor permission.

IESL 063  5 credits
**IESL SPEAKING LEVEL III**
Provides speaking practice at the intermediate level of English. Provides additional practice in vowel and consonant production as well as stress, rhythm, linking, and intonation. Develops fluency by providing practice in conversation and formal speeches. Moves from expression of concrete to abstract ideas. Reinforces understanding of the culture of the American classroom.
Prerequisite: Successful completion of IESL 062 or instructor permission.

IESL 064  5 credits
**IESL SPEAKING LEVEL IV**
Provides speaking practice at the high-intermediate level of English. Focuses on discussions of cultural or controversial topics or current events. May require pre-discussion activities in listening or reading as preparation. Provides clarification as needed on degrees of formal and informal language, metaphorical speech, euphemisms, and “sexist” language. Stresses production of comprehensible English. Reinforces understanding of the culture of the American classroom.
Prerequisite: Successful completion of IESL 063 or instructor permission.

IESL 071  5 credits
**IESL READING LEVEL I**
Develops reading comprehension for everyday uses, such as reading and understanding directions, forms, maps, menus, ads, letters, and short dialogs and stories. Provides instruction and practice in reading strategies, including pre-reading activities, understanding of spelling patterns, use of context clues, checking for meaning and identifying details. Introduces the culture of the American classroom.
Prerequisite: Instructor permission.

IESL 072  5 credits
**IESL READING LEVEL II**
Provides reading instruction at a high-beginner level. Provides practice in building comprehension of paragraphs, short stories, and short articles. Develops vocabulary and knowledge of word roots, prefixes, and suffixes. Provides instruction and practice in use of pre-reading and reading strategies used by good readers.
Prerequisite: Successful completion of IESL 071 or instructor permission.
IESL 073  5 credits
IESL READING LEVEL III
Provides practice in independent reading and reading with increased fluency at the intermediate level. Provides instruction and practice in finding main ideas and supporting details, and in summarizing textbook materials. Focuses on development of useful or necessary vocabulary to understand passages. Requires students to read longer passages or short books. Reinforces understanding of the culture of the American classroom.
Prerequisite: Successful completion of IESL 072 or instructor permission.

IESL 074  5 credits
IESL READING LEVEL IV
Provides practice in reading for information and strategies for building comprehension. Encourages increase in reading speed. Builds literary and academic vocabulary as well as knowledge of the culture of American academia. Requires in-depth reading of authentic reading materials (novels, textbooks, magazine or newspaper articles). If appropriate, reading practice for TOEFL preparation may be included.
Prerequisite: Successful completion of IESL 073 or instructor permission.

IESL 081  5 credits
IESL WRIT/GRAM LEVEL 1
Focuses on writing at the sentence level. Reinforces vocabulary encountered in listening and reading classes. Provides practice in writing for survival use and grammar rules related to simple and compound sentence development; simple tenses; declarative, question, and imperative forms; and singular and plural forms of nouns and verbs. Introduces the culture of the American classroom.
Prerequisite: Instructor permission.

IESL 082  5 credits
IESL WRIT/GRAM LEVEL II
Provides practice in writing descriptive and narrative paragraphs. Focuses on simple, compound, and complex sentence structure; grammar; and topic development. Introduces the writing process. Reinforces understanding of the culture of the American classroom.
Prerequisite: Successful completion of IESL 081 or instructor permission.

IESL 083  5 credits
IESL WRIT/GRAM LEVEL III
Provides practice in writing longer paragraphs of 10-15 sentences. Focuses on writing fluency as well as organizational features. Develops understanding of the writing process. Reviews grammar points covered in IESL 081 and 082 and introduces more advanced points, such as gerunds, infinitives, modals, conditionals, articles, and past perfect and past progressive verbs. Reinforces understanding of the culture of the American classroom.
Prerequisite: Successful completion of IESL 082 or instructor permission.

IESL 084  5 credits
IESL WRIT/GRAM LEVEL IV
Provides instruction and practice in writing the basic form and organization of an essay, using a variety of rhetorical styles. Emphasizes use of the writing process as well as practice in writing thesis statements and paragraph transitions. Grammar focuses on sentence combining and correct use of grammar points covered in IESL 081, 082, and 083. Correct word forms are introduced. Reinforces understanding of the culture of the American classroom. If appropriate, preparation for the TOEFL writing test will be included.
Prerequisite: Successful completion of IESL 082 or instructor permission.

Library (LIBR)

LIBR 094  F,W,Sp,S  2 credits
Information Literacy I
Introduces students to the basic skills, strategies, and tools of information research. Emphasis is placed on the process of identifying information needs, selecting appropriate sources, and evaluating information for accuracy. Students will gain competency in using traditional resources, e.g., the library catalog, and also explore electronic resources such as databases and Internet search engines.

LIBR 101  2 credits
Introduction to Library & Information Research HA
Introduces students to the basic principles of information research. Emphasis is placed on the process of locating and evaluating information in both print and online formats. Includes basic introduction to searching the Internet, online databases, online library catalogs, and the use of various tools to access information. An annotated bibliography will be developed in an academic area of the students’ choice. This course is especially helpful to those enrolled in classes with a required research paper.

LIBR 104  F,W,Sp,S  2 credits
Information Literacy II
Reinforces basic research skills, strategies, and tools of information. Develops an understanding of the entire research process, from identifying topics to creating an annotated bibliography. Topics include narrowing and refining electronic searches, finding access to many types of resources, and evaluating popular and scholarly sources using a variety of criteria. Avoidance of plagiarism and correct documentation will be emphasized.
LIBR 204 F,W,Sp,S 1-2 credits
Information Literacy III
Guides students through the process of designing and completing a complex research assignment. Emphasis will be placed on evaluating information, including assessing the differences between databases and applying a rubric of information evaluation. Additional topics addressed include proper usage of quotations, citation styles, and annotated bibliographies. Part 1 includes refining a research topic, finding sources, and identifying and avoiding plagiarism. Part 2 focuses on evaluation and annotation of sources and reflection on the research project.

Machine Trades (MASP)

MASP 071 F 1 credit
Machine Shop Support I
Introduces machine shop practices. This theory course addresses topics such as the appropriate uses and safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe. Concurrent enrollment in MASP 111 required.

MASP 072 W 1 credit
Machine Shop Support II
Introduces machine shop practices. This theory course addresses topics such as basic metallurgy and the appropriate uses and safe operation of milling machines and grinding machines. Concurrent enrollment in MASP 111 required.

MASP 107 F,W,Sp,S 2-6 credits
Machining for Related Occupations
This course will expose students to three basic types of machine tools as well as general shop safety, layout, cutting tool geometry, and precision measuring. The three areas of focus will be hole operations such as drilling, reaming, and tapping, engine lathe operations turning, facing, and boring, the basic operation of the vertical milling machine.

MASP 111 F,W,Sp,S 2-10 credits
Machine Shop I
Designed to introduce the beginning student to the safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe. The student will use these tools to complete basic projects designed to use the equipment in a wide variety of operations to develop basic skills.

MASP 112 F,W,Sp,S 2-10 credits
Machine Shop II
Continues building skills learned in MASP 111, while expanding the scope to include more advanced procedures on equipment used in the previous class. This class also introduces new equipment such as a shaper and surface grinder, along with tools and procedures required for their safe operation.
Prerequisite: 10 credits of MASP 107 and/or MASP 111.

MASP 113 F,W,Sp,S 2-10 credits
Machine Shop III
Teaches students the use of milling machines and carbide cutting tools. This course will cover various techniques of holding parts and the proper use of different styles of machinery. The student will also learn to apply basic and advanced procedures to accomplish the required tasks.
Prerequisite: 10 credits of MASP 112.

MASP 114 F,W,Sp,S 2-10 credits
Machine Shop IV
Teaches design, and students will build a major project using as many machines and skills as possible to complete the project within the quarter. The project must demonstrate the proper use of machine tools and procedures learned throughout the program.
Prerequisite: 10 credits of MASP 113.

MASP 204 F,W,Sp,S 3 credits
CNC Machining Center Fundamentals
This course introduces students to the history, theory, and workings of computer numerically controlled Machining Centers. The course provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

MASP 205 F,W,Sp,S 3 credits
CNC Turning Center Fundamentals
This course introduces students to the history, theory, and workings of computer numerically controlled Turning Centers. The course provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

MASP 221 F,W,Sp,S 2-10 credits
CNC Milling
Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled mills, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment.
Prerequisite: MASP 204.

MASP 222 F,W,Sp,S 2-10 credits
CNC Turning
Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled turning centers, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment.
Prerequisite: MASP 205.

MASP 223 F,W,Sp,S 2-6 credits
Advanced CNC Processes
This course exposes the student to advanced machining practices on the CNC Machining Center and CNC Turning Center including introduction of 4th axis set-ups and programmable tailstock operations. It will also include nontraditional set-ups.
Prerequisite: MASP 221 or MASP 222.
Manufacturing (MFG)

MFG 105 F 3 credits
Industrial Safety
Provides instruction on safety topics and practices specifically related to industrial work environments. Topics include an overview of OSHA/WISHA requirements, personal protective equipment, energy lock-out/tag-out procedures, material handling, electrical safety, machine guarding, hazardous materials, fire prevention, hazard identification and control, and safety inspection.

MFG 110 4 credits
Project Management
The course is an introduction to the theory of project development procedures. The concepts used for project management will include scheduling by means of the critical path method. The fundamentals of CPM will be presented and the concepts applied with software used in industry. Basic job estimating theory will be presented and applied using current industrial software.

MFG 115 F 5 credits
Manufacturing Processes
A compressive study of the processing of materials, industry standards, and the manufacturing techniques that expose students to the basic types of machine tools as well as cutting tool geometry and precision measuring.

MFG 120 Sp 4 credits
Quality Assurance
Provides the student with a comprehensive introduction to the principles and purpose of Quality Assurance Management in industry. The student will also gain basic understanding of the quality control tools used in industry, such as standard deviation, histograms, distribution curves, etc.

MFG 130 W 5 credits
Materials Science
Material Science is a study of the nature, structure, characteristics, and properties of natural and synthetic materials used in contemporary industry. Emphasis will be placed on understanding how the structure and properties of industrial influence the selection of primary materials and their conversion into useful products.

MFG 140 F 4 credits
Applied Hydraulics
Covers basic problems of hydraulics, fluids, power, hydraulics actuators, controls, pressures and circuits, and principles of industrial applications.
Prerequisite: MATH 079 or higher or instructor permission.

MFG 205 Sp 3 credits
Work Teams in Industry
Explores the interpersonal skills, group roles, team structures, problem solving techniques, and work ethics necessary for success in modern industrial organizations. Practical exercises are used to allow students to develop critical skills.

MFG 230 Sp 4 credits
Computer Integrated Manufacturing
Introduces the student to the basic concepts of Computer Integrated Manufacturing and provides a foundation for applying those concepts in actual industrial situations. The course also introduces the student to CAD/CAM concepts and their function in the design and manufacturing process. Students will use specialized software to design parts, simulate the machining process, and observe the production of actual machine parts.

Math (MATH)

MATH 050 F,W,Sp,S 1 credit
Review Math – Whole Numbers
Provides a review of addition, subtraction, multiplication, and division of whole numbers.

MATH 074 1 credit
Math Orientation
Emphasizes the attributes of a successful math student by providing strategies for overcoming math and test-taking anxiety as well as note-taking, problem solving, and time management. Refresher of fundamental math operations and training on technology used in the classroom included. Topics reviewed may include fractions, decimals, signed numbers, ratio, percent, proportion, order of operations, and vocabulary.

MATH 078 F,W,Sp,S 3 credits
Pre-College Math I
Covers operations on and applications of integers, fractions, and decimals. This is the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 01-03. Credit cannot be earned for both MATH 078 and TECH 078.
Prerequisite: Placement exam or instructor permission.

MATH 079 F,W,Sp,S 2 credits
Pre-College Math I
Covers operations on and applications of ratios, proportions, and percents. Also includes topics in measurement and geometry. This is the continuation of the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 04-05. Credit cannot be earned for both MATH 079 and TECH 079.
Prerequisite; MATH 078 with a C or better, placement exam, or instructor permission.
MATH 088  F,W,Sp,S  3 credits  
Pre-College Math II  
Covers solving linear equations and inequalities and an introduction to functions and graphing. Techniques and strategies for problem solving are emphasized. This is the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 06-08.  
Prerequisite: MATH 079 or TECH 079 with a grade of C or better, Placement Exam, or instructor permission. 

MATH 089  F,W,Sp,S  2 credits  
Pre-College Math II  
Covers solving systems of linear equations and operations on polynomials. This is the continuation of the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 09-10. Credit cannot be earned for both MATH 089 and TECH 089.  
Prerequisite: C or better in MATH 088 or TECH 088, Placement Exam, or instructor permission. 

MATH 098  F,W,Sp,S  3 credits  
Pre-College Math III  
Covers factoring polynomials and operations on rational and radical expressions. This is the third in a three quarter pre-college mathematics sequence which contains pre-college math modules 11-13. Credit cannot be earned for both MATH 098 and TECH 098.  
Prerequisite: C or better in MATH 089 or TECH 089, Placement Exam, or instructor permission. 

MATH 099  F,W,Sp,S  2 credits  
Pre-College Math III  
Covers solving and graphing quadratic equations and an introduction to exponential and logarithmic functions. This is the continuation of the third in a three course pre-college mathematics sequence which contains pre-college math modules 14-15. Credit cannot be earned for both MATH 099 and TECH 099.  
Prerequisite: C or better in MATH 098 or TECH 098, Placement Exam, or instructor permission. 

MATH 105  W  5 credits  
Math for Health Sciences  
Includes a review of the basic arithmetic skills, including whole numbers and decimal numbers; fractions and percentages; powers of 10 and logarithms; introduction to basic algebraic concepts, including fractional equations and formulas; metric, apothecaries and household systems of measurement and calculations needed to determine dosages.  
Prerequisite: MATH 078/079 or TECH 079 with a grade of C or better. 

MATH 106  F,Sp  5 credits  
Industrial Mathematics  
Emphasizes basic skills in applied mathematics designed to support students entering the vocational/technical work force of tomorrow. The focus is real world problem solving that students carry to their specific careers. Although the use of math in the workplace is primary, emphasis is given to the critical and creative thinking process as students look to strengthen their use of arithmetic concepts, measurements, practical geometry, basic algebra and right angle trigonometry.  
Prerequisite: MATH 079 or TECH 079 with a C or better or instructor permission. 

MATH& 107  F,W,Sp,S  5 credits  
Math in Society  
Functions as a terminal course in mathematics for students whose major does not require further mathematics. The core topics of this course are logic, probability and statistics. Additional topics will be selected by the instructor. These topics could include geometry, number systems, linear programming, set theory, number theory, functions, graph theory, topology, etc.  
Prerequisite: MATH 099 with a grade of C or better. 

MATH 125  W  5 credits  
Applied College Algebra  
Covers equations and inequalities; systems of equations and inequalities; graphing linear, quadratic, polynomial, rational, exponential, and logarithmic functions; matrix operations; linear programming and simplex method; and mathematics of finance. The student may also be introduced to Markov processes and game theory. Students may meet prerequisite by demonstrating ability through testing, prior experience, or prior course work not at LCC. Some colleges require this course for business majors. The course will fulfill the quantitative skills or the requirements of the AA-DTA natural science distribution list.  
Prerequisite: MATH 099 with a grade of C or better. 

MATH& 131  F  5 credits  
Math for Elementary Educators 1  
Strengthens students understanding of problem solving, operations on whole numbers, decimals and fractions, and number theory. This is the first class in a two-part series.  
Prerequisite: MATH 099 or TECH 099 with a grade of C or better. (MATH&107 is recommended). 

MATH& 132  W  5 credits  
Math for Elementary Educators 2  
Strengthens students’ understanding of the real number system, probability and statistics, geometry, measurement, functions and graphs. This is the second class in a two-part series.  
Prerequisite: MATH& 131 with a grade of C or better. (MATH& 107 is recommended).
MATH& 141  F,W,Sp,S  5 credits
**Precalculus I**  NS
Reviews basic algebraic operations, equations, inequalities, and operations on functions. Analyzes and graphs polynomial, rational, exponential, and logarithmic functions as well as the conic sections. This is the first course in a two course sequence leading to calculus.
Prerequisite: Placement score or MATH 098 and 099 (or TECH 098 and 099) with a C or better.

MATH& 142  F,W,Sp,S  5 credits
**Precalculus II**  NS
Covers concepts, properties and algebra of trigonometric functions, including their graphs, inverses, law of sines and cosines, identities, and equations. Introduces parametric and polar coordinates, vector operations, and DeMoivre’s Theorem. This is the second course in a two course sequence leading to calculus.
Prerequisite: Placement score or MATH& 141 with a C or better.

MATH& 148  Sp  5 credits
**Business Calculus**  NS
Introduces calculus concepts needed by students of management, social science or biology, or can serve as a survey course for liberal arts majors. Course covers sets, systems of numbers, relations and functions, limits, differentiation and integration, including the definite integral, exponential and logarithmic functions and applications from various fields.
Prerequisite: MATH 125 or MATH& 141 with a grade of C or better.

MATH& 151  F,W  5 credits
**Calculus I**  NS
Investigates the ideas of continuity and limit, introduces the derivative as a limit, practices techniques for computing derivatives of functions, discusses the mean value theorem and its significance, utilizes these concepts to solve problems involving related rates and extreme values.
Prerequisite: MATH& 142 with a grade of C or better.

MATH& 152  W,Sp  5 credits
**Calculus II**  NS
Introduces techniques of antidifferentiation of functions including trigonometric, logarithmic, exponential, and hyperbolic functions. Applies the concept of the definite integral to solve problems involving force, work, volume, surface area, business and economics.
Prerequisite: MATH& 151 with a grade of C or better.

MATH& 153  F,Sp  5 credits
**Calculus III**  NS
Focuses on infinite series, vector calculus and their applications. Incorporates the use of polar, cylindrical and spherical coordinate systems in applications of the calculus.
Prerequisite: MATH& 152 with a grade of C or better.

MATH 210  F,W,Sp,S  5 credits
**Elements of Statistics**  NS
Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BUS 206 and MATH 210.
Prerequisite: MATH 099 or TECH 099 with a grade of C or better.

MATH 211  Sp  3 credits
**Statistical Projects**  NS
Provides an opportunity for students to apply the statistical processes learned in MATH 210/BUS 206 by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This may be offered as a Capstone course. See Capstone prerequisites.
Prerequisite: MATH 210 or BUS 206 with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206.

MATH 215  Sp  5 credits
**Discrete Structures**  NS
Acquaints students with mathematical concepts used in computer science. Topics can include logic, induction, combinatorics, recursion, analysis of algorithms and graph theory.
Prerequisite: MATH 150 with a grade of C or better or instructor permission.

MATH 220  Sp  5 credits
**Linear Algebra**  NS
Presents the theory and properties of matrices, determinants and linear transformations. Introduces vector space and the Gram-Schmidt orthonormalization process. Deals with the calculation and application of eigenvalues and eigenvectors.
Prerequisite: MATH& 152 with a grade of C or better or instructor permission.

MATH 240  W  5 credits
**Differential Equations**  NS
Introduces techniques of solving ordinary differential equations including the elementary methods used for first order differential equations, method of undetermined coefficients and variation of parameters for higher order equations. Includes techniques of solving systems of differential equations, the method of La Place transforms and series solutions to differential equations.
Prerequisite: MATH& 254 with a grade of C or better.

MATH& 254  F  5 credits
**Calculus IV**  NS
Continuation of Calculus III. Topics include partial derivatives, multiple integrals, and vector calculus.
Prerequisite: MATH& 153 with a grade of C or better.
COURSE DESCRIPTIONS

Medical Assisting (MEDA)

**MEDA 101** F,W,Sp,S 3 credits

**Medical Vocabulary I**
Introduces basic anatomy & physiology while providing a foundation for building a medical vocabulary including the study of prefixes, roots, suffixes, combining forms, and pronunciation. Emphasis is on using medical terms accurately in the context of healthcare employment settings. Also introduces common diseases, and concepts in disease prevention and health promotion. Students will develop resourcefulness through the use of various tools, including a cyclopedic medical dictionary.

**MEDA 102** F,W,Sp 3 credits

**Medical Vocabulary II**
Continues the focus of MEDA 101 by developing a medical vocabulary (using word documents, abbreviations, and stand-alone terms), and knowledge relating to common diseases for body systems not covered in MEDA 101.
Prerequisite: MEDA 101 or BTEC 181.

**MEDA 120** F,Sp 5 credits

**Survey of Human Anatomy and Physiology**
Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune, nervous, musculoskeletal, urinary and sensory organs.
Prerequisite: Competency of ENGL 099 or TECH 105 and MATH 079 or TECH 079, and acceptance into the Medical Assisting Program. Medical Assisting Program Director permission is required for non-MEDA students.

**MEDA 122** W 3 credits

**Law & Ethics for the Medical Office**
Presents the legal, ethical, and bioethical issues relevant to medical office settings. Course features legal cases and legislation. Topics include patient confidentiality, advance directives, consents, professional liability, medical malpractice, release of information, bioethical case studies, the American Association of Medical Assistants’ professional code of ethics, and specific Washington State legislation relating to Medical Assistants.
Prerequisite: Instructor permission.

**MEDA 145** Sp 6 credits

**Medical Laboratory Techniques**
Enables student to develop knowledge and skills necessary to work in a physician’s office laboratory. Focuses on quality control; record keeping; specimen collection - including phlebotomy - processing and disposal; urinalysis; hematology; blood chemistry; immunology and microbiology. This course is part of the educational requirement for the Medical Assistant-Certified, according to Engrossed Substitute Senate Bill 6237 (ESSB 6237), and teaches to the scope of practice according to this law. Students enrolled in this course must show documentation for the hepatitis B vaccine series.
Prerequisite: MEDA 120 or BIOL& 241, and BIOL& 242, and MEDA 162.

**MEDA 161** F 4 credits

**Examining Room Procedures I**
Provides a foundation of knowledge and basic skills for assisting a health care practitioner in a clinical setting. Requires students to perform vital signs, infection control, patient care, and sterile techniques. Explains and discusses OSHA standards for handling biohazardous materials along with first aid and medical emergencies.
Prerequisite: Current enrollment in the Medical Assisting Program. Concurrent requirements: MEDA 120 if not already completed (or BIOL& 241).

**MEDA 162** W 4 credits

**Examining Room Procedures II**
Builds on competencies developed in MEDA 161, necessary for assisting a health care provider in a clinical setting. Focuses on electrocardiography; specialty procedures, safety in radiography; nutrition in health and disease, and advanced patient screening techniques.
Prerequisite: MEDA 161 and current enrollment in the Medical Assisting Program.

**MEDA 165** Sp 5 credits

**Medications in Medical Assisting & Diseases**
Explores common diseases and pathology, including diagnostic and treatment modalities. Students will become proficient in using drug reference materials. This course is part of the educational requirement for the Medical Assistant-Certified, according to Engrossed Substitute Senate Bill 6237 (ESSB 6237), and teaches to the scope of practice according to this law. Lecture and laboratory content include administration and documentation of oral, subcutaneous, intramuscular, intradermal, and ophthalmic medications.
Prerequisite: MEDA 120 or BIOL& 241 and BIOL& 242, and MEDA 162.

**MEDA 190** S 5 credits

**Medical Assisting Preceptorship**
Provides student the opportunity to apply learned skills and knowledge to a practical experience. Students are assigned to clinics and doctors’ offices where they rotate to different tasks, building from the simpler to the more complex, under the supervision of a facility-appointed preceptor.
Prerequisite: All previous MEDA courses and program requirements. Concurrent requirements: Enrollment in MEDA 195.

**MEDA 195** S 1 credit

**Medical Assisting Seminar**
Brings together students currently in preceptorships to discuss issues as they arise in the work place. Provides an opportunity to introduce advanced topics in medical assisting or healthcare, as well as job seeking. Topics will include: disaster preparedness, resume writing, and interviewing techniques. Discussion and practice for the AAMA certification exam is included.
Prerequisite: MEDA 145, MEDA 165. Concurrent requirement: Enrollment in MEDA 190.
MEDA 205 F,W,S 2 credits
Certification Review for Medical Assistants
Provides information to prepare for the Certified Medical Assistant (CMA) exam offered by the American Association of Medical Assistants (AAMA). Includes a review of anatomy, medical terminology, psychology, ethics, and pharmacology, as well as additional topics in clinical and administrative medical assisting.

Music (MUSC)

MUSC 100 F,W,Sp 5 credits
Fundamentals of Music
Introduces music through investigation of melodic, rhythmic, and harmonic structure, and emphasizes development of basic concepts and skills in music through performance on appropriate instruments, such as tonebells, recorders, and guitars.

MUSC 101 F 5 credits
Theory and Musicianship I
Introduces the discipline of music theory. Focuses on the fundamentals of musical notation such as pitches, clefs, accidentals, rhythmic values, key signatures, time signatures, and dynamic markings. Introduces intervals, transposition, triads and their inversions, Roman numeral analysis, macro analysis, figured bass notation, cadences, and elements of melodic organization.
Prerequisite: The ability to read music and/or play an instrument. Concurrent enrollment in MUSC 111 is required.

MUSC 102 W 5 credits
Theory and Musicianship II
Continues studies in the discipline of music theory. Focuses on musical texture and textural reduction, species counterpoint, voice leading in the 4-part chorale, harmonic progressions, harmonic rhythm, and the dominant 7th chord.
Prerequisite: MUSC 101 Concurrent requirement: MUSC 112.

MUSC 103 S 5 credits
Theory and Musicianship III
Furthers studies in the discipline of music theory. Focuses on leading-tone 7th chords, non-dominant 7th chords, secondary dominant and secondary leading-tone chords, modulation, basic two-part (binary) form, and basic three part (ternary) form.
Prerequisite: MUSC 102. Concurrent requirement: MUSC 113.

MUSC& 105 F,W,Sp 5 credits
Music Appreciation
Includes history, development of music, and music appreciation. Part of the course is the study of the music of foreign cultures. Lectures, readings, and recordings provide students with background for understanding and appreciation of significant musical styles of many cultures and historical periods.

MUSC 106 F 2 credits
Group Piano Instruction
Offers study of scales, intervals, chords, and simple exercises in improvisation for those who want basic keyboard skills. Students may enroll any quarter at any level. Elective for non-music majors. Required for non-keyboard music majors unless competency demonstrated.

MUSC 107 W 2 credits
Group Piano Instruction
Offers study of scales, intervals, chords, and simple exercises in improvisation for those who want basic keyboard skills. Students may enroll any quarter at any level. Elective for non-music majors. Required for non-keyboard music majors unless competency demonstrated.

MUSC 108 Sp 2 credits
Group Piano Instruction
Offers study of scales, intervals, chords, and simple exercises in improvisation for those who want basic keyboard skills. Students may enroll any quarter at any level. Elective for non-music majors. Required for non-keyboard music majors unless competency demonstrated.

MUSC 111 F 1 credit
Ear Training I
Supplements the musicianship portion of the MUSC 101 coursework. Introduces the major solfege system and the art of sight singing in general, focusing on step-wise melodies with simple meters in major keys. Introduces the art of music dictation, or the ability to notate music upon hearing it, by focusing on intervals (pitch pairs), as well as rhythms and melodies in simple meters.

MUSC 112 W 1 credit
Ear Training II
Supplements the musicianship portion of the MUSC 102 coursework. Reinforces the major solfege system and introduces sight singing melodies with skips on the tonic triad in compound meters. Broadens music dictation skills by focusing on increasingly wider intervals (pitch pairs), as well as more complex melodies and rhythms in simple meter with beamed 8th notes and dotted notes.
Prerequisite: MUSC 111. Concurrent requirement: MUSC 102.

MUSC 113 Sp 1 credit
Ear Training III
Supplements the musicianship portion of the MUSC 103 coursework. Introduces the minor solfege system and explores sight singing melodies with skips on the dominant triad in a variety of meters. Explores increasingly advanced music dictation by focusing on sets of intervals (pitchgroups) and the notation of rhythms and melodies in compound meters with beamed 8th and 16th notes.
Prerequisite: MUSC 112. Concurrent requirement: MUSC 103.


MUSC 117 Sp 1-5 credits
Music Cultures of the World:DIV H,D
Examines the vast array of musical styles from around the world. This course focuses on representative music of the non-Western world, and touches on the influence of World music in America, with an emphasis on the cultural background of each genre.

MUSC 119 F 5 credits
American Music:DIV H,D
Examines the development of American popular music from its European and early American influences, to the present with an emphasis on the cultural context of specific genres. This course focuses on the most influential performers, recording artists, producers and labels in the United States.

MUSC 121 F,W,Sp,S 2 credits
Beginning Guitar
Presents musical rudiments which include melody, rhythm, notes, scales, intervals, chords and simple exercises in improvisation for those who want basic guitar skills. Students will perform with the class and in a duo with a class member. Prerequisite: Instructor permission.

MUSC 126 F,W,Sp 1 credit
Applied Music I
Includes individual lessons each week. No fee is charged when lessons are provided by regular faculty. Students who study with other teachers make their own financial arrangements and pay their teachers directly. A-Piano; B-Brass; G-Guitar; O-Organ; P-Percussion; S-String; V-Voice; W-Woodwind. Prerequisite: Instructor permission, minimum proficiency in instrument or voice.

MUSC 130 F,W,Sp 2 credits
Jazz Ensemble H, P
Preparation and performance of literature from the jazz idiom appropriate from small to large jazz ensemble for required on and off campus concerts. Jazz literature from the swing era to the present will include bebop, rock, funk, fusion and blues. Prior knowledge of jazz improvisation not required. Open to trumpet, trombone, all saxophone, drum, bass, and guitar players with strong musical skills and good music reading abilities. This course may be repeated for credit up to seven quarters. Prerequisite: Audition or approval by instructor.

MUSC 134 F,W,Sp 1 credit
String Chamber Music H, P
Rehearsal and performance of string chamber music. Participants receive weekly instruction in small ensemble performance, musicianship, and string instrument technique. Activities of this ensemble may include performance for concerts, events on campus, and events in the community. Course may be repeated up to six times. Prerequisite: Instructor permission.

MUSC 135 F,W,Sp 1 credit
Orchestra H,P
Offers participation in the Southwest Washington Symphony, a student/community orchestra, which rehearses and performs standard symphonic literature. Admission is by audition. The course may be repeated for credit up to seven quarters. Prerequisite: Instructor permission.

MUSC 141 F 1.5 credits
Concert Choir I H,P
Introduces students to the fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit. Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 142 W 1.5 credits
Concert Choir II H,P
Demonstrates the fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit. Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 143 Sp 1.5 credits
Concert Choir III H,P
Explores the fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit. Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 145 F,W,Sp 1 credit
Beginning Voice H
Introduces the art of singing, with focus on the development of healthy, efficient vocal production (breath support, vowel alignment, range extension, tone color), diction, song interpretation and performance etiquette. Students will become familiar with the structure and mechanics of the voice through study, discussion, practice and solo performances. Provides students with the skills needed to prepare and perform vocal literature.
MUSC 150  F,W,Sp  2 credits
Symphonic Band  H,P
Rehearsal and performance of symphonic band literature. Participants receive weekly instruction in musicianship and large ensemble performance. Activities of this course may include performance in concerts, commencement, other campus events, and events in the community. Course may be repeated up to seven times for credit. Prerequisite: Instructor permission. Concurrent requirements: MUSC 126/226 Applied Music (individual instruction).

MUSC 151  F  1.5 credits
Show Choir I  H,P
Introduces students to the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit. Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 152  W  1.5 credits
Show Choir II  H,P
Demonstrates the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit. Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 153  Sp  1.5 credits
Show Choir III  H,P
Explores the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit. Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 170  F  2 credits
Jazz Improvisation  H,P
Instructs instrumental improvisation for dance combo, jazz ensemble, and accompaniment. Rhythm section, brass, and single reed instruments are emphasized. Prerequisite: MUSC 101 or instructor permission.

MUSC 174  F,W,Sp,S  2 credits
Jam Band 101
Explore and develop small group performance skills through a variety of genres, including rock/pop/blues with an emphasis on arrangement and composition. Vocalists and instrumentalists (drum, guitar, bass, keyboards, etc.) will form groups and arrange existing and original compositions. The course will culminate in a performance and recording. Proficiency in voice or instrument required. Prerequisite: Instructor permission.

MUSC 197  F,W,Sp,S  1-5 credits
Rehearsal and Performance I  H,P
Provides experience for students who participate in the LCC musical concerts, performances, and/or productions not associated with current enrollment in a music course. This includes both instrumental and vocal performers, composers, designers, accompanists, and technical and support personnel. Students must successfully complete the rehearsal process through the final performance. Prerequisite: Instructor permission.
MUSC 241 F 1.5 credits  
**Concert Choir IV**

Distinguishes the fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit. Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 242 W 1.5 credits  
**Concert Choir V**

Expands on the fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit. Prerequisites: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 243 Sp 1.5 credits  
**Concert Choir VI**

Covers a culmination of the fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 251 F 1.5 credits  
**Show Choir IV**  
**H,P**

Distinguishes the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit. Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 252 W 1.5 credits  
**Show Choir V**  
**H,P**

Expands on the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit. Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 253 Sp 1.5 credits  
**Show Choir VI**  
**H,P**

Further expands on the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit. Prerequisite: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

**Nursing (NURS)**

NURS 090 8 credits  
**Nursing Assistant**

Provides the content and experiences for students to achieve mastery of the state-defined competencies required to assist in giving basic nursing care to residents/clients under the supervision of a licensed nurse.

NURS 101 5 credits  
**Nursing Foundations**

Presents concepts that form the foundation of nursing practice and the roles of provider of care, manager of care, and member of the discipline of nursing. Topics include: the nursing process; aging and elder care; palliative and end-of-life care; oxygenation; basics of fluid, electrolyte, and acid base balance; nutrition; pharmacology; antibiotics; pain; gastrointestinal health; wounds and skin care.

Prerequisite: Admission to the nursing program. Admission criteria is posted on the web. Concurrent requirement: NURS 111.
**NURS 102  5 credits**

**Basic Nursing I**
Builds on previously learned knowledge and introduces basic medical-surgical nursing care of adult and geriatric clients with selected health challenges. Care of the surgical client is introduced. Topics include cardiovascular, respiratory, endocrine, lymphatic, immune, hematological, and musculoskeletal health challenges. Prerequisite: NURS 101 and NURS 111, AH 104, and concurrent enrollment or prior completion of AH 114. Concurrent requirement: NURS 112.

**NURS 103  5 credits**

**Basic Nursing II**
Expands knowledge of basic medical-surgical nursing care of clients with selected health challenges. Topics include cancer, neurological, genitourinary, gastrointestinal, acid-base, fluid and electrolyte, eye, ear and behavioral health concerns. Prerequisite: NURS 102 and NURS 112, AH 104 and AH 114, all with grade of C or higher. Concurrent requirement: Taken concurrently with NURS 113.

**NURS 104  5 credits**

**Family Nursing**
Integrates previously learned knowledge with family nursing concepts for effective nursing care as provider of care, manager of care, and member of the discipline of nursing. Topics include care of the family, perinatal care, pediatric care, domestic violence, child abuse and neglect. Prerequisite: Nursing 103 and 113 with grade of C or higher. Concurrent requirement: NURS 114.

**NURS 111  5 credits**

**Nursing Foundations - Clinical**
Provides opportunities to apply foundational concepts from NURS 101, as well as gain additional knowledge necessary to the performance of nursing care in the roles of provider of care, manager of care, and member of the discipline of nursing, with a focus on adult and geriatric clients. Topics include: physical assessment; dosage calculation; medication administration (non-injectable); care of the adult and geriatric client. Prerequisite: Concurrent enrollment in NURS 101.

**NURS 112  5 credits**

**Basic Nursing I - Clinical**
Provides additional opportunities to apply knowledge from NURS 102 and previous courses in the roles of provider of care, manager of care, and member of the discipline of nursing by providing nursing care to stable adult and geriatric clients in the community, assisted care, long-term and/or rehab settings. Introduces injectable medications. Expands understanding and use of the nursing process. Prerequisite: NURS 101 and 111 with a grade of C or higher. Concurrent requirement: NURS 102.

**NURS 113  5 credits**

**Basic Nursing II - Clinical**
Provides expanded opportunities to apply knowledge from NURS 103 and previous courses to effective nursing care as provider of care, manager of care, and member of the discipline of nursing, to adult clients in various settings, with a focus on acute care. Introduces intravenous fluids and medications. Prerequisite: NURS 102 and 112 with a grade of C or higher. Concurrent requirement: NURS 103.

**NURS 114  5 credits**

**Family Nursing - Clinical**
Provides new opportunities to apply knowledge from NURS 104 and previous courses to effective nursing care as provider of care, manager of care, and member of the discipline of nursing for perinatal, newborn, and pediatric clients. Introduces infant injections and calculation of pediatric dosages. Community and acute care settings are utilized. Prerequisite: NURS 103 and NURS 113 with a grade of C or higher. Concurrent requirement: NURS 104.

**NURS 201  5 credits**

**Advanced Comprehensive Nursing I**
Expands knowledge of nursing concepts and care gained at the basic level. Focuses on comprehensive care of clients throughout the lifespan in preparation for the registered nurse role as provider of care, manager of care, and member of the discipline of nursing. Topics include care of the client with cardiac, respiratory, renal and behavioral health challenges. Prerequisite: NURS 104 and NURS 114 with a grade of C or higher or admission to LPN2RN Campus-Based Option. Concurrent requirements: NURS 221 and AH 230.

**NURS 202  5 credits**

**Advanced Comprehensive Nursing II**
Further expands knowledge of nursing concepts and care, with a continued focus on comprehensive care of clients throughout the lifespan in preparation for the registered nurse role as provider of care, manager of care, and member of the discipline of nursing. Topics include care of the client with vascular, hematological, neurological, gastrointestinal, and additional behavioral health challenges. Prerequisite: NURS 201 and NURS 221 with a grade of C or higher. Concurrent requirement: NURS 222.

**NURS 203  5 credits**

**Advanced Comprehensive Nursing III**
Expands on knowledge gained in previous nursing courses to further prepare the students for the role of a registered nurse. Focuses on providing comprehensive nursing care for clients throughout the lifespan with endocrine disorders, cancer, burns, trauma, terminal illness, and multi-system disorders. Disaster planning, research, and professional. Prerequisite: NURS 202 and NURS 222 with a grade of C or higher. Concurrent requirement: NURS 223.
**NURS 209  3 credits**  
**Nursing Success**  
Strengthens nursing skills and knowledge to promote success in upper level nursing courses. Reviews selected nursing skills, care planning, dosage calculations, legal concepts and professional issues. Familiarizes the student with LCC Nursing Program policies and clinical requirements, including the clinical setting.  
Prerequisite: Admission to the nursing program.

**NURS 221  5 credits**  
**Advanced Comprehensive Nursing Clinical I**  
Provides advanced opportunities to apply knowledge and concepts learned in NURS 201 and previous courses. Cultivates critical thinking and enhances skill in the performance of nursing care as provider of care, manager of care, and member of the discipline of nursing at the beginning registered nurse level. Community and acute care settings are utilized. Includes advanced intravenous skills and concepts. Introduces delegation at the registered nurse level.  
Prerequisite: NURS 104, NURS 114 with a grade of C or better.  
Concurrent requirement: NURS 201.

**NURS 222  5 credits**  
**Advanced Comprehensive Nursing Clinical II**  
Provides additional advanced opportunities to apply knowledge and concepts learned in NURS 202 and previous courses. Expands critical thinking and increases skill in the performance of nursing care as provider of care, manager of care, and member of the discipline of nursing at the beginning registered nurse level. Expands knowledge of nurse delegation. Community and acute care settings are utilized.  
Prerequisite: NURS 201 and 221 with a grade of C or better.  

**NURS 223  5 credits**  
**Advanced Comprehensive Nursing Clinical III**  
Prepares students for autonomous nursing practice by providing opportunities to integrate and apply knowledge learned in NURS 203 and previous courses, under the supervision of an assigned registered nurse preceptor. Reinforces critical thinking and increases skill at the beginning registered nurse level as provider of care, manager of care, and member of the discipline of nursing, preparing students for autonomous nursing practice. Expands skills in nurse delegation.  
Prerequisite: NURS 202 and 222 with a grade of C or higher.  
Concurrent requirement: NURS 203.

**NURS 241  4 credits**  
**Essential Concepts of Nursing Practice**  
Provides content essential to effective and safe registered nursing practice. Concepts of leadership and management are included. Nursing delivery systems, standards of care, quality management, and evidence-based practice are described. The course includes an in-depth review and application of the nursing process. Topics include community-based nursing, culture and ethnicity, nutrition, pharmacology, pain, safety, and infection control.  
Prerequisite: Admission to the nursing program.

**NURS 242  3 credits**  
**Nursing Throughout the Lifespan**  
Builds on previous nursing knowledge to present concepts essential to the provision and management of nursing care of patients throughout the lifespan. Topics include cultural influences on health, assessment, patient teaching, growth and development, care of the family. Reviews the nursing care of the pregnant and postpartum patient. Discusses strategies to achieve optimal health for patients of all ages.  
Prerequisite: NURS 241 with a grade of C or above or concurrent enrollment.

**NURS 243  3 credits**  
**Behavioral Health**  
Provides knowledge essential to provide and manage nursing care of patients with behavioral health issues. Promotes understanding of mental health and mental illness. Presents strategies in nursing care to support the emotional, mental, and social well-being of the patient and their families.  
Prerequisite: NURS 242.

**NURS 244  4 credits**  
**Comp Med Surg Nursing I**  
Using a body systems approach, explores the etiology, pathophysiology, diagnostic and laboratory studies, health promotion, health assessment, pharmacologic interventions, and nursing management essential to safe and effective nursing care of patients with various health challenges. Topics include nursing management of patients with disorders of the respiratory, cardiovascular, vascular/lymphatic, neurological, urinary/renal, hepatobiliary/pancreatic, and gastrointestinal systems, as well as acid-base/fluid-electrolyte balance.  
Prerequisite: NURS 243 with a grade of C or above or concurrent enrollment.

**NURS 245  4 credits**  
**Comp Med Surg Nursing II**  
Using a body systems approach, continues to explore the etiology, pathophysiology, diagnostic and laboratory studies, health promotion, health assessment, pharmacologic interventions, and nursing management essential to safe and effective nursing care of patients with various health challenges. Topics include nursing management of patients with disorders of the musculoskeletal, dermatologic, immune, metabolic/endocrine, hematologic, reproductive, visual/auditory systems, and cancer.  
Prerequisite: NURS 244 with a grade of C or higher.

**NURS 246  2 credits**  
**Skills Laboratory**  
Provides opportunities to develop and enhance proficiency in nursing skills essential to safe and effective nursing practice as provider of care, manager of care, and member of the discipline of nursing, at the beginning registered nurse level.  
Prerequisite: NURS 242 Concurrent requirements: NURS 243 or NURS 245.
NURS 247  5 or 10 credits
Clinical Practicum
Provides advanced opportunities to apply knowledge and concepts learned in previous courses. Expands critical thinking and increases skill in the performance of nursing care as provider of care, manager of care, and member of the discipline of nursing at the beginning registered nurse level. Expands knowledge of nurse delegation. Community and acute care settings are utilized. 
Prerequisite: NURS 246.

NURS 248  5 credits
Advanced Clinical Practicum
Prepares students for autonomous nursing practice by providing opportunities to integrate and apply knowledge learned in previous courses, under the supervision of an assigned registered nurse preceptor. Reinforces critical thinking and increases skill at the beginning registered nurse level as provider of care, manager of care, and member of the discipline of nursing, preparing students for autonomous nursing practice. Expands skills in nurse delegation. 
Prerequisite: NURS 247 or concurrent enrollment.

Nutrition (NUTR)
NUTR& 101  5 credits
Nutrition  NS
Develops an understanding of the importance of the science of nutrition and dietary recommendations to maintenance of a healthy life. Students will learn the principles of nutrition as they apply to macro-nutrients and metabolic pathways. Application of vitamins, minerals, and special nutritional requirements at different stages of the life cycle, as well as current issues in nutrition will be considered. This course does not include a lab.

Oceanography (OCEA)
OCEA& 101 F,W,Sp  5 credits
Introduction to Oceanography  NSL
Emphasizes principles and processes governing the ocean and its interactions with the surrounding physical environment. Covers topics from physical, chemical, biological and geological oceanography, including origin and evolution of the ocean basins, seafloor sediments, seawater, currents, waves, tides, marine life, and human impacts. Laboratory involves use of globes, charts, and graphs, sediment and biological samples. A field trip may be required.

Philosophy (PHIL)
PHIL& 101 F,Sp  5 credits
Introduction to Philosophy  H
Analyzes essential philosophical questions such as the one and/or many, what is truth, what is real being, etc. Pursues various Western attempts at their answers along with students’ own personal approaches.
Prerequisite: ENGL& 101.

PHIL 210  5 credits
Ethics  H
Critically examines major Western philosophical answers to the questions of the good and how to achieve it. Application to some contemporary problems is also covered. 
Prerequisite: ENGL& 101.

PHIL 260  5 credits
Philosophy of Religion  H
Offers a critical, philosophical examination of the nature of religious beliefs, the functions of religious language, the arguments for the existence of God, attributes of God, the possible psychological and sociological origins of religions, the problem of evil, and the immortality of the soul, and some comparisons and contrasts between Eastern and Western religions. 
Prerequisite: ENGL& 101.

Physical Education (PHED)
PHED 104, 204 F,W,Sp,S  1 credit
Pilates and Stretch
Strength and flexibility exercises practiced with Pilates routine to create a balanced and effective program. Emphasis on core strength, posture, balance and toning.

PHED 105, 205  1 credit
Pilates & Yoga - Beginning
Pilates and yoga routines will be practiced together to create a balanced and effective strength and flexibility workout. The exercises will emphasize core strength, back strength, posture, balance, and toning major muscle groups.

PHED 106  1 credit
Yoga for Beginners
Introduces yoga routines and poses for a balanced and effective strength and flexibility workout. Emphasizes core strength, back strength, posture, balance, and toning major muscle groups. Encourages students to link the body and the mind through the poses, routines and meditation time. Students should bring their own yoga mat to class.

PHED 110, 210 F,W,Sp  2 credits
Circuit Training
Develops the basic components of physical fitness for students through participation in an aerobic circuit weight training program. The super-circuit aerobics program utilizes a combination of endurance and strength machines to provide one of the most effective conditioning methods known for developing baseline levels of physical fitness.
PHED 120, 220  2 credits
Cross Training
Introduces the fundamental theories of cross-training for various types of activities. Implements individualized workout routines needed to better your lifetime fitness whether it is strength training, powerlifting, conditioning or endurance. Students will increase strength, fitness and conditioning by taking this class. Students will define and design a workout program that will help them attain their fitness goals.

PHED 121  F,W,Sp,S  1 credit
Beginning Foil Fencing
Presents the skills, strategies, rules, and physical conditioning for the competitive or leisure pursuit of fencing.

PHED 122  F,W,Sp,S  1 credit
Intermediate Foil Fencing
Advancement of the skills, strategies, rules, and physical conditioning beyond the basics for competitive or leisure pursuit.
Prerequisite: PHED 121 or instructor permission.

PHED 125  F,W,Sp,S  1 credit
Boot Camp
Provides a well-rounded, full body work out in every class. Students will work on cardiorespiratory endurance, muscular strength and endurance, body composition and flexibility. Students will keep their heart rates elevated while learning a variety of fitness exercises and using different pieces of fitness equipment such as: kettle bells, stability balls, stretch bands, weighted bars and medicine balls. Class format will include large group, stations, relays and more. Core workouts, pilates and yoga will also be incorporated into this class.

PHED 126, 226  F,W,Sp  1-2 credits
Aerobic Exercise
Guides students through rhythmical and continuous exercise performed to music. Every student, no matter what age or body type, will be provided the opportunity to improve their cardiorespiratory endurance through participation.

PHED 127, 227  F,W,Sp  1-2 credits
Zumba
Fuses hypnotic Latin rhythms and easy-to-follow moves. The routines feature interval training sessions, where fast and slow rhythms and resistance training are combined to tone and sculpt your body while burning fat.

PHED 128, 228  F,W,Sp  1-2 credits
Weight Training
Improves strength, physical conditioning, and performance through correct use of universal equipment, free weights and cardiorespiratory equipment. Emphasis will be on health and fitness education. Each student will design a program specific to his or her goals for the quarter.

PHED 129, 229  F,W,Sp  1-2 credits
Aqua Zumba
Blends the Zumba formula and philosophy with traditional aqua fitness disciplines into a safe, challenging, water-based workout that’s body-toning and cardio-conditioning. Lap swim is also available during this time.

PHED 130, 230  1 credit
Swimming
Provides instruction of the basic swimming strokes, personal safety skills and conditioning programs for muscular and cardiovascular endurance of the swimmer. Students will attend this class at the Mark Morris pool.

PHED 135, 235  F,S  1-2 credits
Fitness Walking
Utilizes walking in developing the health-related components of physical fitness. Emphasis will be placed on cardiorespiratory endurance through low-impact, moderate intensity exercise.

PHED 139  F,W,Sp,S  1-2 credits
Train for a Race
Promotes instruction, coaching and experience in training for a race (5k, 10k, adventure run). Workouts will include walking, running, cross-training, obstacle training, strength training and team building. All fitness levels are welcome. If students choose to participate in a race during the quarter, signing up for and cost of the event is the responsibility of the student.

PHED 140, 240  F  1 credit
Basketball: Men
Provides opportunity for students to learn basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

PHED 141, 241  F  1 credit
Basketball: Women
Provides an opportunity for the students to learn basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

PHED 145  W  3 credits
Softball Coaching Theory
Addresses philosophy, technique, strategy, and knowledge. Progresses from basic theories through sophisticated situational theories and strategies. The course is designed for any level of play or coach in fast-pitch softball.

PHED 146, 246  F  1 credit
Fastpitch Softball-Women
Presents the students the opportunity to learn fastpitch skills, strategies, and rules of play. Students will participate in a softball-conditioning program designed for the sport-related needs.
**PHED 147, 247 Sp** 2 credits  
**Applied Fastpitch Softball-Women**  
Provides students the opportunity to demonstrate fastpitch softball skills, strategies, rules of play and participation in a conditioning program.  
Prerequisite: Instructor permission.

**PHED 149, 249 F** 2 credits  
**Applied Soccer-Women**  
Provides students the opportunity to demonstrate soccer skills, strategies, and rules of play and to participate in a conditioning program.  
Prerequisite: Instructor permission.

**PHED 152, 252 F,W,Sp,S** 1-2 credits  
**Personalized Fitness**  
Requires students to plan and execute an individual exercise program designed specifically to meet personal goals and objectives related to physical fitness. Students may utilize Lower Columbia’s exercise facility or may choose to participate in off-campus activities.

**PHED 160, 260 Sp** 1 credit  
**Baseball**  
Enables students the opportunity to learn basic baseball skills, strategies and rules of play. A strict baseball-conditioning program will be emphasized.

**PHED 162, 262 Sp** 2 credits  
**Applied Baseball**  
Provides students the opportunity to demonstrate baseball skills, strategies, rules of play and to participate in a baseball conditioning program.  
Prerequisite: Instructor permission.

**PHED 164, 264 W** 2 credits  
**Applied Basketball-Men**  
Gives students the opportunity to demonstrate basketball skills, strategies, rules of play and to participate in a basketball conditioning program.  
Prerequisite: Instructor permission.

**PHED 165, 265 W** 2 credits  
**Applied Basketball-Women**  
Gives students the opportunity to demonstrate basketball skills, strategies, rules of play and to participate in a basketball conditioning program.  
Prerequisite: Instructor permission.

**PHED 167, 267 F** 2 credits  
**Applied Volleyball**  
Gives students an opportunity to demonstrate volleyball skills, strategies, and rules of play and to participate in a volleyball-conditioning program.  
Prerequisite: Instructor permission.

**PHED 171 F,Sp** 3 credits  
**Prevention and Care of Athletic Injuries**  
Provides training in basic prevention and care of athletic injuries. Includes an introduction to the field of sports medicine, organization and administration of a sports medicine program, recognition of common athletic injuries, evaluation and treatment protocols, rehabilitation techniques and emergency procedures. Basic wrapping, taping, and bracing techniques will be studied and practiced. Basic anatomy, physiology, and infection control will be included.

**PHED 190 W** 3 credits  
**Baseball Coaching Theory**  
Addresses philosophy, technique, drill, application, demonstration, strategy and knowledge. Baseball coaching theory progresses from basic theories through situational theories. This course is designed for any level of player or coach of softball and baseball.

**PHED 192** 2 credits  
**Basketball Coaching Theory**  
Offers a philosophical and fundamental study of basketball as played at the college level and includes fundamental approaches, offensively and defensively, designed to produce winning teams.

**PHED 215 F,Sp,S** 2 credits  
**Outdoor Adventure**  
Provides local outdoor fitness activities and opportunities to learn the importance of teamwork and outdoor adventure safety. Typical activities may include hiking, zip lining, kayaking, biking, orienteering, and team building activities. Actual activities may vary according to the season and equipment availability. Students must be in good physical condition before taking this course. For safety reasons, equipment rental agency policies may limit participation to persons 18 and older and who weigh less than 250 pounds. Equipment rental fees vary by quarter and activity, and are the responsibility of the student. Students are responsible for arranging their own transportation. Average additional cost ranges from $100 to $150 per student. Details about costs and specific activities will be provided at the first class session or by contacting the instructor.

**PHED 216 W** 2 credits  
**Winter Outdoor Adventure**  
Provides local outdoor fitness activities and opportunities to learn the importance of teamwork and winter outdoor adventure safety. Typical activities may include snowshoeing, winter camping, cross country skiing, winter safety, orienteering, and team building activities. Actual activities may vary according to the season and equipment availability. Students must be in good physical condition before taking this course. For safety reasons, equipment rental agency policies may limit participation to persons 18 and older and who weigh less than 250 pounds. Equipment rental fees vary by quarter and activity, and are the responsibility of the student. Students are responsible for arranging their own transportation. Average additional cost ranges from $100 to $150 per student. Details about costs and specific activities will be provided at the first class session or by contacting the instructor.
PHED 282
Water Safety Instruction
Provides instruction in how to teach swimming and diving skills for infants through adults and is designed to prepare lifeguards, instructors, and pool administrators for employment as certified American Red Cross water safety instructors.

PHED 284
Lifeguard Training
Provides explanations, demonstrations, practice and review of rescue skills essential for Lifeguards as well as develop participants speed, endurance, and technique in swimming and Lifeguard skills. This course meets the requirements for American Red Cross certification in Lifeguard Training and is open to students who pass qualifying tests in swimming.

Physical Science (PHSC)

PHSC 108
Physical Science
5 credits
NSL
Explores the everyday physical world through the study of matter, momentum and motion, forms of energy, electricity and magnetism. Physical laws are presented that describe the interaction of energy and matter that are seen in everyday life. Students will gain an understanding of the natural world and science as a field of study. Includes lab. Students cannot receive credit for both PHSC 108 and PHSC 109.

PHSC 109
Energy and Matter: Physical Sciences
5 credits
NSL
Explores energy and matter through the study of matter, momentum and motion, forms of energy, electricity and magnetism. Students will gain an understanding of the natural world and science as a field of study, as well as develop skills to apply and teach scientific principles in everyday life. Intended primarily for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab. Students cannot receive credit for both PHSC 109 and PHSC 108.

Physics (PHYS)

PHYS& 114
General Physics I w/Lab
5 credits
NSL
Provides the first quarter of a sequence of courses in various health science, technology, and pre-professional areas. Student-initiated motion studies introduce the fundamental principles of mechanics through studies of kinematics, Newton's Principles, energy and momentum conservation principles, and their rotational analogues. Students participate in supporting small group laboratory investigations. Prerequisite: MATH 099 or TECH 099 and MATH 076 or equivalent working knowledge of elementary algebra and right triangle trigonometry, or instructor permission.

PHYS& 115
General Physics II w/Lab
5 credits
NSL
Incorporates both thermodynamics and electromagnetism, including active student investigations of temperature, heat and thermal energy, entropy, the properties of simple electric and magnetic fields, and simple AC and DC circuits. Classroom activities help students connect the nature and role of fundamental principles in physics with real everyday operations of those principles. Students learn operation and use of contemporary instrumentation in lab investigations. Prerequisite: PHYS& 114 and MATH 099 or TECH 099 and MATH 076 or instructor permission.

PHYS& 116
General Physics III w/Lab
5 credits
NSL
Emphasizes the scientific development of fundamental principles through active student investigations of mechanical and electromagnetic waves, geometrical and physical optics, special relativity, particles, waves, the quantum theory of the atom, the physics of the nucleus, and elementary particle theory as time permits. Prerequisite: PHYS& 115 or instructor permission.

PHYS 210
The Environmental Physics of Energy
5 credits
NSL
Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. Students cannot receive credit for both ENGR 210 and PHYS 210. Prerequisite: Algebraic, writing, and presentation skills; a previous distribution science course (e.g., PHYS& 100) would be helpful.

PHYS& 221
Engineering Physics I w/Lab
5 credits
NSL
Provides the first quarter of a calculus-based sequence for majors in the physical sciences, engineering, or mathematics. The Principles of Newtonian Mechanics are introduced through motion analysis, with subsequent application to problems involving particle and rigid body motion. Small groups carry out supporting lab investigations. Use of elementary calculus increases during the term. Prerequisite: Completion of or concurrent enrollment in MATH& 151 or instructor permission.
PHYS& 222 W 5 credits
Engineering Physics II w/ Lab NSL
Incorporates study of the mechanics of fluids, oscillatory motion, thermodynamics, and electrostatics. Includes student investigations of waves, temperature, heat, entropy, electricity and electric current. Classroom activities help students connect the sweeping power of fundamental principles with real everyday engineering physics applications. Students operate and utilize contemporary instrumentation in lab investigations.
Prerequisite: PHYS& 221, MATH& 152 or instructor permission.

PHYS& 223 Sp 5 credits
Engineering Physics III w/ Lab NSL
Incorporates electromagnetism and wave physics through active student investigation of magnetism, time varying magnetic fields, DC and AC circuits, electromagnetic waves, geometrical and physical optics. Small group lab projects support these contemporary topics.
Prerequisite: PHYS& 222 or instructor permission.

Political Science (POLS)

POLS& 101 F,W 5 credits
Intro Political Science SS
Examines the foundations of political science: key political ideas, theories, processes, and institutions, and explores examples of these in today's world.

POLS& 202 F,W,Sp,S 5 credits
American Government SS
Studies the structure and functions of the government of the United States, with an evaluation of the United States as a democracy, in both theory and practice.
Prerequisite: ENGL&101.

POLS& 203 W 5 credits
International Relations SS
Introduces the nature and basic principles of international politics, with an analysis of such concepts as imperialism, nationalism, internationalism, the causes of war, and conditions for peace.
Prerequisite: ENGL&101.

POLS& 204 5 credits
Comparative Government SS
Analyzes the political and economic systems and ideologies of capitalism, socialism, communism, and fascism within the context of the cultural traditions of Western Civilization and considers these systems as alternative methods of the allocation of political and economic power in society, with special emphasis given to the disparity between the stated objectives of these systems and their actual accomplishment. This course fulfills the requirements of the AA-DTA social science distribution list.

POLS 220 5 credits
The Law and Social Issues SS
Studies lines drawn by democracies in the attempt to reconcile individual freedoms with the rights of the community. Analyzes and evaluates the basic problem of dealing with basic rights and liberties, freedom of expression, due process of law, and political and racial equality.

POLS 294, 295, 296, 297 1-5 credits
Selected Topics in Political Science I, II, III, IV
Examines topical or special issues in political science. Course theme and content change to reflect new topics, which are announced in the quarterly class schedule. This is an elective transfer course.

Process Control Manufacturing (PMFG)

PMFG 110 F 5 credits
Industrial Maintenance Fundamentals
Introduces essential elements of industrial maintenance. Provides an overview of the jobs and tasks generally performed in manufacturing operations. Fundamental topics covered include an overview of general types of industrial equipment, the proper use of a variety of hand tools and measuring instruments, and an exploration of fasteners, bearings, seals, and lubrication systems. Safety procedures including lock-out/tag-out of electrical/mechanical energy systems, sketching using ANSI standards, layout and machinery installation, and basic troubleshooting techniques are also covered.

PMFG 150 6 credits
Electrical and Electronic Fundamentals
Introduces the nature and principles of electricity and electrical/electronic devices. Focuses on general principles, safety, industrial applications, and includes topics related to both DC and AC circuits. Topics explored include basic theory and direct current circuits, measuring instruments, interpretation of electrical and schematic diagrams, ohms law, basic electrical circuit analysis, applied mathematical concepts used in solving for values in series and parallel circuits, electrical safety and basic magnetic concepts. Additional topics are alternating current circuits, the use of AC measuring instruments, single phase and three phase AC distribution systems, transformers, and an overview of basic electronic devices, their function, and common applications. The course is designed for individuals entering the electrical trades, maintenance personnel or production/process operators.
Prerequisite: MATH 088 or concurrent enrollment or instructor permission.
**COURSE DESCRIPTIONS**

**PMFG 151  5 credits**

**Process Control Equipment**

Provides an overview of process control equipment for operating personnel in industries utilizing process manufacturing techniques. Introduces the fundamentals of process control, instrumentation, control equipment, PLCs, process and instrumentation diagrams, and equipment fault identification and troubleshooting.

Prerequisite: Both MATH 088 and PMFG 150 strongly recommended.

**PMFG 152  5 credits**

**Process Control Systems**

Provides an overview of process control systems for operating personnel in industries utilizing process manufacturing techniques. Introduces the basics of control system equipment, process and instrumentation diagrams, and equipment fault identification and troubleshooting.

Prerequisite: PMFG 151 or instructor permission.

**PMFG 201  3 credits**

**Electrical Control Equipment**

Introduces the operation, troubleshooting, and adjustment of various types of electrical control equipment. Fuses, molded case circuit breakers, and control switches are covered. Includes basic principles of motor starters and troubleshooting of control circuits.

Prerequisite: PMFG 150 or instructor permission.

**PMFG 202  2 credits**

**Electric Motors**

Covers the concepts, maintenance, and testing of AC and DC motors. Includes a study of components and operation of a variety of AC motors and DC motors. Single-phase and three-phase motors are covered.

Prerequisite: PMFG 201 or instructor permission.

**PMFG 210  5 credits**

**Advanced Industrial Maintenance**

Explores more advanced industrial maintenance topics, including preventative maintenance, centrifugal pump repair, valve repair, rigging and lifting, vibration analysis, and shaft alignment. Safe work practices are stressed, and relevant safety topics are covered during the course.

Prerequisite: PMFG 110 or instructor permission.

**PMFG 220  5 credits**

**Introduction to Renewable Energy**

This course provides an introduction to renewable energy sources. Topics will include biomass for fuels and electricity generation, solar, wind, geothermal and hydroelectric energy. Students will compare technology, social, environmental and economic impacts of renewable energy. Upon completion, students will be able to demonstrate an understanding of renewable energy and its impact on humans and the environment.

Prerequisite: MATH 089 and ENGL 099 or higher or TECH 105 or instructor permission.

**Psychology (PSYC)**

**PSYC& 100  5 credits**

**General Psychology**

Studies the science of behavior and fosters understanding of human development, learning, motivation, emotions, reactions to frustration, mental health and therapy, perception, and personality.

**PSYC 140  3 credits**

**Introduction to Sport Psychology**

Emphasizes the psychological factors affecting individual behavior as it relates to sport performance and provides student athletes the resources to better understand, predict, and modify competitive sport performance as a result.

**PSYC& 200  5 credits**

**Lifespan Psychology**

Studies the physical, emotional, and social developmental behavior of the individual from childhood through adolescence, early adulthood, and late adulthood, and emphasizes specific stages encountered at various developmental levels.

Prerequisite: PSYC& 100 or instructor permission.

**PSYC 204  5 credits**

**Applied Psychology**

Studies applications of psychology in such areas as human motivation, business, industry, education, psychiatry, law, death and dying, combat, violence, and problems related to development.

Prerequisite: PSYC& 100 or instructor permission.

**PSYC 214  5 credits**

**Psychology of Adjustment**

Studies the nature of the personality, personality formation, and adjustment to environment. Dynamics of adjustment, normal and abnormal patterns of adjustment, the development of emotional, social, and intellectual competencies, and a survey of applicable theories of personality are included.

Prerequisite: PSYC& 100 or instructor permission.

**PSYC& 220  5 credits**

**Abnormal Psychology**

Presents a study of abnormal psychopathology, specifically a study of abnormal human behavior, its description, causes, and diagnosis. Emphasis on treatment and major diagnostic categories such as schizophrenia, personality, mood, and organic brain disorders.

Prerequisite: PSYC& 100 or instructor permission.
Sociology (SOC)

**SOC& 101**  F,W,Sp,S  5 credits  
Introduction to Sociology:DIV  SS,D

Examines the complexity of the sociological perspective to provide students with the conceptual tools essential to the development of a more complex understanding of the human condition. Students develop a comprehension of the role that social organization, socialization and social interaction plays in the formulation of social identity, a common conceptual understanding, social inequality and cultural diversity.

**SOC 210**  Sp  5 credits  
Human Sexuality  SS

Presents examination of the scientific research that has led to a better understanding of human sexuality in its anatomical, physiological, sociological, cultural, and psychological aspects.

**SOC 225**  Sp  5 credits  
Race and Ethnicity:DIV  SS,D

Examines the complexities of race and ethnicity in America and around the world. Topics include the social construction of racial and ethnic identities, the historical patterns of racial and ethnic exclusion, and the role of race and ethnicity in the perpetuation of social inequality and the shaping of world events.

Spanish (SPAN)

**SPAN 097**  2 credits  
Spanish Grammar for Beginners: Present Tense Verbs

Enables understanding of verb conjugation in the present tense in Spanish. Presents minimal vocabulary and does not concern oral proficiency. While this course is self-directed, students may be assisted by a tutor or an instructor. Graded on a credit/no credit basis.

**SPAN 098**  1 credit  
Spanish Grammar for Beginners: Agreement of Nouns and Modifiers

Enables understanding of nouns and modifiers in Spanish. Presents minimal vocabulary and does not concern oral proficiency. While this course is self-directed, students may be assisted by a tutor or an instructor. Graded on a credit/no credit basis.

**SPAN 104**  1-5 credits  
Introduction to Spanish in the Workplace

Introduces Spanish, presenting realistic situations and specialized vocabulary needed for basic communication with Spanish speakers in the workplace. Personalized questions, grammar exercises, dialog activities, and role-playing provide students with numerous opportunities to apply points of language in a wide variety of practical contexts. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

**SPAN 105**  1-5 credits  
Introduction to Spanish in the Workplace

Builds vocabulary and introduces more complex points of language, including idioms, grammar, and, especially, pronunciation. Provides additional opportunities for telephone and face-to-face communication in workplace settings. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).
Prerequisite: SPAN 104 or equivalent.

**SPAN 106**  1-5 credits  
Spanish in the Workplace

Accumulates vocabulary and introduces additional verb forms and pronoun usage, which are essential to clear oral communication. Enables further telephone and face-to-face communication with clients and co-workers whose principle language is Spanish. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).
Prerequisite: SPAN 105 or equivalent.

**SPAN 107**  1-5 credits  
Spanish in the Workplace

Increases fluency, concentrating on effective communication (listening and speaking), self-expression, and literacy. Within a particular domain, students will learn to interact with clients and co-workers whose principal language is Spanish. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).
Prerequisite: SPAN 105 or equivalent.

**SPAN& 121**  F,W,Sp,S  5 credits  
Spanish I:DIV  H,D

Introduces Spanish, emphasizing basic vocabulary and points of language. Aiming at self-expression and literacy, this course engages students in reading, writing, listening, and speaking in the target language. Students will also acquire knowledge of the diverse social, ethnic, and cultural groups that use the language and observe how artistic expression reflects the diversity of cultural values.

**SPAN& 122**  F,W,Sp,S  5 credits  
Spanish II:DIV  H,D

Provides continuation of basic principles offered in SPAN& 121, accumulates vocabulary, reinforces basic grammar, and increases fluency. Aiming at self-expression and literacy, this course engages students in reading, writing, listening, and speaking in the target language. Students will also acquire knowledge of the diverse social, ethnic, and cultural groups that use the language and observe how artistic expression reflects the diversity of cultural values.
Prerequisite: SPAN& 121 with a grade of C or better or two years of high school Spanish.
SPAN& 123  F,W,Sp,S  5 credits
Spanish III:DIV  H,D
Provides further development of basic skills, accumulates vocabulary, reinforces basic grammar, introduces new grammatical principles, and increases fluency. Aiming at self-expression and literacy, this course engages students in reading, writing, listening, and speaking in the target language. Students will also acquire knowledge of the diverse social, ethnic, and cultural groups that use the language and observe how artistic expression reflects the diversity of cultural values.
Prerequisite: SPAN& 122 with a grade of C or better or three years of high school Spanish.

SPAN& 221  F,W,Sp,S  5 credits
Spanish IV  H
Provides an intensive review of vocabulary and basic points of language included in the first year, introduces new points, develops communication problem solving skills, and builds an extensive vocabulary pertinent to contemporary social and cultural issues.
Prerequisite: For enrollment in second-year Spanish courses, students must complete first-year college level Spanish.

SPAN& 222  F,W,Sp,S  5 credits
Spanish V  H
Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy.
Prerequisite: SPAN& 221 or equivalent.

SPAN& 223  F,W,Sp,S  5 credits
Spanish VI  H
Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy.
Prerequisite: SPAN& 222 or equivalent.

Speech (SPCH)

SPCH 104  F,Sp  5 credits
Interpersonal Communication  H
Explores how communication develops and changes relationships. Addresses theories and principles of interpersonal communication, including perception, self concept, feedback, listening, nonverbal communication, empathy and disclosure, and handling conflict with an emphasis on skill building and improvement. Personal, family, friendship, and working contexts are considered.

SPCH 109  W  5 credits
Intercultural Communication:DIV  H
Examines the intercultural aspects of human communication. Emphasizes the significance of communicating across cultural lines of cultural differences in today’s world. Focuses on cultural identity, differing behaviors and values, historical context, language and nonverbal expression, intercultural transitions, and conflict. Emphasizes application of theory and skills designed to increase competence in intercultural communication. Meets the diversity requirement.

SPCH 110  F,W,Sp,S  5 credits
Intro to Public Speaking  H
Examines the planning, development, and delivery of informative and persuasive speeches. Emphasis is given to effective structure and support of ideas, establishing credibility, audience analysis, language use, speaker anxiety, verbal and nonverbal presentation skills, and listening. Self-critiques are also stressed.

SPCH 114  F,W,Sp,S  5 credits
Small Group Communication  H
Introduces principles and processes of small groups and development of skills for participation and leadership in small group settings. Practice in problem solving, decision making, information sharing, and the and the relational aspects of small group work. Includes analysis and evaluation of project-based small group work. Students will apply small group communication concepts to analyze their own work in a variety of structured discussions and activities.

SPCH 126, 127, 128, 226, 227, 228  F,W,Sp  2 credits
Competitive Public Speaking
Provides investigation and practice in background, format, procedures and evaluation criteria of forensics events. Students must participate in a minimum of two intercollegiate tournaments.

SPCH 136, 137, 138, 236, 237, 238  F,W,Sp  2 credits
Intercollegiate Debate
Provides investigation and practice in oral problem solving through the debate format. The student is expected to attend a minimum of two debate tournaments.

SPCH 209  Sp  5 credits
Rhetoric Criticism & Popular Culture:DIV  H
Introduces methods of rhetorical criticism including neo-Aristotelian, dramatistic, Marxist, and feminist. Applies methods to popular culture artifacts (e.g., film, television, advertising, video games, and graphic novels). Themes include how popular culture influences life by defining cultural, gender, class and race roles. Students will apply the rhetorical criticism methods to identify persuasion in popular culture that influences their thoughts, beliefs, and actions.
Prerequisite: ENGL& 101 or equivalent.
SPCH 290  F,W,Sp  1 credit
Forensic Management and Organization
Provides instruction and practical experience in the setup, administration, and judging of forensics tournaments. Graded on a pass/fail basis.

Technology Education (TECH)

TECH 075  F,W,Sp  5 credits
Introduction to Technical Reading/Writing
Offers basic writing/reading skills for technical students. Skills include writing complete sentences, improving spelling, and using writing as a form of communication. Additionally, students will learn how to read technical materials effectively, expand vocabulary, and improve comprehension.

TECH 078  F,W,Sp, S  3 credits
Pre-College Math I
Covers operations on and applications of integers, fractions, and decimals. This is the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 01-03. Credit cannot be earned for both TECH 078 and MATH 078.
Prerequisite: Placement exam or instructor permission.

TECH 079  F,W,Sp, S  2 credits
Pre-College Math I
Covers operations on and applications of ratios, proportions, and percents. Also includes topics in measurement and geometry. This is the continuation of the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 04-05. Credit cannot be earned for both MATH 079 and TECH 079.
Prerequisite: MATH 078 with a C or better, placement exam, or instructor permission.

TECH 088  F,W,Sp, S  3 credits
Pre-College Math II
Covers solving linear equations and inequalities and an introduction to graphing. Techniques and strategies for problem solving are emphasized. This is the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 06-08. Credit cannot be earned for both TECH 088 and MATH 088.
Prerequisite: C or better in TECH 079 or MATH 079, placement exam, or instructor permission.

TECH 089  F,W,Sp, S  2 credits
Pre-College Math II
Covers operations on polynomials and factoring of polynomials. This is the continuation of the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 09-10. Credit cannot be earned for both TECH 089 and MATH 089.
Prerequisite: C or better in TECH 088 or MATH 088, placement exam, or instructor permission.

TECH 090  5 credits
Principles of Technology
Explores the mechanical, fluid, electrical, and thermal systems on which modern technology operates. Hands-on, real-world lab activities are integrated with mathematics and physics instruction to provide an understanding of the units of force, work, rate, resistance, and energy associated with each system.

TECH 097  F,W,Sp, S  5 credits
College-Ready English I
Introduces skills for reading college-level texts and writing college-level papers. Provides strategies for generating, developing, supporting, and organizing ideas, as well as revising for coherence, clarity, correctness, and documentation. This is an outcomes-based pathway to college-level composition courses.

TECH 098  3 credits
Pre-College Math III
Covers factoring polynomials and operations on rational and radical expressions. This is the third in a three quarter pre-college mathematics sequence which contains pre-college math modules 11-13. Credit cannot be earned for both MATH 098 and TECH 098.
Prerequisite: MATH 089 or TECH 089 with a C or better, placement exam or instructor permission.

TECH 099  F,W,Sp, S  2 credits
Pre-College Math III
Covers solving and graphing quadratic equations and an introduction to exponential and logarithmic functions. This is the continuation of the third in a three course pre-college mathematics sequence which contains pre-college math modules 14-15. Credit cannot be earned for both TECH 099 and MATH 099.
Prerequisite: C or better in TECH 088 or MATH 088, placement exam, or instructor permission.

TECH 100  F,W,Sp, S  5 credits
Advanced Principles of Technology  NSA
Provides hands-on study of energy, power, and force transformers in mechanical, fluid, electrical and thermal energy systems. Includes a review of force, work, rate and resistance. Students will learn through a combination of lab experiments and discussion of the physics and math related to each energy system. The application in industry of various concepts is also explored.
Prerequisite: One year of high school principles of technology (certificate from instructor required), or TECH 090, or MATH 106 or higher.

TECH 170  4 credits
Statistical Process Control
Explores the use of statistical process control as a means of improving a process. Problem-solving techniques including brainstorming, Pareto diagrams, and cause and effect diagrams are also examined.
Prerequisite: Recommended: MATH 106 or higher.
**Welding (WELD)**

**WELD 071 F 1 credit**  
**Welding Support I**  
Introduces shop safety practices and common welding techniques for related curriculums. The common welding techniques addressed will include oxy/fuel cutting and brazing, and basic welding. Concurrent enrollment in WELD 105 required.

**WELD 072 W 1 credit**  
**Welding Support II**  
Introduces shop safety practices and common welding techniques for related curriculums. The common welding techniques addressed will include oxy/fuel cutting and brazing, basic arc welding, and wire feed welding. Concurrent enrollment in WELD 105 required.

**WELD 105 F,W,Sp,S 1-6 credits**  
**Related Welding I**  
Studies shop safety practices and common welding techniques for related curriculums. The common welding techniques will include oxy-acetylene cutting and brazing, electrode arc welding, and wire feed welding.

**WELD 151 F,W,Sp,S 1-6 credits**  
**Introduction to Oxy-Acetylene**  
Covers basic principles, procedures, and safety in using oxy-acetylene equipment. Mild steel rod, brazing rod, soldering, temperatures, metal testing, fluxes, expansion, contraction and dry cutting. Projects are assigned to give practice in making basic welds.

**WELD 152 F,W,Sp,S 1-10 credits**  
**Introduction to Arc Welding**  
Studies basic principles, procedures, and safety in the use of welding equipment. Students must complete satisfactory vertical, flat, horizontal, and overhead welds using E6010. Projects are assigned to help develop student skills.

**WELD 158 5 credits**  
**Welding Theory and Fabrication**  
Covers theoretical and practical applications of welding processes and metal fabrication. Work on project is required outside of class.  
Prerequisite: WELD 151, 152 or instructor permission.

**WELD 221 F,W,Sp,S 10 credits**  
**Wire Machine**  
Presents a general overview of various metallic inert gas (MIG) welding machines, including instructions on stainless steel, mild steel, aluminum, flux core wire welding, and machine troubleshooting and setup problems/safety.  
Prerequisite: WELD 151, 152, 254, or instructor permission.

**WELD 222 F,W,Sp,S 6 credits**  
**Advanced Wire Machine**  
Prepares the student for successful employment in flux core wire welding. Emphasizes safety, care and use of equipment, types of testing (destructive and non-destructive), welding specifications and codes, welding procedures and qualification requirements, visual inspection, weld defects, and workmanship.  
Prerequisite: WELD 151, 152, 221, 254, 256, or instructor permission.

**WELD 254 F,W,Sp,S 1-10 credits**  
**Arc Welding**  
Continues arc welding procedures, rods, symbols, and metal testing using E7018 and different alloy rods and sizes. Students also work towards AWS/WABO certification.  
Prerequisite: WELD 152 or instructor permission.

**WELD 255 F,W,Sp,S 1-10 credits**  
**Advanced Welding Processes**  
Provides training opportunity with tungsten inert gas (TIG) and aluminum, mild steel, stainless steel, and pipe.  
Prerequisite: WELD 151, 152, 254, 256, or instructor permission.

**WELD 256 F,W,Sp,S 1-10 credits**  
**Advanced Welding Application**  
Studies maintenance, repair and production welding and provides a testing program and a service course for those desiring to complete a certification test meeting AWS or WABO specifications.  
Prerequisite: WELD 152, 254, or instructor permission.