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## COURSE DESCRIPTIONS

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Students at ECC have options to learn in ways that are different from the traditional face-to-face classroom setting where student and instructor meet in the same physical location at a scheduled time each week. Specific classes offered in a nontraditional format may vary by semester. To see current classes, look for the following types of courses in a hard copy credit class schedules or the college Web site at [elgin.edu](http://elgin.edu).

## **Online Classes**

These courses are delivered through the Internet and accessed when you have the time – whether that is 9 a.m. or 9 p.m. makes no difference. Like traditional classes, online classes are 16 weeks long and feature interactivity, homework, discussion, group work, quizzes and exams. But instead of learning face-to-face, students complete their assignments and interact with their instructor and classmates via email or online discussion groups.

Online courses are recommended for self-motivated learners with excellent reading skills who possess basic computer knowledge and can follow direction.

## **Telecourses**

Students watch videos, use a textbook, study guide, complete assignments and take exams when enrolled in these courses. Telecourses are more flexible than most online classes because you work independently. But they are not easier than campus-delivered versions of the same courses and, in fact, are harder because you are working solely on your own.

Students who tend to procrastinate in any way should not take telecourses. However, they are a good choice for self-disciplined students who cannot attend regularly scheduled classes on campus.

## **Hybrid Classes**

Combining traditional classroom instruction with online instruction, these classes allow students to meet on-campus with a teacher and other students for one class session and then meet online the next class session. They are ideal for reducing classroom time and commutes to campus. By taking several hybrid classes during the same semester, students may need to be on campus only one or two days a week.

## **Virtual Classes**

Students in virtual classes may collaborate, exchange ideas and learn in a virtual, 3-D environment from home, the library, computer lab or anywhere they place their computer. Classes meet in real-time and instructors provide course content through voice communication software, the Internet, multimedia resources and computer-related applications.

Virtual courses are recommended for self-motivated learners with excellent reading skills who possess basic computer knowledge and can follow direction.

## **Learning Communities**

Students registering for learning communities enroll in a grouping of two to three classes that are linked around a common theme or fulfill a specific need, such as first-time students or students interested in a particular major. Research shows that students taking courses together improves their grades, fosters a supportive environment and builds stronger bonds with the instructor and other students.

# Glossary of Terms

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**Chargeback** See pg. 81

## **Class Hour**

The number of hours per week that a student spends in class, (lecture time, lab time, or both). Class hours are the last two numbers that appear with the course title in the course description section of this catalog. The first of these two numbers is lecture hours, the second is lab hours. The actual time of day a course will be offered is shown in the class schedule publication or on the Web site ([www.elgin.edu/accessec](http://www.elgin.edu/accessec)).

## **Concurrent Enrollment**

A condition of enrollment stated in a course prerequisite which allows a student to enroll in a course and its prerequisite(s) at the same time.

## **Consent of Instructor**

A condition of enrollment stated in a prerequisite which allows a student to obtain written permission from an instructor to take the course. If the prerequisite is a course which is also required in a particular curriculum, the student must either take a proficiency test for the prerequisite (if available) or substitute another course. Credits are not granted for waived courses.

## **Course**

A body of information taught in a particular subject. ECC courses are identified with a course prefix, course number and course title. An explanation of each course is in the course description section of this catalog.

## **Course Code**

A number which appears at the end of every course description in the catalog and which designates the program category in which the state of Illinois has approved the course. See the course description section of this catalog for details.

## **Course Description**

An explanation of the content of a course. Descriptions for every credit course offered by the college appear alphabetically in the course description section of this catalog.

## **Course Number**

A three-digit number which follows the course prefix. Course numbers between 100 and 199 are generally considered freshman level. Courses numbered between 200 and 299 are generally considered sophomore level. Courses numbered below 100 are remedial or developmental and cannot be used to fulfill graduation requirements for any associate degree and are not transferable to four-year schools.

## **Course Prefix**

A three-letter code which identifies the department in which a course is taught, e.g., ENG English, WEL welding, GRD graphic design.

## **Course Section Number**

A number used in college class schedules which indicates the different days, times, locations, instructors and starting dates that a course will be offered in a particular semester. Most courses have more than one section, but, students may register for only one.

## **Course Title**

The official name of a course.

**Course Waiver** See Consent of Instructor.

## **Credit Hour**

A standardized unit of academic measurement assigned to every course offered by the college. Credit hours are shown immediately after the course title in both this catalog and class schedules. ECC credit hours are semester hours. Other colleges may use quarter hours or units. Contact the ECC Records Office for credit hour conversion. For the number of credit hours required for degrees and certificates, see pgs. 21–26 and 28 and 29.

## **Elective**

A course, in the selection of which, the student has some choice. The amount of choice depends upon the type of elective. A general elective is any course offered by the college which meets the minimum criteria for graduation. A recommended elective is chosen from a list of suggested courses. A required elective is chosen from a list of mandatory courses. A subject elective is chosen from any course in a given department, discipline or program.

## **Independent Study**

Students have the opportunity to turn their special interests into college credit through Independent Study projects. Students may apply up to six hours of Independent Study credit toward any associate degree. Interested students must talk with the appropriate instructional dean to complete a project authorization form. Ultimate authorization for a project rests with the dean and the faculty member who coordinate the project with the student. The student must bring the authorization form with him/her to register. Students working on Independent Study projects meet at least weekly with their project coordinator. Projects must be completed within the framework of the college's 16-week academic semester.

## **Laboratory Section**

Courses which include time in the laboratory sometime have separate sections for lecture and lab. Lab sections are always identified with a number and letter. Students must register for a lab section which has the same number as the lecture section.

## **Pass/No Credit Courses**

Students may choose to take some designated credit courses as pass/no credit or earn regular letter grades of A-F. Students who opt for pass/no credit registration earn credit for the course if they complete it with a C or better. If not, they receive no credit. Either way, pass/no credit carries no grade value and does not affect a student's grade point average or their academic standing. Registration for pass/no credit classes must be made in person only at the time of registration or up to 10 days after at the Registration Center.

## **Prerequisite**

A course requirement which must be met prior to enrollment. Students not meeting prerequisites may be dropped from class by the college.

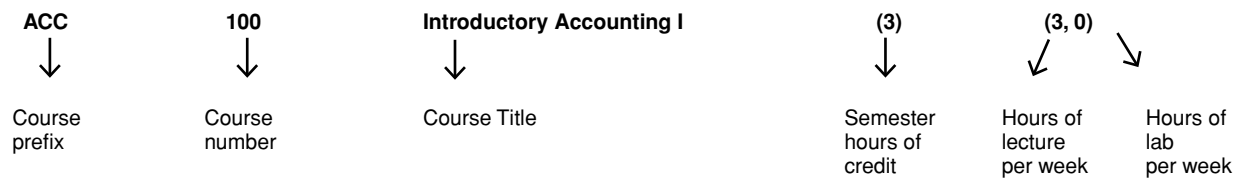
## **Semester**

The period of time during which the college offers courses. The actual number of weeks required to complete a course in a given semester will vary and is designated in class schedules. See a current academic calendar at [elgin.edu/calendar](http://elgin.edu/calendar) for semester starting and ending dates.

## **Variable Entry-Exit Course**

A course which does not have pre-determined starting and ending dates. Students may begin these courses anytime and study at their own pace.

## Explanation of Course Title



The number codes that appear at the end of each course description have the following meaning. Consult an ECC counselor for more information.

1.1 - Transfer course

1.2- Career & Technical Education - not intended for transfer; however, some courses may transfer.

1.4, 1.5, 1.6, 1.7, 1.8 - Developmental or general studies credit - not intended for transfer and not applicable to any degree.

The semester(s) in which a course is generally offered are designated at the end of each course description to help students plan their schedule of classes. Fall, Spring, Summer and On Demand may be designated.

The college reserves the right to cancel classes which do not meet minimum enrollment standards or due to other unforeseen circumstances such as inclement weather.

Students may enroll in any course as long as individual course prerequisites and/or placement procedures are met. If, due to low enrollment, a particular course is not offered, an appropriate course substitution may sometimes be recommended by the instructional dean so that a student can complete his/her degree or certificate on time.

The ECC/IAI explanation at the end of some of the course descriptions means the course has been approved as meeting a specific general education core requirement or major recommendation for transfer and has been assigned a statewide IAI (Illinois Articulation Initiative) number.

EXAMPLE: ART 115, Art Appreciation – “Fulfills the ECC/IAI General Education/Fine Arts requirement. IAI course number: F2 900”

EXAMPLE: BIO 113, Molecular & Cellular Biology – Recommended as a foundation course for a Biology Major. IAI course code: “BIO 910.” It is advisable that a student see an ECC counselor for further information concerning these recommendations.

### NOTES:

- Course outlines for classes shown in this section of the catalog are available upon request in the Counseling and Transfer Center and Renner Learning Resources Center (library) on the Main Campus. A specific plan/syllabus for each course in this section is also available upon request from the office of the appropriate instructional dean. Deans' offices are located on the Main Campus with the exception of the dean of adult education and English as a second language who is located at Fountain Square Campus.
- Requirements for ECC degrees and certificates are listed on pages 22-26 and 28-29. How courses shown in this section apply to the Associate in Arts, Associate in Science, Associate in Fine Arts, Associate in Engineering Science, and Associate of Applied Science degrees is stated under each department heading on the following pages. Students pursuing the Associate in Liberal Studies degree or those who have questions about its requirements should see an ECC counselor.
- The requirements for the Associate in Fine Arts degrees and Associate in Engineering Science degree are very prescribed and any deviation from the requirements should be approved by an ECC counselor on a course by course basis.
- Students intending to transfer to another college or university upon graduation from ECC are urged to consult an ECC counselor regarding the selection of courses.
- Specific course requirements for every career/technical education program offered by ECC are listed in the degree programs and certificate section of this catalog, pp. 30-77.
- Students looking for developmental studies, adult basic education, GED and English as a second language should review pgs. 175-179.
- Non-credit courses are not shown in this catalog. Refer instead to a current non-credit class schedule or go to the college's website [elgin.edu/noncredit](http://elgin.edu/noncredit).

# Course Descriptions

## ACCOUNTING

All ACC courses numbered 100 and above, except ACC 102, may be applied to the major field and electives requirement in the Associate in Arts and Associate in Science Degrees. ACC 102 is not counted toward the GPA.

### ACC 100 Introductory Accounting I (3) (3, 0)

**Prerequisite:** None

**Recommended** BUS 120

The first semester of fundamental financial accounting. Emphasis is on procedural aspects of financial accounting for the single proprietorship. Accrual basis is utilized. Entire accounting cycle is covered for both service and merchandising businesses, including adjustments, preparation of financial statements, and closing procedures. Also included are reconciliation of bank statements and petty cash. (1.2) Fall, Spring, Summer

Proficiency Credit Available

Pass/No Credit Available

### ACC 101 Financial Accounting (4) (4, 0)

**Prerequisite:** Grade of C or better in BUS 120 or MTH 125 or MTH 112 or concurrent enrollment in BUS 120 or MTH 125 or MTH 112

**Recommended:** ACC 100 or previous course in bookkeeping strongly recommended; BUS 100 or BEC 102 recommended

Foundation course required for further study of accounting. Principles and concepts of financial accounting are emphasized and procedures are de-emphasized. Topics include transaction analysis, development of financial reports, the accounting cycle, promissory notes, inventory costing, depreciation methods, corporation equity concepts, bonds payable, and present value. (1.1) Fall, Spring, Summer

IAI Major: BUS903

Proficiency Credit Available

Pass/No Credit Available

### ACC 103 Introductory Accounting II (4) (4, 0)

**Prerequisite:** Grade of C or better in ACC 100 and OTS 100

**Recommended:** BUS 120

The second semester of fundamental financial accounting. Emphasis is placed on microcomputer applications for accounting and real-world procedures. Topics include the computerized accounting cycle, modified cash-based accounting, valuing merchandise inventory, perpetual inventory system, valuing plant assets and depreciation. Topics also include an introduction to partnership and corporate accounting. (1.2) Spring

Proficiency Credit Not Available

Pass/No Credit Available

### ACC 105 Managerial Accounting (4) (4, 0)

**Prerequisite:** ACC 101

The second semester foundation course required for further study in accounting. Managerial accounting topics include the Statement of Cash Flows, cost behavior analysis and use, job-order costing, process costing, cost-volume-profit relationships, contribution approach to costing, budgeting, standard costs, JIT/FMS performance measures, relevant costs for decision making, and capital budgeting. (1.1) Fall, Spring, Summer

IAI Major: BUS904

Proficiency Credit Available

Pass/No Credit Not Available

### ACC 106 Cost Accounting (3) (3, 0)

**Prerequisite:** ACC 105

Fundamentals of cost accounting, covering job order, process and estimated cost development and procedures. Emphasizes current practices in cost control through reports to management, applied to business establishments of relatively small and intermediate size. (1.1) Fall, Spring

Proficiency Credit Available

Pass/No Credit Not Available

### ACC 108 Intermediate Accounting I (3) (3, 0)

**Prerequisite:** ACC 105

Provides review of the accounting cycle and discussion of the environment and conceptual framework underlying financial accounting. Deals in depth with income statement and balance sheet content, classification, disclosures and interpretation. Includes reports to management, applied to business establishments of relatively small and intermediate size. (1.1) Fall, Spring

Proficiency Credit Available

Pass/No Credit Not Available

### ACC 109 Intermediate Accounting II (3) (3, 0)

**Prerequisite:** ACC 108

Continuation of intermediate financial accounting. Includes in-depth study of leases, plant and equipment, depreciation, intangible assets, current liabilities, pensions, bases of revenue recognition, and accounting for income taxes. Stresses authoritative pronouncements of APB and FASB. (1.1) Fall, Spring

Proficiency Credit Available

Pass/No Credit Not Available

### ACC 110 Intermediate Accounting III (3) (3, 0)

**Prerequisite:** ACC 108

Coverage of following topics in intermediate financial accounting: investments, long-term liabilities, corporate stockholders equity, earnings per share, statement of changes in financial position, accounting for inflation. Stresses authoritative pronouncements of APB and FASB. (1.1) Fall, Spring

Proficiency Credit Available

Pass/No Credit Not Available

### ACC 112 Income Tax Accounting (3) (3, 0)

**Prerequisite:** None

This course is of value to anyone interested in learning about income taxes, whether for personal use or as a start toward a new vocational goal. Emphasis is on federal individual income taxes. Also, some attention is given to small businesses and corporations. Topics covered include filing status, taxable income, employee business expenses, itemized deductions, profit from business or profession, capital gains and losses, tax credits, corporations, and state of Illinois income tax. (1.2) Fall, Spring

Proficiency Credit Available

Pass/No Credit Not Available

### ACC 130 Internship in Financial Accounting (3) (1, 10)

**Prerequisite:** Grade of C or better in ACC 202 and ACC 203 and ACC 101 or ACC 103 or consent of instructor

Students work for a business, government agency, or other organization approximately 10 hours per week for one semester performing financial accounting tasks. Students will keep a journal detailing work performed, write a short paper and make a presentation to a current accounting class summarizing their on-the-job experience. Course is repeatable to six credits; only three credits may apply toward a degree or certificate. (1.2) Fall, Spring, Summer

Proficiency Credit Not Available

Pass/No Credit Available

### ACC 134 Internship in Managerial Accounting (3) (1, 10)

**Prerequisite:** Grade of C or better in ACC 105 and ACC 202 and ACC 203 or ACC 205 or consent of instructor

Students work for a business, government agency, or other organization approximately 10 hours per week for one semester performing managerial accounting functions. Students will keep a journal detailing work performed, and write a short paper and make a presentation summarizing their on-the-job experience to a current accounting class. Course is repeatable to six credits; only three credits may apply toward a degree or certificate. (1.2) Fall, Spring, Summer

Proficiency Credit Not Available

Pass/No Credit Available

### ACC 138 Internship in Tax Accounting (3) (1, 10)

**Prerequisite:** Grade of C or better in ACC 112 and ACC 212 or consent of instructor

Students work for an accounting firm or other business approximately 10 hours per week for one semester preparing tax returns and/or working on tax-related matters. Students will keep a journal detailing work performed, and will write a short paper and make a presentation summarizing their on-the-job experience. Course is repeatable to six credits; only three credits may apply toward a degree or certificate. (1.2) Fall, Spring, Summer

Proficiency Credit Not Available

Pass/No Credit Available

**ACC 201 Microcomputer Applications in Financial Accounting (1) (1, 0)**

**Prerequisite:** ACC 100 or ACC 101 or concurrent enrollment in ACC 100 or ACC 101  
**Recommended:** OTS 100  
 Designed to meet today's business needs for computer applications in accounting. Instructional units are based on current software used on the IBM microcomputer. Course is repeatable to a maximum of four credits using different software. (1.2) Fall, Spring, Summer  
 Proficiency Credit Available  
 Pass/No Credit Available

**ACC 202 Microcomputer General Ledger (1) (1, 0)**

**Prerequisite:** ACC 100 or ACC 101 or concurrent enrollment in ACC 100 or ACC 101  
**Recommended:** OTS 100 and CIS 141 or CIS 110  
 Designed to bridge the gap between the accounting classroom and current accounting practices. Involves processing business transactions using a general ledger software package. Course is repeatable to a maximum of four credits using different software. (1.2) Fall, Spring, Summer  
 Proficiency Credit Not Available  
 Pass/No Credit Available

**ACC 203 Spreadsheet Applications in Financial Accounting (1) (1, 0)**

**Prerequisite:** ACC 100 or ACC 101 or concurrent enrollment in ACC 100 or ACC 101  
**Recommended:** OTS 100  
 Today's business utilizes electronic spreadsheet software to analyze accounting problems and to simplify the preparation of recurring accounting activities. Spreadsheet software is applied to appropriate topics included in ACC 100 and/or ACC 101. Course is repeatable to a maximum of four credits using different software; only one credit may apply toward a degree or certificate. (1.2) Fall  
 Proficiency Credit Not Available  
 Pass/No Credit Available

**ACC 205 Microcomputer Applications in Managerial Accounting (1) (1, 0)**

**Prerequisite:** ACC 105 or concurrent enrollment in ACC 105  
 Designed to meet today's business needs for computer applications in accounting. Instructional units are based on current software used on the IBM microcomputer. Course is repeatable to a maximum of four credits using different software. (1.2) Spring  
 Proficiency Credit Available  
 Pass/No Credit Available

**ACC 206 Microcomputer Applications in Cost Accounting (1) (1, 0)**

**Prerequisite:** ACC 106 or concurrent enrollment in ACC 106  
 Designed to meet today's business needs for computer applications in accounting. Microcomputer applications of selected topics included in ACC 106. These selected instructional units are based on current software used on the IBM PC: A) Lotus 1-2-3 Electronic Spreadsheet applications B) miscellaneous software as needed. Course is repeatable to a maximum of four credits using different software. (1.2) Fall, Spring, Summer  
 Proficiency Credit Available  
 Pass/No Credit Not Available

**ACC 208 Microcomputer Applications in Intermediate Accounting I (1) (1, 0)**

**Prerequisite:** ACC 108 or concurrent enrollment in ACC 108  
 Designed to meet today's business needs for computer applications in accounting. Microcomputer applications of selected topics included in ACC 108. These selected instructional units are based on current software used on the IBM PC: A) The Profit Center B) Lotus 1-2-3 Electronic Spreadsheet applications C) miscellaneous software as needed. Course is repeatable to a maximum of four credits using different software. (1.2) Fall, Spring, Summer  
 Proficiency Credit Available  
 Pass/No Credit Not Available

**ACC 212 Microcomputer Applications in Tax Accounting (1) (1, 0)**

**Prerequisite:** ACC 112 or concurrent enrollment in ACC 112  
**Recommended:** OTS 100  
 Designed to meet today's business needs for computer applications in tax accounting. Microcomputer applications of selected topics included in ACC 112. These instructional units are based on current software used on the IBM PC: A) The Tax Accountant, B) Turbo Tax, C) miscellaneous software as needed. Course is repeatable to a maximum of four credits using different software. (1.2) Fall, Spring, Summer  
 Proficiency Credit Available  
 Pass/No Credit Not Available

**ACC 215 Spreadsheet Applications in Managerial Accounting (1) (1, 0)**

**Prerequisite:** ACC 105 or concurrent enrollment in ACC 105  
**Recommended:** Knowledge of Lotus 1-2-3  
 Today's businesses utilize electronic spreadsheet software to analyze accounting problems and to simplify the preparation of recurring accounting activities. The spreadsheet activities in this course are based on appropriate topics included in ACC 105. The selected electronic spreadsheet software is based on current software used on the IBM microcomputer. (1.2) On Demand  
 Proficiency Credit Not Available  
 Pass/No Credit Not Available

**ACC 221 Payroll Accounting (2) (2, 0)**

**Prerequisite:** ACC 100 or ACC 101  
 Introduces the processing of payroll. Emphasis is placed on legal requirements of withholding, employer's taxes, and preparation of tax forms and reports. (1.2) On Demand  
 Proficiency Credit Not Available  
 Pass/No Credit Available

**ACC 280 Financial Analysis/Spreadsheet Appl. (2) (2, 0)**

**Prerequisite:** Grade of C or better in ACC 101 and ACC 203 or CIS 143 or consent of instructor. Can concurrently enroll in ACC 203 or CIS143  
 Study of how financial statements assist in financial predictions and how to calculate comparisons. Students will develop spreadsheet templates to perform all calculations. (1.2) Spring  
 Proficiency Credit Not Available  
 Pass/No Credit Not Available

NOTE: This course is offered concurrently as BUS 280. The student must decide whether to earn credits in Accounting (ACC) or Business (BUS) prior to enrolling.

**ACCOUNTING-GENERAL STUDIES**

The following ACC course is not intended for transfer and not applicable to any ECC degree, nor counted in the GPA.

**ACC 102 Financial Accounting Review (1) (1, 0)**

**Prerequisite:** ACC 101  
 A refresher course in Principles of Financial Accounting. Topics to be covered include adjusting and closing entries, accounting for bad debts, inventory cost methods, depreciation, time value of money concepts, bonds and stock. (1.6) Spring, On Demand  
 Proficiency Credit Not Available  
 Pass/No Credit Available

**ADMINISTRATIVE OFFICE ASSISTANT**

(See Office Administration Technology)

**ADMINISTRATIVE OFFICE PROFESSIONAL**

(See Office Administration Technology)

**ADULT BASIC EDUCATION**

(See page 173)

**ADULT SECONDARY EDUCATION-GED®**

(See page 174)

# Course Descriptions

## ANTHROPOLOGY / ARCHEOLOGY

ATR 120, 210, 220, and 250 fulfill the behavioral sciences requirement in the Associate in Arts, Associate in Science, Associate in Fine Arts and Associate in Engineering Degrees.

All ATR courses numbered 100 and above may be used to fulfill the behavioral science requirements for the Associate in Liberal Studies and Associate of Applied Science Degrees.

All ATR courses numbered 100 and above may also be applied to the major field and electives requirement in the A.A. and A.S. Degrees.

Selected archeology classes and archeological digs are sponsored in cooperation with Midwest Archeological Services.

### ATR 120 Introduction to Anthropology (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score  
Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score

This course introduces the student to the four subfields of anthropology: biological (physical) anthropology, cultural anthropology, archeology and anthropological linguistics. The fundamental theme uniting the subfields is the search for understanding human diversity and the central role that culture plays in human society. The relationship between human biology and human culture is explored, as well as the variation that exists in human societies of all types. Major topics are: evolution of modern humans, our ecological adaptations, social organization and global relationships. (1.1) Fall, Spring, Summer  
IAI General Education: S1 900N  
Proficiency Credit Available  
Pass/No Credit Not Available

### ATR 170 Archeology of the Midwest (3) (3, 0)

**Prerequisite:** None

This course will examine the development of human culture in the Midwest U.S., primarily Illinois. There is strong evidence that people have lived in this area for at least the last 10,000 years. During this period, man's culture has changed greatly in terms of subsistence activity, social organization, settlement pattern and population size. This course will examine in detail the major archeological periods of Midwest prehistory and will discuss a wealth of archeological information about man's past and why this understanding is important to us today. (1.1) Summer, On Demand  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### ATR 180 Laboratory Methods in Archeology (3) (3, 0)

**Prerequisite:** Concurrent enrollment in ATR 231 required

In this class, students will be introduced to the post-excavation phases of archeological research. Classes of artifacts and debris will be discussed. Methods and theories concerning their analysis will be examined in an historical perspective. In addition, students will be given the opportunity to work with actual material from archeological sites and to take it through all stages of laboratory examination from curation to description. (1.1) Summer, On Demand  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### ATR 210 General Prehistoric Archeology (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score.  
Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score

An in-depth exposure to the concepts, principles, and methods employed by archeologists and cultural anthropologists in the reconstruction of culture history and prehistory. Illustrations from world prehistory will be used to establish familiarity with sequences of cultural development that have been learned through archeological analysis. (1.1) Fall, On Demand  
IAI General Education: S1 903  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### ATR 220 Cultural Anthropology (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score.  
Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score

This course introduces students to the diversity of human culture and presents a framework for understanding its differences. Culture, as the adaptive mechanism which provides for survival of the human species, is presented as an ever-changing expression of human values, behavior and social organization. (1.1) Fall, Spring, Summer  
IAI General Education: S1 901N  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### ATR 230 Field Archeology-Prehistoric (3) (3, 0)

**Prerequisite:** None

**Recommended:** ATR 120

The course will introduce students to methods of archeological excavation and survey of prehistoric sites, through lecture and actual field participation. In the early part of the course, lecture will predominate while during the balance of the course, most time will be spent on learning techniques of site survey and excavation procedures. (1.1) Summer, On Demand  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### ATR 231 Field Archeology-Historic (3) (3, 0)

**Prerequisite:** Concurrent enrollment in ATR 180 required

**Recommended:** ATR 120

The course will introduce students to methods of archeological excavation and survey of historic sites, through lecture and actual field participation. In the early part of the course, lecture will predominate while during the balance of the course, most time will be spent on learning techniques of site survey and excavation procedures. (1.1) Summer, On Demand  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### ATR 240 Topics in Anthropology (3) (3, 0)

**Prerequisite:** ATR 120 or consent of instructor  
The course is designed to accommodate a wide range of special topics in anthropology. Course topics will focus on specific geographical areas, theoretical scopes, thematic concentrations and/or specific problems in archeology, cultural anthropology or biological anthropology and develop them in greater detail than would be possible as part of other courses. Repeatable to 12 credits. (1.1) Summer, On Demand  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### ATR 250 Human Evolution (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score.  
Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score

An introduction to the field of biological (physical) anthropology concentrating on the origin of modern humans from earlier members of the primate order. Topics include: history of evolutionary thought; basic principles of genetics, the theory of natural selection as a mechanism for evolution, the evolution of primates and modern primate diversity, ecological adaptations of human ancestors, the fossil and molecular (genetic) evidence for models of human evolution, and modern human variation. (1.1) Fall, Spring, Summer  
IAI General Education: S1 902  
Proficiency Credit Available  
Pass/No Credit Not Available

## APPLIED PHYSICAL SCIENCE

(See also Astronomy, Biology, Chemistry, Geology, and Physics.)

APS 111 and APS 211 fulfills both the physical sciences requirement and the lab science requirement for the Associate in Arts, Associate in Science and Associate in Fine Arts Degrees.

APS 111 and 211 may be used to fulfill the lab science requirement for the Associate in Liberal Studies Degrees.

All APS and SCI courses numbered 100 and above may be used to fulfill the math/science requirement for the Associate of Applied Science Degree.

All APS and SCI courses numbered 100 and above may also be applied to the major field and elective requirement in the A.A. and A.S. Degrees.

### APS 111 Applied Physical Science (4) (3, 2)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Math: Grade of C or better in MTH 098, an ACT Math score of 23, or an appropriate placement score  
General course dealing with fundamentals of physical science using lectures, demonstrations and laboratory exercises. Emphasis is on physics and chemistry, and earth science that relate to everyday life and current events/issues. (1.1) Fall, Spring  
IAI General Education: P9 900L  
Proficiency Credit Available  
Pass/No Credit Available

### APS 211 Earth Science (4) (3, 2)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. A holistic physical science approach to the study of earth science using basic chemical and physical science principles. The course will be a nonquantitative survey of astronomy, oceanography, meteorology and geology. (1.1) On Demand  
IAI General Education: P1 905L  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### SCI 290 Physical Science: Special Topics (Variable Credit 1-3) (0-3, 0-5)

**Prerequisite:** None  
Designed to satisfy specific needs of students and the community. The following guidelines are to be used in selecting topics: 1) adequate and available materials on special topics and 2) course will increase skills and knowledge of physical science (chemistry, physics, geology, and physical geography.) (1.1) On Demand  
Proficiency Credit Available  
Pass/No Credit Available

## ARC WELDING

(See Welding)

## ART

ART 115, 151, 154, and 155 may be used to fulfill the fine arts requirement in the Associate in Arts, Associate in Science, and Associate in Engineering Science Degrees.

ART 152 and 153 may be used to fulfill the fine arts requirement in the A.A., A.S., and A.E.S. Degrees; however, only one of these courses can count as general education.

ART 115, 151, 152, 153, 154, and 155 may be used to fulfill the liberal education requirement in the Associate of Applied Science Degree.

All ART courses numbered 100 and above may also be applied to the major field and elective requirement in the A.A. and the A.S. Degrees.

It is highly recommended that any student pursuing an A.A. Degree or an A.F.A. Degree with a major in art take ART 101, 102, 109, and 110 during the first year of study.

ECC reserves the right to exhibit any student work produced in art classes and to reproduce this work in any and all college publications.

### ADVANCED ART PLACEMENT

Based on the score received on the Advanced Placement (AP) Examination in Art, credit is available for ART 101 (AP, 3 with portfolio).

### ART 101 Drawing I (3) (0, 6)

**Prerequisite:** None  
An introduction to the fundamental concepts and techniques of drawing using a variety of black and white media. Includes drawing from observation and invention leading to an interpretation and evaluative approach to drawing. Emphasis on descriptive drawing techniques from geometric and organic objects. Course includes vocabulary development critical analysis activities, and reference to historic models of drawing. (1.1) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Not Available

### ART 102 Drawing II (3) (0, 6)

**Prerequisite:** Grade of C or better in ART 101 or consent of instructor  
This course builds on and refines the experiences of Drawing I focusing on a variety of color media. Emphasis is on invention and formal concerns. Exploration into abstraction, non-objectation and fabricated image making are covered in this class. Course includes vocabulary development, critical analysis activities, and reference to historic models of drawing. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

### ART 103 Sculpture I (3) (0, 6)

**Prerequisite:** None  
Simple sculpture construction with a major emphasis in design, contour and mass. The materials to be incorporated into visual ideas are plastic, wood, metal, clay and found objects. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

### ART 104 Sculpture II (3) (0, 6)

**Prerequisite:** ART 103 or consent of instructor  
Continuation of 103 Sculpture I with greater emphasis upon complex sculptural forms, such as contour and mass. Also you will work with different materials such as wood and bronze. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

### ART 105 Ceramics I (3) (0, 6)

**Prerequisite:** None  
Studio work in the exploration of the uses of clay in pottery making. Techniques used in forming, decoration, glazing and firing of ceramics. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Available

### ART 106 Ceramics II (3) (0, 6)

**Prerequisite:** ART 105 or consent of instructor  
A continuation of Ceramics I with a more in-depth study of the uses of clay as an art form by producing pottery or ceramic sculpture. Illustration of techniques used in forming, decorating, glazing and firing of ceramics. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Available

### ART 107 Painting I (3) (0, 6)

**Prerequisite:** None  
This course is an introduction to the basic painting techniques and color principles applied to the exploration of oil and/or acrylic painting media. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

### ART 108 Painting II (3) (0, 6)

**Prerequisite:** Grade of C or better in ART 107  
This course involves intermediate problems in painting with an emphasis on individual expression based on historical as well as contemporary concerns and approaches in art. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

### ART 109 Design I (3) (0, 6)

**Prerequisite:** None  
This course is a studio class exploring the fundamental of the formal systems and basic elements of visual organization through two-dimensional design principles and theories using a variety of media. (1.1) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Not Available

# Course Descriptions

## ART 110 Design II (3) (0, 6)

**Prerequisite:** ART 109 or consent of instructor  
Emphasis is on the structure of three-dimensional form and space. An introduction of basic three-dimensional design processes and how these relate to artist's concepts. Three-dimensional design ideas will be formulated and visualized through practice and utilization of various media and techniques. Slide presentations, lecture demonstrations, discussions and critiques are included. A continuation of basic design elements and principles, as they apply to three-dimensional form is stressed. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 111 Jewelry I (3) (0, 6)

**Prerequisite:** None  
Varied use of materials in making of jewelry; casting, building and soldering. Emphasis on design. Laboratory fee does not include cost of metal. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 112 Jewelry II (3) (0, 6)

**Prerequisite:** ART 111 or consent of instructor  
Continuation of 111 Jewelry I with greater exploration of conceptual and technical problems. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 113 Printmaking I (3) (0, 6)

**Prerequisite:** None  
This studio course introduces basic printmaking processes and equipment, with equal emphasis on concept and technique. Students are introduced to a variety of print media and methods, such as intaglio, relief, and monotype. Students develop and understanding of the medium and learn good studio habits; the safe and responsive handling of tools and materials; and the knowledge required for basic manipulation of the processes used production of a printed image. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 114 Printmaking II (3) (0, 6)

**Prerequisite:** Grade of C or better in ART 113  
This course further explores intaglio and relief printmaking, with an emphasis on color work and strengthening printing skills. Students learn techniques for producing color prints using single and multiple plate processes. A balanced outcome between technical and conceptual development is stressed in discussion and critiques. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 115 Art Appreciation (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.  
Introduction to the visual arts. Designed to instill in the student an understanding of art as an influential force in present-day living. Emphasis on contemporary painting, sculpture and architecture as well as environmental art. (1.1) Fall, Spring, Summer  
IAI General Education: F2 900  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 116 Color Theory Design (3) (0, 6)

**Prerequisite:** ART 109 or consent of instructor  
Introduction to the fundamentals of color theory, color harmony, and the use of color as an expressive device. (1.1) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Available

## ART 120 Introduction to B&W Photography (3) (0, 6)

**Prerequisite:** None  
This course is an introduction to the art and mechanics of traditional black & white photography. Topics will include the use of a 35mm film SLR camera, the processing and printing of black & white film, aesthetics, constructive critical discussion and the exploration of visual literacy. Over the course of the semester, the student will explore aesthetic and conceptual issues in the use of photography as a means of artistic production from both historical and contemporary models of thinking about the medium. Emphasis will be placed on using the photographic tools for personal expression, cultural observation and developing the student's individual artistic voice. Students must provide their own cameras. (1.1) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Available

## ART 121 Color Photography (3) (0, 6)

**Prerequisite:** ART 120 or consent of instructor  
This course is an intermediate-level photography course and is designed to increase the range and complexity of student's photographic vision. The course includes and introduction to traditional color photographic processes, experimental darkroom techniques, further aesthetic and conceptual considerations, as well as the continued development of visual literacy. Emphasis will be placed on using the photographic tools for personal expression, cultural observation and developing the student's artistic voice. Students must provide their own cameras. (1.1) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Available

## ART 151 History of Art I (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.  
Historical analysis of painting, architecture, sculpture and other forms of the visual arts from prehistory to the Renaissance. (1.1) Fall, Spring  
IAI General Education: F2 901  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 152 History of Art II (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.  
Historical analysis of art from the Renaissance to 1800 with major emphasis on architecture, painting and sculpture. (1.1) Fall, Spring  
IAI General Education: F2 902  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 153 History of Art III (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.  
Historical survey of art of the 19th and 20th centuries with emphasis on painting, sculpture and architecture. (1.1) Fall, Spring  
IAI General Education: F2 902  
Proficiency Credit Available  
Pass/No Credit Not Available

## ART 154 Survey of Non-Western Art (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.  
Survey of non-western art with emphasis on the historical cultures of Asia, Africa, Latin American and North America. (1.1) Fall, Spring  
IAI General Education: F2 903N  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## ART 155 History of Photography (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.

Historical survey of photography from 1839 to present, with major emphasis on the use of the medium as an art form. Examines the technical and aesthetic movement in the evolution of photography, while examining the impact of photography on culture and society. (1.1) On Demand

IAI General Education: F2 904

Proficiency Credit Available

Pass/No Credit Not Available

## ART 200 Topics in Art (Variable Credit 1-3) (0-3, 0-7.5)

**Prerequisite:** Consent of instructor

This course offers an in-depth exploration and analysis of a specific artistic area. Selected area may be one of the studio arts or from the history of art. Repeatable to 12 credits. (1.1) On Demand

Proficiency Credit Not Available

Pass/No Credit Available

## ART 201 Life Drawing (3) (0, 6)

**Prerequisite:** Grade of C or better in ART 101

This course is an introduction to drawing the human figure using a variety of media. Drawings are derived from direct observation emphasizing descriptive drawing techniques of the human figure. Drawing activities should include full figure, features, and anatomical differentiation encompassing individual physiognomy. (1.1) On Demand

Proficiency Credit Available

Pass/No Credit Not Available

## ART 220 Digital Manipulation (3) (0, 6)

**Prerequisite:** ART 120 or consent of instructor

This course is an introduction to the use of digital manipulation in the medium of photography and will consider the impact of technology on traditional methods of making photographic images as well as the effects on contemporary culture. Topics will include scanning of photographic film, digital capture, digital image management, digital collage techniques as well as aesthetic and conceptual issues within this evolving medium. Emphasis will be placed on using the tools for personal expression, cultural observation and developing the student's individual artistic voice. Digital cameras are available for use be the course and students may additionally elect to purchase their own digital camera. (1.1) Fall, Spring

Proficiency Credit Available

Pass/No Credit Not Available

## ART 221 Studio and Location Lighting (3) (0, 6)

**Prerequisite:** ART 120 or consent of instructor

This course is an intermediate-level college photography course designed to instruct the student in the fundamentals of controlling and modifying light. To do this, we will explore artificial lighting in a controlled studio environment as well as out on location in the world. Over the course of the semester, the student will explore aesthetic and conceptual issues in the use of artificial lighting in photography from both historical and contemporary models of thinking about the medium. Emphasis will be placed on using the photographic tools for personal expression, cultural observation and developing the student's individual artistic voice. Students must provide their own cameras. (1.1) Spring

Proficiency Credit Available

Pass/No Credit Not Available

## ART 290 Professional Practices (2) (1, 2)

**Prerequisite:** None

**Recommended** Student shall have completed a significant number of courses in the Art Department and is ready to build a portfolio packet for transfer, exhibition or employment opportunities

This course will examine the preparation of a portfolio and supplementary material for the visual artist in preparation for transfer, gallery exhibitions and employment opportunities.

Topics will include editing a portfolio, building a slide portfolio, creating a digital CD portfolio, resume preparation, writing an artist statement, self-promotion techniques and applying for exhibition or employment opportunities.

The course will help the student best present themselves professionally, but students must come to class prepared with a significant body of coursework or visual art. (1.1) Spring

Proficiency Credit Not Available

Pass/No Credit Not Available

## ART 297 Independent Study in Art (Variable Credit 1-3) (1-3, 0)

**Prerequisite:** Consent of instructor

The student is to identify a special project and request advice and direction from the art faculty. The program will be carried out under the direction of one or more faculty members who will modify the proposal in accordance with departmental requirements for the credit involved. Repeatable to 12 credits. (1.1) Fall, Spring, Summer

Proficiency Credit Available

Pass/No Credit Not Available

## ASTRONOMY

**ATY 100 fulfills the physical sciences requirement for the Associate in Arts, Associate in Science and Associate in Fine Arts Degrees.**

**ATY 100 may also be used to fulfill the science requirement for the Associate in Liberal Studies Degree.**

**All ATY courses numbered 100 and above may be used to fulfill the science/math requirement in the Associate of Applied Science Degree.**

**All ATY courses numbered 100 and above may also be applied to the major field and elective requirement in the A.A. and A.S. Degrees.**

## ATY 100 Astronomy (3) (3, 1)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score.

Math: Grade of C or better in MTH 096, an ACT Math score of 23, or an appropriate placement score.

Non-math, introductory survey course related to the fundamentals of astronomy and space science. Emphasis is placed on star constellation identification, astronomical instruments and their use (practical astronomy), descriptive astronomy, elementary celestial mechanics and theoretical astronomy. (1.1) Fall, Spring

IAI General Education: P1 906

Proficiency Credit Available

Pass/No Credit Not Available

## ATY 101 Elementary Astronomy (3) (3, 0)

**Prerequisite:** None

A non-mathematical survey of astronomical science, including extensive historical analysis, a descriptive treatment of the most recent discoveries involving planets, black holes, pulsars, and quasars. Includes discussion of recent hypotheses and evidence concerning the scientifically explained origin and evolution of stars and the universe itself. (1.1) Fall, Spring, Summer

Proficiency Credit Available

Pass/No Credit Not Available

## AUTOMOTIVE

**All AUT courses numbered 100 and above may be applied to the major field and elective requirement in the Associate in Arts and Associate in Science Degrees.**

**All repeatable AUT courses can be counted only once toward GPA and graduation.**

## AUT 100 Small Engine Tune-Up, Overhaul and Diagnosis (4) (2, 4)

**Prerequisite:** None

Live overhaul and tune-ups on major manufacturers' engine types, both two and four cycle engines. Fuel systems, carburetion, governors and preventive maintenance procedures on small engines. (1.2) Fall, Spring

Proficiency Credit Available

Pass/No Credit Not Available

# Course Descriptions

## **AUT 151 Automotive Engine Service and Repair (7) (5, 4)**

**Prerequisite:** None

A comprehensive course to provide knowledge in the operation and repair of the automotive engine. Classroom and hands-on experiences combine to provide skills in all areas of engine service, including engine disassembly, inspection, measurement, and reassembly. Training is also provided on machining practices common to the automotive engine. Topics include cylinder head valve guide and seat service, piston and cylinder service, crack detection and cleaning practices. Repeatable to 14 credits; only seven credits may apply toward a degree or certificate. (1.2) Fall  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 152 Intro to Auto Operation and Maint. (3) (2, 2)**

**Prerequisite:** None

This course is designed to provide students an introduction to the operation and basic maintenance of the automobile. It requires no previous automotive experience or training, only a desire to learn more about how your car operates and what type of maintenance will help provide it a longer life with minimal problems. The parts and operation of each of the following systems will be discussed followed by hands-on lab activities reinforcing the inspection and basic maintenance each area requires.

Systems included are the engine, cooling, lubrication, steering, suspension, brake, electrical, ignition, fuel and basic computer control. Preventive maintenance is stressed in each unit of instruction. Students desiring to perform inspection and maintenance on the vehicle of their choice are encouraged to have a basic set of tools available to them.

(1.2) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Available

## **AUT 153 Manual Transmissions and Drivetrains (7) (5, 4)**

**Prerequisite:** None

Lab work and lecture combine to present service skills in the repair of manual transmissions and drivetrain components. Instruction includes servicing clutches, front-wheel drive manual transaxles, driveshafts, rear-wheel drive manual transmissions and axle assemblies. Repeatable to 14 credits; only seven credits may apply toward a degree or certificate. (1.2) Fall  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 160 Automotive Electricity I (6) (4, 4)**

**Prerequisite:** None

A course that will help unravel the mysteries that seem to surround electricity. Hands on experiences, demonstrations, and lecture are utilized to explore and understand electricity and electronics as they apply to the automobile. A working knowledge of basic electrical theory, electrical circuitry, wiring diagrams, electronics, and an understanding of automotive computer operation can be gained through this course. Use of test equipment, automobile body circuit, and accessory diagnosis are stressed. Repeatable to 12 credits; only six credits may apply toward a degree or certificate. (1.2) Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 163 Automotive Electricity II (4) (2, 4)**

**Prerequisite:** AUT 160 or consent of instructor

An operation, diagnosis, and service approach is taken to provide knowledge of automotive batteries, starting, and charging systems. In-depth understanding of these systems can be gained from exposure to a wide variety of current test equipment and service techniques. Hands-on testing and repair is emphasized in the service of charging and starting systems. Repeatable to eight credits; only four credits may apply toward a degree or certificate. (1.2) Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 171 Automotive Suspensions and Wheel Alignment (5) (3, 4)**

**Prerequisite:** None

A comprehensive course providing service skills involving automotive suspension and steering systems. Shop exercises and lecture combine to provide knowledge regarding service procedures on front and rear suspension systems, wheels and tires, wheel balance, steering systems, and four-wheel alignment. Included is information on Macpherson struts, rack and pinion steering, and rear wheel alignment. Repeatable to 10 credits; only five credits may apply toward a degree or certificate. (1.2) Fall  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 172 Automotive Brake Systems (5) (3, 4)**

**Prerequisite:** None

A service-oriented course that will provide experiences in all areas of brake repair. Topics will include drum brakes, front and rear disc brakes, hydraulic system service, machining drums and rotors, and anti-lock brake systems. An emphasis is placed on hands-on experience. Repeatable to 10 credits; only five credits may apply toward a degree or certificate. (1.2) Fall  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 180 Fuel and Ignition System Fundamentals (7) (5, 4)**

**Prerequisite:** AUT 160 or consent of instructor  
An introductory course that will provide knowledge and service skills involving fuel and ignition systems. Included is instruction on fuel injection, infrared exhaust emission testing, electronic ignition systems, diagnostic engine analyzers, basic computer controls and an introduction to OBD II. Basic fuel injection service, oscilloscope testing, and ignition service will be part of the lab experiences. Repeatable to 14 credits; only seven credits may apply toward a degree or certificate. (1.2) Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 253 Automatic Transmissions (5) (3, 4)**

**Prerequisite:** None

An introductory course that covers the operation, service and troubleshooting of front and rear-wheel drive automatic transmissions. Included are units on torque converters, transmission maintenance, basic overhaul, removal and installation. Disassembly and basic overhaul techniques are practiced on selected models of transmissions. Repeatable to 10 credits; only five credits may apply toward a degree or certificate. (1.2) Fall  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 271 Diagnostics and Engine Performance (7) (5, 4)**

**Prerequisite:** AUT 160 and AUT 180 or consent of instructor

A continuation of AUT 180, this course provides and integration of fuel and ignition systems to provide an advanced understanding of operation and service. Diagnosis of fuel injection, computer-controlled DI, EI, CNP and COP ignition systems, and computerized engine controls is included. Emphasis is placed on operation and diagnosis of on-board computers as they relate to engine performance. OBD II and IEPA vehicle testing and failure analysis is included along with advanced scan tool diagnosis. Repeatable to 14 credits; only seven credits may apply toward a degree or certificate. (1.2) Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## **AUT 290 Auto Heating and Air Conditioning (5) (3, 4)**

**Prerequisite:** None

A lecture/lab approach provides a working knowledge of the automotive cooling, heating, and air conditioning systems. Hands-on experiences reinforce an understanding of system operation, diagnostic procedures, and service. Air conditioning system performance testing, evacuation, and recharging is emphasized. Repeatable to 10 credits; only five semester hours may apply toward a degree or certificate. (1.2) Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

**AUT 296 Introduction to Automotive Certification (2)** (2, 0)  
**Prerequisite:** Two years experience or consent of instructor

A special course designed to assist the experienced automotive technician who is preparing to take the Automotive Service Excellence (ASE) certification tests. (1.2) On Demand Proficiency Credit Not Available Pass/No Credit Not Available

## AVIATION/GENERAL STUDIES

No AVN courses are counted toward graduation in the A.A. and A.S. Degrees. Additionally, they are not intended to transfer, nor are they counted in the GPA.

**AVN 101 Pilot Ground Instruction (3)** (3, 0)  
**Prerequisite:** None

Comprehensive course in preparation for Federal Aviation Agency written examination for private pilot rating. Subjects to be covered are facts of flight, meteorology, radio communication, navigation, radio navigation and FAA regulations. Includes field trip to FAA air route traffic control center. Conducted by FAA certified flight and ground school instructor. (1.6) Fall, Spring  
 Proficiency Credit Not Available  
 Pass/No Credit Not Available

**AVN 111 Commercial Pilot (3)** (3, 0)  
**Prerequisite:** None

A comprehensive course preparing the student for FAA written examination for the commercial pilot certificate, covering commercial flying navigation procedures. Repeatable to six credits. (1.6) Fall, Spring  
 Proficiency Credit Not Available  
 Pass/No Credit Not Available

**AVN 121 Instrument Pilot (3)** (3, 0)  
**Prerequisite:** None

Comprehensive course in preparation for FAA written examination for IFR pilot rating. Emphasis is on instrument flying procedures. Repeatable to six credits. (1.6) Fall, Spring  
 Proficiency Credit Not Available  
 Pass/No Credit Available

## AVIATION PROFESSIONAL PILOT

**ATP courses are applicable toward the Associate in Arts and Associate in Science degrees. To enroll, students must first meet the following federal regulations.**

- ability to read, speak and understand English
- a FAA second class medical certificate (first class medical certificate preferred)
- must be age 18 upon completion of all courses except for ATP 101

All ATP courses numbered 100 and above may be applied to the major field and elective requirement in the Associate in Arts Degree and Associate in Science Degree.

**ATP 101 Professional Pilot Private Rating (5)** (3, 4)  
**Prerequisite:** None

The Private Pilot Training course is the first step to becoming a pro pilot and is designed to fulfill the requirements of the Federal Aviation Regulations for a private pilot certification course. This training program contains both a flight training syllabus and a ground training syllabus. The flight training syllabus has 50 hours of flight training, consisting of 25 hours of dual instruction and 25 hours of solo flight. During this flight instruction, the student will receive the required cross-country flight training, night flight, all specified maneuvers, and stage and final tests. The ground training syllabus consists of 50 hours to include block tests and final examination. Since the syllabus is designed to meet all of the requirements of the Federal Aviation Regulations, the student is assured the best training possible to become a professional pilot. (1.2) Fall, Spring, On Demand  
 Proficiency Credit Available  
 Pass/No Credit Not Available

**ATP 102 Professional Pilot Instrument Rating (5)** (3, 4)  
**Prerequisite:** ATP 101 or private pilot rating

The Professional Pilot Instrument Rating course is designed to fulfill the requirements of the Federal Aviation Regulations for the instrument rating (airplane). This training program contains both a flight training syllabus and a ground training syllabus. The flight training syllabus provides at least 35 hours of flight training, and 50 hours of ground training. The student will receive the required cross-country flight training, pre-flight, departure, enroute, and arrival procedures, and stage and final tests. The ground training syllabus consists of 50 hours of ground training to include block tests and final examination. Since the syllabus is designed to meet all of the requirements of the Federal Aviation Regulations, the student is assured the best training possible. (1.2) Fall, Spring, On Demand  
 Proficiency Credit Available  
 Pass/No Credit Not Available

**ATP 103 Pilot Advanced Equipment and Navigation (3)** (2, 2)  
**Prerequisite:** ATP 101 or private pilot rating

This course provides the professional student pilot with the theory, process, and operation of using advanced equipment and advanced systems that would be found within typical commercial flight operations. The student will also complete, or have completed, 50 hours of advanced cross-country flight work beyond their private pilot's rating. (1.2) On Demand Proficiency Credit Available  
 Pass/No Credit Not Available

**ATP 201 Professional Pilot Commercial Rating (5)** (3, 4)  
**Prerequisite:** ATP 101 or private pilot rating

The Professional Pilot Commercial Rating course is designed to fulfill the requirements of the Federal Aviation Regulations for a commercial pilot certification course. This training program contains both a flight training syllabus and ground syllabus. The flight training syllabus has 155 hours of flight training, consisting of 70 hours of dual instruction and 85 hours of solo flight (many hours of dual and solo flight may have been accumulated during previous dual and solo flight instruction). During this flight instruction, the student will receive the required cross-country flight training, night flight, instrument flight, all specified maneuvers, complex airplane training and stage and final tests. The ground training syllabus consists of 50 hours of ground training to include block tests and final examination. Since the syllabus is designed to meet all of the requirements of the Federal Aviation Regulations, the student is assured the best training possible. (1.2) Fall, Spring, On Demand  
 Proficiency Credit Available  
 Pass/No Credit Not Available

**ATP 202 Professional Pilot Multi-Engine (3)** (2, 2)  
**Prerequisite:** ATP 101 or private pilot rating

The Multi-Engine Rating course is designed to fulfill the requirements of the Federal Aviation Regulations for additional aircraft rating courses. This training program contains both a flight training syllabus and a ground training syllabus. The flight training syllabus has a minimum of 15 hours of dual flight instruction which is divided into three stages. Each stage provides an important segment of training to include; basic multi-engine operations, emergency operations, all specified commercial and instrument maneuvers, and stage and final tests. The ground training syllabus consists of 15 hours of ground training to include stage and final examinations. Since the integrated system is designed to meet all of the requirements of the Federal Aviation Regulations, the student is assured the best training possible. (1.2) On Demand  
 Proficiency Credit Available  
 Pass/No Credit Not Available

# Course Descriptions

## ATP 216 Certified Flight Instructor (CFIA) (3) (2, 2)

**Prerequisite:** ATP 101, ATP 102 and ATP 201  
The Certified Flight Instructor course is designed to fulfill the requirements of the Federal Aviation Regulations for the basic instructor course. This training program contains both a flight training syllabus and a ground training syllabus. The flight training syllabus for the basic instructor has ten hours of flight training on analysis of maneuvers, ten hours of practice instruction, and three hours of progress checks. During this flight instruction, the student will learn the analysis and performance of all the maneuvers required for private and commercial pilot certification from the right seat of the training airplane. Appropriate maneuvers and procedures will be practiced using visual and instrument references as indicated in the lesson content. The ground training syllabus consists of 45 hours of ground training to include briefing sessions, class discussions, practice ground instruction, stage and final exams, and exam debriefings. Since the syllabus is designed to meet all of the requirements of the Federal Aviation Regulations, the student is assured the best training possible. (1.2) On Demand Proficiency Credit Available  
Pass/No Credit Not Available

## ATP 217 Flight Instructor Instrument (CFIA) (3) (2, 2)

**Prerequisite:** ATP 101, ATP 102, ATP 201 & ATP 216  
The Certified Flight Instrument Instructor course is designed to fulfill the requirements of the Federal Aviation Regulations for the instrument instructor course. This training program contains both a flight training syllabus and a ground training syllabus. Since the syllabus is designed to meet all of the requirements of the Federal Aviation Regulations, the student is assured the best training possible. The Instrument Instructor flight training is ten hours of dual, ten hours of practice instruction, and three hours of progress checks. The ground training consists of 20 hours of briefing sessions, class discussions, and stage and final exams. (1.2) On Demand Proficiency Credit Available  
Pass/No Credit Not Available

## ATP 218 Flight Instructor Multi-Engine (CFIMEL) (3) (2, 2)

**Prerequisite:** ATP 101, ATP 102, ATP 201 & ATP 202  
The Professional Multi-Engine Flight Instructor Pilot Training course is designed to fulfill the requirements of the Federal Aviation Regulations for the Multi-Engine Instructor course. This training program contains both a flight training syllabus and a ground training syllabus. The flight training syllabus for the CFIMEL has ten hours of flight training on analysis of maneuvers, ten hours of practice instruction, and three hours of progress checks. During this flight instruction, the student will learn the multi-engine performance of all the maneuvers required for private and commercial pilot certi-

fication from the right seat of the multi-engine training airplane. Appropriate maneuvers and procedures will be practiced using visual and instrument references as indicated in the lesson content. The ground training syllabus consists of 32 hours of ground training to include briefing sessions, class discussions, practice ground instruction, stage and final exams, and exam debriefings. Since the syllabus is designed to meet all of the requirements of the Federal Aviation Regulations, the student is assured the best training possible. (1.2) On Demand Proficiency Credit Available  
Pass/No Credit Not Available

## BAKING ASSISTANT

(See Culinary Arts and Hospitality Institute of Elgin)

## BANKING-GENERAL STUDIES

**MMB courses are not intended to transfer and are not applicable to any ECC degree nor are they counted in the GPA.**

## MMB 170 Principles of Bank Operations (3) (3, 0)

**Prerequisite:** None  
An explanation of the fundamentals of banking giving an overview of the underlying reason for the existence of banking as an industry. The emphasis of the course is placed on the what and the why of the fundamentals; the how is only used as exemplification. (1.6) On Demand Proficiency Credit Not Available  
Pass/No Credit Not Available

## BASIC NURSE ASSISTANT

(See Nursing)

## BEHAVIORAL SCIENCES

(See Anthropology/Archeology, Psychology and Sociology)

## BIOLOGY

**BIO 115 and 150 fulfill both the life sciences requirement and the lab science requirement for the Associate in Arts, Associate in Science and Associate in Fine Arts Degrees.**

**BIO 110 and 113 fulfill the life sciences requirement and the lab science requirement for the A.A., A.S., and the A.F.A. Degrees; however, only one of these courses can count as general education.**

**BIO 105 fulfills the life sciences requirement for the AA, AS, and AFA Degrees.**

**All BIO courses numbered 100 and above, except BIO 101, fulfill the science requirement in the Associate in Liberal Studies Degree.**

**All BIO courses numbered 100 and above fulfill the math/science requirement for the Associate of Applied Science Degree.**

**All BIO courses may also be applied to the major field and elective requirement in the A.A. and A.S. Degrees.**

## ADVANCED BIOLOGY PLACEMENT

**Based on the score received on the Advanced Placement (AP) Examination in Biology, credit may be granted for BIO 110 (AP, 4).**

## BIO 101 Nutrition for Today (3) (3, 0)

**Prerequisite:** None  
Emphasis is placed on the fundamental concepts of nutrition and their relationship to current nutritional concerns, inclusive of chronic diseases. Nutrients are studied including: how they function, molecular structure, metabolism, sources, human requirements, and effects of excesses and deficiencies. Topics also include U.S. and global guidelines, nutrition research, food labeling, digestion, energy metabolism and balance, life cycle nutrition, and food safety. The course includes a computerized nutrient analysis of the students' diet and may include other appropriate assignments, instructor specific, to capstone their nutrition experience. (1.1) Fall, Spring, Summer  
Proficiency Credit Not Available  
Pass/No Credit Available

## BIO 105 Survey of Environmental Biology (3) (3, 0)

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score. Math: Grade of C or better in MTH 098, an ACT Math score of 23, or an appropriate placement score.  
Examines ecological principles in relation to environmental problems. Emphasizes current environmental issues, human impact on earth's resources and possible solutions and courses of actions. Students may not receive credit for both BIO 105 and BIO 115. (1.1) On Demand IAL General Education: L1 905  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 110 Principles of Biology (4) (3, 2)**

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.

Math: Grade of C or better in MTH 096, an ACT Math score of 23, or an appropriate placement score.

This biological science class introduces the concepts of: scientific method, characteristics of life, taxonomy, general chemistry, biochemistry, cell structure and function, cellular metabolism and photosynthesis, genetics, evolution, plant and animal tissues, human systems, and ecological principles. (1.1) Fall, Spring, Summer  
IAI General Education: L1 900L  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 113 Molecular and Cellular Biology (4) (3, 2)**

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.

Math: Grade of C or better in MTH 112, or an appropriate placement score.

This is the first part of a two-semester biology sequence and includes an introduction to: general chemistry; biochemistry; cellular structure, function and processes; molecular genetics and biotechnology. (1.1) Fall, Spring  
IAI General Education: L1 900L  
IAI Major: BIO910  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 114 Organismal Bio, Evolution, Ecology (4) (3, 2)**

**Prerequisite:** Grade of C or better in BIO 113  
This is the second part of a two-semester biology sequence and includes an introduction to: structure and function of major groups of microorganisms, fungi, animals, and plants with an emphasis placed on mammalian tissues and systems, ecological principles, and evolutionary processes and relationships. (1.1) Spring  
IAI Major: BIO910  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 115 Environmental Biology (4) (3, 2)**

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score.

Math: Grade of C or better in MTH 098, an ACT Math score of 23, or an appropriate placement score.

Examines ecological principles in relation to environmental problems. Emphasizes current environmental issues, human impact on earth's resources and possible solutions and courses of actions. Laboratory work includes indoor and

outdoor activities and off-campus field trips. Students may not receive credit for both BIO 105 and BIO 115. (1.1) Fall, Summer  
IAI General Education: L1 905L  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 150 General Botany (4) (3, 2)**

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score.

Writing: Grade of C or better in ENG 098, an ACT English score of 20, or an appropriate placement score

Study of plant anatomy, growth and development under hormonal and environmental conditions, sexual and asexual reproduction, soil, plant nutrition and identification of the major families of flowering plants and their evolution. Laboratory sessions include: microscopic examinations, soil testing and modifications as well as the greenhouse growing of plants and field work. This is a very practical class for everyone. (1.1) Fall, Spring, Summer  
IAI General Education: L1 901L  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 234 Special Topics in Biology (1) (1, 0)**

**Prerequisite:** BIO 105 or BIO 110 or BIO 113 or BIO 115 or consent of instructor  
Designed to satisfy specific needs or interests of students and the community. The student should identify or obtain a special study topic and request approval/direction from one or more of the biological sciences' faculty. Student proposals should include a comprehensive outline of what will be done along with a timeline for completion. Guidelines used in selecting topics include: relevancy to biological fields of study; adequate and available material on special topic; and, topic will increase student skills and knowledge of biological sciences or related careers. Course is repeatable two times up to three hours. (1.1) On Demand  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 235 Special Topics in Biology (2) (2, 0)**

**Prerequisite:** BIO 105 or BIO 110 or BIO 113 or BIO 115 or BIO 150 or consent of instructor  
Designed to satisfy specific needs or interests of students and the community. The student should identify or obtain a special study topic and request approval/direction from one or more of the biological sciences' faculty. Student proposals should include a comprehensive outline of what will be done, along with a timeline for completion. Guidelines used in selecting topics include: relevancy to biological fields of study; adequate and available material on special topic; and, topic will increase student skills and knowledge of biological sciences or related careers. Course is repeatable to six credits. (1.1) On Demand  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 236 Special Topics in Biology (3) (3, 0)**

**Prerequisite:** BIO 105 or BIO 110 or BIO 113 or BIO 115 or BIO 150 or consent of instructor  
Designed to satisfy specific needs or interests of students and the community. The student should identify or obtain a special study topic and request approval/direction from one or more of the biological sciences' faculty. Student proposals should include a comprehensive outline of what will be done, along with a timeline for completion. Guidelines used in selecting topics include: relevancy to biological fields of study; adequate and available material on special topic; and, topic will increase student skills and knowledge of biological sciences or related careers. Course is repeatable to nine credits. (1.1) On Demand  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 240 Human Anatomy and Physiology (5) (4, 2)**

**Prerequisite:** Grade of C or better in BIO 110 or BIO 113

**Recommended:** One year high school Chemistry or CHM 101 or CHM 112

Study of ten major organ systems: integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, digestive, urinary, and reproductive. Laboratory includes microscopic study of tissues, exploration of muscle physiology, determination of blood pressure and respiratory volumes, an exercise in blood typing, and dissection of sheep brain, sheep heart and cow eye. Studies include work with anatomical models and cadavers. Attention students planning to transfer – many schools and programs require a two-semester anatomy and physiology sequence of at least eight hours. Please check with your transfer institution before enrolling in BIO 240. You may need to register for BIO 245/246 instead. (1.1) Fall, Spring  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BIO 245 Human Anatomy and Physiology I (4) (3, 2)**

**Prerequisite:** Grade of C or better in BIO 110 or BIO 113

**Recommended:** One year of high school chemistry or CHM 101 or CHM 112

First course in a two-semester sequence on Human Anatomy & Physiology. Designed for pre-health profession majors, especially those planning to transfer to four-year programs. Study of cell membrane, passive and active transport mechanisms, histology, general anatomical terminology and the following systems; integumentary, skeletal, muscular, and nervous. Laboratory topics include microscopy, passive and active transport, histology, bones, muscular anatomy, muscle physiology, reflexes, general senses, and neural anatomy. Laboratory exercises include working with tissue slides, skeletons (articulated and individual bones), sheep brain dissection, and use of various models. Cadaver demonstration and study is used for muscular anatomy, and both in-class and out-of-class cadaver time is required. (1.1) Fall, Spring, Summer  
Proficiency Credit Not Available  
Pass/No Credit Not Available

# Course Descriptions

## BIO 246 Human Anatomy and Physiology II (4) (3, 2)

**Prerequisite:** Grade of C or better in BIO 240 or BIO 245

**Recommended:** One year high school chemistry or CHM 101 or CHM 112

Second course in a two-semester sequence on Human Anatomy & Physiology. Designed for pre-health profession majors, especially those planning to transfer to four-year programs. The study of metabolism, electrolytes, acid/base balance, and the following systems: endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary, and reproductive. Also included is the study of the special senses. Laboratory exercises include eye and heart dissections. Experiments include taking respiratory and cardiovascular data. Appropriate video demonstrations of cardiovascular disorders, immune system function and reproductive topics are also included. Cadaver demonstration and study is used for cardiovascular system and major organ systems. Both in-class and out-of-class cadaver time is required. (1.1) Fall, Spring, Summer  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## BIO 265 General Microbiology (4) (2, 4)

**Prerequisite:** Grade of C or better in BIO 110 or BIO 113

**Recommended:** One year high school Chemistry or CHM 101 or CHM 112

Introduction to the study of micro-organisms with special emphasis on morphology, physiology, pathogenicity, current health issues, and medical application of bacteria and viruses. Students participate in accomplishing laboratory experiments which are designed to acquaint the individual with laboratory procedures and sterile techniques. (1.1) Fall, Spring, Summer.  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## BRAKE & SUSPENSION SPECIALIST

(See Automotive)

## BUSINESS, GENERAL

All BUS courses numbered 100 and above may be applied to the major field and elective requirement in the Associate in Arts and Associate in Science Degrees.

BUS 120 also fulfills the math requirement for the Liberal Studies Degree and the Associate of Applied Science Degrees.

**Students who intend to transfer to another college/university in Business should see an ECC counselor regarding the selection of ECC courses prior to registering.**

### BUS 100 Introduction to Business (3) (3, 0)

**Prerequisite:** None

This basic business course introduces the types and kinds of business enterprises and ownership forms. Students examine the principles and practices of business operations; including management, human resources, marketing, operations, accounting, and finance. (1.1) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Not Available

### BUS 101 Business Communications (3) (3, 0)

**Prerequisite:** None

**Recommended:** Keyboarding skills

A comprehensive review of correct language usage and structure for business writing including: grammar, punctuation, business vocabulary, capitalization, number usage, and frequently misspelled words. Introduces the correct structure and writing technique for a variety of business documents including electronic and oral communication in today's business world. Study of the workplace communication including techniques in listening, speaking, writing, critical thinking, working in teams, understanding multicultural communication and applying the job search process. (1.2) Fall, Spring, Summer  
Proficiency Credit Not Available  
Pass/No Credit Available

### BUS 105 Consumer Economics/Personal Finance (3) (3, 0)

**Prerequisite:** None

Designed to build a professional awareness of the rights and role of the consumer into the background of business students so that the welfare and response of a consumer action will become part of the students' decision-making process. Students intending to enter careers dealing directly with consumers will have an understanding of the rights and responsibilities of the organization to the consumer. (1.2) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Available

### BUS 112 Legal Environment of Business (3) (3, 0)

**Prerequisite:** Grade of C or better in ENG 101, placement in ENG 101, ACT score of 20 in English or COMPASS reading assessment score of 80 or higher

A course dealing with those aspects of law directly related to the business environment

including: contracts, torts, choice of business entity, the Clayton Act, Federal Trade Commission, mergers, labor/management, employment, discrimination, consumer protection, and product liability. (1.1) Fall, Spring, Summer  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### BUS 113 Business Law (3) (3, 0)

**Prerequisite:** Grade of C or better in ENG 101, placement in ENG 101, ACT score of 20 in English or COMPASS reading assessment score of 80 or higher

Study of the law of contracts, agency, negotiable instruments and related topics. Case materials and problems are used. (1.1) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Not Available

### BUS 120 Business Mathematics (3) (3, 0)

**Prerequisite:** None

A review of basic arithmetic using whole numbers, common and decimal fractions and percentages to develop a high level of skill. These skills are then applied in specific business applications including discounts, pricing, interest, payroll, depreciation, insurance, taxes, stocks and bonds, annuities and financial reports. (1.2) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Available

### BUS 131 Customer Service Solutions (1) (1, 0)

**Prerequisite:** None

This course is designed to build and maintain the critical skills necessary to be a dynamic and successful service professional in a service-driven organization. Students will gain insight into customer behavior, attitudes, and perceptions and will develop strategies to create positive customer relationships. Customer Service Solutions will emphasize face-to-face encounters as well as telephone communication skills. (1.2) Fall, Spring  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### BUS 140 Business Statistics (3) (3, 0)

**Prerequisite:** MTH 125 or MTH 112 or consent  
Introduces the student to basic statistical principles and the procedures for applying statistical tools and techniques. Student learns to use simple analysis including measures of central tendency, dispersion, and skewness. Through the study of probability, discrete probability distributions (Binomial, Hypergeometric, Poisson, Uniform) and the normal distribution, a background for statistical inference is developed. Basic statistical inference is studied by using estimation, hypothesis testing, chi square analysis and linear regression and correlation. (1.1) Fall, Spring, Summer  
IAI Major: BUS901  
Proficiency Credit Not Available  
Pass/No Credit Not Available

## **BUS 142 Report Writing (3) (3, 0)**

**Prerequisite:** BUS 101 or ENG 101

This course includes the practical essentials for preparing written communication of all types and lengths for business and technical uses. The goal is to study the types of writing you may encounter in your career – professional writing for a specific audience and a practical purpose. Emphasis is placed on business documents such as business letters, informal and formal reports, and instructions. (1.2) Fall, Spring, Summer Proficiency Credit Not Available Pass/No Credit Not Available

## **BUS 160 Survey of International Business (3) (3, 0)**

**Prerequisite:** BUS 100 or consent of instructor

Basic course introducing international marketing, analysis of international business opportunities and market entry strategies, finances, and the impact of cultural environments upon such decisions. (1.2) Fall, Spring Proficiency Credit Not Available Pass/No Credit Not Available

NOTE: This course is offered concurrently as INS 160. The student must decide whether to earn credits in Business (BUS) or International Studies (INS) prior to enrolling.

## **BUS 162 International Business Protocol (2) (2, 0)**

**Prerequisite:** Grade of C or better in BUS 100 or HTM 100 or concurrent enrollment in BUS 100 or HTM 100 or consent of instructor

The contemporary business traveler must be as prepared to deal with international business culture as he/she is to deal with the local business culture. This course is designed as a resource for business travelers to learn not only the customs, traditions, and protocol of the international business community but to understand the reasons and rationale behind them. In order to provide an optimum business environment, it is not enough for a business person to know how it's done. The successful professional must also know why it is done. The course presentation will emphasize protocol models the student will use for experiential application. (1.2) Spring Proficiency Credit Not Available Pass/No Credit Not Available

## **BUS 280 Financial Analysis/Spreadsheet Appl. (2) (2, 0)**

**Prerequisite:** Grade of C or better in ACC 101 and ACC 203 or CIS 143 or consent of instructor. Can concurrently enroll in ACC 203 or CIS 143

Study of how financial statements assist in financial predictions and how to calculate comparisons. Students will develop spreadsheet templates to perform all calculations. (1.2) Spring Proficiency Credit Not Available Pass/No Credit Not Available

NOTE: This course is offered concurrently as ACC 280. The student must decide whether to earn credits in Business (BUS) or Accounting (ACC) prior to enrolling.

## CHEMISTRY

**CHM 115 fulfills both the physical sciences requirement and the lab science requirement for the Associate in Arts, Associate in Science and Associate in Fine Arts Degrees.**

**CHM 101, 112, and 142 fulfill both the physical sciences requirement and the lab science requirement for the A.A., A.S., and A.F.A. Degrees; however, only one of these courses can count as general education.**

**CHM 142 fulfills both the physical sciences requirement and the lab science requirement for the Associate in Engineering Science Degree.**

**All CHM courses numbered 100 and above, except CHM 290, may be used to fulfill the math/science requirement for the Associate of Applied Science Degree and the science requirement for the Associate in Liberal Studies Degree.**

**All CHM courses numbered 100 and above may also be applied to the major field and elective requirement in the A.A. and A.S. Degrees.**

**Four hours of CHM 115 may be counted toward graduation. Twelve hours of CHM 290 may be counted toward graduation.**

### ADVANCED CHEMISTRY PLACEMENT

**Based on the score received on the Advanced Placement (AP) Examination in Chemistry, credit may be granted for CHM 142 (AP, 3) or both CHM 142 and CHM 143 (AP, 4), the latter with acceptable chemistry experimentation.**

## **CHM 101 Preparatory Chemistry (5) (4, 2)**

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Math: Grade of C or better in MTH 098, an ACT Math score of 23, or appropriate placement test score.

This course introduces basic chemical knowledge to those with no chemical background or those who need a "refresher" course. It includes such topics as atomic structure, periodic table, formulae, chemical equations, stoichiometry, and gas laws. Class time includes lecture, laboratory, and question sessions. The course is designed for chemistry majors as well as those in the pre-professional fields and meets the requirements for ECC's Nursing R.N. Program. (1.1) Fall, Spring, Summer IAI General Education: P1 902L Proficiency Credit Available Pass/No Credit Available

## **CHM 112 Elements of Chemistry: General (5) (4, 2)**

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Math: Grade of C or better in MTH 098, an ACT Math score of 23, or appropriate placement test score

This course is designed as an introductory chemistry course for students preparing for

nursing and other health professions programs. Topics covered include measurements; states, compositions, and properties of matter; atomic structure and chemical bonding; chemical reactions, chemical equations and calculations of formula mass and moles; solutions; acid-base equilibria and nuclear chemistry. (1.1) Fall IAI General Education: P1 902L Proficiency Credit Available Pass/No Credit Available

## **CHM 115 Chemistry and Society (Variable Credit 3-4) (3-3, 0-2)**

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Designed to give nonscience majors an understanding and working knowledge of how chemical materials affect their lives. An application of basic chemical principles to the study of life processes, food additives, plastics, drugs, energy materials production and utilization and pollution. (1.1) On Demand IAI General Education: P1 903L Proficiency Credit Available Pass/No Credit Available

## **CHM 142 General Chemistry I (5) (4, 2)**

**Prerequisite:** Reading: Grade of C or better in RDG 091, an ACT Reading score of 18 or above, or an appropriate placement score. Math: Grade of C or better in MTH 112 or appropriate math placement. Other: Grade of C or better in CHM 101 or CHM 112 or grade of C or better in one year high school chemistry if graduated in the past five years.

The first course in a two-semester sequence in General Chemistry. Topics covered include fundamentals of chemistry including the periodic table of elements, atomic and molecular structure; basic concept of quantum theory, the gaseous state, stoichiometry of chemical reactions and solutions; heat and Enthalpy of reactions; and bonding. The course also emphasizes applications. Students will be exposed to the practical aspects of chemistry as they relate to the health sciences and the environment. The experiments of the companion lab are closely related to the course material and they will emphasize both qualitative and quantitative analysis. The course is intended for science majors, engineering and pre-professional students. (1.1) Fall, Spring IAI General Education: P1 902L IAI Major: CHM911 Proficiency Credit Available Pass/No Credit Not Available

# Course Descriptions

## CHM 143 General Chemistry II (5) (3, 6)

**Prerequisite:** CHM 142

Second course in a two-semester sequence of General Chemistry courses. The goal of this course is to provide the students with a broad overview of the principles of chemistry and to continue the introduction to many basic concepts of chemistry such as chemical kinetics; chemical equilibrium; Entropy and Free Energy; electrochemistry and redox reactions; orbital and spectroscopy; order and symmetry in condensed phases; chemistry of the main group and transition elements; and nuclear chemistry. Students will be exposed to the practical aspects of chemistry as they relate to the health sciences, industry, and the environment. Computer software is available to students to help them learn molecular modeling and graphing. The experiments of the accompanying lab are closely related to the course material and they will emphasize both qualitative and quantitative analysis. (1.1) Fall, Spring, Summer  
IAI Major: CHM912

Proficiency Credit Not Available  
Pass/No Credit Not Available

## CHM 170 Elementary Organic Chemistry (5) (4, 2)

**Prerequisite:** CHM 112 or CHM 142 or consent of instructor

Survey of organic chemistry covering nomenclature, structure, reactions, and synthesis of major classes of organic compounds including hydrocarbons, alcohols, aldehydes, ketones, carboxylic acid and amines, and covers how organic chemistry plays a key role in your life. (1.1) Spring

Proficiency Credit Available  
Pass/No Credit Available

## CHM 221 Quantitative Analysis (4) (2, 6)

**Prerequisite:** CHM 143

Theory and practice of volumetric, gravimetric and instrumental methods of analysis. (1.1) On Demand

Proficiency Credit Not Available  
Pass/No Credit Available

## CHM 234 Organic Chemistry (5) (3, 6)

**Prerequisite:** CHM 143 or 142 and consent of instructor

First semester of a two-semester organic chemistry sequence intended for chemistry majors and those enrolled in pre-professional training. Topics covered include the chemistry of alkanes, alkenes and alkynes, stereochemistry, alkyl halides, nucleophilic substitution and elimination, conjugation, and spectroscopy. (1.1) Fall  
IAI Major: CHM913

Proficiency Credit Not Available  
Pass/No Credit Not Available

## CHM 235 Organic Chemistry (5) (3, 6)

**Prerequisite:** CHM 234

Second semester of a two-semester organic chemistry sequence intended for chemistry majors and those enrolled in pre-professional training. Topics covered include aromatics, alcohols, ethers, thiols, sulfides, carbonyl compounds, amines, synthetic polymers, and biomolecules. (1.1) Spring

IAI Major: CHM914

Proficiency Credit Not Available  
Pass/No Credit Not Available

## CHM 290 Special Topics in Chemistry (Variable Credit 1-4) (0-2, 0-6)

**Prerequisite:** CHM 143 or equivalent and consent of instructor

Designed to satisfy specific needs of students and the community. The following guidelines are to be used in selecting topics: 1) adequate and available material on special topic, and 2) course will increase skills and knowledge of chemistry. Course is repeatable three (3) times. (1.1) On Demand

Proficiency Credit Available  
Pass/No Credit Not Available

## CLINICAL LABORATORY TECHNOLOGY/PHLEBOTOMY

All CLT courses numbered 100 and above may be applied to the major field and elective requirement in the Associate in Arts and Associate in Science Degrees.

### CLT 100 Introduction to Clinical Lab Technology (2.5) (2, 1)

**Prerequisite:** Acceptance into Clinical Laboratory Technology program or program director consent

This introductory course will familiarize the student with the professional responsibilities of the clinical laboratory technician. Units on medical terminology, laboratory safety, infection control, use of diagnostic equipment, and quality control will be covered. Students develop basic phlebotomy skills in preparation for CLT 120. (1.2) Fall

Proficiency Credit Available  
Pass/No Credit Not Available

### CLT 101 Phlebotomy (3) (3, 0)

**Prerequisite:** High school graduate or equivalent; COMPASS reading assessment score of 85 or higher or English ACT score of 20 or higher or grade of C or better in ENG 101

Students will learn basic techniques for blood specimen collection. Units on anatomy and physiology of the circulatory system, medical terminology, specimen processing, laboratory safety, infection control, quality control, and professional skills will also be covered. Students

who wish to sit for the phlebotomy technician certification exam must also complete 1.5 credits of CLT 120. (1.2) Fall, Spring, Summer  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### CLT 105 Clinical Lab Assistant Skills I (2.0) (1, 2)

**Prerequisite:** Acceptance into Clinical Laboratory Assistant program or program director consent

The Clinical Laboratory Assistant is an important member of the clinical laboratory team. CLAs are responsible for specimen collection and processing, reagent preparation, instrument maintenance, and performance of basic laboratory tests. Units on medical terminology, laboratory safety, infection control, use of diagnostic equipment, quality control, customer service skills, and laboratory information systems will be covered. (1.2) Spring

Proficiency Credit Not Available  
Pass/No Credit Not Available

### CLT 106 Clinical Lab Assistant Skills II (3.0) (2, 2)

**Prerequisite:** Grade of C or better in CLT 105 or program director consent

This course builds on the skills learned in CLT 105. Students will perform basic laboratory procedures in urinalysis, hematology, chemistry, microbiology, and immunology. Students who successfully complete CLT 105 and CLT 106 will be granted credit for CLT 100 in the Clinical Laboratory Technician program. (1.2) Spring  
Proficiency Credit Not Available  
Pass/No Credit Not Available

### CLT 110 Clinical Microscopy (3) (2, 2)

**Prerequisite:** Grade of C or better in BIO 240 or BIO 246 and CLT 100 or CLT 106 or program director consent

Students will learn basic microscopy techniques used in performing body fluid analyses. Anatomy and physiology of the urinary system, renal disease states, diagnostic test principles and procedures, and clinical correlation of lab results will be covered. (1.2) Spring

Proficiency Credit Available  
Pass/No Credit Not Available

### CLT 112 Clinical Hematology (3.5) (2, 3)

**Prerequisite:** Grade of C or better in BIO 240 or BIO 246 and CLT 100 or CLT 106 or program director consent

Students will learn basic lab techniques used in performing hematology/hemostasis analyses. Hematopoiesis, hematologic disorders, diagnostic test principles and procedures, instrumentation, and clinical correlation of lab results will be covered. (1.2) Spring

Proficiency Credit Available  
Pass/No Credit Not Available

## CLT 114 Clinical Immunology (2.5) (2, 1)

**Prerequisite:** Grade of C or better in BIO 240 or BIO 246 and CLT 100 or CLT 106 or program director consent

Students will learn basic lab techniques used in performing serologic analyses. The immune system, the immune response in health and disease, diagnostic test principles and procedures, and clinical correlation of lab results will be covered. (1.2) Summer  
Proficiency Credit Available  
Pass/No Credit Not Available

## CLT 120 Clinical Lab Technology Practicum I (0.5-1.5) (0, 1.5-4.5)

**Prerequisite:** Program director consent  
Practicum I will provide the student with supervised clinical experience in a phlebotomy setting. Students who have completed CLT 101 and earn 1.5 credits of CLT 120 are eligible to take a national certification exam for phlebotomy technicians. (1.2) Fall, Spring, Summer  
Proficiency Credit Available  
Pass/No Credit Not Available

## CLT 210 Clinical Chemistry (3.5) (2, 3)

**Prerequisite:** Grade of C or better in CHM 142 and CLT 100 or CLT 106 or program director consent

Students will learn basic lab techniques used in performing biochemical analyses. Units on carbohydrates, proteins, lipids, enzymes, hormones, electrolytes, and toxicology will include diagnostic test principles and procedures, instrumentation, and clinical correlation of lab results. (1.2) Fall  
Proficiency Credit Available  
Pass/No Credit Not Available

## CLT 212 Clinical Microbiology (3.5) (2, 3)

**Prerequisite:** Grade of C or better in BIO 265 and CLT 100 or CLT 106 or program director consent

Students will learn sterile techniques used to isolate and identify microorganisms. Antibiotic susceptibility testing and clinical correlation of lab results will be covered. Supplemental units on parasitology, mycology, and virology will be introduced. (1.2) Fall  
Proficiency Credit Available  
Pass/No Credit Not Available

## CLT 214 Clinical Immunohematology (3) (2, 2)

**Prerequisite:** Grade of C or better in CLT 114 or program director consent

Students will learn basic lab techniques used in blood typing, compatibility testing, and antibody identification. Other functions of the blood bank including donor blood collection, screening, and component processing will be covered. (1.2) Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## CLT 220 Clinical Lab Technology Practicum II (5) (0, 15)

**Prerequisite:** Grade of C or better in CLT 110, CLT 112 and CLT 210 or program director consent

Practicum II will provide the student with supervised experience in a clinical laboratory. Student rotations will be scheduled in hematology and chemistry departments. (1.2) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## CLT 222 Clinical Lab Technology Practicum III (5) (0, 15)

**Prerequisite:** Grade of C or better in CLT 114, CLT 212, and CLT 214 or program director consent

Practicum III will provide the student with additional supervised experience in a clinical laboratory. Student rotations will be scheduled in immunology, microbiology, and blood bank departments. (1.2) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Not Available

## CLT 230 Clinical Lab Technology Conference (1) (1, 0)

**Prerequisite:** Grade of C or better in CLT 120 and CLT 220 or program director consent  
This capstone course will cover management and educational topics related to clinical laboratory science. Students will prepare resumes, design and operate a mock laboratory, and review for certification exams. (1.2) Spring  
Proficiency credit Available  
Pass/No Credit Not Available

## CNC OPERATOR (See Industrial Manufacturing Technology)

## COMMUNICATIONS AND BEHAVIORAL SCIENCES, GENERAL CORE

**CBS 199 may be applied to the major field and elective requirement in the Associate in Arts and Associate in Science Degrees.**

## CBS 199 Comm. and Behavioral Sci. Indpnt Study (Variable Credit 1-4) (1-4, 0)

**Prerequisite:** Consent of instructor  
The use of credits in CBS 199 toward degree requirements is limited. Limitations include the number of hours as part of a degree and may include the content of the particular subject studied. A student may petition in the Counseling Center for independent study in any curriculum area of Communications and Behavioral Sciences. This petition must be approved by the appropriate instructional dean. A faculty supervisor in that curriculum will be appointed to direct and evaluate the independent study. This course is repeatable up to a maximum of four credit hours. (1.1) On Demand  
Proficiency Credit Not Available  
Pass/No Credit Available

## COMPUTER AIDED DESIGN

**All CAD courses numbered 100 and above may be applied to the major field and elective requirement in the Associate in Arts and Associate in Science Degrees.**

**All repeatable CAD courses can be counted only once toward graduation and in the GPA with the exception of CAD 220 which may be counted for a total of four hours.**

## CAD 101 Introduction to Engineering Design (4) (2, 4)

**Prerequisite:** None

This course is an introduction to engineering and design. Topics included are: sketching, orthographic projection, descriptive geometry, dimensioning, section views, auxiliary views, primary and secondary views, threads, fasteners, and production drawings. All problems will be solved using CAD software. Repeatable to 12 credit hours; only six credits may apply toward a degree or certificate. (2) Fall, Spring  
Proficiency Credit Available  
Pass/No Credit Available

## CAD 105 Pro/ENGINEER Basic Design Training (3) (2, 2)

**Prerequisite:** None

This course covers the basic functions needed to use Pro/ENGINEER to create parts, drawings, and assemblies. Emphasis is on the Pro/ENGINEER design philosophy used in creating parts and assemblies. Hands-on time with Pro/ENGINEER is maximized in this course. Labs are taught on the latest technology Windows 2000 work stations. Both part and assembly design, along with basic drawing creation, are presented. Students construct "real world" parts and assemblies using "Top-Down" Design, with the instructor acting as an expert consultant. Students must be prepared to put in at least two-four hours of extra lab time each week. Repeatable to six credits; only three credits may apply toward a degree or certificate. (1.2) Fall, Spring  
IAI Major: IND911  
Proficiency Credit Not Available  
Pass/No Credit Not Available