



# **Lower-Division Academic Course Guide Manual**

**Spring 2021**

**Texas Higher Education Coordinating Board**

**Academic Course Guide Manual (ACGM)  
Advisory Committee Members  
Fiscal Year 2021**

NOTE: Term of service ends on August 31 of the year indicated  
in parentheses after member's name, unless otherwise noted.

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## **Introduction and Explanations**

The *Lower-Division Academic Course Guide Manual* (ACGM) is the official list of approved courses for general academic transfer to public universities offered for state funding by public community, state, and technical colleges in Texas. The ACGM lists courses alphabetically by discipline. For information regarding workforce education courses see the *Workforce Education Course Manual*. Direct questions concerning the content or implementation of the procedures in the ACGM to:

ATTN: Rebecca Leslie  
Academic and Health Affairs Division  
Phone: (512) 427-6231  
Email: Rebecca.Leslie@highered.texas.gov

Texas Administrative Code (TAC) Chapter 9, Subchapter D outlines the provisions for approval of general academic courses for state funding. Senate Bill 215 passed by the 83rd Texas Legislature, Regular Session, requires the Coordinating Board to adopt rules regarding advisory committees, including rules governing an advisory committee's purpose, tasks, reporting requirements, and abolishment date. The rules include size and quorum requirements; qualifications for membership; appointment procedures; terms of service; and compliance with the requirements for open meetings. Rules adopted concerning the ACGM Advisory Committee are in the TAC Chapter 1, Subchapter P. The ACGM Advisory Committee has equal representation from public two-year colleges and public universities. The Advisory Committee meets at least annually to make recommendations to the Coordinating Board. The members of the committee who contributed to this edition of the ACGM appear in the membership roster at the beginning of this manual.

### **Changes in the ACGM**

The spring 2021 edition of the ACGM incorporates recommendations approved by the ACGM Advisory Committee and changes approved the Coordinating Board.

Approved changes to the ACGM include removal of courses that were under review for two years. The list of courses removed from the ACGM is on page 13. Lists of courses recommended and scheduled for deletion start on page 12.

There were no revisions to course descriptions and no new learning outcomes added to courses for the Spring 2021 ACGM.

### **The ACGM and the Academic Unique Need Inventory**

The ACGM serves as the academic course inventory for all community, state, and technical colleges in Texas. Individual institutions are not required to maintain separate general academic course inventories and may offer and report for funding ACGM courses without requesting approval from the Coordinating Board.

If a community, state, or technical college wishes to offer a course not listed here, or offer an ACGM course for more credit or contact hours than listed, it must request approval for such a course on a "unique need" basis. A resulting inventory of unique need courses is the only academic inventory required of individual institutions. Colleges must report academic courses according to instructions in the most recent edition of the *Reporting and Procedures Manual for Public Community and Technical Colleges* published by the Educational Data Center of the

Coordinating Board. All edits of reports must be in accordance with the ACGM and the individual institutions' unique need course inventories. The state will not fund academic courses at community, state, and technical colleges unless the courses are listed in the ACGM or included in the college's academic unique need inventory.

**Note: Inaccurate reporting of courses that differ significantly in content from the reported course numbers may result in an audit finding. An audit finding could cause an institution to lose some or all of its state reimbursement for any or all courses reported inaccurately.**

### **Instructions: How to Read and Use the ACGM**

All pre-approved courses listed in the ACGM correspond to course designations of the Texas Common Course Numbering System (TCCNS). Each entry begins with a common course prefix and number. In some cases, there may be a list of courses. Beneath the course or list of courses, a brief description appears. Some courses have prerequisites and co-requisite. In the ACGM, these terms have the following meanings:

**Prerequisite** - An academic element successfully completed prior to beginning the course identified.

**Co-requisite** - An academic element taken at the same time as the course identified.

The course has a 10-digit approval number and information about maximum semester credit hours (SCH) per student, maximum SCH per course, and maximum contact hours per course for reporting purposes. If learning outcomes exist for a course, they appear below the course parameters.

For example:

#### **CHEM 1311 General Chemistry I (lecture)**

Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry.

Co-requisite: CHEM 1111 General Chemistry I (lab)

Prerequisite: MATH 1314 or 1414 College Algebra or equivalent academic preparation  
High School chemistry is strongly recommended.

Approval Number.....	40.0501.52 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Define the fundamental properties of matter.
2. Classify matter, compounds, and chemical reactions.

3. Determine the basic nuclear and electronic structure of atoms.
4. Identify trends in chemical and physical properties of the elements using the Periodic Table.
5. Describe the bonding in and the shape of simple molecules and ions.
6. Solve stoichiometric problems.
7. Write chemical formulas.
8. Write and balance equations.
9. Use the rules of nomenclature to name chemical compounds.
10. Define the types and characteristics of chemical reactions.
11. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
12. Determine the role of energy in physical changes and chemical reactions.
13. Convert units of measure and demonstrate dimensional analysis skills.

In this example, the 10-digit approval number is 40.0501.52 03. The first six digits of the approval number are current CIP codes and indicate subject matter. Coordinating Board staff assign the last four digits. The seventh and eighth digits further delineate course content, sequence, or approval category. The ninth and tenth digits indicate the funding category.

The CIP for General Chemistry is 40.0501.

52 is the code for the content listed in the course description. The range for these numbers is typically 51 to 59. However, if a course is approved as a unique need course, the seventh digit will be a 7 instead of a 5. If the course is approved for excessive credit and/or contact hours (more than allowed in the approved listing), the seventh digit will be an 8 instead of a 5.

03 is the current state funding code for biology and physical sciences in public community and technical colleges. These codes range from 01 to 26.

A complete listing of the academic funding codes is contained in Appendix B.

After the Approval Number the maximum semester credit hours per student, semester credit hours (SCH) per course, and contact hours per course appear:

3 is the maximum number of semester credit hours per student for courses applicable toward an associate degree under this specific approval number. In this example, a college may allow students to take three SCHs of general chemistry courses and count them toward an associate degree.

3 is the maximum number of semester credit hours per course under this specific approval number. A college could offer a course under this approval number for three or fewer SCH, but not more. The college should award the SCH in proportion to the number of contact hours and type of instruction under the assigned common course number.

A traditional course offered for 48 contact hours of lecture over a 16-week semester will earn three SCH and carry a 3 in the second digit of the common course number. Similarly, a traditional lecture/lab course offered for 48 contact hours of lecture and 32 contact hours of laboratory over a 16-week semester would earn four SCH and carry a 4 in the second digit of the common course number. In general, one SCH requires 16 contact hours of lecture instruction and one SCH requires 32 to 48 contact hours of laboratory instruction.

48 is the maximum number of contact hours per course according to this specific approval number. Thus, a college can offer a course under the General Chemistry approval number for 48 or fewer contact hours, but not more. In this example, a three SCH chemistry course may be a maximum 48 contact hours. During a regular 16-week semester, 48 contact hours in this particular course might be broken down into three hours of lecture per week or three hours of lab per week or into other combinations that total 48 contact hours.

Approval numbers and descriptions for developmental courses and intervention options, listed under the heading "Developmental Education" in this manual, are not associated with specific courses numbers. The college may designate its own course prefixes and numbers.

**Most courses have learning outcomes.** Student learning outcomes describe what students should be able to demonstrate in terms of knowledge, skills, and attitudes upon completion of a course. When offering the courses, institutions must include all topics in the ACGM description and provide instruction to cover and assess all of the learning outcomes. Institutions may not delete any topics in the course descriptions or any of the student learning outcomes as provided in the ACGM. Based on local needs, an institution may include additional topics and learning outcomes. Additional topics and learning outcomes should not change the focus and primary function of the course as represented by the topics and learning outcomes in the ACGM.

The introductory phrase to the list of learning outcomes "Upon successful completion of this course, students will" is a style convention used to provide uniformity in the ACGM. The phrase does not indicate a specific timing or method of assessment. Assessment method and timing within the duration of the course is discretionary for the institution and may be different depending upon the discipline and instructional methods used in the delivery of the course.

### **The Texas Common Course Numbering System (TCCNS)**

The TCCNS is a cooperative effort among Texas two-year colleges and universities to facilitate transfer of freshman- and sophomore-level general academic courses. The TCCNS provides a shared, uniform set of course designations for students and their advisors to use in determining both course equivalency and degree applicability of transfer credit on a statewide basis. When students transfer between two participating TCCNS institutions, a course taken at the sending institution transfers as the course carrying, or cross-referenced with, the same TCCNS designation at the receiving institution.

For additional information about the TCCNS, consult the TCCNS Online ([www.tccns.org](http://www.tccns.org)). This website contains a list of participating TCCNS institutions, the TCCNS taxonomy, the TCCNS history, and the TCCNS board members. The site also contains the master list of the common courses offered by institutions in Texas.

### **Addition and Deletion of Courses**

At an institution's request, Coordinating Board staff and the ACGM Advisory Committee may consider a new course for inclusion in the ACGM. Coordinating Board staff review request proposals for completeness and accuracy of information. The advisory committee considers requests at their meetings. If a majority of the committee votes to recommend inclusion of the new course in the ACGM, the course description used by the institution initiating the request is

subject to revision by the Committee. The Coordinating Board approves addition of courses to the ACGM. The "Request to Add a New Course" form is available online.

Coordinating Board staff confers with the Texas Common Course Numbering System Database Coordinator for the assignment of appropriate course rubrics and numbers for a new course.

The ACGM Advisory Committee may consider information from the following categories to determine whether to include the course in the ACGM. The Committee may request additional information from the institution submitting the request; institutions are encouraged to submit any additional information they deem relevant for consideration. However, the information that the Committee considers essential is on the "New Course" form, so institutions should fill out the form accurately and completely.

**NOTE: THE FOLLOWING IS NOT AN EXHAUSTIVE LIST OF INFORMATIONAL CATEGORIES, NOR MUST INSTITUTIONS SUBMITTING REQUESTS SCORE HIGH MARKS IN ALL CATEGORIES.**

The information for consideration may include the following:

- Unique need approval history. Course frequency and enrollments for the preceding three years should be adequate to substantiate the viability of the course.
- The course has current applicability to baccalaureate degree plans. Confirmation of the course's transferability and applicability must come from at least five universities.
- Letters of support from at least five community colleges willing to offer the course if added to the ACGM.
- Application to the TCCNS. Final approval for inclusion in the ACGM may be contingent upon the assignment of a common course number.
- Frequency and level of similar course offerings statewide at both two- and four-year institutions.
- Course description and learning outcomes.
- Consultation with appropriate academic, professional, credentialing, or accrediting organizations.

If the ACGM committee does not approve a course, the institution may apply for approval to offer the course on a unique need basis.

The ACGM Advisory Committee conducts a comprehensive review of course enrollments to identify underutilized courses in the ACGM. Coordinating Board staff use the CBM004 reports from public two-year and four-year institutions to determine the frequency and enrollment of course offerings and conduct reviews/surveys to provide the information to the Committee. Also considered are recommendations for course deletions from institutions or academic, professional, credentialing, or accrediting organizations, as well as faculty workgroups appointed to develop learning outcomes. By a majority vote of the ACGM Advisory Committee a course recommended for deletion is under review for two years, and the course is marked as such in the ACGM. At the end of the review period and with Board approval, staff remove the course from the ACGM.

Reasons for deletion may include the following:

- Infrequently offered courses, or low enrollments in courses statewide.
- Lack of applicability to a four-year degree, or obsolescence in a discipline.
- Courses taught most frequently at the upper division as opposed to lower division level.

- Semester Credit Hours for course are insufficient or excessive for content and learning outcomes.

An institution may appeal a decision by the ACGM Advisory Committee to schedule a course for deletion. Successful appeals must substantiate the need and viability of the underutilized courses. The course should meet the same criteria and thresholds used for inclusion of a new course. The forms to submit an appeal are available on the ACGM webpage. The appeals process provides an opportunity for institutions to clarify and substantiate information about transferability and applicability of courses that may not be apparent based on reported data from institutions. Unlike a new course request, the appeals process and forms do not require duplicate application to the TCCNS Board since the course number already exists in the system.

### **Unique Need Courses**

A unique need course is an academic course created by a two-year college to meet a specific lower-division requirement of a baccalaureate degree program **that cannot be met by an existing course** in the ACGM. Coordinating Board staff approve unique need courses for use only by the institution making the application for approval and the courses expire after three years. If a community, state, or technical college wishes to offer a course not in the ACGM, or offer an ACGM course with credit and/or contact hours in excess of the limits prescribed by the ACGM, the institution submits a formal request to the Coordinating Board according to Board rules. Unique need forms are on the Coordinating Board website.

For courses to be included in an institution's inventory as unique need courses, each specific course must meet the following criteria:

1. The course requested must be academic and have college-level rigor. Courses designed to meet a community service, leisure, career/technical, or avocational need are inappropriate for unique need approval and will not receive state (academic) funding.
2. The course must be a freshman- or sophomore-level at a majority of public universities offering a similar course.
3. The course must be acceptable for transfer to three or more Texas public universities. Forms documenting transferability must be included in the application. The forms must indicate that the course applies to degree requirements for a specific major and that no other ACGM course satisfies the requirement. Identification of a direct course substitution and/or equivalent at the receiving institution strengthens the case for a unique need course. **Courses that transfer only as elective credit are not eligible for unique need status. If an alternative existing ACGM course meets the same degree requirement, then the proposed course is not eligible for unique need status.** In certain cases, colleges may obtain unique need approval for a course that transfers to only one Texas public university, if the course is part of an articulation agreement. The course should still meet the criteria in 1 (college-level rigor and academic) and 2 (majority of public universities offering a similar course do so at the lower division) above.

The procedures for unique need approval are:

1. The application for each unique need course submitted to the Coordinating Board must be accompanied by a proposal that states the need for the course and a syllabus that includes a course description, detailed course outline, and objectives. This proposal must

also document that the course is transferable to three public universities, or that it is part of a special transfer agreement.

2. If approved, a unique need course shall be placed on the college's course inventory for three years. Colleges must reapply for approval of unique need courses at the end of every three-year term. Renewal requests must include the enrollments in the course, the frequency with which the course was offered, and transfer rates of students into the specified baccalaureate degree programs during the preceding three years.

The legislature authorizes public two-year colleges to offer certain bachelor's degrees. Community colleges submit a different unique need proposal to the Coordinating Board to have the upper-division courses added to their unique need inventory. Upper-division courses included in the approved bachelor's degrees at community colleges do not have an expiration date assigned.

If you have suggestions, comments or questions concerning unique need request procedures, please email [rebecca.leslie@highered.texas.gov](mailto:rebecca.leslie@highered.texas.gov) in the Coordinating Board's Academic and Health Affairs Division.

### **Developmental Education in the ACGM**

Developmental education and assigned approval numbers appear in a separate chapter of this manual. Institutions report developmental courses and non-semester-length/non-course competency based options (NCBO) for state reimbursement for up to 18 SCH per student with an additional 9 SCH allowed for English for speakers of other languages (ESOL), but these courses and NCBO do not result in degree credit. Developmental courses and NCBO do not have common course number designations. Developmental education content titles, descriptions, and learning outcomes are associated with approval numbers for reporting. Colleges may designate their own course numbers and should follow the restrictions for number of SCH per student, maximum SCH per course, and maximum contact hours. The first digit of the developmental course numbers should be 0 (zero) to indicate that the course is not college-level and does not carry transferable credit.

## **Courses Scheduled for Deletion**

The following courses were schedule for deletion at the October 7, 2020 ACGM Advisory Committee meeting and are now under review. The courses are eligible for state funding until August 31, 2023.

COMM 1317	News Photography II
COMM 2328	Advertising Art I
COMM 2329	Advertising Art II
ENGR 1307	Plane Surveying
ENGR 2333	Elementary Chemical Engineering
ENGT 1401	Circuit I for Engineering Technology
ENGT 1407	Digital Fundamentals
ENGT 1409	AC/DC Circuits for Engineering Technology
ENGT 2307	Engineering Materials I for Engineering Technology
ENGT 2310	Introduction to Manufacturing Processes

The following course was scheduled for deletion at the October 15, 2019 ACGM Advisory Committee meeting and is under review. The course is eligible for state funding until August 31, 2022.

DRAM 2351 Acting III

The following courses are under review and were scheduled for deletion at the May 7, 2019 ACGM Advisory Committee meeting. The courses are eligible for state funding until August 31, 2021.

ENGT 1402	Circuits II for Engineering Technology
ENGT 2304	Materials and Methods for Engineering Technology
RNSG 1105	Nursing Skills I
RNSG 1119	Integrated Nursing Skills I
RNSG 1129	Integrated Nursing Skills II
RNSG 1144	Nursing Skills II
RNSG 1151	Care of the Childbearing Family
RNSG 1205	Nursing Skills I
RNSG 1209	Introduction to Nursing
RNSG 1219	Integrated Nursing Skills
RNSG 1229	Integrated Nursing Skills II
RNSG 1244	Nursing Skills II
RNSG 1247	Concepts of Clinical Decision-Making I
RNSG 1248	Concepts of Clinical Decision-Making I
RNSG 1251	Care of the Childbearing Family
RNSG 1309	Introduction to Nursing
RNSG 1331	Principles of Clinical Decision-making
RNSG 1341	Common Concepts of Adult Health
RNSG 1343	Complex Concepts of Adult Health
RNSG 1347	Concepts of Clinical Decision-making
RNSG 1412	Nursing Care Childbearing & Rearing Family
RNSG 1413	Foundations for Nursing Practice

RNSG 1423	Introduction to Professional Nursing for Integrated Programs
RNSG 1431	Principles of Clinical Decision-making
RNSG 1441	Common Concepts of Adult Health
RNSG 1443	Complex Concepts of Adult Health
RNSG 1447	Concepts of Clinical Decision-making
RNSG 1512	Nursing Care Childbearing & Rearing Family
RNSG 1513	Foundations for Nursing Practice
RNSG 1523	Introduction to Professional Nursing Integrated Programs
RNSG 2101	Care of Children & Families
RNSG 2201	Care of Children & Families
RNSG 2208	Maternal/NB Nursing & Women's Health
RNSG 2213	Mental Health Nursing
RNSG 2308	Maternal/Newborn Nursing & Women's Health
RNSG 2313	Mental Health Nursing
RNSG 2404	Introduction to Care Client with Common Health Care Needs
RNSG 2504	Introduction to Care Client with Common Health Care Needs

### **Courses Removed from the ACGM**

The following courses were scheduled for deletion with a teach-out and review period. The Coordinating Board approved the deletion and removal of the courses from the ACGM at the July 23, 2020 meeting. The courses are no longer included in the ACGM. Community, technical, and state colleges should not report them for funding. The eligibility of the courses for funding ended August 31, 2020.

ARTS 2314	Design Communications II
ENGL 2342	Forms of Literature I
ENGL 2343	Forms of Literature II
FREN 1300	Conversational French I
ENGR 2303	Engineering Mechanics - Statics and Dynamics
ENGR 2403	Engineering Mechanics - Statics and Dynamics
MATH 2321	Differential Equations and Linear Algebra
MATH 2421	Differential Equations and Linear Algebra
PHED 1238	Introduction to Physical Fitness & Sport
RNSG 1222	Introduction to Professional Nursing for Integrated Programs I
RNSG 1223	Introduction to Professional Nursing for Integrated Programs II
RNSG 1231	Principles of Clinical Decision-making I
RNSG 1232	Principles of Clinical Decision-making II
RNSG 2102	Care of Children and Families I
RNSG 2103	Care of Children and Families II
RNSG 2113	Mental Health Nursing I
RNSG 2114	Mental Health Nursing II
RNSG 2203	Integrated Care of the Client with Common Health Care Needs I
RNSG 2204	Integrated Care of the Client with Common Health Care Needs II

## Approved Courses

### ACCT (Accounting)

**ACCT 2301 Principles of Financial Accounting** (3 SCH version)

**ACCT 2401 Principles of Financial Accounting** (4 SCH version)

This course is an introduction to the fundamental concepts of financial accounting as prescribed by U.S. generally accepted accounting principles (GAAP) as applied to transactions and events that affect business organizations. Students will examine the procedures and systems to accumulate, analyze, measure, and record financial transactions. Students will use recorded financial information to prepare a balance sheet, income statement, statement of cash flows, and statement of shareholders' equity to communicate the business entity's results of operations and financial position to users of financial information who are external to the company. Students will study the nature of assets, liabilities, and owners' equity while learning to use reported financial information for purposes of making decisions about the company. Students will be exposed to International Financial Reporting Standards (IFRS).

Recommended co-requisite: MATH 1324 Mathematics for Business & Social Sciences

Approval Number.....	52.0301.51 04
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

### Learning Outcomes

Upon successful completion of this course, students will:

1. Use basic accounting terminology and the assumptions, principles, and constraints of the accounting environment.
2. Identify the difference between accrual and cash basis accounting.
3. Analyze and record business events in accordance with U.S. generally accepted accounting principles (GAAP).
4. Prepare adjusting entries and close the general ledger.
5. Prepare financial statements in an appropriate U.S. GAAP format, including the following: income statement, balance sheet, statement of cash flows, and statement of shareholders' equity.
6. Analyze and interpret financial statements using financial analysis techniques.
7. Describe the conceptual differences between International Financial Reporting Standards and U.S. generally accepted accounting principles.

**ACCT 2302 Principles of Managerial Accounting** (3 SCH version)

**ACCT 2402 Principles of Managerial Accounting** (4 SCH version)

This course is an introduction to the fundamental concepts of managerial accounting appropriate for all organizations. Students will study information from the entity's accounting system relevant to decisions made by internal managers, as distinguished from information

relevant to users who are external to the company. The emphasis is on the identification and assignment of product costs, operational budgeting and planning, cost control, and management decision making. Topics include product costing methodologies, cost behavior, operational and capital budgeting, and performance evaluation.

Prerequisite: ACCT 2301 Principles of Financial Accounting

Approval Number.....	52.0301.51 04
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify the role and scope of financial and managerial accounting and the use of accounting information in the decision-making process of managers.
2. Define operational and capital budgeting, and explain its role in planning, control, and decision-making.
3. Prepare an operating budget, identify its major components, and explain the interrelationships among its various components.
4. Explain methods of performance evaluation.
5. Use appropriate financial information to make operational decisions.
6. Demonstrate use of accounting data in the areas of product costing, cost behavior, cost control, and operational and capital budgeting for management decisions.

**AGRI (Agriculture)**

**AGRI 1307 Agronomy (lecture)**

Principles and practices in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods.

Approval Number: .....	01.1102.51 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Summarize the role of climate and geography in present and past crop production.
2. Explain the growth and development of crops.
3. Analyze the impact of climate on crops.
4. Assess the interactions of soils, water, and fertility on crop production.
5. Contrast methods of pest management in crop production.
6. Differentiate production methods based on geography and crop selection.

**AGRI 1107 Agronomy (lab)**

This laboratory-based course accompanies AGRI 1307. Laboratory activities will reinforce the fundamental principles and practices in the development, production, and management of field crops including growth and development, climate, plant requirements, pest management, and production methods.

Pre/Co-requisite: AGRI 1307 Agronomy

Approval Number: ..... 01.1102.51 01  
maximum SCH per student..... 1  
maximum SCH per course ..... 1  
maximum contact hours per course..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific and agronomic tools to collect and analyze data and demonstrate methods.
2. Use critical thinking and scientific problem solving to make informed decisions.
3. Communicate effectively the results of scientific investigations.
4. Summarize the role of climate and geography in present and past crop production.
5. Explain the growth and development of crops.
6. Analyze the impact of climate on crops.
7. Assess the interactions of soils, water, and fertility on crop production.
8. Contrast methods of pest management in crop production.
9. Differentiate production methods based on geography and crop selection.

**AGRI 1407 Agronomy (lecture + lab)**

This lecture and lab course should combine all of the elements of AGRI 1307 Agronomy (lecture) and AGRI 1107 Agronomy (lab), including the learning outcomes listed for both courses.

Approval Number: ..... 01.1102.51 01  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course.....96

**AGRI 1309 Computers in Agriculture**

Survey of the use of computers in agricultural applications.

Approval Number: ..... 01.0101.51 01  
maximum SCH per student..... 3

maximum SCH per course .....	3
maximum contact hours per course.....	64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate a basic understanding and use of word processing, spreadsheet, presentation, and communication software in agriculture.
2. Identify common uses of computers in agriculture.
3. Demonstrate appropriate use of the internet for agricultural purposes.

### AGRI 1311 Dairy Science

Survey of the dairy industry including dairy breeds, standards for selection and culling, herd replacements, feeding, management, physiology, and health maintenance. Food value for milk, tests for composition and quality, and use and processing of market milk and dairy products.

Approval Number.....	01.0905.51 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	64

### AGRI 1315 Horticulture (lecture)

Structure, growth, and development of horticultural plants. Examination of environmental effects, basic principles of reproduction, production methods ranging from outdoor to controlled climates, nutrition, and pest management. (Cross-listed as HORT 1301).

Approval Number: .....	01.0601.51 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Identify the various horticultural industries and their roles in our society.
2. Describe the fundamentals of plant science.
3. Assess the interactions of soils, water, and fertility in plant science.
4. Contrast the methods of plant reproduction and propagation.
5. Explain the impacts of production methods and technologies on plant science.
6. Contrast methods of pest management in plant science.
7. Investigate methods of environmental manipulation (e.g. greenhouse controls, frost management methods, hot caps).

### AGRI 1115 Horticulture (lab)

This laboratory-based course accompanies AGRI 1315. Laboratory activities will reinforce the structure, growth, and development of horticultural plants. Examination of environmental effects, basic principles of reproduction, production methods ranging from outdoor to controlled climates, nutrition, and pest management. (Cross-listed as HORT 1101).

Pre/Co-requisite: AGRI 1315 Horticulture (lecture)

Approval Number: ..... 01.0601.51 01  
 maximum SCH per student ..... 1  
 maximum SCH per course ..... 1  
 maximum contact hours per course ..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific and horticultural tools to collect and analyze data and demonstrate methods.
2. Use critical thinking and scientific problem solving to make informed decisions.
3. Communicate effectively the results of scientific investigations.
4. Identify the various horticultural industries and their roles in our society.
5. Describe the fundamentals of plant science.
6. Assess the interactions of soils, water, and fertility in plant science.
7. Contrast the methods of plant reproduction and propagation.
8. Explain the impacts of production methods and technologies on plant science.
9. Contrast methods of pest management in plant science.
10. Investigate methods of environmental manipulation (e.g. greenhouse controls, frost management methods, hot caps).

**AGRI 1415 Horticulture (lecture +lab)**

This lecture and lab course should combine all of the elements of AGRI 1315 Horticulture (lecture) and AGRI 1115 Horticulture (lab), including the learning outcomes listed for both courses. (Cross-listed as HORT 1401).

Approval Number: ..... 01.0601.51 01  
 maximum SCH per student ..... 4  
 maximum SCH per course ..... 4  
 maximum contact hours per course ..... 96

**AGRI 1319 Introductory Animal Science (lecture)**

Scientific animal production and the importance of livestock and meat industries. Selection, reproduction, nutrition, management, and marketing of livestock.

Approval Number: ..... 01.0901.51 01  
 maximum SCH per student ..... 3

maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the role of animal agriculture in providing benefits for humankind.
2. Identify common livestock breeds and classes.
3. Define terminology specific to animal science disciplines.
4. Demonstrate understanding of fundamental animal science principles including selection, reproduction, nutrition, and health.
5. Apply animal science principles by solving common problems.
6. Identify animal issues of interest to society, and related responsibilities.

**AGRI 1119    Introductory Animal Science (lab)**

This laboratory-based course accompanies AGRI 1319 Introductory Animal Science (lecture). Laboratory activities will reinforce scientific animal production and the importance of livestock and meat industries. Selection, reproduction, nutrition, management, and marketing of livestock.

Pre/Co-requisite: AGRI 1319 Introductory Animal Science (lecture)

Approval Number: .....	01.0901.51 01
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize animal science tools to collect and analyze data and demonstrate methods.
2. Use critical thinking and scientific problem solving to make informed decisions.
3. Communicate effectively the results of scientific investigations.
4. Explain the role of animal agriculture in providing benefits for humankind.
5. Identify common livestock breeds and classes.
6. Define terminology specific to animal science disciplines.
7. Demonstrate understanding of fundamental animal science principles including selection, reproduction, nutrition, and health.
8. Apply animal science principles by solving common problems.
9. Identify animal issues of interest to society, and related responsibilities.

**AGRI 1419    Introductory Animal Science (lecture + lab)**

This lecture and lab course should combine all of the elements of AGRI 1319 Introductory Animal Science (lecture) and AGRI 1119 Introductory Animal Science (lab), including the learning outcomes listed for both courses.

Approval Number: ..... 01.0901.51 01  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course.....96

### **AGRI 1325     Marketing of Agricultural Products**

Essential marketing functions in the movement of agricultural commodities and products from producer to consumer.

Approval Number: ..... 01.0102.51 01  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course.....48

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing, and risk bearing.
2. Apply economic principles to the marketing of agricultural products.
3. Identify alternatives in marketing of agricultural commodities/products.
4. Examine the structure of agricultural markets.

### **AGRI 1329     Principles of Food Science**

Biological and scientific aspects of modern industrial food supply systems. Food classification, modern processing, nutritional quality, and quality control.

Approval Number: ..... 01.1001.51 01  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course.....64

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify the principles of food science related to food production, quality, safety, nutrition, and distribution.
2. Describe common and emerging technologies in food science.
3. Explain how engineering, microbiology, and chemistry are applied in food production and processing systems.
4. Describe food safety procedures in U.S. production systems.

5. Demonstrate appropriate food handling/food safety procedures.
6. Explain nutrient composition and the link between nutrition and health.
7. Examine the dynamics of global food supply.

**AGRI 1131 The Agricultural Industry (1 SCH version)**

Overview of agriculture and the American agricultural system, including an examination of career opportunities and requirements.

Approval Number: .....	01.0103.52 01
maximum SCH per student .....	1
maximum SCH per course .....	1
maximum contact hours per course.....	32

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the history and importance of agriculture.
2. Identify the various industries of agriculture.
3. Assess careers in agriculture and related educational requirements.
4. Apply verbal and written communication skills in agricultural contexts.

**AGRI 2301 Agricultural Power Units**

Fundamentals of internal combustion engines: gasoline, diesel, and liquefied petroleum. Maintenance and adjustments of the electrical, ignition, fuel, lubricating, and cooling systems of agricultural power machinery.

Approval Number.....	01.0204.51 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	64

**AGRI 2303 Agricultural Construction**

Safety procedures, selection, use, and maintenance of hand and power tools, metal cutting and welding; and construction materials and principles.

Approval Number: .....	01.0201.51 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate proper safety procedures in an agricultural construction laboratory.
2. Determine the proper usage of common hand and power tools.
3. Demonstrate principles of project layout (e.g. measurements, squaring, leveling).
4. Demonstrate proper use of metal cutting and welding equipment.
5. Apply basic wiring and plumbing techniques.
6. Illustrate the principles of surveying and concrete layout.

**AGRI 2317 Introduction to Agricultural Economics**

Fundamental economic principles and their application in the agricultural industry.

Approval Number: .....	01.0103.51 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe fundamental macro- and micro-economic principles.
2. Apply economic principles to agricultural production, marketing and consumption.
3. Describe the different agricultural economics fields (e.g. food industry, demand theory, supply theory, competitive environments).

**AGRI 2321 Livestock Evaluation**

Evaluation and grading of market cattle, swine, sheep, and goats and their carcasses and wholesale cuts. Emphasis will be placed on value determination. Selection and evaluation of breeding cattle, sheep, swine, and goats with emphasis on economically important traits.

Approval Number: .....	01.0901.52 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Accurately evaluate and grade meat animals (cattle, swine, sheep, and goats), their carcasses, and wholesale cuts according to USDA and industry standards.
2. Determine market value for meat animals, carcasses, and whole cuts.
3. Evaluate and select breeding animals based upon their economic potential in common production scenarios.
4. Apply knowledge of both subjective and objective techniques, tools, and information in order to make evaluation, grading, and selection decisions in practical production scenarios.

**AGRI 2330 Wildlife Conservation and Management**

Principles and practices used in the production and improvement of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands.

Approval Number: .....	03.0601.51 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain basic ecological principles of population dynamics, habitat, succession, and ecosystems.
2. Describe how these ecological principles can be applied to manage wildlife populations and habitats.
3. Contrast wildlife management strategies for different purposes (i.e. recreation, conservation, and preservation).
4. Use critical thinking and scientific problem solving to make informed decisions about wildlife and natural resources management strategies.
5. Discuss the impact of current trends and societal issues on wildlife and increased demands on natural resources.

**ANTH (Anthropology)**

**ANTH 2301 Physical Anthropology (lecture)**

The study of human origins and bio-cultural adaptations. Topics may include primatology, genetics, human variation, forensics, health, and ethics in the discipline.

Approval Number.....	45.0202.51 25
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe key concepts and theories of physical anthropology.
2. Explain the principles and processes of human evolution.
3. Describe how the scientific method is used in physical anthropology.

**ANTH 2101 Physical Anthropology (lab)**

This laboratory-based course accompanies ANTH 2301 Physical Anthropology (lecture) and includes demonstrations of the major principles of the lecture course.

Approval Number.....	45.0202.51 25
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Apply the scientific method to empirical data and evaluate hypotheses.
2. Evaluate contrasting scientific viewpoints regarding the process of evolution.
3. Explain the basic terms and processes of Mendelian genetics.
4. Describe the structure of DNA and the process of mutation.
5. Identify and define the forces of evolution.
6. Describe at least one human biological variation that represents an adaptation to environmental factors.
7. Distinguish between the major categories of the living primates.
8. Describe variation in primate social behaviors and the reasons for that variation.
9. Identify major trends in early primate evolution.
10. Compare and contrast various Australopithecine and early Homo fossils and sites.
11. Describe the skeletal characteristics and culture of Homo erectus.
12. Compare early Homo sapiens, skeletally and culturally, to both Homo erectus and later Homo sapiens.
13. Evaluate different theories, based on both skeletal and genetic evidence, regarding the origins of anatomically modern humans.

### ANTH 2401 Physical Anthropology (lecture + lab)

This lecture and lab course should combine all of the elements of ANTH 2301 Physical Anthropology (lecture) and ANTH 2101 Physical Anthropology (lab), including the learning outcomes listed for both courses.

Approval Number.....	45.0202.51 25
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

### ANTH 2302 Introduction to Archeology

The study of the human past through material remains. The course includes a discussion of methods and theories relevant to archeological inquiry. Topics may include the adoption of agriculture, response to environmental change, the emergence of complex societies, and ethics in the discipline.

Approval Number.....	45.0301.51 25
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maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe key concepts and theories in archeology.
2. Explain the key techniques and methods used in archeology.
3. Demonstrate an understanding of long-term cultural change from an archeological perspective.

**ANTH 2346 General Anthropology**

The study of human beings, their antecedents, related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archeology, linguistics, their applications, and ethics in the discipline.

Approval Number.....	45.0201.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the key concepts and methods of anthropology.
2. Compare and contrast the subfields of anthropology, including but not limited to physical anthropology, cultural anthropology, and archeology.
3. Demonstrate an understanding of anthropological approaches to human diversity.

**ANTH 2351 Cultural Anthropology**

The study of human cultures. Topics may include social organization, institutions, diversity, interactions between human groups, and ethics in the discipline.

Approval Number.....	45.0201.53	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe key concepts and methods of cultural anthropology.
2. Explain the concept of culture, cultural diversity, and culture change.

- Demonstrate how anthropological concepts apply to addressing human and global challenges.

**ANTH 2289 Academic Cooperative** (2 SCH version)

**ANTH 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on experience in anthropology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

Approval Number..... 45.0101.51 25  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course.....144

### **ARAB (Arabic Language)**

**ARAB 1411 Beginning Arabic I** (4 SCH version)

**ARAB 1412 Beginning Arabic II** (4 SCH version)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number..... 16.1101.51 13  
 maximum SCH per student..... 8  
 maximum SCH per course ..... 4  
 maximum contact hours per course.....112

**ARAB 2311 Intermediate Arabic I**

**ARAB 2312 Intermediate Arabic II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number..... 16.1101.52 13  
 maximum SCH per student..... 6  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 80

### **ARCH (Architecture)**

**ARCH 1301 Architectural History I**

Part one of a survey of the history of world architecture from pre-history to the present. This course focuses on the period from pre-history up to at least the 14<sup>th</sup> Century. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

*A.7 History and Global Culture*

Approval Number.....	04.0801.51 02
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify works of architecture from the period.
2. Define key architectural concepts and terms from the period.
3. Compare and contrast parallel and divergent histories of world architecture from the period.
4. Critically evaluate and/or analyze works of architecture landscape and urban design from the period.
5. Explain the relationship between buildings and their cultural, historical, and physical contexts, which may include consideration of vernacular and regional settings appropriate to the period.
6. Describe the architectural technology of the period, including building materials and construction techniques.

### **ARCH 1302 Architectural History II**

Part two of a survey of the history of world architecture from pre-history to the present. This course focuses on the period of neo-classicism up to the modern era. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

*A.7 History and Global Culture*

Approval Number.....	04.0801.51 02
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify works of architecture from the period.
2. Define key architectural concepts and terms from the period.
3. Compare and contrast parallel and divergent histories of world architecture from the period.
4. Critically evaluate and/or analyze works of architecture landscape and urban design from the period.

5. Explain the relationship between buildings and their cultural, historical, and physical contexts, which may include consideration of vernacular and regional settings appropriate to the period.
6. Describe the architectural technology of the period, including building materials and construction techniques.

**ARCH 1303 Architectural Design I**

An introductory studio providing foundation in the conceptual, perceptual, and manual skills necessary for two-dimensional and three-dimensional design. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

- A.1 Professional Communication Skills*
- A.2 Design Thinking Skills*
- A.4 Architectural Design Skills*
- A.5 Ordering Systems*

Approval Number.....	04.0201.54 02
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Use abstract concepts and ideas in design projects.
2. Use two-dimensional and three-dimensional media effectively.
3. Employ sensitivity to the "craft" of making.
4. Use critical and iterative design processes.
5. Participate and share ideas in a common dialogue.
6. Apply organizational skills and time management.
7. Develop cognitive strategies for analysis and implementation of design ideas.

**ARCH 1304 Architectural Design II**

Creative problem solving and presentation of principles, concepts and ideas as applied to introductory architectural projects. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

- A.1 Professional Communication Skills*
- A.2 Design Thinking Skills*
- A.4 Architectural Design Skills*
- A.5 Ordering Systems*

Prerequisite: ARCH 1303 Architectural Design I

Approval Number.....	04.0201.54 02
maximum SCH per student.....	3

maximum SCH per course .....	3
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate an understanding of spatial relationships.
2. Engage and apply a design approach across multiple scales and contexts.
3. Produce projects that demonstrate an awareness of the natural environment.
4. Recognize the use of project programs.
5. Recognize the use of precedents.
6. Explain the significance of proportion and scale in the built environment.
7. Select the appropriate representational media to translate programmatic issues into architectural form.
8. Articulate verbal and formal compositional vocabulary of basic architectural concepts.

**ARCH 1307 Architectural Graphics I**

Introduction to basic drawing methods and tools. Exploration of techniques available for the design process with emphasis on two-dimensional and three-dimensional composition. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

*A.1 Professional Communication Skills*

Approval Number.....	15.1303.53	11
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Execute the major conventions of architectural representation, such as plans, sections, elevations, and other three-dimensional drawings.
2. Use tools necessary to produce architectural drawings.
3. Use drawings to explore and diagram design concepts.
4. Explain/describe the history of techniques associated with representation, visualization, analysis, and presentation.
5. Produce well-crafted presentation materials that communicate ideas clearly.

**ARCH 1308 Architectural Graphics II**

Continuation of the study, methodology, and production of architectural drawings. Exploration of techniques available for the design process with emphasis on three- dimensional composition both analog and digital. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

*A.1 Professional Communication Skills*

*A.5 Ordering Systems*

Prerequisite: ARCH 1307 Architectural Graphics I

Approval Number.....	15.1303.53	11
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

### Learning Outcomes

Upon successful completion of this course, students will:

1. Execute the major conventions of architectural representation of pictorial drawings such as axonometric, isometric, and oblique views.
2. Use color effectively in design.
3. Use shade and shadow techniques effectively in design.
4. Create drawings that demonstrate an understanding of design processes.
5. Diagram spatial ideas and clarify design concepts.
6. Produce well-crafted presentation materials that communicate ideas clearly.

### ARCH 1311 Introduction to Architecture

An introduction to architecture that explores the practices, principles, and wider context of architecture and design. Focuses on the role of architecture in society, culture, and the broader physical context of the built environment. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:  
*A.8 Cultural Diversity and Social Equity*  
*D.1 Stakeholder Roles in Architecture*

Approval Number.....	04.0201.59	02
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Describe the relationship of human behavior and the built environment.
2. Summarize relevant processes of architectural education and professional practice and licensure.
3. Develop observational skills aimed at understanding and evaluating the physical and spatial qualities in architecture.
4. Describe the tools and techniques associated with architectural and other architecture-related design practices.
5. Explain the importance of architectural traditions, concepts, theories, history, and technology.
6. Explain the importance and role of architecture in relation to ecological and environmental contexts.
7. Recognize the formal, spatial, and experiential qualities and principles of architecture.

8. Explain the collaborative relationship of architecture and allied professions (including but not limited to interior design, landscape architecture, construction, and fine arts).

**ARCH 1315 Architectural Computer Graphics**

Effective use of representational media, computer aided design, and digital media to engage formal, organizational, and environmental principles. Emphasis on the appropriate media to inform two-dimensional and three-dimensional design based upon the conventions of architectural graphic communication. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

- A.1 Professional Communication Skills*
- A.4 Architecture Design Skills*

Approval Number.....	15.1303.52	11
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Execute and understand digital design software.
2. Produce digital drawings that clearly and accurately communicate design intentions.
3. Manage and reproduce digital files.
4. Compose and present drawings with attention to line weight, character, and accuracy.
5. Compare and interpret the relationship between analogue and digital techniques in the design process.
6. Produce quality images and publications suitable for portfolios.
7. Recognize various digital media used to create presentations for target audiences within the profession and the general public.

**ARCH 2301 Architectural Freehand Drawing I**

Development of freehand drawing skills in architecture. Methods and skills, including emphasis on principles of light, shade, scale, proportion, line, and tonal quality for exploring and developing conceptual ideas and for clear graphic presentations. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

- A.1 Professional Communication Skills*
- A.4 Architecture Design Skills*

Approval Number.....	15.1303.51	11
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Use a range of freehand drawing media and skills related to visual communication.
2. Use drawing as the means of architectural problem solving.
3. Use graphic tools to record visual observations.
4. Recognize the importance of line weight to the perception of drawings.
5. Draw freehand lines of various forms, shapes, textures, and qualities.

## **ARCH 2302 Architectural Freehand Drawing II**

Advanced freehand design drawing skills in architecture. Emphasis is on using freehand techniques in visual thinking and analysis. Development of conceptual ideas for clear graphic presentations. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

*A.1 Professional Communication Skills*

*A.4 Architecture Design Skills*

Prerequisite: ARCH 2301 Architectural Freehand Drawing I

Approval Number.....	15.1303.51	11
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

## **Learning Outcomes**

Upon successful completion of this course, students will:

1. Use freehand drawing skills as a design tool.
2. Communicate visually through freehand drawings to explore ideas in site plans, elevations, sections, perspective views, and other architectural graphic conventions.
3. Apply key strengths of freehand media and skills in design thinking.
4. Use a range of drawing techniques best suited to architectural practice, both as exploratory design tools and for presentations.

## **ARCH 2312 Architectural Technology**

Introduction to materials and methods in the design and construction of buildings.

Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria:

*B.7 Building Envelope Systems and Assemblies*

*B.8 Building Materials and Assemblies*

Approval Number.....	15.0101.51	11
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Identify fundamental elements and key components of structural systems.
2. Identify different construction types for buildings.
3. Describe the properties and uses of building envelope systems and assemblies.
4. Recognize the different properties of major construction materials.
5. Describe the relationship between material properties and building form.
6. Recognize the sustainability and environmental impact of building material use and building performance.

## ARCH 2603 Architectural Design III

An intermediate architectural design studio that continues and expands the study of concepts from Architectural Design II. The course is intended to fulfill all or part of each of the following 2014 National Architectural Accrediting Board (NAAB) Student Performance Criteria:

*A.4 Architectural Design Skills*

*A.6 Use of Precedents*

*B.2 Site Design*

Prerequisites: ARCH 1304 Architectural Design II  
ARCH 1308 Architectural Graphics II

Approval Number .....	04.0201.54 02
maximum SCH per student .....	6
maximum SCH per course.....	6
maximum contact hours per course .....	192

## Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate an understanding of the basic concepts and principles of architectural programming and its role in architectural design.
2. Identify, document, and use site specific characteristics and contextual information to develop design proposals.
3. Recognize and comprehend the disparate needs of clients, users, and other members of the community.
4. Graphically communicate design ideas at various stages during the design process.
5. Integrate environmental and architectural principles.
6. Initiate and sustain a schematic design process.

## ARCH 2604 Architectural Design IV

A concluding architectural design studio for the lower-division that continues from Architectural Design III. Course is intended to fulfill all or part of each of the following 2014 National Architectural Accrediting Board (NAAB) Student Performance Criteria:

- B.1 Pre-Design*
- B.3 Codes and Regulations*
- B.5 Structural Systems*

Prerequisites: ARCH 2603 Architectural Design III

Approval Number .....	04.0201.54 02
maximum SCH per student .....	6
maximum SCH per course.....	6
maximum contact hours per course .....	192

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Articulate and express concretely the specific principles of architecture.
2. Exercise an expanded architectural vocabulary.
3. Demonstrate technical knowledge necessary to address the varied criteria of architectural design.
4. Investigate function, the use of space, order, structure, and design methodologies effectively.
5. Communicate ideas with graphic methods as required in the practice of architecture.

**ARTS (Studio Art & Art History)**

**ARTS 1301 Art Appreciation**

A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques, and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural, and historical contexts.

Approval Number.....	50.0703.51 26
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply art terminology as it specifically relates to works of art.
2. Demonstrate knowledge of art elements and principles of design.
3. Differentiate between the processes and materials used in the production of various works of art.
4. Critically interpret and evaluate works of art.
5. Demonstrate an understanding of the impact of arts on culture.

**ARTS 1303 Art History I (Prehistoric to the 14<sup>th</sup> century)**

A chronological analysis of the historical and cultural contexts of the visual arts from prehistoric times to the 14<sup>th</sup> century.

Approval Number.....	50.0703.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify and describe works of art based on their chronology and style, using standard categories and terminology.
2. Investigate major artistic developments and significant works of art from prehistoric times to the 14<sup>th</sup> century.
3. Analyze the relationship of art to history by placing works of art within cultural, historical, and chronological contexts.
4. Critically interpret and evaluate works of art.

### **ARTS 1304 Art History II (14<sup>th</sup> century to the present)**

A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day.

Approval Number.....	50.0703.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify and describe works of art based on their chronology and style, using standard categories and terminology.
2. Investigate major artistic developments and significant works of art from the 14th century to the present day.
3. Analyze the relationship of art to history by placing works of art within cultural, historical, and chronological contexts.
4. Critically interpret and evaluate works of art.

### **ARTS 1311 Design I (2-dimensional)**

An introduction to the fundamental terminology, concepts, theory, and application of two-dimensional design.

Approval Number.....	50.0401.53	26
maximum SCH per student.....		3

maximum SCH per course .....	3
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify and apply the elements of art and principles of two-dimensional design.
2. Employ discipline specific vocabulary in the evaluation of two-dimensional design problems.
3. Demonstrate creative skill in aesthetic problem solving within assigned parameters.
4. Demonstrate an appropriate level of professional practice, including safety, craft and presentation.

**ARTS 1312 Design II (3-dimensional)**

An introduction to the fundamental terminology, concepts, theory, and application of three-dimensional design.

Approval Number.....	50.0401.53	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify and apply the elements of art and principles of three-dimensional design.
2. Employ discipline specific vocabulary in the evaluation of three-dimensional design problems.
3. Demonstrate creative skill in aesthetic problem solving within assigned parameters.
4. Demonstrate an appropriate level of professional practice, including safety, craft and presentation.

**ARTS 1313 Foundations of Art**

Introduction to the creative media designed to enhance artistic awareness and sensitivity through the creative and imaginative use of art materials and tools. Includes art history and culture through the exploration of a variety of art works with an emphasis on aesthetic judgment and growth.

Approval Number .....	50.0701.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

**ARTS 1316 Drawing I**

A foundation studio course exploring drawing with emphasis on descriptive, expressive and conceptual approaches. Students will learn to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will engage in critical analysis and begin to develop their understanding of drawing as a discipline.

Approval Number.....	50.0705.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe visual subjects through the use of accurate and sensitive observation.
2. Generate drawings that demonstrate descriptive, expressive, and conceptual approaches.
3. Utilize varied materials and techniques with informed aesthetic and conceptual strategies.
4. Demonstrate an appropriate level of professional practice, including safety, craft and presentation.
5. Analyze and critique drawings verbally and/or in writing.
6. Relate drawing to design, art history and contemporary artistic production.

**ARTS 1317 Drawing II**

A studio course exploring drawing with continued emphasis on descriptive, expressive and conceptual approaches. Students will further develop the ability to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will employ critical analysis to broaden their understanding of drawing as a discipline.

Approval Number.....	50.0705.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe visual subjects through the use of accurate and sensitive observation.
2. Generate drawings that demonstrate descriptive, expressive, and conceptual approaches with an increased focus on individual expression.
3. Utilize varied materials and techniques, including color media, with informed aesthetic and conceptual strategies.
4. Demonstrate an appropriate level of professional practice, including safety, craft and presentation.
5. Analyze and critique drawings verbally and/or in writing.
6. Relate their drawings to historical and contemporary developments in the field.

**ARTS 1325 Drawing & Painting**

Drawing and painting for non-art majors.

Approval Number.....	50.0708.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**ARTS 2311 Design III (Color Theory)**

Studio art course that is a theoretical and practical study of color and composition in art and design. The course consists of studio-based projects using the formal and conceptual aspects of color. The course also examines the functions of color in art from different historical and cultural perspectives.

Approval Number.....	50.0401.53	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply the elements of color theory and compositional relationships.
2. Demonstrate proficiency in color mixing using different techniques and media.
3. Demonstrate creative skill in aesthetic problem solving within assigned parameters.
4. Employ discipline-specific vocabulary in the evaluation and use of color.
5. Demonstrate an appropriate level of professional practice.

**ARTS 2313 Graphic Design (title change)**

Studio course that introduces basic objectives, principles, and methods used in graphic design. The course focuses on creativity, aesthetic judgment, and critical-thinking skills to expand conceptual solutions within the realm of contemporary graphic design.

Approval Number.....	50.0401.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply tools and technologies used in graphic design.

2. Apply the elements of art and principles of graphic design.
3. Illustrate problem-solving techniques for successful communication of concepts within assigned parameters.
4. Employ discipline-specific vocabulary in the evaluation of traditional and contemporary graphic design.
5. Demonstrate an appropriate level of professional practice.

**ARTS 2316    Painting I**

Studio art course that introduces the fundamental principles, materials, and techniques of painting.

Approval Number.....	50.0708.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Generate works that demonstrate descriptive, expressive, and conceptual approaches.
2. Apply the elements of art and principles of design.
3. Use varied materials and techniques with informed aesthetic strategies.
4. Analyze and critique works verbally and/or in writing.
5. Relate painting to art history and contemporary artistic production.
6. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

**ARTS 2317    Painting II**

Studio art course that furthers the study of the principles, materials, and techniques of painting.

Prerequisite: ARTS 2316 Painting I

Approval Number.....	50.0708.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Generate works that demonstrate descriptive, expressive, and conceptual approaches at an increased level of competency.
2. Apply the elements of art and principles of design.
3. Use varied materials and techniques with informed aesthetic strategies.

4. Analyze and critique works verbally and/or in writing.
5. Relate painting to art history and contemporary artistic production.
6. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

**ARTS 2323 Life Drawing**

Studio art course that introduces the analytic study of the human form and the figure’s potential for compositional and expressive use in drawing.

Approval Number.....	50.0705.53	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the human figure using accurate and sensitive observation.
2. Articulate the relationship between aesthetics and anatomy.
3. Generate drawings that demonstrate descriptive, expressive, and conceptual approaches using varied materials and techniques within assigned parameters.
4. Relate their drawings to historical and contemporary developments in the field.
5. Analyze and critique drawings verbally and/or in writing.
6. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

**ARTS 2326 Sculpture**

A studio art course that introduces the materials, processes, and issues pertaining to the making of three-dimensional objects and environments. The course explores the use of varied materials and techniques along with the formal and conceptual principles that form the basis of contemporary sculpture.

Approval Number.....	50.0709.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Generate works that demonstrate descriptive, expressive, and conceptual approaches.
2. Apply the elements of art and principles of design.
3. Use varied materials, including, but not limited to, clay, metal, plaster, wood, and found objects.
4. Demonstrate additive and subtractive processes.
5. Analyze and critique works verbally and/or in writing.
6. Relate sculpture to art history and contemporary artistic production.

- Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

### **ARTS 2333 Printmaking**

A studio art course that introduces the materials, processes, and concepts pertaining to traditional and contemporary printmaking. The course explores the use of varied tools and techniques along with the formal and conceptual principles to create editioned and unique works.

Approval Number.....	50.0710.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

#### **Learning Outcomes**

Upon successful completion of this course, students will:

- Apply the basic elements and principles of visual art as they relate to the discipline of printmaking.
- Differentiate traditional print mediums of intaglio, relief, lithography, and serigraphy.
- Analyze and critique printed works verbally and/or in writing.
- Employ discipline-specific vocabulary in the evaluation of traditional and contemporary printmaking.
- Relate printed works to historical and contemporary developments in the field.
- Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

### **ARTS 2341 Metals (title change)**

A studio art course that introduces metalsmithing using basic techniques in jewelry design and metal construction. The course provides instruction and practical fabrication experience as it relates to the design and production of small-scale functional and/or non-functional objects.

Approval Number.....	50.0714.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

#### **Learning Outcomes**

Upon successful completion of this course, students will:

- Generate works that demonstrate expressive and conceptual approaches, using materials including, but not limited to, various metals.
- Apply the elements of art and principles of design.
- Employ basic processes, including, but not limited to, shaping, cutting, forming, and other construction techniques.
- Analyze and critique works verbally and/or in writing.

5. Relate metalsmithing to art history and contemporary artistic production.
6. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

**ARTS 2346 Ceramics I**

A studio art course that introduces basic building, throwing, and other techniques as it relates to the design and production of ceramic sculpture and pottery.

Approval Number.....	50.0711.51	26
maximum SCH per student.....		3
maximum SCH per course.....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Generate works that demonstrate descriptive, expressive, and conceptual approaches.
2. Apply the elements of art and principles of design.
3. Use varied processes including, but not limited to, hand building, throwing, glazing, and firing.
4. Demonstrate additive and subtractive processes.
5. Analyze and critique works verbally and/or in writing.
6. Relate ceramics to art history and contemporary artistic production.
7. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

**ARTS 2347 Ceramics II**

A studio art course that furthers the study of building, throwing, and other techniques as it relates to the design and production of ceramic sculpture and pottery.

Prerequisite: ARTS 2346 Ceramics I

Approval Number.....	50.0711.51	26
maximum SCH per student.....		6
maximum SCH per course.....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Generate works that demonstrate descriptive, expressive, and conceptual approaches at an increased level of competency.
2. Apply the elements of art and principles of design.

3. Use varied processes including, but not limited to, hand building, throwing, glazing, and firing.
4. Demonstrate additive and subtractive processes.
5. Analyze and critique works verbally and/or in writing.
6. Relate ceramics to art history and contemporary artistic production.
7. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

**ARTS 2348 Digital Media** (title change)

Studio art course that introduces the potential of basic digital media manipulation and graphic creation. The course emphasizes still and time-based media.

Approval Number .....	50.0102.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply tools and technologies used in digital media.
2. Apply the elements of art and principles of design within the realm of digital media.
3. Demonstrate creative skill in aesthetic problem solving within assigned parameters.
4. Employ discipline-specific vocabulary in the evaluation of still and time-based design problems.
5. Demonstrate an appropriate level of professional practice.

**ARTS 2356 Photography I** (fine arts emphasis)

A studio art course that introduces the technical and conceptual basics of photography as a creative medium.

Approval Number.....	50.0605.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate knowledge of manual camera operation, including shutter speed, aperture, and ISO.
2. Demonstrate the techniques of wet and/or dry photographic processes.
3. Apply the elements of art and principles of design to photographic works.
4. Analyze and critique printed photographic works verbally and/or in writing.
5. Employ discipline-specific vocabulary in the evaluation of traditional and contemporary photography.

6. Relate photographs to historical and contemporary developments in the field.
7. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

**ARTS 2357    Photography II** (fine arts emphasis)

A studio art course that furthers the study of the technical and conceptual basics of photography as a creative medium.

Prerequisite: ARTS 2356 Photography I

Approval Number.....	50.0605.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate the techniques of wet and/or dry photographic processes.
2. Apply the elements of art and principles of design to photographic works.
3. Analyze and critique printed photographic works verbally and/or in writing.
4. Employ discipline-specific vocabulary in the evaluation of traditional and contemporary photography.
5. Relate photographs to historical and contemporary developments in the field.
6. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

**ARTS 2366    Watercolor**

Studio art course that introduces the fundamental principles, materials, and techniques of watercolor and other water-based media.

Approval Number.....	50.0708.53	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Generate works that demonstrate descriptive, expressive, and conceptual approaches.
2. Apply the elements of art and principles of design to water-based media.
3. Use varied techniques and materials, including opaque and transparent watercolors.
4. Analyze and critique works verbally and/or in writing.
5. Relate water-based media to art history and contemporary artistic production.
6. Demonstrate an appropriate level of professional practice, including safety, craft, and presentation.

- ARTS 2289 Academic Cooperative** (2 SCH version)
- ARTS 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of studio art and/or art history.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

### **ASTR (Astronomy)**

- ASTR 1403 Stars and Galaxies** (lecture + lab)
- ASTR 1303 Stars and Galaxies** (lecture)
- ASTR 1103 Stars and Galaxies** (lab)

Study of stars, galaxies, and the universe outside our solar system. May or may not include a laboratory. (Cross-listed as PHYS 1403, 1303, & 1103)

Approval Number.....	40.0201.51	03
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

- ASTR 1404 Solar System** (lecture + lab)
- ASTR 1304 Solar System** (lecture)
- ASTR 1104 Solar System** (lab)

Study of the sun and its solar system, including its origin. May or may not include a laboratory. (Cross-listed as PHYS 1404, 1304, & 1104)

Approval Number.....	40.0201.52	03
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

### **BCIS (Business Computer Information Systems)** (Refer to COSC for computer science programming courses.)

- BCIS 1305 Business Computer Applications** (3 SCH version)
- BCIS 1405 Business Computer Applications** (4 SCH version)

Introduces and develops foundational skills in applying essential and emerging business productivity information technology tools. The focus of this course is on business productivity software applications, including word processing, spreadsheets, databases, presentation graphics, data analytics, and business-oriented utilization of the internet. (BCIS 1305 is included in the Business Field of Study.)

Approval Number.....	11.0202.54 04
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the fundamentals of information technology concepts – hardware, software, security, and privacy.
2. Demonstrate proper file management techniques to manipulate electronic files and folders in local, network, and online environments.
3. Create business documents with word processing software using spelling and grammar check, format and layout, tables, citations, graphics, and mail merge.
4. Create business documents and analyze data with spreadsheet software using (1) tables, sorting, filtering, charts and graphics, pivot tables, macros; (2) statistical, financial, logical and look-up functions and formulas; and (3) add-ins.
5. Create business multimedia presentations with presentation software using templates, lists, groups, themes, colors, clip art, pictures, tables, transitions, animation, video, charts, and views.
6. Create databases and manage data with database software using tables, fields, relationships, indexes, keys, views, queries, forms, reports, and import/export functions.
7. Integrate business software applications.
8. Use web-based technologies to conduct ethical business research.
9. Use “goal seeking” and “what-if analysis” to solve problems and make adjustments/recommendations in a business environment.

**BIOL (Biology)**

**BIOL 1306 Biology for Science Majors I** (lecture)

Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included.

Recommended co-requisite: BIOL 1106 Biology for Science Majors I (lab)

Recommended prerequisite: MATH 1314 or 1414 Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

Approval Number.....	26.0101.51 03
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maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Describe the characteristics of life.
2. Explain the methods of inquiry used by scientists.
3. Identify the basic requirements of life and the properties of the major molecules needed for life.
4. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
5. Describe the structure of cell membranes and the movement of molecules across a membrane.
6. Identify the substrates, products, and important chemical pathways in metabolism.
7. Identify the principles of inheritance and solve classical genetic problems.
8. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
9. Describe the unity and diversity of life and the evidence for evolution through natural selection.

### **BIOL 1106     Biology for Science Majors I (lab)**

This laboratory-based course accompanies BIOL 1306 Biology for Science Majors I. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included.

Pre/Co-requisite: BIOL 1306 Biology for Science Majors I (lecture)

Approval Number.....	26.0101.51 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Describe the characteristics of life.
5. Explain the methods of inquiry used by scientist.
6. Identify the basic properties of substances needed for life.
7. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.

8. Describe the structure of cell membranes and the movement of molecules across a membrane.
9. Identify the substrates, products, and important chemical pathways in metabolism.
10. Identify the principles of inheritance and solve classical genetic problems.
11. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
12. Describe the unity and diversity of life and the evidence for evolution through natural selection.

**BIOL 1406     Biology for Science Majors I** (lecture + lab)

This lecture and lab course should combine all of the elements of BIOL 1306 Biology for Science Majors I (lecture) and BIOL 1106 Biology for Science Majors I (lab), including the learning outcomes listed for both courses.

Approval Number.....	26.0101.51 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**BIOL 1307     Biology for Science Majors II** (lecture)

The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals.

Recommended co-requisite: BIOL 1107 Biology for Science Majors II (lab)

Recommended prerequisite: MATH 1314 or 1414 Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

Note: It is recommended that BIOL 1306/1106 or BIOL 1406 Biology for Science Majors I (lecture + lab) be taken before BIOL 1307/1107 or BIOL 1407.

Approval Number.....	26.0101.51 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
2. Describe phylogenetic relationships and classification schemes.
3. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
4. Describe basic animal physiology and homeostasis as maintained by organ systems.

5. Compare different sexual and asexual life cycles noting their adaptive advantages.
6. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

**BIOL 1107     Biology for Science Majors II (lab)**

This laboratory-based course accompanies Biology 1307, Biology for Science Majors II. Laboratory activities will reinforce study of the diversity and classification of life, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals.

Pre/Co-requisite: BIOL 1307 Biology for Science Majors II

Approval Number.....	26.0101.51 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Demonstrate knowledge of modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Distinguish between phylogenetic relationships and classification schemes.
6. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
7. Describe basic animal physiology and homeostasis as maintained by organ systems.
8. Compare different sexual and asexual life cycles noting their adaptive advantages.
9. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

**BIOL 1407     Biology for Science Majors II (lecture + lab)**

This lecture and lab course should combine all of the elements of BIOL 1307 Biology for Science Majors II (lecture) and BIOL 1107 Biology for Science Majors II (lab), including the learning outcomes listed for both courses.

Approval Number.....	26.0101.51 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**BIOL 1308    Biology for Non-Science Majors I (lecture)**

Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction.

Recommended co-requisite: BIOL 1108 Biology for Non-Science Majors I (lab)

Approval Number.....	26.0101.51 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
2. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
3. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
4. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.
5. Describe karyotyping, pedigrees, and biotechnology and provide an example of the uses of each.
6. Identify parts of a DNA molecule, and describe replication, transcription, and translation.
7. Analyze evidence for evolution and natural selection.

**BIOL 1108    Biology for Non-Science Majors I (lab)**

This laboratory-based course accompanies BIOL 1308 Biology for Non-Science Majors I. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction.

Pre/Co-requisite: BIOL 1308 Biology for Non-Science Majors I (lecture)

Approval Number.....	26.0101.51 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.

3. Communicate effectively the results of scientific investigations.
4. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
5. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
6. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
7. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.
8. Identify the importance of karyotypes, pedigrees, and biotechnology.
9. Identify parts of a DNA molecule, and describe replication, transcription, and translation.
10. Analyze evidence for evolution and natural selection.

**BIOL 1408    Biology for Non-Science Majors I** (lecture + lab)

This lecture and lab course should combine all of the elements of BIOL 1308 Biology for Non-Science Majors I (lecture) and BIOL 1108 Biology for Non- Science Majors I (lab), including the learning outcomes listed for both courses.

Approval Number.....	26.0101.51 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**BIOL 1309    Biology for Non-Science Majors II** (lecture)

This course will provide a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology.

Recommended co-requisite: BIOL 1109 Biology for Non-Science Majors II (lab)

Approval Number.....	26.0101.51 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
2. Describe phylogenetic relationships and classification schemes.
3. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
4. Describe basic animal physiology and homeostasis as maintained by organ systems.
5. Compare different sexual and asexual life cycles noting their adaptive advantages.
6. Illustrate the relationship between major geologic change, extinctions, and evolutionary

trends.

**BIOL 1109 Biology for Non-Science Majors II (lab)**

This laboratory-based course accompanies BIOL 1309, Biology for Non-Science Majors II. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology.

Pre/Co-requisite: BIOL 1309 Biology for Non-Science Majors II (lecture)

Approval Number..... 26.0101.51 03  
maximum SCH per student..... 1  
maximum SCH per course ..... 1  
maximum contact hours per course..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Define modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Describe phylogenetic relationships and classification schemes.
6. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
7. Describe basic animal physiology and homeostasis as maintained by organ systems.
8. Compare different sexual and asexual life cycles noting their adaptive advantages.
9. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

**BIOL 1409 Biology for Non-Science Majors II (lecture + lab)**

This lecture and lab course should combine all of the elements of BIOL 1309 Biology for Non-Science Majors II (lecture) and BIOL 1109 Biology for Non-Science Majors II (lab), including the learning outcomes listed for both courses.

Approval Number..... 26.0101.51 03  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course..... 96

**BIOL 1311 General Botany (lecture)**

Fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.)

Recommended co-requisite: BIOL 1111 General Botany (lab)

Recommended prerequisite: MATH 1314 or 1414 Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

Approval Number.....	26.0301.51.03
maximum SCH per student.....	3
maximum SCH per course.....	3
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Compare and contrast the structures, reproduction, and characteristics of plants, algae, and fungi.
2. Describe the characteristics of life and the basic properties of substances needed for life.
3. Identify the principles of inheritance and solve classical genetic problems.
4. Describe phylogenetic relationships and classification schemes.
5. Identify the major phyla of life with an emphasis on plants, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
6. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
7. Identify the substrates, products, and important chemical pathways in photosynthesis and respiration.
8. Describe the unity and diversity of plants and the evidence for evolution through natural selection.
9. Compare different sexual and asexual life cycles noting their adaptive advantages.
10. Describe the reasoning processes applied to scientific investigations and thinking.

### BIOL 1111 General Botany (lab)

This laboratory-based course accompanies Biology 1311, General Botany. Laboratory activities will reinforce fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.)

Pre/Co-requisite: BIOL 1311 General Botany

Approval Number.....	26.0301.51.03
maximum SCH per student.....	1
maximum SCH per course.....	1
maximum contact hours per course.....	64

## Learning Outcomes

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Compare and contrast the structures, reproduction, and characteristics of plants, algae, and fungi.
5. Describe the characteristics of life and the basic properties of substances needed for life.
6. Identify the principles of inheritance and solve classical genetic problems.
7. Describe phylogenetic relationships and classification schemes.
8. Identify the major phyla of life with an emphasis on plants, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
9. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
10. Identify the substrates, products, and important chemical pathways in photosynthesis and respiration.
11. Describe the unity and diversity of plants and the evidence for evolution through natural selection.
12. Compare different sexual and asexual life cycles noting their adaptive advantages.
13. Describe the reasoning processes applied to scientific investigations and thinking.

### **BIOL 1411    General Botany** (lecture + lab)

This lecture and lab course should combine all of the elements of BIOL 1311 (lecture) and BIOL 1111 (lab), including the learning outcomes listed for both courses.

Approval Number.....	26.0301.51.03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

### **BIOL 1313    General Zoology** (lecture)

Fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology. (This course is intended for science majors.)

Recommended co-requisite: BIOL 1113 General Zoology (lab)

Recommended prerequisite: MATH 1314 or 1414 Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

Approval Number.....	26.0701.51.03
maximum SCH per student.....	3

maximum SCH per course .....	3
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Compare and contrast the structures, reproduction, and characteristics of animals.
2. Describe the characteristics of life and the basic properties of substances needed for life.
3. Identify the principles of inheritance and solve classical genetic problems.
4. Describe phylogenetic relationships and classification schemes.
5. Identify the major phyla of life with an emphasis on animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
6. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
7. Identify the substrates, products, and important chemical pathways in respiration.
8. Describe the unity and diversity of animals and the evidence for evolution through natural selection.
9. Describe the reasoning processes applied to scientific investigations and thinking.
10. Describe basic animal physiology and homeostasis as maintained by organ systems.
11. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
12. Describe the structure of cell membranes and the movement of molecules across a membrane.

### BIOL 1113 General Zoology (lab)

This laboratory-based course accompanies Biology 1313, General Zoology. Laboratory activities will reinforce fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny, and ecology. (This course is intended for science majors.)

Pre/Co-requisite: BIOL 1313 General Zoology (lecture)

Approval Number.....	26.0701.51.03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Compare and contrast the structures, reproduction, and characteristics of animals.
5. Describe the characteristics of life and the basic properties of substances needed for life.
6. Identify the principles of inheritance and solve classical genetic problems.

7. Describe phylogenetic relationships and classification schemes.
8. Identify the major phyla of life with an emphasis on animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
9. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
10. Identify the substrates, products, and important chemical pathways in respiration.
11. Describe the unity and diversity of animals and the evidence for evolution through natural selection.
12. Describe the reasoning processes applied to scientific investigations and thinking.
13. Describe basic animal physiology and homeostasis as maintained by organ systems.
14. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
15. Describe the structure of cell membranes and the movement of molecules across a membrane.

**BIOL 1413     General Zoology** (lecture + lab)

This lecture and lab course should combine all of the elements of BIOL 1313 (lecture) and BIOL 1113 (lab), including the learning outcomes listed for both courses.

Approval Number.....	26.0701.51.03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

**BIOL 1322     Nutrition & Diet Therapy**

This course introduces general nutritional concepts in health and disease and includes practical applications of that knowledge. Special emphasis is given to nutrients and nutritional processes including functions, food sources, digestion, absorption, and metabolism. Food safety, availability, and nutritional information including food labels, advertising, and nationally established guidelines are addressed. (Cross-listed as HECO 1322)

Approval Number .....	19.0501.51 09
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course .....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply nutritional knowledge to analyze personal dietary intakes, to plan nutritious meals using nationally established criteria to meet recommended goals, and to evaluate food labels and the validity of nutritional claims.
2. Trace the pathways and processes that occur in the body to handle nutrients and alcohol through consumption, digestion, absorption, transport, metabolism, storage and waste excretion.

3. Discuss functions, sources, deficiencies, and toxicities of macro- and micronutrients, including carbohydrates, lipids, proteins, water, vitamins, and minerals.
4. Apply the concept of energy balance and its influences at the physical, emotional, societal, and cellular level to evaluate advantages and disadvantages of various methods used to correct energy imbalances.
5. Utilize concepts of aerobic and anaerobic energy systems, and knowledge about macronutrients, vitamins, minerals, ergogenic, and supplements and relate them to fitness and health.
6. Describe health and disease issues related to nutrition throughout the life cycle, including food safety, corrective dietary modifications, and the influence of specific nutrients on diseases.

### **BIOL 1323 Nutrition & Diet Therapy II**

Study of the chemical, physical, and sensory properties of food; nutritional quality; and food use and diet applications.

Approval Number.....	19.0501.51 09
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **BIOL 1414 Introduction to Biotechnology I**

Overview of classical genetics, DNA structure, the flow of genetic information, DNA replication, gene transcription, protein translation. Principles of major molecular biology and genetic engineering techniques, including restriction enzymes and their uses, major types of cloning vectors, construction of libraries, Southern and Northern blotting, hybridization, PCR, DNA typing. Applications of these techniques in human health and welfare, medicine, agriculture and the environment. Introduction to the human genome project, gene therapy, molecular diagnostics, forensics, creation and uses of transgenic plants and animal and animal cloning and of the ethical, legal, and social issues and scientific problems associated with these technologies. Relevant practical exercises in the above areas.

Approval Number.....	26.1201.51 03
Maximum SCH per student .....	4
Maximum SCH per course.....	4
Maximum contact hours per course.....	112

### **BIOL 1415 Introduction to Biotechnology II**

Biology course that focuses on an integrative approach to studying biomolecules with an emphasis on protein structures, functions and uses in the modern bioscience laboratory. Students will investigate the mechanisms involved in the transfer of information from DNA sequences to proteins to biochemical functions. The course will integrate biological and chemical concepts with techniques that are used in research and industry. Critical thinking will

be applied in laboratory exercises using inquiry-based approaches, troubleshooting, and analyzing experimental data.

Approval Number.....	26.1201.52 03
Maximum SCH per student .....	4
Maximum SCH per course.....	4
Maximum contact hours per course .....	112

**BIOL 2301    Anatomy & Physiology I (lecture)**

Anatomy and Physiology I is the first part of a two-course sequence. It is a study of the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis.

Approval Number .....	26.0707.51 03
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course .....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Use anatomical terminology to identify and describe locations of major organs of each system covered.
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

**BIOL 2101    Anatomy & Physiology I (lab)**

The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include integumentary, skeletal, muscular, nervous, and special senses.

Approval Number .....	26.0707.51 03
maximum SCH per student .....	1
maximum SCH per course .....	1
maximum contact hours per course .....	64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations and predictions.

**BIOL 2401    Anatomy & Physiology I** (lecture + lab)

This lecture and lab course should combine all of the elements of BIOL 2301 Anatomy & Physiology I (lecture) and BIOL 2101 Anatomy & Physiology I (lab), including the learning outcomes listed for both courses.

Approval Number .....	26.0707.51 03
maximum SCH per student .....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

**BIOL 2302    Anatomy & Physiology II** (lecture)

Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis.

Approval Number.....	26.0707.51 03
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Use anatomical terminology to identify and describe locations of major organs of each system covered.
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

**BIOL 2102 Anatomy & Physiology II (lab)**

The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics).

Approval Number ..... 26.0707.51 03  
maximum SCH per student ..... 1  
maximum SCH per course ..... 1  
maximum contact hours per course .....64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations, and predictions.

**BIOL 2402 Anatomy & Physiology II (lecture + lab)**

This lecture and lab course should combine all of the elements of BIOL 2302 Anatomy & Physiology II (lecture) and BIOL 2102 Anatomy & Physiology II (lab), including the learning outcomes listed for both courses.

Approval Number ..... 26.0707.51 03  
maximum SCH per student ..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course ..... 112

**BIOL 2404 Anatomy & Physiology (specialized, single-semester course, lecture + lab)**

Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Content may be either integrated or specialized.

Approval Number..... 26.0707.51 03

maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

**BIOL 2306 Environmental Biology (lecture)**

Principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research.

Recommended co-requisite: BIOL 2106 Environmental Biology (lab)  
 Recommended prerequisite: MATH 1314 or 1414 Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

Approval Number.....	26.1305.51 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the structure and impact of biogeochemical cycles.
2. Describe energy transformations across trophic levels.
3. Illustrate abiotic/biotic interactions and symbiotic relationships.
4. Identify various types of natural resources, human impact on these resources, and common resource management practices.
5. Quantify and analyze the impact of lifestyle on the environment.
6. Depict evolutionary trends and adaptations to environmental changes.
7. Describe environmental hazards and risks and the social and economic ramifications.
8. Describe ecological and statistical techniques and approaches used in the study of environmental biology.

**BIOL 2106 Environmental Biology (lab)**

This laboratory-based course accompanies Biology 2306, Environmental Biology. Laboratory activities will reinforce principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research.

Pre/Co-requisite: BIOL 2306 Environmental Biology (lecture)

Approval Number.....	26.1305.51 03
maximum SCH per student.....	1
maximum SCH per course .....	1

maximum contact hours per course..... 48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Explain the structure and impact of biogeochemical cycles.
5. Describe energy transformations across trophic levels.
6. Illustrate abiotic/biotic interactions and symbiotic relationships.
7. Identify various types of natural resources, human impact on these resources, and common resource management practices.
8. Quantify and analyze the impact of lifestyle on the environment.
9. Depict evolutionary trends and adaptations to environmental changes.
10. Describe environmental hazards and risks and the social and economic ramifications.
11. Describe ecological and statistical techniques and approaches used in the study of environmental biology.

### **BIOL 2406 Environmental Biology** (lecture + lab)

This lecture and lab course should combine all of the elements of BIOL 2306 (lecture) and BIOL 2106 (lab), including the learning outcomes listed for both courses.

Approval Number..... 26.1305.51 03  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course..... 96

### **BIOL 2416 Genetics** (lecture + lab)

### **BIOL 2316 Genetics** (lecture)

### **BIOL 2116 Genetics** (lab)

Study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering.

Approval Number..... 26.0801.51 03  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per student ..... 112

### **BIOL 2320 Microbiology for Non-Science Majors** (lecture)

This course covers basic microbiology and immunology and is primarily directed at pre-nursing, pre-allied health, and non-science majors. It provides an introduction to historical concepts of the nature of microorganisms, microbial diversity, the importance of microorganisms and acellular agents in the biosphere, and their roles in human and animal diseases. Major topics include bacterial structure as well as growth, physiology, genetics, and biochemistry of microorganisms. Emphasis is on medical microbiology, infectious diseases, and public health.

Approval Number .....	26.0503.51 03
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course .....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Describe distinctive characteristics and diverse growth requirements of prokaryotic organisms compared to eukaryotic organisms.
2. Provide examples of the impact of microorganisms on agriculture, environment, ecosystem, energy, and human health, including biofilms.
3. Distinguish between mechanisms of physical and chemical agents to control microbial populations.
4. Explain the unique characteristics of bacterial metabolism and bacterial genetics.
5. Describe evidence for the evolution of cells, organelles, and major metabolic pathways from early prokaryotes and how phylogenetic trees reflect evolutionary relationships.
6. Compare characteristics and replication of acellular infectious agents (viruses and prions) with characteristics and reproduction of cellular infectious agents (prokaryotes and eukaryotes).
7. Describe functions of host defenses and the immune system in combating infectious diseases and explain how immunizations protect against specific diseases.
8. Explain transmission and virulence mechanisms of cellular and acellular infectious agents.

### BIOL 2120 Microbiology for Non-Science Majors (lab)

This course covers basics of culture and identification of bacteria and microbial ecology. This course is primarily directed at pre-nursing and other pre-allied health majors and covers basics of microbiology. Emphasis is on medical microbiology, infectious diseases, and public health.

Approval Number .....	26.0503.51 03
maximum SCH per student .....	1
maximum SCH per course .....	1
maximum contact hours per course .....	64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Use and comply with laboratory safety rules, procedures, and universal precautions.
2. Demonstrate proficient use of a compound light microscope.

3. Describe and prepare widely used stains and wet mounts, and discuss their significance in identification of microorganisms.
4. Perform basic microbiology procedures using aseptic techniques for transfer, isolation and observation of commonly encountered, clinically significant bacteria.
5. Use different types of bacterial culture media to grow, isolate, and identify microorganisms.
6. Perform basic bacterial identification procedures using biochemical tests.
7. Estimate the number of microorganisms in a sample using methods such as direct counts, viable plate counts, or spectrophotometric measurements.
8. Demonstrate basic identification protocols based on microscopic morphology of some common fungi and parasites.

**BIOL 2420 Microbiology for Non-Science Majors** (lecture + lab)

This lecture and lab course should combine all of the elements of BIOL 2320 Microbiology for Non-Science Majors (lecture) and BIOL 2120 Microbiology for Non-Science Majors Laboratory (lab), including the learning outcomes listed for both courses.

Approval Number .....	26.0503.51 03
maximum SCH per student .....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

**BIOL 2321 Microbiology for Science Majors** (lecture)

Principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment.

Recommended co-requisite: BIOL 2121 Microbiology for Science Majors (lab)

Prerequisites: CHEM 1311/1111 or 1411 General Chemistry I (lecture + lab)  
 Plus, one of the following biology sequences for majors:  
 BIOL 1306/1106 or 1406 Biology for Science Majors I (lecture + lab)  
 BIOL 1307/1107 or 1407 Biology for Science Majors II (lecture + lab)  
 or  
 BIOL 1311/1111 or 1411 General Botany (lecture + lab)  
 BIOL 1313/1113 or 1413 General Zoology (lecture + lab)

Approval Number.....	26.0502.51 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Provide examples of the impact of microorganisms on agriculture, environment, ecosystem, energy, and human health, including biofilms.

2. Identify unique structures, capabilities, and genetic information flow of microorganisms.
3. Compare the life cycles and structures of different types of viruses.
4. Discuss how microscopy has revealed the structure and function of microorganisms.
5. Give examples of the range of metabolic diversity exhibited by microorganisms, impact of metabolic characteristics on growth, and control of growth.
6. Describe evidence for the evolution of cells, organelles, and major metabolic pathways from early prokaryotes and how phylogenetic trees reflect evolutionary relationships.
7. Describe the causes and consequences of mutations on microbial evolution and the generation of diversity as well as human impacts on adaptation.
8. Classify interactions of microorganisms on human and non-human hosts as neutral, detrimental, or beneficial.

### **BIOL 2121    Microbiology for Science Majors (lab)**

This laboratory-based course accompanies Biology 2321, Microbiology for Science Majors. Laboratory activities will reinforce principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment.

Pre/Co-requisite: BIOL 2321 Microbiology for Science Majors

Approval Number.....	26.0502.51 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Provide examples of the impact of microorganisms on agriculture, environment, ecosystem, energy, and human health, including biofilms.
5. Identify unique structures, capabilities, and genetic information flow of microorganisms.
6. Compare the life cycles and structures of different types of viruses.
7. Discuss how microscopy has revealed the structure and function of microorganisms.
8. Give examples of the range of metabolic diversity exhibited by microorganisms, impact of metabolic characteristics on growth, and control of growth.
9. Describe evidence for the evolution of cells, organelles, and major metabolic pathways from early prokaryotes and how phylogenetic trees reflect evolutionary relationships.
10. Describe the causes and consequences of mutations on microbial evolution and the generation of diversity as well as human impacts on adaptation.
11. Classify interactions of microorganisms on human and non-human hosts as neutral, detrimental, or beneficial.

**BIOL 2421 Microbiology for Science Majors** (lecture + lab)

This lecture and lab course should combine all of the elements of BIOL 2321 (lecture) and BIOL 2121 (lab), including the learning outcomes listed for both courses.

Approval Number.....	26.0502.51 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

**BIOL 2289 Academic Cooperative** (2 SCH version)

**BIOL 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of living organisms and their systems.

Approval Number.....	26.0101.52 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	144

**BUSI (Business)**

**BUSI 1301 Business Principles**

This course provides a survey of economic systems, forms of business ownership, and considerations for running a business. Students will learn various aspects of business, management, and leadership functions; organizational considerations; and decision-making processes. Financial topics are introduced, including accounting, money and banking, and securities markets. Also included are discussions of business challenges in the legal and regulatory environment, business ethics, social responsibility, and international business. Emphasized is the dynamic role of business in everyday life.

Approval Number.....	52.0101.51 04
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify major business functions of accounting, finance, information systems, management, and marketing.
2. Describe the relationships of social responsibility, ethics, and law in business.

3. Explain forms of ownership, including their advantages and disadvantages.
4. Identify and explain the domestic and international considerations for today's business environment: social, economic, legal, ethical, technological, competitive, and international.
5. Identify and explain the role and effect of government on business.
6. Describe the importance and effects of ethical practices in business and be able to analyze business situations to identify ethical dilemmas and ethical lapses.
7. Describe basic financial statements and show how they reflect the activity and financial condition of a business.
8. Explain the banking and financial systems, including the securities markets, business financing, and basic concepts of accounting.
9. Explain integrity, ethics, and social responsibility as they relate to leadership and management.
10. Explain the nature and functions of management.
11. Identify strengths, weaknesses, opportunities, and threats of information technology for businesses.

**BUSI 2304 Business Report Writing & Correspondence**

Theory and applications for technical reports and correspondence in business.

Approval Number.....	23.1303.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**BUSI 1307 Personal Finance**

Personal and family accounts, budgets and budgetary control, bank accounts, charge accounts, borrowing, investing, insurance, standards of living, renting or home ownership, and wills and trust plans. NOTE: This course is not part of the business field of study and may not transfer toward a degree in business.

Approval Number.....	19.0401.51	09
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**BUSI 2301 Business Law**

The course provides the student with foundational information about the U.S. legal system and dispute resolution, and their impact on business. The major content areas will include general principles of law, the relationship of business and the U.S. Constitution, state and federal legal systems, the relationship between law and ethics, contracts, sales, torts, agency law, intellectual property, and business law in the global context.

Prerequisite: High school coursework in U.S. history and government, or equivalent.

Approval Number.....	52.0101.51 04
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Describe the origins and structure of the U.S. legal system.
2. Describe the relationship of ethics and law in business.
3. Define relevant legal terms in business.
4. Explain basic principles of law that apply to business and business transactions.
5. Describe business law in the global context.
6. Describe current law, rules, and regulations related to settling business disputes.

### **BUSI 2305 Business Statistics**

Descriptive and inferential statistical techniques for business and economic decision-making. Topics include the collection, description, analysis, and summarization of data; probability; discrete and continuous random variables; the binomial and normal distributions; sampling distributions; tests of hypotheses; estimation and confidence intervals; linear regression; and correlation analysis. Statistical software is used to analyze data throughout the course. (BUSI 2305 is included in the Business Field of Study.)

Prerequisites: MATH 1324 Mathematics for Business & Social Science Majors  
or MATH 1314 College Algebra;  
BCIS 1305/1405 Business Computer Applications

Approval Number.....	52.1302.51 04
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Describe the random processes underlying statistical studies.
2. Calculate and use probability in solving business problems.
3. Compute descriptive statistics, construct graphs for data analysis, and interpret outcomes.
4. Compute and interpret measures of central tendency and dispersion.
5. Calculate expected values to evaluate multiple outcomes of a decision.
6. Describe, interpret, and apply discrete and continuous probability distributions.
7. Construct and interpret confidence intervals for means and proportions.
8. Formulate, perform, and interpret hypotheses tests (one and two population parameters).
9. Calculate, evaluate, and interpret simple linear correlation/regression.
10. Use statistical software to graph, compute, and analyze statistical data.

## CHEM (Chemistry)

**CHEM 1405 Introductory Chemistry I** (lecture + lab)

**CHEM 1305 Introductory Chemistry I** (lecture)

**CHEM 1105 Introductory Chemistry I** (lab)

**CHEM 1407 Introductory Chemistry II** (lecture + lab)

**CHEM 1307 Introductory Chemistry II** (lecture)

**CHEM 1107 Introductory Chemistry II** (lab)

**CHEM 1406 Introductory Chemistry I** (lecture + lab, allied health emphasis)

**CHEM 1306 Introductory Chemistry I** (lecture, allied health emphasis)

**CHEM 1106 Introductory Chemistry I** (lab, allied health emphasis)

Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for allied health students and for students who are not science majors.

Approval Number..... 40.0501.51 03  
maximum SCH per student..... 8  
maximum SCH per course ..... 4  
maximum contact hours per course.....112

### **CHEM 1309 General Chemistry for Engineering Majors** (lecture)

Fundamental principles of chemistry for engineering majors; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, acid-base concepts, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, phase-diagrams, introduction to chemical equilibrium, chemical thermodynamics, electrochemistry, and an introduction to descriptive inorganic chemistry and organic chemistry.

Co-requisite: CHEM 1109 General Chemistry for Engineering Majors (lab)

Prerequisites: MATH 1314 College Algebra

High school chemistry or equivalent preparation

Approval Number..... 40.0501.58 03  
Maximum SCH per student ..... 3  
Maximum SCH per course..... 3  
Maximum contact hours per course..... 48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Define the fundamental properties of matter.
2. Classify matter, compounds, and chemical reactions.
3. Convert units of measure and demonstrate dimensional analysis skills.
4. Determine the basic nuclear and electronic structure of atoms.

5. Identify trends in chemical and physical properties of the elements using the Periodic Table.
6. Describe the bonding in and the shape of simple molecules and ions.
7. Solve stoichiometric problems.
8. Use the rules of nomenclature to name chemical compounds.
9. Write chemical formulas.
10. Write and balance equations.
11. Define the types and characteristics of chemical reactions including acids and bases.
12. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
13. Articulate the importance of intermolecular interactions and predict trends in physical properties.
14. State the characteristics of liquids and solids, including phase diagrams and spectrometry.
15. Apply the principles of equilibrium to chemical systems using Le Chatelier's Principle to predict the effects of concentration, pressure, and temperature changes on equilibrium mixtures.
16. Analyze and perform calculations with the thermodynamic functions, enthalpy, entropy, and free energy.
17. Discuss the construction and operation of galvanic and electrolytic electrochemical cells, and determine standard and non-standard cell potentials.

### **CHEM 1109 General Chemistry for Engineering Majors (lab)**

Basic laboratory experiments supporting theoretical principles presented in CHEM 1309; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.

Co-requisite: CHEM 1309 General Chemistry for Engineering Majors (lecture)

Approval Number.....	40.0501.58 03
Maximum SCH per student .....	1
Maximum SCH per course.....	1
Maximum contact hours per course.....	64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.

9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

### **CHEM 1409 General Chemistry for Engineering Majors** (lecture + lab)

This lecture and lab course should combine all of the elements of CHEM 1309 General Chemistry for Engineering Majors (lecture) and CHEM 1109 General Chemistry for Engineering Majors (lab), including the learning outcomes listed for both courses.

Approval Number.....	40.0501.58 03
Maximum SCH per student .....	4
Maximum SCH per course.....	4
Maximum contact hours per course.....	112

### **CHEM 1311 General Chemistry I** (lecture)

Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry.

Co-requisite: CHEM 1111 General Chemistry I (lab)

Prerequisite: MATH 1314 or 1414 College Algebra or equivalent academic preparation

High school chemistry is strongly recommended.

Approval Number.....	40.0501.52 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Define the fundamental properties of matter.
2. Classify matter, compounds, and chemical reactions.
3. Determine the basic nuclear and electronic structure of atoms.
4. Identify trends in chemical and physical properties of the elements using the Periodic Table.
5. Describe the bonding in and the shape of simple molecules and ions.
6. Solve stoichiometric problems.
7. Write chemical formulas.
8. Write and balance equations.
9. Use the rules of nomenclature to name chemical compounds.
10. Define the types and characteristics of chemical reactions.
11. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
12. Determine the role of energy in physical changes and chemical reactions.

13. Convert units of measure and demonstrate dimensional analysis skills.

**CHEM 1111 General Chemistry I (lab)**

Basic laboratory experiments supporting theoretical principles presented in CHEM 1311; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports.

Co-requisite: CHEM 1311 General Chemistry I (lecture)

Approval Number..... 40.0501.53 03  
maximum SCH per student..... 1  
maximum SCH per course ..... 1  
maximum contact hours per course..... 64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry.
9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

**CHEM 1411 General Chemistry I (lecture + lab)**

This lecture and lab course should combine all of the elements of 1311 General Chemistry I Lecture and 1111 General Chemistry I Lab, including the learning outcomes listed for both courses.

Approval Number..... 40.0501.54 03  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course.....112

**CHEM 1312 General Chemistry II (lecture)**

Chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry.

Co-requisite: CHEM 1112 General Chemistry II (lab)

Prerequisite: CHEM 1311 & CHEM 1111, or CHEM 1411 General Chemistry I (Lecture + Lab)

or  
CHEM 1309 & CHEM 1109 or CHEM 1409 General Chemistry for Engineering  
Majors (Lecture + Lab)

Approval Number.....	40.0501.55 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. State the characteristics of liquids and solids, including phase diagrams and spectrometry.
2. Articulate the importance of intermolecular interactions and predict trends in physical properties.
3. Identify the characteristics of acids, bases, and salts, and solve problems based on their quantitative relationships.
4. Identify and balance oxidation-reduction equations, and solve redox titration problems.
5. Determine the rate of a reaction and its dependence on concentration, time, and temperature.
6. Apply the principles of equilibrium to aqueous systems using LeChatelier's Principle to predict the effects of concentration, pressure, and temperature changes on equilibrium mixtures.
7. Analyze and perform calculations with the thermodynamic functions, enthalpy, entropy, and free energy.
8. Discuss the construction and operation of galvanic and electrolytic electrochemical cells, and determine standard and non-standard cell potentials.
9. Define nuclear decay processes.
10. Describe basic principles of organic chemistry and descriptive inorganic chemistry.

### CHEM 1112 General Chemistry II (lab)

Basic laboratory experiments supporting theoretical principles presented in CHEM 1312; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.

Co-requisite: CHEM 1312 General Chemistry II (lecture)

Approval Number.....	40.0501.56 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.

3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.
9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

### **CHEM 1412 General Chemistry II** (lecture + lab)

This lecture and lab course should combine all of the elements of 1312 General Chemistry II Lecture and 1112 General Chemistry II Lab, including the learning outcomes listed for both courses.

Approval Number.....	40.0501.57 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

### **CHEM 2323 Organic Chemistry I** (lecture)

Fundamental principles of organic chemistry will be studied, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.

Co-requisite: CHEM 2123 Organic Chemistry I (lab)

Prerequisite: CHEM 1312/1112 or CHEM 1412 General Chemistry II (Lecture + Lab)

Approval Number.....	40.0504.52 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Classify organic compounds by structure, molecular orbitals, hybridization, resonance, tautomerism, polarity, chirality, conformation, and functionality.
2. Identify organic molecules using appropriate organic nomenclature.
3. Describe the principle reactions for syntheses of molecules, ions, and radicals.
4. Describe organic reactions in terms of radical and ionic mechanisms.

- Describe the use of spectroscopic data to determine the structure of organic molecules.
- Formulate appropriate reaction conditions for the synthesis of simple organic molecules.

### **CHEM 2123 Organic Chemistry I (lab)**

This laboratory-based course accompanies CHEM 2323, Organic Chemistry I. Laboratory activities will reinforce fundamental principles of organic chemistry, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Methods for the purification and identification of organic compounds will be examined.

Co-requisite: CHEM 2323 Organic Chemistry I (lecture)

Approval Number.....	40.0504.52 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

### **Learning Outcomes**

Upon successful completion of this course, students will:

- Perform chemical experiments, analysis procedures, and waste disposal in a safe and responsible manner.
- Utilize scientific tools such as glassware and analytical instruments to collect and analyze data.
- Identify and utilize appropriate separation techniques such as distillation, extraction, and chromatography to purify organic compounds.
- Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.
- Demonstrate a basic understanding of stereochemistry.
- Classify organic compounds by structure, molecular orbitals, hybridization, resonance, tautomerism, polarity, chirality, conformation, and functionality in laboratory reports.
- Identify organic molecules using appropriate organic nomenclature in laboratory reports.
- Perform organic syntheses of molecules.
- Describe organic reactions in terms of radical and ionic mechanisms in laboratory reports.
- Use spectroscopic data to determine the structure of organic molecules.
- Formulate appropriate reaction conditions for the synthesis of simple organic molecules.

### **CHEM 2423 Organic Chemistry I (lecture + lab)**

This lecture and lab course should combine all of the elements of CHEM 2323 (lecture) and CHEM 2123 (lab), including the learning outcomes listed for both courses.

Approval Number.....	40.0504.52 03
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maximum SCH per student .....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

### **CHEM 2325 Organic Chemistry II (lecture)**

Advanced principles of organic chemistry will be studied, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.

Co-requisite: CHEM 2125 Organic Chemistry II (lab)

Prerequisite: CHEM 2323/2123 or CHEM 2423 Organic Chemistry I (Lecture + Lab)

Approval Number.....	40.0504.52 03
SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
2. Predict the mechanism and outcome of aliphatic and aromatic substitution and elimination reactions, given the conditions and starting materials.
3. Predict the chirality of reaction products based on enantiomeric and diastereomeric relationships.
4. Describe reaction mechanisms in terms of energetics, reaction kinetics, and thermodynamics.
5. Use spectroscopic techniques to characterize organic molecules and subgroups.

### **CHEM 2125 Organic Chemistry II (lab)**

This laboratory-based course accompanies CHEM 2325, Organic Chemistry II. Laboratory activities reinforce advanced principles of organic chemistry, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules.

Co-requisite: CHEM 2325 Organic Chemistry II

Approval Number.....	40.0504.52 03
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maximum SCH per student .....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

## Learning Outcomes

Upon successful completion of this course, students will:

1. Perform chemical experiments, analysis procedures, and waste disposal in a safe and responsible manner.
2. Utilize scientific tools such as glassware and analytical instruments to collect and analyze data.
3. Identify and utilize appropriate separation techniques such as distillation, extraction, and chromatography to purify organic compounds.
4. Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.
5. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
6. Predict the mechanism and outcome of aliphatic and aromatic substitution and elimination reactions, given the conditions and starting materials.
7. Predict the chirality of reaction products based on enantiomeric and diastereomeric relationships.
8. Describe reaction mechanisms in terms of energetics, reaction kinetics, and thermodynamics.
9. Use spectroscopic techniques to characterize organic molecules and subgroups.

### **CHEM 2425    Organic Chemistry II** (lecture + lab)

This lecture and lab course should combine all of the elements of CHEM 2325 (lecture) and CHEM 2125 (lab), including the learning outcomes listed for both courses.

Approval Number.....	40.0504.52 03
maximum SCH per student .....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

### **CHEM 2289    Academic Cooperative** (2 SCH version)

### **CHEM 2389    Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena.

Approval Number.....	40.0101.53 03
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course.....	144

## CHIN (Chinese Language)

- CHIN 1411**    **Beginning Chinese I** (4 SCH version)  
**CHIN 1412**    **Beginning Chinese II** (4 SCH version)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number.....	16.0301.51	13
maximum SCH per student.....		8
maximum SCH per course .....		4
maximum contact hours per course.....		112

- CHIN 2311**    **Intermediate Chinese I**  
**CHIN 2312**    **Intermediate Chinese II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number.....	16.0301.52	13
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		80

## COMM (Communication)

- COMM 1307**    **Introduction to Mass Communication**

Survey of basic content and structural elements of mass media and their functions and influences on society.

Approval Number.....	09.0102.51	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate understanding of the fundamental types, purposes, and relevance of mass communication.
2. Demonstrate understanding of mass media in historic, economic, political, and cultural realms.
3. Demonstrate understanding of the business aspects of mass media and the influence of commercialism.
4. Demonstrate understanding of evolving media technologies and relevant issues and trends.
5. Demonstrate understanding of mass media values, ethics, laws, and industry guidelines.

6. Demonstrate understanding of globalization of mass media.
7. Demonstrate understanding of media effects on society.

**COMM 1316 News Photography I**

**COMM 1317 News Photography II** (scheduled for deletion, funding ends August 31, 2023)

Problems and practices of photography for newspapers. Includes instruction in camera and equipment operation and maintenance, film and plate developing, and printing media.

Approval Number.....	09.0401.55	06
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		96

**COMM 1318 Photography I**

Introduction to the basics of photography, including techniques and equipment operation.

Approval Number.....	50.0605.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate ability to operate equipment used to capture and edit photographic images.
2. Demonstrate understanding of composition, framing, and perspective in photography.
3. Analyze and discuss aesthetic considerations of visual storytelling.
4. Discuss ethical implications of photographic manipulation.

**COMM 1319 Photography II**

Extends the students' knowledge of technique and guides them in developing personal outlooks toward specific applications of the photographic process.

Prerequisite: Photography I or its equivalent

Approval Number.....	50.0605.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**COMM 1335 Introduction to Electronic Media**

An overview of the development, regulation, economics, social impact, and industry practices in electronic media.

Approval Number.....	09.0102.52 06
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify electronic media terms and concepts.
2. Demonstrate familiarity with historical development of electronic media industries and technologies.
3. Understand management structure and decision-making processes in electronic media outlets.
4. Identify governmental policy in electronic media industries.
5. Analyze how media outlets obtain and use ratings data.
6. Explain significance and effects of electronic media.

### **COMM 1336 Video Production I**

Practical experience in the operation of studio and control room equipment, including both pre- and post-production needs.

Approval Number.....	10.0202.52 06
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify video equipment necessary for content production.
2. Demonstrate understanding of effective lighting techniques.
3. Operate studio equipment to create video content.
4. Demonstrate ability to collaborate in team environment.
5. Demonstrate effective and safe use of studio equipment.
6. Demonstrate basic camera operation and shot composition in a multi-camera production.
7. Demonstrate basic audio production techniques, including use of various microphone types and mixing for studio production.
8. Identify the roles of production personnel in a studio production.

### **COMM 1337 Video Production II**

Practical experience in the operation of television studio and control room equipment, including both pre- and post-production needs.

Approval Number.....	10.0202.52	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**COMM 2300 Media Literacy**

Criticism and analysis of the function, role, and responsibility of the mass media in modern society from the consumer perspective. Includes the ethical problems and issues facing each media format, with the effect of political, economic, and cultural factors on the operation of the media.

Approval Number.....	09.0102.53	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**COMM 2302 Principles of Journalism**

This course examines major issues facing the news media in a democratic society and explores journalism’s role in shaping public perception and affecting policy.

Approval Number.....	09.0401.52	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate an understanding of how recent trends in the news media industry (ownership, technological innovation, and audience consumption) shape news reporting on social issues.
2. Discuss and critique today’s news disseminated through various media.
3. Demonstrate an understanding of the role of the news media in shaping our perception of the world.
4. Demonstrate an understanding of the effects of news media on policy-making.

**COMM 2303 Audio Production**

Practical experience in the operation of audio equipment, including both pre- and post-production needs.

Approval Number.....	10.0202.51	06
maximum SCH per student.....		3

maximum SCH per course .....	3
maximum contact hours per course.....	64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify audio equipment necessary for content production.
2. Demonstrate understanding of effective sound editing techniques.
3. Operate studio equipment to create audio content.
4. Demonstrate basic announcing skills.

**COMM 2305 Editing & Layout**

Editing and layout processes, with emphasis on accuracy and fairness, including the principles and techniques of design.

Approval Number.....	09.0401.51	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**COMM 2311 Media Writing**

Fundamentals of writing for the mass media. Includes instruction in professional methods and techniques for gathering, processing, and delivering content.

Approval Number.....	09.0401.57	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate proper media writing and editing styles.
2. Modify writing styles to fit various media platforms.
3. Demonstrate effective information gathering skills and techniques.
4. Demonstrate understanding of laws, ethics, and responsibilities of media writing.

**COMM 2315 News Reporting**

This course focuses on advanced news-gathering and writing skills. It concentrates on the three-part process of producing news stories: discovering the news, reporting the news, and writing the news in different formats.

Prerequisite: COMM 2311 Media Writing

Approval Number.....	09.0401.58	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

### Learning Outcomes

Upon successful completion of this course, students will:

1. Evaluate newsworthiness of information.
2. Demonstrate an understanding of story idea creation.
3. Comprehend the basic structure and format of a news story (lead, body, and conclusion).
4. Demonstrate an understanding of beat reporting and feature writing.
5. Demonstrate an understanding of multimedia journalism and alternative story forms.
6. Demonstrate an understanding of journalistic ethics.

### COMM 2324 Practicum in Electronic Media

Lecture and laboratory instruction and participation.

Approval Number.....	09.0701.53	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

### COMM 2327 Introduction to Advertising

Fundamentals of advertising including theory and strategy, copywriting, design, and selection of media.

Approval Number.....	09.0903.51	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Identify types, functions, and characteristics of historical and modern advertising.
2. Demonstrate understanding of advertising in the economic and social system.
3. Demonstrate understanding of advertising regulations and ethical implications.
4. Analyze advertising content and media strategy.
5. Identify various tools and technologies employed in producing advertising messages.

**COMM 2328 Advertising Art I** (scheduled for deletion, funding ends August 31, 2023)

**COMM 2329 Advertising Art II** (scheduled for deletion, funding ends August 31, 2023)

Communication of ideas through processes and techniques of graphic design and illustration.

Approval Number.....	50.0402.51	26
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **COMM 2330 Introduction to Public Relations**

Exploration of the history and development of public relations. Presentation of the theory behind and process of public relations, including the planning, implementation, and evaluation of PR campaigns.

Approval Number.....	09.0902.51	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate basic knowledge of public relations terms, concepts, history, and practice.
2. Describe various publics, media venues, and jobs associated with public relations.
3. Recognize PRSA code and ethical issues associated with public relations industry.
4. Create written elements of public relations practice.

### **COMM 2331 Radio/Television Announcing**

Principles of announcing: study of voice, diction, pronunciation, and delivery. Experience in various types of announcing. Study of phonetics is recommended.

Approval Number.....	09.0701.54	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **COMM 2332 Radio/Television News**

Preparation and analysis of news styles for the electronic media.

Approval Number.....	09.0402.52	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**COMM 2339 Writing for Radio, Television, & Film**

Introduction to basic script formats, terminology, and writing techniques, including the writing of commercials, public service announcements, promotions, news, documentary, and fictional materials.

Approval Number.....	09.0402.51	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**COMM 2366 Film Appreciation (title change)**

Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinema’s impact on and reflection of society. (Cross- listed as DRAM 2366)

Approval Number.....	50.0601.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Analyze film through written response.
2. Demonstrate a basic knowledge of film history, form, and genre.
3. Describe the collaborative nature of cinema and the many jobs required to develop a motion picture.
4. Discuss/Describe the relationship of cinema to society as it relates to his/her perspective.

**COMM 2289 Academic Cooperative (2 SCH version)**

**COMM 2389 Academic Cooperative (3 SCH version)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of communication.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**COSC (Computer Science)**

(Refer to BCIS for business-oriented programming courses.)

## **COSC 1301 Introduction to Computing**

Overview of computer systems—hardware, operating systems, the Internet, and application software including word processing, spreadsheets, presentation graphics, and databases. Current topics such as the effect of computers on society, and the history and use of computers in business, educational, and other interdisciplinary settings are also studied. This course is not intended to count toward a student's major field of study in business or computer science.

Approval Number.....	11.0101.51 07
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the fundamentals of computing infrastructure components: hardware, application software, operating systems, and data communications systems.
2. Delineate and discuss societal issues related to computing, including the guiding principles of professional and ethical behavior.
3. Demonstrate the ability to create and use documents, spreadsheets, presentations and databases in order to communicate and store information as well as to support problem solving.
4. Describe the need and ways to maintain security in a computing environment.

## **COSC 1315 Introduction to Computer Programming**

Introduction to computer programming for solving a variety of problems. This course is intended for non-computer science and non-computer engineering majors. Emphasis on the fundamentals of design, development, testing, implementation, and documentation of computer programs. Includes problem solving with structured techniques and algorithms using pseudo code and/or graphical representations.

Approval Number.....	11.0201.52 07
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Design and develop algorithms to solve problems.
2. Demonstrate a fundamental understanding of software development methodologies, such as modular design, pseudo code, flowcharting, and structure charts.
3. Demonstrate appropriate design, coding, testing, debugging, and documenting of computer programs that implement problem specifications and requirements.
4. Apply computer-programming concepts to new problems or situations.

**COSC 1320 C Programming (3 SCH version)**  
**COSC 1420 C Programming (4 SCH version)**

Introduces the fundamental concepts of structured programming in the C language. Topics include data types; control structures; functions, structures, arrays, pointers, pointer arithmetic, unions, and files; the mechanics of running, testing, and debugging programs; introduction to programming; and introduction to the historical and social context of computing.

Approval Number.....	11.0201.52 07
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Analyze and explain the behavior of simple programs involving the fundamental programming constructs.
2. Modify and expand short programs that use standard conditional and iterative control structures and functions; choose appropriate conditional and iteration constructs for a given programming task.
3. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
4. Apply the techniques of structured (functional) decomposition to break a program into smaller pieces.
5. Describe the mechanics of parameter passing and demonstrate the difference between call-by-value and call-by-reference parameter passing.
6. Discuss the importance of algorithms in the problem-solving process, identify the necessary properties of good algorithms, and create algorithms for solving simple problems.
7. Use pseudocode or a programming language to implement, test, and debug algorithms for solving simple problems.
8. Discuss the representation and use of primitive data types and built-in data structures.
9. Explain the reasons for using different formats to represent numerical data.
10. Explain basic concepts of secure programming functions.
11. Discuss the properties of good software design.
12. Describe the phases of program translation from source code to executable code and the files produced by these phases; explain the software life cycle and its phases, including the deliverables that are produced.
13. Identify and describe the properties of a variable such as its associated address, value, scope, persistence, and size.
14. Explain how abstraction mechanisms support the creation of reusable software components.

**COSC 1336 Programming Fundamentals I** (3 SCH version)

**COSC 1436 Programming Fundamentals I** (4 SCH version)

This course introduces the fundamental concepts of structured programming, and provides a comprehensive introduction to programming for computer science and technology majors. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy. (This course is included in the Field of Study Curriculum for Computer Science.)

Approval Number.....	11.0201.55 07
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe how data are represented, manipulated, and stored in a computer.
2. Categorize different programming languages and their uses.
3. Understand and use the fundamental concepts of data types, structured programming, algorithmic design, and user interface design.
4. Demonstrate a fundamental understanding of software development methodologies, including modular design, pseudo code, flowcharting, structure charts, data types, control structures, functions, and arrays.
5. Develop projects that utilize logical algorithms from specifications and requirements statements.
6. Demonstrate appropriate design, coding, testing, and documenting of computer programs that implement project specifications and requirements.
7. Apply computer programming concepts to new problems or situations.

**COSC 1337 Programming Fundamentals II** (3 SCH version)

**COSC 1437 Programming Fundamentals II** (4 SCH version)

This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software. (This course is included in the Field of Study Curriculum for Computer Science.)

Prerequisite: COSC 1336/1436 – Programming Fundamentals I

Approval Number.....	11.0201.56 07
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify and explain a programming development lifecycle, including planning, analysis, design, development, and maintenance.
2. Demonstrate a basic understanding of object-oriented programming by using structs and classes in software projects.
3. Use object-oriented programming techniques to develop executable programs that include elements such as inheritance and polymorphism.
4. Document and format code in a consistent manner.
5. Apply basic searching and sorting algorithms in software design.
6. Apply single- and multi-dimensional arrays in software.
7. Use a symbolic debugger to find and fix runtime and logical errors in software.
8. Demonstrate a basic understanding of programming methodologies, including object-oriented, structured, and procedural programming.
9. Describe the phases of program translation from source code to executable code.

**COSC 2325 Computer Organization** (3 SCH version)

**COSC 2425 Computer Organization** (4 SCH version)

The organization of computer systems is introduced using assembly language. Topics include basic concepts of computer architecture and organization, memory hierarchy, data types, computer arithmetic, control structures, interrupt handling, instruction sets, performance metrics, and the mechanics of testing and debugging computer systems. Embedded systems and device interfacing are introduced.

Prerequisite: COSC 1336/1436—Programming Fundamentals I

Approval Number.....	11.0201.54 07
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain contemporary computer system organization.
2. Describe data representation in digital computers.
3. Explain the concepts of memory hierarchy, interrupt processing, and input/output mechanisms.
4. Measure the performance of a computer system.
5. Design and develop assembly language applications.
6. Explain the interfaces between software and hardware components.
7. Explain the design of instruction set architectures.
8. Develop a single-cycle processor.
9. Explain the concept of virtual memory and how it is realized in hardware and software.
10. Explain the concepts of operating system virtualization.

**COSC 2336 Programming Fundamentals III** (3 SCH version)

## **COSC 2436 Programming Fundamentals III (4 SCH version)**

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), searching, sorting, recursion, and algorithmic analysis. Programs will be implemented in an appropriate object-oriented language. (This course is included in the Field of Study Curriculum for Computer Science.)

Prerequisite: COSC 1337/1437 Programming Fundamentals II

Approval Number.....	11.0201.57 07
maximum SCH per student.....	4
maximum SCH per course.....	4
maximum contact hours per course.....	96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Design and develop programs that implement basic data structures, including stacks, queues, linked lists, hash tables, trees, and graphs.
2. Apply recursive techniques and algorithms to solve problems.
3. Implement searching and sorting algorithms.
4. Understand algorithm efficiency, Big-O notation, and why it should be considered in programming.
5. Analyze and select appropriate data structures to implement a solution to a problem.
6. Design and implement data structures using classes and incorporating object-oriented concepts.
7. Demonstrate best practices of software development including testing, validation, and documentation.

## **CRIJ (Criminal Justice)**

### **CRIJ 1301 Introduction to Criminal Justice**

This course provides a historical and philosophical overview of the American criminal justice system, including the nature, extent, and impact of crime; criminal law; and justice agencies and processes.

Approval Number.....	43.0104.51 24
maximum SCH per student.....	3
maximum SCH per course.....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the history and philosophy of the American criminal justice system.
2. Explain the nature and extent of crime in America.

3. Analyze the impact and consequences of crime.
4. Evaluate the development, concepts, and functions of law in the criminal justice system.
5. Describe the structure of contemporary federal, state, and local justice agencies and processes.

**CRIJ 1306 Court Systems & Practices**

This course is a study of the court system as it applies to the structures, procedures, practices and sources of law in American courts, using federal and Texas statutes and case law.

Approval Number.....	43.0104.54	24
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the American judicial systems (civil, criminal, and juvenile), their jurisdiction, development and structure.
2. Analyze the function and dynamics of the courtroom work group.
3. Identify judicial processes from pretrial to appeal.
4. Describe the significant Constitutional Amendments, doctrines, and other sources of law in the American judicial system.

**CRIJ 1307 Crime in America**

American crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and prevention of crime.

Approval Number.....	45.0401.52	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**CRIJ 1310 Fundamentals of Criminal Law**

This course is the study of criminal law including application of definitions, statutory elements, defenses and penalties using Texas statutes, the Model Penal Code, and case law. The course also analyzes the philosophical and historical development of criminal law and criminal culpability.

Approval Number.....	43.0104.54	24
maximum SCH per student.....		3
maximum SCH per course .....		3

maximum contact hours per course.....48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify the elements of crimes and defenses under Texas statutes, Model Penal Code, and case law.
2. Classify offenses and articulate penalties for various crimes.
3. Compare culpable mental states when assigning criminal responsibility.
4. Assess the impact of history and philosophy on current criminal laws.
5. Evaluate the application of criminal law to other areas of criminal justice such as law enforcement and corrections.

**CRIJ 1313 Juvenile Justice System**

A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency.

Approval Number..... 43.0104.52 24  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 48

**CRIJ 2301 Community Resources in Corrections**

An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs; legal issues; future trends in community treatment.

Approval Number..... 43.0104.53 24  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 48

**CRIJ 2313 Correctional Systems & Practices**

This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues.

Approval Number..... 43.0104.54 24  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course.....48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Describe the organization and operation of correctional systems and alternatives to institutionalization.
2. Describe treatment and rehabilitative programs.
3. Differentiate between the short-term incarceration and long-term institutional environments.
4. Evaluate current and future correctional issues.
5. Identify the Constitutional rights applicable to the correctional setting.

### **CRIJ 2314 Criminal Investigation**

Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.

Approval Number.....	43.0104.55	24
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		80

### **CRIJ 2323 Legal Aspects of Law Enforcement**

Police authority; responsibilities; constitutional constraints; laws of arrest, search, and seizure; police liability.

Approval Number.....	43.0104.56	24
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **CRIJ 2328 Police Systems & Practices**

This course examines the establishment, role and function of police in a democratic society. It will focus on types of police agencies and their organizational structure, police-community interaction, police ethics, and use of authority.

Approval Number.....	43.0104.57	24
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Describe the types of police agencies and explain the role of police in America within the context of a democratic society.
2. Describe means and methods utilized to ensure police accountability.
3. Explain the historical development of policing.
4. Describe the selection process for police officers.
5. Compare and contrast organizational structures, policies, strategies and tactics employed to ensure police effectiveness, efficiency and equity.

## **DANC (Dance)**

### **DANC 1201 Dance Composition-Improvisation**

This introductory course in improvisation will investigate spontaneous problem solving as a means of generating movement for dance composition. Students will be called upon to explore and respond to various forms of stimuli in a safe and supportive learning environment within solo and group work.

Approval Number.....	50.0301.55 26
maximum SCH per student.....	2
maximum SCH per course .....	2
maximum contact hours per course.....	64

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Execute basic improvisational skills.
2. Demonstrate the ability to respond spontaneously to a variety of stimuli.
3. Demonstrate an understanding of space, time, and energy through improvisational practices.
4. Understand and generate a collaborative atmosphere.
5. Analyze, evaluate, and articulate the creative process.

### **DANC 1301 Dance Composition-Choreography**

This course is an examination of the principles of movement generation, phrasing, choreographic structure, and manipulation. Integration of choreographic principles will foster the growth of personal artistic style.

Prerequisite: DANC 1201 Dance Composition-Improvisation

Approval Number.....	50.0301.55 26
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	96

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate choreographic principles such as motif, theme and variation, use of space, time, and energy, positive/negative space through creation of solo/group movement studies.
2. Edit, refine, embellish, and amplify movement content.
3. Analyze compositions through verbal and written self and peer assessments.
4. Distinguish the responsibilities of choreographer and dancer in the symbiotic relationship.

### **DANC 1110 Tap Dance**

Instruction in the fundamental techniques and concepts associated with Tap dance. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		2
maximum SCH per course .....		1
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize & exhibit dance class etiquette such as spatial awareness, active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate understanding of beginning tap dance concepts and movement styles.
3. Exhibit understanding of the biomechanics related to tap dance such as alignment, strength, speed, weight transfer, and rhythmic understanding.
4. Exhibit increased facility in movement phrasing with sound, rhythmic complexity, and execution of learned movement (picking up material quickly).
5. Articulate an understanding of the legacy of tap dance as relevant to contemporary practice.

### **DANC 1112 Dance Practicum**

Practicum in dance related topics with emphasis on practical skills necessary for the field. May be repeated for credit once.

Approval Number.....	50.0301.53	26
maximum SCH per student.....		2
maximum SCH per course .....		1
maximum contact hours per course.....		64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate the practical application of dance related skills and procedures.

2. Demonstrate leadership and individual initiative through the assigned skill building projects.
3. Collaborate effectively through engaging in team tasks.

**DANC 1128 Ballroom and Social Dance**

Introductory instruction in the fundamental techniques and concepts associated with Ballroom and Social Dance. May be repeated for credit once.

Approval Number .....	50.0301.52	26
maximum SCH per student.....		2
maximum SCH per course .....		1
maximum contact hours per course .....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize and exhibit dance class etiquette such as spatial awareness, active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate understanding of beginning social dance terminology and the associated movements.
3. Exhibit understanding of the biomechanics related to social dance such as alignment and coordination.
4. Exhibit increased facility in movement phrasing, rhythmic accuracy, and execution of learned movement (picking up material quickly).
5. Articulate an understanding of the legacy of social dance as relevant to contemporary practice.

**DANC 1241 Beginning Ballet**

Instruction in the fundamental techniques and concepts associated with ballet. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		4
maximum SCH per course .....		2
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize and exhibit dance class etiquette such as spatial awareness, active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate understanding of beginning ballet terminology and the associated movements.

3. Exhibit understanding of the biomechanics related to ballet such as alignment, coordination, femoral rotation, flexibility, and strength.
4. Exhibit increased facility in movement phrasing, rhythmic accuracy, and execution of learned movement (picking up material quickly).
5. Articulate an understanding of the legacy of ballet as relevant to contemporary practice.

**DANC 2241 Intermediate Ballet**

Instruction in the intermediate techniques and concepts associated with ballet. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		4
maximum SCH per course .....		2
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Continue to recognize & exhibit dance class etiquette such as spatial awareness, active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate understanding of intermediate ballet terminology and the associated movements.
3. Apply strategies linking biomechanics to ballet practices such as the adagio, pirouettes, petite allegro, and grand allegro.
4. Effectively apply artistic choices such as musicality, focus, and use of energy to perform movement.
5. Analyze personal progress within the legacy of ballet.

**DANC 1245 Beginning Modern Dance**

Instruction in the fundamental techniques and concepts associated with the concert form of modern dance. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		4
maximum SCH per course .....		2
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize and exhibit dance class etiquette such as spatial awareness, active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate vocabulary related to modern dance both kinesthetically and verbally.

3. Evaluate improvement in biomechanics related to alignment, traveling, coordination, flexibility, and strength/stamina in modern dance disciplines.
4. Exhibit increased facility in movement phrasing, rhythmic accuracy, and execution of learned movement (picking up material quickly).
5. Articulate an understanding of the legacy of modern dance as relevant to contemporary practices.

**DANC 2245 Intermediate Modern Dance**

Instruction in the intermediate techniques and concepts associated with the concert form of modern dance. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		4
maximum SCH per course .....		2
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Continue to recognize & exhibit dance class etiquette such as spatial awareness, active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate an expanded understanding of vocabulary both kinesthetically and verbally.
3. Apply strategies linking biomechanics to modern dance practices such as the use of gravity, inversions, spirals, levels, and dynamic alignment.
4. Effectively apply artistic choices such as musicality, focus, and use of energy to perform movement.
5. Analyze personal progress within the legacy of modern dance.

**DANC 1247 Beginning Jazz Dance**

Instruction in the fundamental techniques and concepts associated with jazz dance. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		4
maximum SCH per course .....		2
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize and exhibit dance class etiquette such as spatial awareness, active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate understanding of beginning jazz dance concepts and movement styles.

3. Exhibit understanding of the biomechanics related to jazz dance such as alignment, isolations, flexibility, strength, speed, and rhythmic complexity.
4. Exhibit increased facility in movement phrasing, rhythmic understanding and execution of learned movement (picking up material quickly).
5. Articulate an understanding of the legacy of jazz dance as relevant to contemporary practice.

**DANC 2247 Intermediate Jazz Dance**

Instruction in the intermediate techniques and concepts associated with jazz dance. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		4
maximum SCH per course .....		2
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Continue to recognize and exhibit dance class etiquette such as spatial awareness, active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate understanding of intermediate jazz dance concepts and movement styles.
3. Apply strategies linking biomechanics to jazz dance practices at the intermediate level in alignment, isolations, flexibility, strength, speed, and rhythmic complexity.
4. Effectively apply artistic choices such as relationship to music, rhythmic structures, and the dynamic qualities of jazz dance.
5. Analyze personal progress within the legacy of jazz dance.

**DANC 1151 Freshman Dance Performance**

Instruction in dance performance through experiential projects at the freshman level. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		2
maximum SCH per course .....		1
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize and exhibit dance rehearsal etiquette through active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.

2. Demonstrate skills and etiquette necessary for dance performance including auditions, flexibility in the creative process, technical and dress rehearsal requirements, and performances.
3. Utilize and articulate basic terminology necessary for performing in dance productions.
4. Analyze basic performance skills and demonstrate ability to expand expressive artistry through performed movement.
5. Adapt to different performance environments.

### **DANC 2151 Sophomore Dance Performance**

Instruction in dance performance through experiential projects at the sophomore level. May be repeated for credit once.

Approval Number.....	50.0301.52	26
maximum SCH per student.....		2
maximum SCH per course .....		1
maximum contact hours per course.....		64

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize and exhibit dance rehearsal etiquette through active listening, personal responsibility, commitment to the practice, and respect for the larger community of dance.
2. Demonstrate skills and etiquette necessary for dance performance including auditions, flexibility in the creative process, technical and dress rehearsal requirements, and performances.
3. Utilize and articulate basic terminology necessary for performing in dance productions.
4. Analyze basic performance skills and demonstrate ability to expand expressive artistry through performed movement.
5. Adapt to different performance environments.

### **DANC 1305 World Dance**

A survey of dances from different cultures, their histories, and their influences on contemporary dance and society. Cultural origins, significance, motivations and techniques will be explored experientially.

Approval Number.....	50.0301.56	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Evaluate and discuss the influence of culture on dance movements.
2. Recognize and appreciate cultural diversity through the aesthetics of movement.

3. Compare and contrast musical accompaniment to cultural dances.
4. Discuss the history and cultural relevance of world dance forms.
5. Apply cross-cultural analysis to the study of dance.

**DANC 2303 Dance Appreciation**

A general survey of dance forms designed to create an appreciation of the vocabulary, techniques, and purposes of the creative process. This course includes critical interpretation and evaluations of choreographic works and dance forms within cultural and historical contexts.

Approval Number.....	50.0301.54	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify various forms of dance.
2. Articulate the relationship between dances and the historical and cultural contexts from which they emerged.
3. Express an informed personal reaction to dance forms.
4. Critically analyze and write about dance using established methods of dance criticism.
5. Evaluate the impact of dance on culture.

**DANC 2289 Academic Cooperative (2 SCH version)**

**DANC 2389 Academic Cooperative (3 SCH version)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of dance.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**DRAM (Drama)**

**DRAM 1310 Theater Appreciation**

Survey of theater including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required.

Approval Number.....	50.0501.51	26
maximum SCH per student.....		3

maximum SCH per course .....	3
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Analyze theater through written responses to play texts and/or live performance.
2. Demonstrate a basic knowledge of theater history and dramatic works.
3. Describe the collaborative nature of theater arts. L  
SEP
4. Demonstrate the relationship of the arts to everyday life as well as broader historical and social contexts.

- DRAM 1120 Theater Practicum I** (1 SCH version)
- DRAM 1121 Theater Practicum II** (1 SCH version)
- DRAM 2120 Theater Practicum III** (1 SCH version)
- DRAM 2121 Theater Practicum IV** (1 SCH version)

Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.

Approval Number.....	50.0506.53	26
maximum SCH per student.....		4
maximum SCH per course .....		1
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Use collaboration in the creation of theatrical productions.
2. Demonstrate the practical application of appropriately leveled theatrical skills and procedures.
3. Apply critical thinking skills required for the creation of a theatrical production.

**DRAM 1322 Stage Movement**

Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor’s physical instrument.

Approval Number.....	50.0506.54	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Develop, strengthen, and center the body through exploration and experimentation.

2. Identify and apply principles of posture, breathing, relaxation, energy, sensation, rhythm, and structure.
3. Establish a vocabulary of movement potential through physical experimentation.
4. Integrate body and mind in performance.
5. Demonstrate proficiency and safe practices in stage movement.

**DRAM 1330 Stagecraft I**

Study and application of the methods and components of theatrical production that may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound, and theatrical management.

Approval Number.....	50.0502.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply a vocabulary and knowledge of the environment, tools, and skills required to mount a theatrical production.
2. Demonstrate knowledge of the variety of work required to mount a theatrical production.
3. Describe the collaborative nature of production within theater arts.

**DRAM 1341 Stage Makeup**

Design and execution of makeup for the stage performer. Includes discussion of makeup principles and practical experience of makeup application.

Approval Number.....	50.0502.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify physical properties of light and shadow in the application of makeup.
2. Identify the tools, elements, and techniques of makeup application.
3. Demonstrate proficiency and safe practices in makeup application.
4. Investigate relationships of character to makeup design.

**DRAM 1342 Costume Technology**

Introduction to the process and application of the fundamental skills of costume production, modification, and maintenance.

Approval Number.....	50.0502.53	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate proficiency in hand and machine sewing techniques.
2. Recognize and apply the safe use of costume studio materials, tools and equipment.
3. Differentiate characteristics and uses of fabric, including fiber content and weave.
4. Interpret and execute basic patterns to create a clothing/accessory piece.

**DRAM 1351 Acting I**

An introduction to the fundamental principles and tools of acting as used in auditions, rehearsals, and performances. This may include ensemble performing, character and script analysis, and basic theater terminology. This exploration will emphasize the development of the actor’s instrument: voice, body and imagination.

Approval Number.....	50.0506.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Analyze scripts from the viewpoint of the actor.
2. Analyze, develop, and perform a character.
3. Demonstrate effective and safe use of the voice and body.
4. Define and discuss terms and concepts using the vocabulary of theater.
5. Perform at an appropriately skilled level in ensemble building exercises, scenes and final projects, which may include participation in plays.

**DRAM 1352 Acting II**

Exploration and further training within the basic principles and tools of acting, including an emphasis on critical analysis of oneself and others. The tools include ensemble performing, character and script analysis, and basic theater terminology. This will continue the exploration of the development of the actor’s instrument: voice, body and imagination.

Approval Number.....	50.0506.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Analyze scripts more in depth from the viewpoint of the actor.
2. Analyze, develop, and perform more complex characters.
3. Demonstrate effective and safe use of the voice and body.
4. Define and discuss terms and concepts using an expanded vocabulary of theater.
5. Perform at an increasingly skilled level in ensemble building exercises, scenes and final projects, which may include participation in plays.
6. Analyze and critique personal and peer performances.

## DRAM 2331 Stagecraft II

Continued study and application of the methods and components of theatrical production that may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management.

Approval Number.....	50.0502.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Apply an expanded vocabulary and knowledge of the environment, tools, and skills required to mount a theatrical production.
2. Demonstrate increased knowledge of the variety of work required to mount a theatrical production.
3. Describe in depth the collaborative nature of production within theater arts.

## DRAM 2335 Theater Design

Survey of principles and practices of theater design and its elements. The fundamentals of art and their application to major areas of theatrical design.

Approval Number.....	50.0502.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

## Learning Outcomes

Upon successful completion of this course, students will:

1. Identify the elements and principles of design.
2. Analyze dramatic literature in preparation to design for the theater.
3. Produce research in preparation to design for the theater.
4. Differentiate established methods for developing a design concept.

5. Visualize and communicate designs as part of a collaborative process.

### **DRAM 2336 Voice for the Actor**

Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor's vocal instrument.

Approval Number.....	50.0506.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify the anatomy of the vocal apparatus.
2. Use techniques to aid in relaxation, muscular release, body alignment, and vocal instrument awareness.
3. Develop articulation and diction for clarity of sound, thought, and intention.
4. Connect emotion, language, and voice as a means of expression.
5. Demonstrate proficiency and safe practices in vocal production.
6. Identify and apply the International Phonetic Alphabet.

### **DRAM 2351 Acting III** (scheduled for deletion, funding ends August 31, 2022)

Development of basic skills and techniques of acting including increased sensory awareness, ensemble performing, character analysis, and script analysis. Emphasis on the mechanics of voice, body, emotion, and analysis as tools for the actor.

Approval Number.....	50.0506.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

### **DRAM 2355 Script Analysis**

Examination of foundational skills for understanding the structure and content of play scripts for interpretation and conceptualization in theater productions by directors, designers, actors, and technicians. Introduces students to significant plays in the history of dramatic literature in the playwright's social and cultural context.

Approval Number.....	50.0501.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Analyze dramatic action, character, setting, genre, and themes in selected play scripts.
2. Identify major structural components of a play script.
3. Articulate a broad contextual understanding of dramatic literature.
4. Develop a process for interpretation of play scripts.

### **DRAM 2361 History of Theater I**

Study of the history of the theater from primitive times through the Renaissance.

Approval Number.....	50.0505.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Analyze the history of theater through written responses to historic texts, artifacts, and performance practices.
2. Identify essential terminology related to the history of theater.
3. Evaluate current productions of historical plays through an understanding of their original production conditions.
4. Evaluate the interaction between theater and society.

### **DRAM 2362 History of Theater II**

Study of the history of the theater from the Renaissance through today.

Approval Number.....	50.0505.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Analyze the history of theater through written responses to historic texts, artifacts, and performance practices.
2. Identify essential terminology related to the history of theater.
3. Evaluate current productions of historical plays through an understanding of their original production conditions.
4. Evaluate the interaction between theater and society.

## **DRAM 2366 Film Appreciation**

Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinema's impact on and reflection of society. (Cross- listed as COMM 2366)

Approval Number.....	50.0601.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Analyze film through written response.
2. Demonstrate a basic knowledge of film history, form, and genre.
3. Describe the collaborative nature of cinema and the many jobs required to develop a motion picture.
4. Discuss/Describe the relationship of cinema to society as it relates to his/her perspective.

## **DRAM 1289 Academic Cooperative (2 SCH version)**

## **DRAM 2289 Academic Cooperative (2 SCH version)**

## **DRAM 2389 Academic Cooperative (3 SCH version)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of drama.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

## **ECON (Economics)**

### **ECON 1301 Introduction to Economics**

A survey of microeconomic and macroeconomic principles for non-business majors. Microeconomic topics will include supply and demand, consumer behavior, price and output decisions by firms under various market structures, factor markets, market failures, international trade, and exchange rates. Macroeconomic topics will include national income, unemployment, inflation, business cycles, aggregate supply and demand, monetary and fiscal policy, and economic growth.

Approval Number.....	45.0601.52	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Explain the scarcity/choice problem existing throughout the world.
2. Describe the economic system of the United States.
3. Utilize the basic demand and supply model to predict the effects of different market forces on equilibrium price and quantity.
4. Identify the four market structures and their effects on firm behavior.
5. Explain the concept of market failure and the alternatives to market processes in resource allocations.
6. Define and calculate gross domestic product, inflation rate, and unemployment rate.
7. Use aggregate supply and aggregate demand to predict the effects of fiscal and monetary policy actions on output, unemployment, and inflation.
8. Explain the benefits and costs of international trade and the role of international trade in the U.S. economy.

## ECON 2301 Principles of Macroeconomics

An analysis of the economy as a whole including measurement and determination of Aggregate Demand and Aggregate Supply, national income, inflation, and unemployment. Other topics include international trade, economic growth, business cycles, and fiscal policy and monetary policy.

Approval Number.....	45.0601.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Explain the role of scarcity, specialization, opportunity cost and cost/benefit analysis in economic decision-making.
2. Identify the determinants of supply and demand; demonstrate the impact of shifts in both market supply and demand curves on equilibrium price and output.
3. Define and measure national income and rates of unemployment and inflation.
4. Identify the phases of the business cycle and the problems caused by cyclical fluctuations in the market economy.
5. Define money and the money supply; describe the process of money creation by the banking system and the role of the central bank.
6. Construct the aggregate demand and aggregate supply model of the macro economy and use it to illustrate macroeconomic problems and potential monetary and fiscal policy solutions.
7. Explain the mechanics and institutions of international trade and their impact on the macro economy.
8. Define economic growth and identify sources of economic growth.

## ECON 2302 Principles of Microeconomics

Analysis of the behavior of individual economic agents, including consumer behavior and demand, producer behavior and supply, price and output decisions by firms under various market structures, factor markets, market failures, and international trade.

Approval Number.....	45.0601.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Explain the role of scarcity, specialization, opportunity cost and cost/benefit analysis in economic decision-making.
2. Identify the determinants of supply and demand; demonstrate the impact of shifts in both market supply and demand curves on equilibrium price and output.
3. Summarize the law of diminishing marginal utility; describe the process of utility maximization.
4. Calculate supply and demand elasticities, identify the determinants of price elasticity of demand and supply, and demonstrate the relationship between elasticity and total revenue.
5. Describe the production function and the Law of Diminishing Marginal Productivity; calculate and graph short-run and long-run costs of production.
6. Identify the four market structures by characteristics; calculate and graph the profit maximizing price and quantity in the output markets by use of marginal analysis.
7. Determine the profit maximizing price and quantity of resources in factor markets under perfect and imperfect competition by use of marginal analysis.
8. Describe governmental efforts to address market failure such as monopoly power, externalities, and public goods.
9. Identify the benefits of free trade using the concept of comparative advantage.

**ECON 2289 Academic Cooperative** (2 SCH version)

**ECON 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

Approval Number.....	45.0101.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

### EDUC (Education)

**EDUC 1100 Learning Framework** (1 SCH version)

**EDUC 1200 Learning Framework** (2 SCH version)

## **EDUC 1300 Learning Framework (3 SCH version)**

A study of the: research and theory in the psychology of learning, cognition, and motivation; factors that impact learning, and application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. (Cross-listed as PSYC 1300)

(NOTE: While traditional study skills courses include some of the same learning strategies – e.g., note-taking, reading, test preparation etc. – as learning framework courses, the focus of study skills courses is solely or primarily on skill acquisition. Study skills courses, which are not under-girded by scholarly models of the learning process, are not considered college-level, and, therefore, are distinguishable from Learning Framework courses.)

Approval Number.....	42.2701.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## **EDUC 1301 Introduction to the Teaching Profession**

An enriched, integrated pre-service course and content experience that provides active recruitment and institutional support of students interested in a teaching career, especially in high need fields. The course provides students with opportunities to participate in early field observations at all levels of P-12 schools with varied and diverse student populations and provides students with support from college and school faculty, preferably in small cohort groups, for the purpose of introduction to and analysis of the culture of schooling and classrooms. Course content should be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards; and the course must include a minimum of 16 contact hours of field experience in P-12 classrooms.

Approval Number.....	13.0101.51	09
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify current issues influencing the field of education and teacher professional development.
2. Analyze the culture of schooling and classrooms from the perspectives of language, gender, socioeconomic, ethnic, and disability-based academic diversity and equity.
3. Provide examples from classroom observations and course activities that demonstrate understanding of educational pedagogy and professional responsibilities of teachers.

4. Evaluate personal motivations, educational philosophies, and factors related to educational career decision making.
5. Recognize the various multiple intelligences/learning styles in order to be able to implement instructional practices that meet the needs of all students.

### **EDUC 2301 Introduction to Special Populations**

An enriched, integrated pre-service course and content experience that provides an overview of schooling and classrooms from the perspectives of language, gender, socioeconomic status, ethnic and academic diversity, and equity with an emphasis on factors that facilitate learning. The course provides students with opportunities to participate in early field observations of P-12 special populations and should be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Must include a minimum of 16 contact hours of field experience in P-12 classrooms with special populations.

Prerequisite: EDUC 1301 Introduction to the Teaching Profession

Approval Number.....	13.1001.51 09
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the characteristics of exceptional learners (e.g. Learning Disabilities, Gifted and Talented), including legal implications.
2. Describe and analyze characteristics of diverse learners (e.g. language, gender, sexual orientation, race, and ethnicity) and how diversity impacts learning.
3. Describe the impact of socio-economic status on learning and creating equitable classrooms.
4. Demonstrate an understanding of the benefits and challenges of racial, ethnic, and other types of cultural diversity in the classroom.

## **ENGL (English)**

### **ENGL 1301 Composition I**

Intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis on effective rhetorical choices, including audience, purpose, arrangement, and style. Focus on writing the academic essay as a vehicle for learning, communicating, and critical analysis.

**Note:** ENGL 1301 is a pre-requisite for all 2000-level literature courses.

Approval Number.....	23.1301.51 12
maximum SCH per student.....	3

maximum SCH per course .....	3
maximum contact hours per course.....	64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate knowledge of individual and collaborative writing processes.
2. Develop ideas with appropriate support and attribution.
3. Write in a style appropriate to audience and purpose.
4. Read, reflect, and respond critically to a variety of texts.
5. Use Edited American English in academic essays.

**ENGL 1302 Composition II**

Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions.

Prerequisite: ENGL 1301 or its equivalent

Approval Number.....	23.1301.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate knowledge of individual and collaborative research processes.
2. Develop ideas and synthesize primary and secondary sources within focused academic arguments, including one or more research-based essays.
3. Analyze, interpret, and evaluate a variety of texts for the ethical and logical uses of evidence.
4. Write in a style that clearly communicates meaning, builds credibility, and inspires belief or action.
5. Apply the conventions of style manuals for specific academic disciplines (e.g., APA, CMS, MLA, etc.)

**ENGL 2307 Creative Writing**

Practical experience in the techniques of imaginative writing. May include fiction, nonfiction, poetry, screenwriting, or drama.

Approval Number.....	23.1302.51	12
maximum SCH per student.....		3

maximum SCH per course .....	3
maximum contact hours per course.....	48

**ENGL 2311 Technical & Business Writing**

Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, e-mail messages, letters, and descriptions of products and services. Practice individual and collaborative processes involved in the creation of ethical and efficient documents.

Approval Number.....	23.1303.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize, analyze, and accommodate diverse audiences.
2. Produce documents appropriate to audience, purpose, and genre.
3. Analyze the ethical responsibilities involved in technical communication.
4. Locate, evaluate, and incorporate pertinent information.
5. Develop verbal, visual, and multimedia materials as necessary, in individual and/or collaborative projects, as appropriate.
6. Edit for appropriate style, including attention to word choice, sentence structure, punctuation, and spelling.
7. Design and test documents for easy reading and navigation.

**ENGL 2321 British Literature** (single-semester course)

A survey of the development of British literature from the Anglo-Saxon period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	23.1404.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

### **ENGL 2322 British Literature I**

A survey of the development of British literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	23.1404.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

### **ENGL 2323 British Literature II**

A survey of the development of British literature from the Romantic period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	23.1404.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

**ENGL 2326 American Literature** (single-semester course)

A survey of American literature from the period of exploration and settlement to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	23.1402.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

## **ENGL 2327 American Literature I**

A survey of American literature from the period of exploration and settlement through the Civil War. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	23.1402.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

## **ENGL 2328 American Literature II**

A survey of American literature from the Civil War to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	23.1402.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.

3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

**ENGL 2331 World Literature** (single-semester course)

A survey of world literature from the ancient world to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	16.0104.52	13
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

**ENGL 2332 World Literature I**

A survey of world literature from the ancient world through the sixteenth century. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	16.0104.52	13
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

## ENGL 2333 World Literature II

A survey of world literature from the seventeenth century to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

Prerequisite: ENGL 1301 Composition I

Approval Number.....	16.0104.52	13
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

## ENGL 2341 Forms of Literature (single-semester course)

The study of one or more literary genres including, but not limited to, poetry, fiction, drama, and film.

Prerequisite: ENGL 1301 Composition I

Approval Number..... 16.0104.51 13  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 48

### **ENGL 2351 Mexican American Literature**

A survey of Mexican American/Chicanx literature from Mesoamerica to the present. Students will study literary works of fiction, poetry, drama, essays, and memoirs in relation to their historical, linguistic, political, regional, gendered, and cultural contexts. Texts will be selected from a diverse group of authors, literary movements, and media forms. Topics and themes may include the literary performance of identity and culture, aesthetic mediation of racialization, struggle and protest, and artistic activism.

Prerequisite: ENGL 1301 Composition I

Approval Number..... 05.0203.55 25  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions.
2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods.
3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions.
4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities.
5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.

**ENGL 2289 Academic Cooperative** (2 SCH version)

**ENGL 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of English language and literature.

Approval Number..... 24.0103.52 12  
maximum SCH per student..... 3

maximum SCH per course .....	3
maximum contact hours per course.....	144

## ENGR (Engineering)

### ENGR 1201 Introduction to Engineering

An introduction to the engineering profession with emphasis on technical communication and team-based engineering design.

Prerequisite: MATH 1314 or 1414 College Algebra or equivalent academic preparation

Approval Number.....	14.0101.51	10
maximum SCH per student.....		2
maximum SCH per course .....		2
maximum contact hours per course.....		64

#### Learning Outcomes

Upon successful completion of this course, students will:

1. Describe the engineering profession and engineering ethics, including professional practice and licensure.
2. Use technical communication skills to explain the analysis and results of introductory laboratory exercises in engineering and computer science.
3. Explain the engineering analysis and design process.
4. Analyze data collected during laboratory exercises designed to expose students to the different engineering disciplines.
5. Describe the impact engineering has had on the modern world.
6. As part of a team, design a simple engineering device, write a design report, and present the design.
7. Demonstrate computer literacy.

### ENGR 1204 Engineering Graphics I (2 SCH version)

### ENGR 1304 Engineering Graphics I (3 SCH version)

Introduction to computer-aided drafting using CAD software and sketching to generate two- and three-dimensional drawings based on the conventions of engineering graphical communication; topics include spatial relationships, multi-view projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics.

Prerequisite: MATH 1314 or 1414 College Algebra or equivalent academic preparation

Approval Number.....	15.1301.51	11
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

#### Learning Outcomes

Upon successful completion of this course, students will:

1. Discuss the basic steps in the design process.
2. Demonstrate proficiency in freehand sketching.
3. Demonstrated proficiency in geometric modeling and computer aided drafting and design (CADD).
4. Communicate design solutions through sketching and computer graphics software using standard graphical representation methods.
5. Solve problems using graphical geometry, projection theory, visualization methods, pictorial sketching, and geometric (solid) modeling techniques.
6. Demonstrate proper documentation and data reporting practices.
7. Complete a project involving creation of 3D rapid prototype models.
8. Function as part of a design team as a team leader and as a team member.

**ENGR 1307 Plane Surveying** (scheduled for deletion, funding ends August 31, 2023)

Development of skills necessary to recognize and solve problems in surveying. Introduction and use of various precision instruments used for surveying, including level, theodolites, electronic distance measuring equipment, and total stations for collecting field data. Introduction of Global Positioning Systems (GPS) and Geographic Information Systems (GIS) and their use in surveying; and use of graphic design software, such as AutoCAD or Microstation, in surveying problems.

Prerequisites: MATH 1316 Plane Trigonometry or equivalent;  
ENGR 1304 Engineering Graphics I

Approval Number.....	15.1102.51	11
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. State the different classifications and types of surveys.
2. Apply principles of trigonometry to surveying problems.
3. Perform necessary unit conversions in surveying.
4. Demonstrate skills necessary for fieldwork such as safety, note keeping, and instrument care.
5. Operate surveying equipment such as level, theodolite, total station, electronic distance measuring equipment, and surveying tape.
6. Determine the expected value and error bounds associated with measurements.
7. Perform horizontal and vertical measurements using standard surveying equipment for distance, angles, and contours.
8. Perform traverse and area calculations, including traverse closure.
9. Perform field layout for typical civil engineering applications such as highway geometrics and land development.

**ENGR 2301 Engineering Mechanics - Statics** (3 SCH version)  
**ENGR 2401 Engineering Mechanics - Statics** (4 SCH version)

Basic theory of engineering mechanics, using calculus, involving the description of forces, moments, and couples acting on stationary engineering structures; equilibrium in two and three dimensions; free-body diagrams; friction; centroids; centers of gravity; and moments of inertia.

Prerequisite: PHYS 2325/2125 or PHYS 2425 University Physics I (lecture + lab))

Pre/Co-requisite: MATH 2414 Calculus II

Approval Number.....	14.1101.52	10
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. State the fundamental principles used in the study of mechanics.
2. Define magnitude and directions of forces and moments and identify associated scalar and vector products.
3. Draw free body diagrams for two- and three-dimensional force systems.
4. Solve problems using the equations of static equilibrium.
5. Compute the moment of force about a specified point or line.
6. Replace a system of forces by an equivalent simplified system.
7. Analyze the forces and couples acting on a variety of objects.
8. Determine unknown forces and couples acting on objects in equilibrium.
9. Analyze simple trusses using the method of joints or the method of sections.
10. Determine the location of the centroid and the center of mass for a system of discrete particles and for objects of arbitrary shape.
11. Analyze structures with a distributed load.
12. Calculate moments of inertia for lines, areas, and volumes.
13. Apply the parallel axis theorem to compute moments of inertia for composite regions.
14. Solve problems involving equilibrium of rigid bodies subjected to a system of forces and moments that include friction.
15. Solve problems involving dry sliding friction, including problems with wedges and belts.

**ENGR 2302 Engineering Mechanics - Dynamics** (3 SCH version)  
**ENGR 2402 Engineering Mechanics - Dynamics** (4 SCH version)

Basic theory of engineering mechanics, using calculus, involving the motion of particles, rigid bodies, and systems of particles; Newton’s Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems.

Prerequisites: ENGR 2301 Engineering Mechanics - Statics

Approval Number.....	14.1101.53	10
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Express dynamic quantities as vectors in terms of Cartesian components, polar coordinates, and normal-tangential coordinates.
2. Compute mass moments of inertia for systems of particles and rigid bodies.
3. Solve kinematic problems involving rectilinear and curvilinear motion of particles.
4. Solve kinetic problems involving a system of particles using Newton's Second Law.
5. Apply the principles of work and energy, conservation of energy, impulse and momentum, and conservation of momentum to the solution of engineering problems involving particles and systems of particles.
6. Solve kinematic problems involving the translation and rotation of a rigid body.
7. Solve kinetic problems involving planar translation and rotation of rigid bodies.
8. Apply the principles of work and energy, conservation of energy, impulse and momentum, and conservation of momentum to the solution of engineering problems involving rigid bodies in planar motion.

### ENGR 2304 Programming for Engineers

Programming principles and techniques for matrix and array operations, equation solving, and numeric simulations applied to engineering problems and visualization of engineering information; platforms include spreadsheets, symbolic algebra packages, engineering analysis software, and laboratory control software.

Approval Number.....	11.0201.52	07
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

### Learning Outcomes

Upon successful completion of this course, students will:

1. Use matrix and array operations for equation solving.
2. Identify the strengths and weaknesses of the conventional programming languages.
3. Use spreadsheets and their built-in features to solve a variety of engineering problems, applying both quantitative and qualitative methodologies.
4. Describe methods for the design of programs that control equipment or analyze data.
5. Write computer programs to solve engineering problems and perform engineering simulations using common software tools.
6. Graphically present engineering data, results, and conclusions.

## ENGR 2305 Electrical Circuits I

Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff's laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems.

Prerequisites: PHYS 2326/2126 or PHYS 2426 University Physics II (lecture + lab);  
MATH 2414 Calculus II

Pre/Co-requisite: MATH 2320 Differential Equations or equivalent

Approval Number.....	14.1001.51	10
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Explain basic electrical concepts, including electric charge, current, electrical potential, electrical power, and energy.
2. Apply concepts of electric network topology: nodes, branches, and loops to solve circuit problems, including the use of computer simulation.
3. Analyze circuits with ideal, independent, and controlled voltage and current sources.
4. Apply Kirchhoff's voltage and current laws to the analysis of electric circuits.
5. Explain the relationship of voltage and current in resistors, capacitors, inductors, and mutual inductors.
6. Derive and solve the governing differential equations for a time-domain first-order and second-order circuit, including singularity function source models.
7. Determine the Thévenin or Norton equivalent of a given network that may include passive devices, dependent sources, and independent sources in combination.
8. Analyze first and second order AC and DC circuits for steady-state and transient response in the time domain and frequency domain.
9. Derive relations for and calculate the gain and input impedance of a given operational amplifier circuit for both DC and frequency domain AC circuits using an ideal operational amplifier model.
10. Apply computer mathematical and simulation programs to solve circuit problems.

## ENGR 2105 Electrical Circuits I (lab)

Laboratory experiments supporting theoretical principles presented in ENGR 2305 involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation.

Co-requisite: ENGR 2305 Electrical Circuits I (lecture)

Approval Number.....	14.1001.55	10
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maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Prepare laboratory reports that clearly communicate experimental information in a logical and scientific manner.
2. Conduct basic laboratory experiments involving electrical circuits using laboratory test equipment such as multimeters, power supplies, signal generators, and oscilloscopes.
3. Explain the concepts of Thévenin-equivalent circuits and linear superposition and apply them to laboratory measurements.
4. Predict and measure the transient and sinusoidal steady-state responses of simple RC and RLC circuits.
5. Predict the behavior and make measurements of simple operational-amplifier circuits.
6. Relate physical observations and measurements involving electrical circuits to theoretical principles.
7. Evaluate the accuracy of physical measurements and the potential sources of error in the measurements.

### ENGR 2405 Electrical Circuits I (lecture + lab)

This lecture and lab course should combine all of the elements of ENGR 2305 (lecture) and ENGR 2105 (lab), including the learning outcomes listed for both courses.

Approval Number.....	14.1001.51	10
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		128

### ENGR 2306 Introduction to Digital Systems

Introduction to theory and design of digital logic, circuits, and systems. Number systems, operations and codes; logic gates; Boolean Algebra and logic simplification; Karnaugh maps; combinational logic; functions of combinational Logic; flip-flops and related devices; counters; shift registers; sequential logic; memory and storage.

Co-requisite: ENGR 2106 Introduction to Digital Systems (lab)

Prerequisite: MATH 1314 or 1414 College Algebra or equivalent academic preparation

Approval Number.....	14.1001.56	10
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Utilize binary and hexadecimal numbers.
2. Solve problems involving digital codes, operations, and number systems.
3. Define, describe, and analyze fundamentals of Boolean algebra and digital logic gates.
4. Describe, analyze, design, and fabricate combinational logic circuits.
5. Describe, analyze, design, and fabricate sequential logic circuits.
6. Describe and explain the fundamentals of memory operations.
7. Apply computer mathematical and/or simulation tools to solve digital systems problems.

### **ENGR 2106 Introduction to Digital Systems (lab)**

Basic laboratory experiments supporting theoretical principles presented in ENGR 2306 involving design, construction, and analysis of combinational and sequential digital circuits and systems, including logic gates, adders, multiplexers, encoders, decoders, arithmetic logic units, latches, flip-flops, registers, and counters; preparation of laboratory reports.

Co-requisite: ENGR 2306 Introduction to Digital Systems (lecture)

Approval Number.....	14.1001.57	10
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Prepare laboratory reports that clearly communicate experimental information in a logical and scientific manner.
2. Conduct basic laboratory experiments involving design and construction of digital circuits and systems.
3. Relate physical observations and measurements involving digital circuits and systems to theoretical principles.
4. Evaluate the accuracy of physical measurements and the potential sources of error in the measurements.
5. Design fundamental experiments involving principles of digital circuits and systems.
6. Identify and apply appropriate sources of information for conducting laboratory experiments involving digital circuits and systems.
7. Apply computer mathematical and/or simulation tools to solve digital systems problems.

### **ENGR 2406 Introduction to Digital Systems (lecture + lab)**

This lecture and lab course should combine all of the elements of ENGR 2306 Introduction to Digital Systems and ENGR 2106 Introduction to Digital Systems Lab, including the learning outcomes listed for both courses.

Approval Number.....	14.1001.58	10
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maximum SCH per student .....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**ENGR 2308 Engineering Economics**

Methods used for determining the comparative financial desirability of engineering alternatives. Provides the student with the basic tools required to analyze engineering alternatives in terms of their worth and cost, an essential element of engineering practice. The student is introduced to the concept of the time value of money and the methodology of basic engineering economy techniques. The course will address some aspects of sustainability and will provide the student with the background to enable them to pass the Engineering Economy portion of the Fundamentals of Engineering exam.

Prerequisites: MATH 2313 or 2413 Calculus I

Approval Number.....	14.0101.52	10
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply different methods to calculate the time value of money.
2. Construct cash flow diagrams for a given problem.
3. Estimate total revenue, total cost, and break-even points.
4. Calculate the uniform series payment, given principal, interest rate, and pay period.
5. Perform project evaluation, including cost/benefit analysis.
6. Articulate principles of taxation and depreciation.
7. Perform capital budgeting, cost comparisons, and replacement analyses.
8. Solve problems at a level consistent with expectations of the engineering economics portion of the Fundamentals of Engineering exam.

**ENGR 2332 Mechanics of Materials (3 SCH version)**

Stresses, deformations, stress-strain relationships, torsions, beams, shafts, columns, elastic deflections in beams, combined loading, and combined stresses.

Prerequisite: ENGR 2301 Engineering Mechanics – Statics

Approval Number.....	14.1101.51	10
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Relate stress and strain through Hooke’s law for ductile and brittle materials.

2. Calculate stress, strain and deflection in statically determinate and indeterminate members subject to axial, bending, torsional, thermal, and pressure loads, both individually and in combination.
3. Apply the principle of superposition.
4. Transform stresses and strains from one coordinate system to another.
5. Design beams and shafts.
6. Determine the critical buckling loads of columns.

**ENGR 2333 Elementary Chemical Engineering** (scheduled for deletion, funding ends August 31, 2023)

This course is the foundation for nearly all future chemical engineering courses and analysis. A strong foundation in mathematics, physics, and chemistry is required for application to the solution of problems in industrial chemistry. Students will receive an introduction to chemical engineering calculations, unit equations, process stoichiometry, material and energy balances, and states of matter, and will apply the laws of conservation of mass and energy to reacting and non-reacting, simple and complex chemical systems.

Prerequisites: ENGR 1201 Introduction to Engineering,  
 CHEM 1312/1112, or CHEM 1412 General Chemistry II (lecture + lab),  
 MATH 2414 Calculus II, and  
 PHYS 2425 University Physics I

Approval Number.....	14.0701.51	10
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply various systems of units to chemical engineering problems.
2. Define and relate process variables.
3. Describe qualitatively the basic unit operations of chemical processes and the principles of operation for each.
4. Use a systematic approach to solve chemical engineering problems by identifying variables, drawing a process flow chart from a written description, applying degrees of freedom analysis, and formulating mathematical expressions.
5. Apply material balances for reacting and non-reacting systems.
6. Apply energy balances for reacting and non-reacting systems.
7. Present basic engineering information in reports.

**ENGR 2334 Chemical Engineering Thermodynamics I**

Fundamental concepts of energy and thermodynamics (e.g., temperature, thermodynamic equilibrium, and heat) will be introduced; the course emphasizes techniques in the application of the fundamentals of thermodynamics to various processes as they frequently occur in

chemical and bimolecular engineering. Provides the basic skills and tools necessary in designing and analyzing real-life engineering systems. Serves as preparation for other advanced courses in thermodynamics, energy conversion, heat transfer, etc.

Prerequisite: MATH 2415 Calculus III

Approval Number.....	14.0701.52	10
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Apply knowledge of math, engineering, and science to perform energy calculations of engineering systems and analyze the feasibility of the processes undergone by the systems.
2. Describe basic thermodynamic properties and their interrelationships.
3. Describe basic states of matter (solid, liquid, gas).
4. Define units of pressure, temperature, density, mass, and moles, SI and English system, and use conversions.
5. Use thermodynamic tables and diagrams and apply equations of state, such as the Ideal Gas Law.
6. Distinguish between steady-state and transient processes, open and closed systems.
7. Describe the meaning of specific volume, enthalpy, and internal energy and how to obtain them from thermodynamic tables and diagrams.
8. Apply first- and second-law analysis to thermodynamic processes and cycles.
9. Analyze systems, process feasibility, and efficiency for open and closed systems.
10. Define the meaning of isentropic processes; obtain entropy from thermodynamic tables and diagrams.

### ENGT (Engineering Technology)

**ENGT 1401 Circuits I for Engineering Technology** (lecture + lab) (scheduled for deletion, funding ends August 31, 2023)

Fundamental concepts of electrical science including potential, current and power in DC circuits. Fundamental laws and relationships applied to the analysis of circuits and networks: capacitance, inductance and magnetism; and single-frequency concepts. Use of calculators and computer software in design and analysis of circuits. Standard instrumentation used in test and measurement of DC circuits and systems will be introduced. (This course is included in the Field of Study Curriculum for Engineering Technology.)

Prerequisite: MATH 1314 or 1414 College Algebra or the equivalent.

Approval Number.....	15.0303.51	11
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

**ENGT 1402     Circuits II for Engineering Technology** (lecture + lab) (scheduled for deletion, funding ends August 31, 2021)

Complex AC circuit including transient analysis. Network theorems are applied to the solution of AC circuits. Resonance, filters, AC power and three-phase circuits are covered in detail. Continued application of calculators and computer design and analysis of circuits. Standard instrumentation used in testing AC circuits and systems and measurement of AC circuits and systems will be introduced. (This course is included in the Field of Study Curriculum for Engineering Technology.)

Prerequisites: ENGT 1401 & MATH 2312 or 2412, Pre-Calculus, or MATH 1316, Trigonometry.

Approval Number.....	15.0303.52	11
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

**ENGT 1407     Digital Fundamentals** (lecture + lab) (scheduled for deletion, funding ends August 31, 2023)

Analysis, design, and simulation of combinational and sequential systems using classical Boolean algebra techniques, laboratory hardware experiments and computer simulation. Introduction to programmable logic devices (PLDs) and application-specific integrated circuits using software tool to the design and analysis of digital logic circuits and systems. Standard instrumentation used in testing digital circuits and systems will be introduced. (This course is included in the Field of Study Curriculum for Engineering Technology.)

Prerequisite: MATH 1314 or 1414 College Algebra or the equivalent.

Approval Number.....	15.0303.53	11
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

**ENGT 1409     AC/DC Circuits for Engineering Technology** (scheduled for deletion, funding ends August 31, 2023)

Fundamentals of DC circuits and AC circuits operation including Ohm’s law, Kirchoff’s law, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques. (This course is included in the Field of Study Curriculum for Engineering Technology.)

Approval Number.....	15.0303.54	11
maximum SCH per student.....		4
maximum SCH per course .....		4

maximum contact hours per course..... 96

**ENGT 2304 Materials and Methods for Engineering Technology** (scheduled for deletion, funding ends August 31, 2021)

A continuation of the study of the nature, origin and properties of building materials, methods, and equipment for their integrated use in completing construction projects. A study of selecting and specifying materials with consideration for economy, quality and performance in the construction of modern buildings. (This course is included in the Field of Study Curriculum for Engineering Technology.)

Approval Number..... 15.0805.52 11  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 64

**ENGT 2307 Engineering Materials I for Engineering Technology** (lecture + lab) (scheduled for deletion, funding ends August 31, 2023)

Instruction in the making and forming of steel and the classification of steel, cast iron, and aluminum. Topics include mechanical and physical properties, non-destructive testing principles of alloying, selection of metals, iron carbon diagrams, principles of hardening and tempering steel, and the metallurgical aspects of machining. Topics will also include an overview of properties and uses of polymers and ceramics. (This course is included in the Field of Study Curriculum for Engineering Technology.)

Approval Number..... 15.0805.51 11  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 64

**ENGT 2310 Introduction to Manufacturing Processes** (scheduled for deletion, funding ends August 31, 2023)

Exploration of a variety of methods used in manufacturing. Theory and application of processes including but not limited to metal forming, welding, machining, heat-treating, plating, assembly procedures, process controls considerations, casting and injection molding. (This course is included in the Field of Study Curriculum for Engineering Technology.)

Approval Number..... 15.0612.51 11  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 64

## ENVR (Environmental Science)

### ENVR 1301 Environmental Science I (lecture)

A survey of the forces, including humans, that shape our physical and biologic environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. (Cross-listed as GEOL 1305 Environmental Science)

Recommended Co-requisite: ENVR 1101 Environmental Science (lab)

Approval Number.....	03.0103.52 01
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Recognize, describe, and quantitatively evaluate earth systems, including the land, water, sea, and atmosphere, and how these function as interconnected ecological systems.
2. Assess environmental challenges facing humans caused by their interaction with the physical and biological environment (e.g., population growth, energy resources, food production, pollution, water and resource use).
3. Acquire a scientific vocabulary and critical thinking skills related to environmental science.
4. Assess the effectiveness and feasibility of environmental policy and its impact.

### ENVR 1101 Environmental Science I (lab)

This laboratory-based course accompanies ENVR 1301, Environmental Science (lecture). Activities will cover methods used to collect and analyze environmental data. (Cross-listed as GEOL 1105 Environmental Science)

Pre/Co-requisite: ENVR 1301 Environmental Science (lecture)

Approval Number.....	03.0103.52 01
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Apply the scientific method to environmental investigation.
2. Measure and observe aspects of the environment (e.g., air, water, soil) through sampling and sample analysis.
3. Develop an assessment plan for an environmental case study.
4. Demonstrate the collection, analysis, and reporting of data.

**ENVR 1401 Environmental Science I** (lecture + lab)

This lecture and lab course should combine all of the elements of ENVR 1301 Environmental Science (lecture) and ENVR 1101 Environmental Science (lab), including the learning outcomes listed for both courses. (Cross-listed as GEOL 1405 Environmental Science)

Approval Number.....	03.0103.52 01
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**ENVR 1402 Environmental Science II** (lecture + lab)

**ENVR 1302 Environmental Science II** (lecture)

**ENVR 1102 Environmental Science II** (lab)

General interest course requiring a minimum of previous science background and relating scientific knowledge to problems involving energy and the environment. May or may not include a laboratory.

Approval Number.....	03.0103.52 01
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**FREN (French Language)**

**FREN 1411 Beginning French I** (4 SCH version)

**FREN 1412 Beginning French II** (4 SCH version)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number.....	16.0901.51 13
maximum SCH per student.....	8
maximum SCH per course .....	4
maximum contact hours per course.....	112

**FREN 2311 Intermediate French I**

**FREN 2312 Intermediate French II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number.....	16.0901.52	13
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		80

**FREN 2289 Academic Cooperative (2 SCH version)**  
**FREN 2389 Academic Cooperative (3 SCH version)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of French language and literature.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**GEOG (Geography)**

**GEOG 1301 Physical Geography**

This course introduces students to the processes that drive Earth’s physical systems. Students will explore the relationships among these physical systems, with emphasis on weather and climate, water, ecosystems, geologic processes and landform development, and human interactions with the physical environment.

Approval Number .....	45.0701.51	25
maximum SCH per student .....		3
maximum SCH per course .....		3
maximum contact hours per course .....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate an understanding of the principles of scientific investigation as they apply to Earth’s physical systems and processes.
2. Describe and explain the processes of Earth’s physical systems: weather and climate, water, ecosystems, geologic processes and landform development.
3. Demonstrate an understanding of the interactions among the Earth’s physical systems.
4. Demonstrate an understanding of the modifications humans make to the environment through interactions with Earth’s physical systems.

**GEOG 1302 Human Geography**

This course introduces students to fundamental concepts, skills, and practices of human geography. Place, space, and scale serve as a framework for understanding patterns of human

experience. Topics for discussion may include globalization, population and migration, culture, diffusion, political and economic systems, language, religion, gender, and ethnicity.

Approval Number .....	45.0701.51 25
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course .....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate an understanding of key concepts and processes in human geography.
2. Identify how cultural practices shape the landscape.
3. Demonstrate an understanding of human/environment interactions.
4. Describe and explain the importance and impact of globalization.

**GEOG 1303 World Regional Geography**

This course is an introduction to the world’s major regions seen through their defining physical, social, cultural, political, and economic features. These regions are examined in terms of their physical and human characteristics and their interactions. The course emphasizes relations among regions on issues such as trade, economic development, conflict, and the role of regions in the globalization process.

Approval Number .....	45.0701.53 25
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Define and explain the geographic concept of “region.”
2. Locate significant geographic features of regions of the world and describe their cultural, economic, political, and physical characteristics.
3. Demonstrate knowledge of each region’s role in a globalizing world.
4. Apply geographic concepts to understanding current events, conflicts, and issues in a regional context.

**GEOG 2289 Academic Cooperative (2 SCH version)**

**GEOG 2389 Academic Cooperative (3 SCH version)**

An instructional program designed to integrate on-campus study with practical hands-on experience in geography. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

Approval Number.....	45.0101.51 25
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maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	144

## **GEOL (Geology)**

### **GEOL 1301 Earth Sciences for Non-Science Majors I (lecture)**

Survey of geology, meteorology, oceanography, and astronomy.

Recommended Co-requisite: GEOL 1101 Earth Science for Non-Science Majors I (lab)

Approval Number.....	40.0601.51 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the current theories concerning the origin of the Universe and of the Solar System.
2. Explain the place of Earth in the Solar System and its relationships with other objects in the Solar System.
3. Relate the origin and evolution of Earth's internal structures to its resulting geologic systems, including Earth materials and plate tectonic activities.
4. Explain the operation of Earth's geologic systems and the interactions among the atmosphere, the geosphere, and the hydrosphere, including meteorology and oceanography.
5. Explain the history of the Earth including the evolution of earth systems and life forms.

### **GEOL 1101 Earth Sciences for Non-Science Majors I (lab)**

This laboratory-based course accompanies GEOL 1301, Earth Sciences I. Activities will cover methods used to collect and analyze data in geology, meteorology, oceanography, and astronomy.

Pre/Co-requisite: GEOL 1301 Earth Science for Non-Science Majors I (lecture)

Approval Number.....	40.0601.51 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Classify rocks and minerals based on chemical composition, physical properties, and origin.

2. Apply knowledge of topographic maps, diagrams, and/or photographs to identify landforms and explain the processes that created them.
3. Differentiate the types of plate boundaries, explain the processes that occur at each and identify associated structural features on maps, block diagrams and cross sections.
4. Apply relative and numerical age-dating techniques to construct geologic histories.
5. Measure atmospheric processes that affect weather and climate.
6. Describe the composition and motion of ocean water and analyze the factors controlling both.
7. Compare properties and motions of objects in the solar system.
8. Demonstrate the collection, analysis, and reporting of data.

**GEOL 1401 Earth Sciences for Non-Science Majors I** (lecture + lab)

This lecture and lab course should combine all of the elements of GEOL 1301 Earth Sciences for Non-Science Majors I (lecture) and GEOL 1101 Earth Sciences for Non-Science Majors I (lab), including the learning outcomes listed for both courses.

Approval Number.....	40.0601.51 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**GEOL 1302 Earth Sciences for Non-Science Majors II** (lecture)

Extension of the study of geology, astronomy, meteorology and oceanography, focusing on natural resources, hazards and climate variability.

Prerequisites: GEOL 1301 or 1401 Earth Science I, or GEOL 1303 or 1403 Physical Geology  
 Recommended Co-requisite: GEOL 1102 Earth Science for Non-Science Majors II (lab)

Approval Number.....	40.0601.51 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify the influence of geologic and hydrologic processes on Earth’s surface.
2. Describe the causes and effects of tectonic, meteorological, oceanographic, and astronomical hazards.
3. Relate climate change to changes in tectonic configurations, astronomical relationships and atmospheric composition.
4. Discuss potential effects of climate variability on Earth systems, including biological systems.
5. Recognize how scientific models represent an abstraction of complex systems, such as ocean circulation and climate variability.

6. Describe natural resources used by humans and their occurrence and extraction.
7. Discuss the effects of renewable and nonrenewable resource development and sustainability.

**GEOL 1102 Earth Sciences for Non-Science Majors II (lab)**

This laboratory-based course accompanies GEOL 1302, Earth Sciences II. Activities will focus on methods used to collect and analyze data related to natural resources, hazards and climate variability.

Pre/Co-requisite: GEOL 1302 Earth Science for Non-Science Majors II (lecture)

Approval Number.....	40.0601.51 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Locate on maps and/or photographs localities susceptible to tectonic, meteorological, and oceanographic hazards.
2. Discuss methods of hazard prevention and mitigation such as early warning techniques, construction methods, and civil planning.
3. Describe contributing factors to past and current climate change.
4. Analyze effects of climate variability on geological and biological systems.
5. Analyze diverse sources of data that document climate variability such as ice cores, dendrochronology, fossils, and pollen.
6. Relate the distribution of fossil fuel, metal and nonmetal resources to geologic processes.
7. Describe the methods of extraction of natural resources and their effect on the environment.
8. Describe renewable resources and methods of sustainability.

**GEOL 1402 Earth Sciences for Non-Science Majors II (lecture + lab)**

This lecture and lab course should combine all of the elements of GEOL 1302 Earth Sciences for Non-Science Majors II (lecture) and GEOL 1102 Earth Sciences for Non-Science Majors II (lab), including the learning outcomes listed for both courses.

Prerequisites: GEOL 1301 or 1401 Earth Science I, or GEOL 1303 or 1403 Physical Geology

Approval Number.....	40.0601.51 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

### **GEOL 1303 Physical Geology (lecture)**

Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations.

Recommended Co-requisite: GEOL 1103 Physical Geology (lab)

Approval Number.....	40.0601.54 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe how the scientific method has led to our current understanding of Earth's structure and processes.
2. Interpret the origin and distribution of minerals, rocks and geologic resources.
3. Describe the theory of plate tectonics and its relationship to the formation and distribution of Earth's crustal features.
4. Quantify the rates of physical and chemical processes acting on Earth and how these processes fit into the context of geologic time.
5. Communicate how surface processes are driven by interactions among Earth's systems (e.g., the geosphere, hydrosphere, biosphere, and atmosphere).
6. Identify and describe the internal structure and dynamics of Earth.
7. Describe the interaction of humans with Earth (e.g., resource development or hazard assessment).

### **GEOL 1103 Physical Geology (lab)**

This laboratory-based course accompanies GEOL 1303, Physical Geology. Laboratory activities will cover methods used to collect and analyze earth science data.

Pre/Co-requisite: GEOL 1303 Physical Geology (lecture)

Approval Number.....	40.0601.54 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Classify rocks and minerals based on chemical composition, physical properties, and origin.
2. Apply knowledge of topographic maps to quantify geometrical aspects of topography.
3. Identify landforms on maps, diagrams, and/or photographs and explain the processes that created them.

4. Differentiate the types of plate boundaries and their associated features on maps and profiles and explain the processes that occur at each type of boundary.
5. Identify basic structural features on maps, block diagrams and cross sections and infer how they were created.
6. Demonstrate the collection, analysis, and reporting of data.

**GEOL 1403 Physical Geology** (lecture + lab)

This lecture and lab course should combine all of the elements of GEOL 1303 Physical Geology (lecture) and GEOL 1103 Physical Geology (lab), including the learning outcomes listed for both courses.

Approval Number.....	40.0601.54 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

**GEOL 1304 Historical Geology** (lecture)

A comprehensive survey of the history of life and major events in the physical development of Earth as interpreted from rocks and fossils.

Prerequisites: GEOL 1303 or 1403 Physical Geology  
 Recommended Co-requisite: GEOL 1104 Historical Geology (lab)

Approval Number.....	40.0601.54 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe how the application of the scientific method has led to our current understanding of Earth history.
2. Explain the historical development of Geology as a science and how it was influenced by early interpretations of fossils and the theory of evolution.
3. Communicate how principles of relative and numerical age dating have been used to develop the Geologic Time Scale.
4. Describe the processes involved in the formation and differentiation of the Earth and identify major milestones in the physical evolution of the planet.
5. Identify the major milestones in the evolution of life from its initial inorganic stages, through development of the major animal and plant groups, to mass extinctions.
6. Explain how rocks and fossils are used to interpret ancient environments.
7. Identify the major tectonic events in the geologic evolution of North America.

**GEOL 1104 Historical Geology** (lab)

This laboratory-based course accompanies GEOL 1304, Historical Geology. Laboratory activities will introduce methods used by scientists to interpret the history of life and major events in the physical development of Earth from rocks and fossils.

Pre/Co-requisite: GEOL 1304 Historical Geology (lecture)

Approval Number.....	40.0601.54 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Classify and interpret depositional environments using sedimentary rocks and fossils.
2. Taxonomically classify samples of geologically important fossil groups and use them to interpret the age of rocks on the Geologic Time Scale.
3. Apply relative and numerical age-dating techniques to construct geologic histories including the correlation of stratigraphic sections.
4. Reconstruct past continental configurations.
5. Integrate multiple types of data to interpret Earth history.

**GEOL 1404 Historical Geology (lecture + lab)**

This lecture and lab course should combine all of the elements of GEOL 1304 Historical Geology (lecture) and GEOL 1104 Historical Geology (lab), including the learning outcomes listed for both courses.

Prerequisites: GEOL 1303 or 1403 Physical Geology

Approval Number.....	40.0601.54 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

**GEOL 1305 Environmental Science (lecture)**

A survey of the forces, including humans, which shape our physical and biologic environment, and how these affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. (Cross-listed with ENVR 1301)

Recommended Co-requisite: GEOL 1105 Environmental Science (lab)

Approval Number.....	03.0103.53 01
maximum SCH per student.....	3

maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Recognize, describe, and quantitatively evaluate earth systems, including the land, water, sea, and atmosphere, and how these function as interconnected ecological systems.
2. Assess environmental challenges facing humans caused by their interaction with the physical and biological environment (e.g., population growth, energy resources, food production, pollution, water and resource use).
3. Acquire a scientific vocabulary and critical thinking skills related to environmental science.
4. Assess the effectiveness and feasibility of environmental policy and its impact.

**GEOL 1105 Environmental Science (lab)**

This laboratory-based course accompanies GEOL 1305, Environmental Science (lecture). Activities will cover methods used to collect and analyze environmental data. (Cross-listed with ENVR 1101)

Pre/Co-requisite: GEOL 1305 Environmental Science (lecture)

Approval Number.....	03.0103.53 01
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply the scientific method to environmental investigation.
2. Measure and observe aspects of the environment (e.g., air, water, soil) through sampling and sample analysis.
3. Develop an assessment plan for an environmental case study.
4. Demonstrate the collection, analysis, and reporting of data.

**GEOL 1405 Environmental Science (lecture + lab)**

This lecture and lab course should combine all of the elements of GEOL 1305 Environmental Science (lecture) and GEOL 1105 Environmental Science (lab), including the learning outcomes listed for both courses. (Cross-listed with ENVR 1401)

Approval Number.....	03.0103.53 01
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

- GEOL 1345 Oceanography** (lecture)
- GEOL 1445 Oceanography** (lecture + lab)
- GEOL 1145 Oceanography** (lab)

Survey of oceanography and related sciences

Approval Number.....	40.0607.53	03
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

- GEOL 1447 Meteorology** (lecture + lab)
- GEOL 1347 Meteorology** (lecture)
- GEOL 1147 Meteorology** (lab)

Survey of meteorology and related sciences.

Approval Number.....	40.0401.51	03
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

- GEOL 2289 Academic Cooperative** (2 SCH version)
- GEOL 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena.

Approval Number.....	40.0101.53	03
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

### **GERM (German Language)**

- GERM 1411 Beginning German I** (4 SCH version)
- GERM 1412 Beginning German II** (4 SCH version)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number.....	16.0501.51	13
maximum SCH per student.....		8

maximum SCH per course .....	4
maximum contact hours per course.....	112

**GERM 2311 Intermediate German I**  
**GERM 2312 Intermediate German II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number.....	16.0501.52	13
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		80

**GERM 2289 Academic Cooperative (2 SCH version)**  
**GERM 2389 Academic Cooperative (3 SCH version)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of German language and literature.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**GOVT (Government)**

**(NOTE:** Texas Education Code, Subchapter F, Section 51.301 requires students graduating with a baccalaureate or lesser degree from a public institution in Texas to have credit for six SCH in government or political science including the Constitution of the United States and the constitutions of the states, with special emphasis on Texas. The statute does not specify how the required course content is distributed over the required six SCH. Two instructional patterns, represented by the TCCN course sequences GOVT 2301 & 2302 or GOVT 2305 & 2306, evolved among institutions. Because combination of a course from one sequence with a course from the other sequence would not always successfully fulfill the content requirement of Section 51.301, students were urged to complete all six SCH at a single institution. Inevitably, however, students combined courses from the two sequences. Only the following alternative combinations fulfill the content requirement of Section 51.301: GOVT 2301 and 2305; GOVT 2301 and 2306.

The following combinations will NOT satisfy the content requirement of §51.301: GOVT 2302 & 2305 (omits study of the Texas constitution); GOVT 2302 & 2306 (omits study of the U.S. Constitution). Students with credit for GOVT 2302 & 2305, GOVT 2302 & 2306, or equivalent combinations may satisfy the legislative requirement by earning credit for GOVT 2107, a 1 SCH course providing the required constitutional content missing from these two course combinations.

To avoid the problems in transfer effective fall 2013 one of the sequences was deleted (GOVT 2301 & GOVT 2302). The sequence remaining in the *ACGM* to fulfill the content requirement of Section 51.301 is GOVT 2305 & GOVT 2306.)

**GOVT 2107 Federal and Texas Constitutions**

A study of the United States and state constitutions, with special emphasis on Texas.

Pre-requisite: By permission only. Enrollment limited to students who have already completed a minimum of 6 SCH of GOVT courses but have not satisfied the statutory requirement for study of the federal and state constitutions. Ensures compliance with TEC §51.301.

Approval Number.....	45.1002.52	25
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		16

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the origin and development of constitutional democracy in the United States.
2. Explain the origin and development of the Texas constitution.
3. Analyze the similarities and differences between the current U.S. and Texas constitutions.

**GOVT 2304 Introduction to Political Science**

Introductory survey of the discipline of political science focusing on the scope, and methods of the field, and the substantive topics in the discipline including the theoretical foundations of politics, political interaction, political institutions and how political systems function.

Approval Number.....	45.1001.52	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Define and apply political terms and concepts.
2. Define political science and identify the subfields.
3. Compare and contrast different political systems and institutions.
4. Apply the methods used to study politics.
5. Critically interpret and analyze contemporary political issues and problems.

**GOVT 2305 Federal Government** (Federal constitution & topics)

Origin and development of the U.S. Constitution, structure and powers of the national government including the legislative, executive, and judicial branches, federalism, political participation, the national election process, public policy, civil liberties and civil rights.

Approval Number.....	45.1002.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the origin and development of constitutional democracy in the United States.
2. Demonstrate knowledge of the federal system.
3. Describe separation of powers and checks and balances in both theory and practice.
4. Demonstrate knowledge of the legislative, executive, and judicial branches of the federal government.
5. Evaluate the role of public opinion, interest groups, and political parties in the political system.
6. Analyze the election process.
7. Describe the rights and responsibilities of citizens.
8. Analyze issues and policies in U.S. politics.

**GOVT 2306 Texas Government** (Texas constitution & topics)

Origin and development of the Texas constitution, structure and powers of state and local government, federalism and inter-governmental relations, political participation, the election process, public policy, and the political culture of Texas.

Approval Number.....	45.1002.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the origin and development of the Texas constitution.
2. Describe state and local political systems and their relationship with the federal government.
3. Describe separation of powers and checks and balances in both theory and practice in Texas.
4. Demonstrate knowledge of the legislative, executive, and judicial branches of Texas government.
5. Evaluate the role of public opinion, interest groups, and political parties in Texas.
6. Analyze the state and local election process.
7. Identify the rights and responsibilities of citizens.
8. Analyze issues, policies and political culture of Texas.

**GOVT 2311 Mexican American and Latinx Politics**

The study of Mexican American and Latinx politics within the American political experience. Topics include historical, cultural, socioeconomic, and constitutional issues that pertain to the

study of Mexican Americans and other Latinx populations in the United States. Other topics such as political participation, governmental institutions, electoral politics, political representation, demographic trends, and other contemporary public policy debates will also be addressed.

Approval Number.....	05.0203.54	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the construction of identity among Mexican Americans and other Latinx populations and how identity is expressed as part of the political process.
2. Analyze empirical data to explain the political behavior, including public opinion, of Mexican Americans and other Latinx populations in the political system.
3. Identify, formulate, and answer questions related to the institutions, structures, and processes that impact the lives and social status of Mexican Americans and other Latinx populations.
4. Evaluate the current events and conditions related to policy challenges facing Mexican Americans and other Latinx populations.
5. Compare and contrast various representational roles as they pertain to Mexican Americans and other Latinx populations.
6. Identify examples of situations where consideration of Mexican American and other Latinx cultures results in more effective public policy and administration.
7. Discuss the struggle of Mexican Americans and other Latinx populations for political and social equality and the role of the American judicial system in promoting their civil rights and civil liberties.

**GOVT 2289 Academic Cooperative** (2 SCH version)

**GOVT 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on experience in government. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

Approval Number.....	45.0101.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**HECO (Home Economics)**

**HECO 1322 Nutrition & Diet Therapy**

This course introduces general nutritional concepts in health and disease and includes practical applications of that knowledge. Special emphasis is given to nutrients and nutritional processes including functions, food sources, digestion, absorption, and metabolism. Food safety, availability, and nutritional information including food labels, advertising, and nationally established guidelines are addressed. (Cross-listed as BIOL 1322)

Approval Number .....	19.0501.51 09
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course .....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Apply nutritional knowledge to analyze personal dietary intakes, to plan nutritious meals using nationally established criteria to meet recommended goals, and to evaluate food labels and the validity of nutritional claims.
2. Trace the pathways and processes that occur in the body to handle nutrients and alcohol through consumption, digestion, absorption, transport, metabolism, storage and waste excretion.
3. Discuss functions, sources, deficiencies, and toxicities of macro- and micronutrients, including carbohydrates, lipids, proteins, water, vitamins, and minerals.
4. Apply the concept of energy balance and its influences at the physical, emotional, societal, and cellular level to evaluate advantages and disadvantages of various methods used to correct energy imbalances.
5. Utilize concepts of aerobic and anaerobic energy systems, and knowledge about macronutrients, vitamins, minerals, ergogenics, and supplements and relate them to fitness and health.
6. Describe health and disease issues related to nutrition throughout the life cycle, including food safety, corrective dietary modifications, and the influence of specific nutrients on diseases.

### HIST (History)

#### HIST 1301 United States History I

A survey of the social, political, economic, cultural, and intellectual history of the United States from the pre-Columbian era to the Civil War/Reconstruction period. United States History I includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed in United States History I include: American settlement and diversity, American culture, religion, civil and human rights, technological change, economic change, immigration and migration, and creation of the federal government.

Approval Number.....	54.0102.51 25
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary sources.
3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of United States history.

## HIST 1302 United States History II

A survey of the social, political, economic, cultural, and intellectual history of the United States from the Civil War/Reconstruction era to the present. United States History II examines industrialization, immigration, world wars, the Great Depression, Cold War and post-Cold War eras. Themes that may be addressed in United States History II include: American culture, religion, civil and human rights, technological change, economic change, immigration and migration, urbanization and suburbanization, the expansion of the federal government, and the study of U.S. foreign policy.

Approval Number.....	54.0102.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary sources.
3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of United States history.

## HIST 2301 Texas History

A survey of the political, social, economic, cultural, and intellectual history of Texas from the pre-Columbian era to the present. Themes that may be addressed in Texas History include: Spanish colonization and Spanish Texas; Mexican Texas; the Republic of Texas; statehood and secession; oil, industrialization, and urbanization; civil rights; and modern Texas.

Approval Number.....	54.0102.52	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary sources.
3. Analyze the effects of historical, social, political, economic, cultural, and global forces on Texas history.

### **HIST 2311 Western Civilization I**

A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from human origins to the 17th century. Themes that should be addressed in Western Civilization I include the cultural legacies of Mesopotamia, Egypt, Greece, Rome, Byzantium, Islamic civilizations, and Europe through the Middle Ages, Renaissance, and Reformations.

Approval Number.....	54.0101.54	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary sources.
3. Analyze the effects of historical, social, political, economic, and cultural forces on this period of western history.

### **HIST 2312 Western Civilization II**

A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from the 17th century to the modern era. Themes that should be addressed in Western Civilization II include absolutism and constitutionalism, growth of nation states, the Enlightenment, revolutions, classical liberalism, industrialization, imperialism, global conflict, the Cold War, and globalism.

Approval Number.....	54.0101.54	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary sources.
3. Analyze the effects of historical, social, political, economic, and cultural forces on this period of western history.

**HIST 2321 World Civilizations I**

A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the emergence of human cultures through the 15th century. The course examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include the emergence of early societies, the rise of civilizations, the development of political and legal systems, religion and philosophy, economic systems and trans-regional networks of exchange. The course emphasizes the development, interaction and impact of global exchange.

Approval Number..... 54.0101.53 25  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

- 1. Create an argument through the use of historical evidence.
- 2. Analyze and interpret primary and secondary sources.
- 3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of world history.

**HIST 2322 World Civilizations II**

A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the 15th century to the present. The course examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include maritime exploration and transoceanic empires, nation/state formation and industrialization, imperialism, global conflicts and resolutions, and global economic integration. The course emphasizes the development, interaction and impact of global exchange.

Approval Number..... 54.0101.53 25  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

- 1. Create an argument through the use of historical evidence.
- 2. Analyze and interpret primary and secondary sources.
- 3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of world history.

## **HIST 2327 Mexican American History I** (to the United States-Mexico War Era)

A survey of the economic, social, political, intellectual, and cultural history of Mexican Americans/Chicanx. Periods include early indigenous societies, conflict and conquest, early European colonization and empires, New Spain, early revolutionary period, Mexican independence and nation building, United States expansion to the United States-Mexico War Era. Themes to be addressed are mestizaje and racial formation in the early empire, rise and fall of native and African slavery, relationship to early global economies, development of New Spain's/Mexico's northern frontier, gender and power, missions, resistance and rebellion, emergence of Mexican identities, California mission secularization, Texas independence, United States' wars with Mexico, and the making of borders and borderlands. (May be applied to U.S. History requirement.)

Approval Number.....	54.0102.54	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary evidence.
3. Describe the transformation of indigenous societies from 1400-1700.
4. Explain the causes and effects of European conquest and colonization on the Americas.
5. Evaluate the relative impact of mestizaje, slavery, global economics, and frontier settlement on the creation of Mexican identity.
6. Connect independence movements, imperial conflict, class formation, and regional resistance to the making of independent Mexico.
7. Discuss the transformation of communities in the borderlands as a result of Manifest Destiny and the United States-Mexico War.
8. Compare and contrast the borderland regions of California, New Mexico and Texas from 1800-1850.

## **HIST 2328 Mexican American History II** (from the United States-Mexico War Era)

A survey of the economic, social, political, intellectual, and cultural history of Mexican Americans/Chicanx. Periods include the United States-Mexico War Era, incorporation of Northern Mexico into the United States, Porfirian Mexico, and the nineteenth century American West, 1910 Mexican Revolution and Progressive Era, the Great Depression and New Deal, World War II and the Cold War, Civil Rights Era, Conservative Ascendancy, the age of NAFTA and turn of the 21st Century developments. Themes to be addressed are the making of borders and borderlands, impact of Treaty of Guadalupe Hidalgo, gender and power, migration and national identities, citizenship and expulsion, nineteenth century activism and displacement, industrialization and the making of a transnational Mexican working class, urbanization and community formation, emergence of a Mexican American Generation, war and citizenship, organized advocacy and activism, Chicano Movement, changing identifications and identities, trade and terrorism. (May be applied to U.S. History requirement.)

Approval Number.....	54.0102.54	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary evidence.
3. Differentiate between the promises and realities of the Treaty of Guadalupe Hidalgo.
4. Describe how race, gender, and class shaped material conditions and inter-ethnic dynamics for Mexican Americans in the United States.
5. Discuss the transnational political and economic ties between the United States and Mexico.
6. Assess the impact of the 1910 Mexican Revolution on the United States and Mexico.
7. Articulate the place of the Mexican American struggle for civil rights within the context of the broader Civil Rights Movement.
8. Evaluate periods of significant change in Mexican migration patterns to the United States.
9. Explain the history of self-identification in Mexican American communities in the United States.

**HIST 2381 African American History I**

A survey of the social, political, economic, cultural, and intellectual history of people of African descent in the formation and development of the United States to the Civil War/Reconstruction period. African American History I includes the study of African origins and legacy, trans-Atlantic slave trade, and the experiences of African Americans during Colonial, Revolutionary, Early National, Antebellum, and the Civil War/Reconstruction Eras. This course will enable students to understand African American history as an integral part of U.S. history. (May be applied to the U.S. History requirement.)

Approval Number.....	54.0102.53	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary sources.
3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of African American history.

**HIST 2382 African American History II**

A survey of the social, political, economic, cultural, and intellectual history of people of African descent in the United States from the Civil War/Reconstruction period to the present. African American History II examines segregation, disenfranchisement, civil rights, migrations, industrialization, world wars, the Harlem Renaissance and the conditions of African Americans in the Great Depression, Cold War and post-Cold War eras. This course will enable students to understand African American history as an integral part of U.S. history. (May be applied to the U.S. History requirement.)

Approval Number..... 54.0102.53 25  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Create an argument through the use of historical evidence.
2. Analyze and interpret primary and secondary sources.
3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of African American history.

**HIST 2289 Academic Cooperative** (2 SCH version)  
**HIST 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on experience in history. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

Approval Number..... 45.0101.51 25  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 144

**HORT (Horticulture)**

**HORT 1301 Horticulture** (lecture)

Structure, growth, and development of horticultural plants. Examination of environmental effects, basic principles of reproduction, production methods ranging from outdoor to controlled climates, nutrition, and pest management. (Cross-listed as AGRI 1315).

Approval Number: ..... 01.0601.51 01  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Identify the various horticultural industries and their roles in our society.
2. Describe the fundamentals of plant science.
3. Assess the interactions of soils, water, and fertility in plant science.
4. Contrast the methods of plant reproduction and propagation.
5. Explain the impacts of production methods and technologies on plant science.
6. Contrast methods of pest management in plant science.
7. Investigate methods of environmental manipulation (e.g. greenhouse controls, frost management methods, hot caps).

### **HORT 1101 Horticulture (lab)**

This laboratory-based course accompanies HORT 1301. Laboratory activities will reinforce the structure, growth, and development of horticultural plants. Examination of environmental effects, basic principles of reproduction, production methods ranging from outdoor to controlled climates, nutrition, and pest management. (Cross-listed as AGRI 1115).

Pre/Co-requisite: HORT 1301 Horticulture (lecture)

Approval Number: .....	01.0601.51 01
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific and horticultural tools to collect and analyze data and demonstrate methods.
2. Use critical thinking and scientific problem solving to make informed decisions.
3. Communicate effectively the results of scientific investigations.
4. Identify the various horticultural industries and their roles in our society.
5. Describe the fundamentals of plant science.
6. Assess the interactions of soils, water, and fertility in plant science.
7. Contrast the methods of plant reproduction and propagation.
8. Explain the impacts of production methods and technologies on plant science.
9. Contrast methods of pest management in plant science.
10. Investigate methods of environmental manipulation (e.g. greenhouse controls, frost management methods, hot caps).

### **HORT 1401 Horticulture (lecture +lab)**

This lecture and lab course should combine all of the elements of HORT 1301 Horticulture (lecture) and HORT 1101 Horticulture (lab), including the learning outcomes listed for both courses. (Cross-listed as AGRI 1401).

Approval Number: .....	01.0601.51 01
maximum SCH per student .....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

## **HUMA (Humanities)**

### **HUMA 1301 Introduction to Humanities I**

This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create.

Approval Number .....	24.0103.51 12
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course .....	48

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate awareness of the scope and variety of works in the arts and humanities.
2. Articulate how these works express the values of the individual and society within an historical and social context.
3. Articulate an informed personal response and critically analyze works in the arts and humanities.
4. Demonstrate knowledge and understanding of the influence of literature, philosophy, and the arts on cultural experiences.
5. Demonstrate an awareness of the creative process and why humans create.

### **HUMA 1302 Introduction to Humanities II**

This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create.

Approval Number .....	24.0103.51 12
maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course .....	48

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate awareness of the scope and variety of works in the arts and humanities.
2. Articulate how these works express the values of the individual and society within an historical and social context.
3. Articulate an informed personal response and critically analyze works in the arts and humanities.
4. Demonstrate knowledge and understanding of the influence of literature, philosophy, and the arts on cultural experiences.
5. Demonstrate an awareness of the creative process and why humans create.

### **HUMA 1305 Introduction to Mexican American Studies**

This interdisciplinary survey examines the different cultural, artistic, economic, historical, political, and social aspects of the Mexican American/Chicano/a communities. It also covers issues such as dispossession, immigration, transnationalism, and other topics that have shaped the Mexican American experience.

Approval Number .....	05.0203.51	25
maximum SCH per student .....		3
maximum SCH per course .....		3
maximum contact hours per course .....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Analyze the developmental history, culture, and struggles for equality of Mexican Americans/Chicanos/as.
2. Articulate an informed personal response and critically analyze works by Mexican Americans/Chicanos/as in the arts and humanities.
3. Describe the impact of discrimination on the everyday life of Mexican Americans/Chicanos/as in the context of social, political, and economic circumstances.
4. Analyze minority group interactions in the United States focusing on immigration and migration patterns, assimilation processes, and adjustments to American life.
5. Formulate an understanding of the shifting definitions of Mexican American cultural identities.

### **HUMA 1311 Mexican American Fine Arts Appreciation**

This course is an exploration of the purposes and processes in the visual and performing arts (such as music, painting, drama, and dance) and the ways in which they express the values of the Mexican American/Chicano/a experience.

Approval Number .....	50.0703.54	26
maximum SCH per student .....		3
maximum SCH per course .....		3
maximum contact hours per course .....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Employ formal elements and principles to critically analyze various works of the visual and performing arts.
2. Articulate the creative process of artistic works as expressions of Mexican American/Chicano/a experiences and cultural values.
3. Formulate an understanding of how Mexican American/Chicano/a arts reflect shifting cultural identities.
4. Describe the relationship of Mexican American/Chicano/a arts to everyday life.

## HUMA 1315 Fine Arts Appreciation

This course is an exploration of the purposes and processes in the visual and performing arts (such as music, painting, architecture, drama, and dance) and the ways in which they express the values of cultures and human experience.

Approval Number.....	50.0101.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Employ formal elements and principles to critically analyze various works of the visual and performing arts.
2. Articulate the creative process of artistic works as expressions of human experience and cultural values.
3. Demonstrate an understanding of the aesthetic principles that guide the creation of, and response to, the arts.
4. Describe the relationship of the arts to everyday life.

## HUMA 2319 American Minority Studies

This interdisciplinary survey examines the diverse cultural, artistic, economic, historical, political, and social aspects of American minority communities. Topics may include race/ethnicity, gender, socioeconomic class, sexual orientation, national origin, age, disability, and religion.

Approval Number.....	24.0101.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Analyze the history, culture, and struggles for equality of American minority groups.
2. Articulate an informed personal response and critically analyze works by minorities in the arts and humanities.
3. Demonstrate awareness of multiple cultural perspectives representative of diverse minority groups.
4. Describe the impact of discrimination on the everyday life of minority groups in the context of social, political, and economic circumstances.
5. Analyze minority group interactions in the United States focusing on immigration and migration patterns, assimilation processes, and adjustments to American life.
6. Formulate an understanding of shifting societal perceptions and self-identifications of minority group cultural identities.

### **HUMA 2323 World Cultures**

This course is a general study of diverse world cultures. Topics include cultural practices, social structures, religions, arts, and languages.

Approval Number .....	24.0103.53	12
maximum SCH per student .....		3
maximum SCH per course .....		3
maximum contact hours per course .....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate knowledge of common terms and concepts associated with the study of world cultures.
2. Articulate an informed personal response and critically analyze works in the arts and humanities from various world cultures.
3. Demonstrate awareness of multiple cultural perspectives by comparing and contrasting the cultural expressions of diverse world communities.
4. Analyze various cultures to navigate diverse cultural spaces and recognize different world views.
5. Demonstrate an understanding of geography and the location of different cultural groups in the world.

### **ITAL (Italian Language)**

- ITAL 1411 Beginning Italian I** (4 SCH version)  
**ITAL 1412 Beginning Italian II** (4 SCH version)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number.....	16.0902.51	13
maximum SCH per student.....		8

maximum SCH per course .....	4
maximum contact hours per course.....	112

**ITAL 2311 Intermediate Italian I**  
**ITAL 2312 Intermediate Italian II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number.....	16.0902.52	13
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		80

**JAPN (Japanese Language)**

**JAPN 1411 Beginning Japanese I (4 SCH version)**  
**JAPN 1412 Beginning Japanese II (4 SCH version)**

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number.....	16.0302.51	13
maximum SCH per student.....		8
maximum SCH per course .....		4
maximum contact hours per course.....		112

**JAPN 2311 Intermediate Japanese I**  
**JAPN 2312 Intermediate Japanese II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number.....	16.0302.52	13
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		80

**KINE (Kinesiology): See PHED Listings**

## **KORE (Korean Language)**

- KORE 1411    Beginning Korean I** (4 SCH version)
- KORE 1412    Beginning Korean II** (4 SCH version)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number.....	16.0303.51	13
maximum SCH per student.....		8
maximum SCH per course .....		4
maximum contact hours per course.....		112

- KORE 2311    Intermediate Korean I**
- KORE 2312    Intermediate Korean II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number.....	16.0303.52	13
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		80

## **LANG (Foreign Languages)**

- LANG 1311    Foreign Language I** (3 SCH version)
- LANG 1411    Foreign Language I** (4 SCH version)
- LANG 1511    Foreign Language I** (5 SCH version)
  
- LANG 1312    Foreign Language II** (3 SCH version)
- LANG 1412    Foreign Language II** (4 SCH version)
- LANG 1512    Foreign Language II** (5 SCH version)

These courses are intended to serve as generic foreign language credits for students in the International Baccalaureate Diploma program. They are for transcripting purposes only, and may not be submitted for state reimbursement.

Approval Number.....		not applicable
maximum SCH per student.....		10
maximum SCH per course .....		5
maximum contact hours per course.....		not applicable

## LATI (Latin Language)

**LATI 1411 Beginning Latin I** (4 SCH version)

**LATI 1412 Beginning Latin II** (4 SCH version)

Grammar and vocabulary. Emphasis on the value of Latin as a background for the study of English and modern foreign languages

Approval Number..... 16.1203.51 13  
maximum SCH per student..... 8  
maximum SCH per course ..... 4  
maximum contact hours per course.....112

**LATI 2311 Intermediate Latin I**

**LATI 2312 Intermediate Latin II**

Review of grammar and readings in Roman literary works.

Approval Number..... 16.1203.52 13  
maximum SCH per student..... 6  
maximum SCH per course ..... 3  
maximum contact hours per course..... 80

## MATH (Mathematics)

**MATH 1314 College Algebra** (3 SCH version)

**MATH 1414 College Algebra** (4 SCH version)

In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included.

Approval Number..... 27.0101.54 19  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course..... 64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
2. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.
3. Apply graphing techniques.
4. Evaluate all roots of higher degree polynomial and rational functions.
5. Recognize, solve and apply systems of linear equations using matrices.

### **MATH 1316 Plane Trigonometry**

In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included.

Approval Number.....	27.0101.53	19
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
2. Graph trigonometric functions and their transformations.
3. Prove trigonometric identities.
4. Solve trigonometric equations.
5. Solve right and oblique triangles.
6. Use the concepts of trigonometry to solve applications.

### **MATH 1324 Mathematics for Business & Social Sciences**

The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.

Approval Number.....	27.0301.52	19
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply elementary functions, including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems.
2. Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans.
3. Apply basic matrix operations, including linear programming methods, to solve application problems.
4. Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems.
5. Apply matrix skills and probability analyses to model applications to solve real-world problems.

## **MATH 1325    Calculus for Business & Social Sciences**

This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2313 or 2413, Calculus I.

Prerequisite: MATH 1314 or 1414 College Algebra or MATH 1324 Mathematics for Business and Social Sciences

Approval Number.....	27.0301.53	19
maximum SCH per student.....		3
maximum SCH per course.....		3
maximum contact hours per course.....		64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply calculus to solve business, economics, and social sciences problems.
2. Apply appropriate differentiation techniques to obtain derivatives of various functions, including logarithmic and exponential functions.
3. Solve application problems involving implicit differentiation and related rates.
4. Solve optimization problems with emphasis on business and social sciences applications.
5. Determine appropriate technique(s) of integration.
6. Integrate functions using the method of integration by parts or substitution, as appropriate.
7. Solve business, economics, and social sciences applications problems using integration techniques.

## **MATH 1332    Contemporary Mathematics (Quantitative Reasoning)**

Intended for Non-STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered.

Approval Number.....	27.0101.51	19
maximum SCH per student.....		3
maximum SCH per course.....		3
maximum contact hours per course.....		64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply the language and notation of sets.
2. Determine the validity of an argument or statement and provide mathematical evidence.
3. Solve problems in mathematics of finance.

4. Demonstrate fundamental probability/counting techniques and apply those techniques to solve problems.
5. Interpret and analyze various representations of data.
6. Demonstrate the ability to choose and analyze mathematical models to solve problems from real-world settings, including, but not limited to, personal finance, health literacy, and civic engagement.

**MATH 1350 Mathematics for Teachers I (Fundamentals of Mathematics I)**

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking.

Prerequisite: MATH 1314 or 1414 College Algebra

Approval Number.....	27.0101.56	19
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain and model the arithmetic operations for whole numbers and integers.
2. Explain and model computations with fractions, decimals, ratios, and percentages.
3. Describe and demonstrate how factors, multiples, and prime numbers are used to solve problems.
4. Apply problem-solving skills to numerical applications.
5. Represent and describe relationships among sets using the appropriate mathematical terminology and notation.
6. Compare and contrast structures of numeration systems.

**MATH 1351 Mathematics for Teachers II (Fundamentals of Mathematics II)**

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the concepts of geometry, measurement, probability, and statistics with an emphasis on problem solving and critical thinking.

Prerequisites: MATH 1314 or 1414 College Algebra

Approval Number.....	27.0101.57	19
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply fundamental terms of geometry such as points, lines, and planes to describe two- and three-dimensional figures.
2. Make and test conjectures about figures and geometric relationships.
3. Use a variety of methods to identify and justify congruency and similarity of geometric objects.
4. Perform geometric transformations.
5. Demonstrate fundamental probability techniques and apply those techniques to solve problems.
6. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
7. Recognize, examine, and utilize the basic principles of describing and presenting data.
8. Perform measurement processes and explain the concept of a unit of measurement.
9. Develop and use formulas for the perimeter, area, and volume for a variety of figures.

**MATH 1342 Elementary Statistical Methods** (3 SCH version)  
**MATH 1442 Elementary Statistical Methods** (4 SCH version)

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended.

Approval Number.....	27.0501.51 19
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

**MATH 2312 Pre-Calculus Math** (3 SCH version)  
**MATH 2412 Pre-Calculus Math** (4 SCH version)

In-depth combined study of algebra, trigonometry, and other topics for calculus readiness.

Prerequisite: MATH 1314 or 1414 College Algebra or the equivalent preparation.

Approval Number.....	27.0101.58	19
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		80

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of properties of functions.
2. Recognize and apply algebraic and transcendental functions and solve related equations.
3. Apply graphing techniques to algebraic and transcendental functions.
4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
5. Prove trigonometric identities.
6. Solve right and oblique triangles.

**MATH 2313 Calculus I** (3 SCH version)

**MATH 2413 Calculus I** (4 SCH version)

Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas.

Prerequisite: MATH 2412 Pre-Calculus Math or equivalent preparation

Approval Number.....	27.0101.59	19
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.
2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.
3. Determine whether a function is continuous and/or differentiable at a point using limits.
4. Use differentiation rules to differentiate algebraic and transcendental functions.
5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems.
6. Evaluate definite integrals using the Fundamental Theorem of Calculus.
7. Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.

**MATH 2314 Calculus II** (3 SCH version)

## **MATH 2414 Calculus II** (4 SCH version)

Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals.

Prerequisite: MATH 2313 or 2413 Calculus I

Approval Number.....	27.0101.60	19
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications.
2. Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of anti-derivatives to evaluate definite and indefinite integrals.
3. Define an improper integral.
4. Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals.
5. Determine convergence or divergence of sequences and series.
6. Use Taylor and MacLaurin series to represent functions.
7. Use Taylor or MacLaurin series to integrate functions not integrable by conventional methods.
8. Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.

## **MATH 2315 Calculus III** (3 SCH version)

## **MATH 2415 Calculus III** (4 SCH version)

Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem.

Prerequisite: MATH 2414 Calculus II

Approval Number.....	27.0101.61	19
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Perform calculus operations on vector-valued functions, including derivatives, integrals, curvature, displacement, velocity, acceleration, and torsion.

2. Perform calculus operations on functions of several variables, including partial derivatives, directional derivatives, and multiple integrals.
3. Find *extrema* and tangent planes.
4. Solve problems using the Fundamental Theorem of Line Integrals, Green's Theorem, the Divergence Theorem, and Stokes' Theorem.
5. Apply the computational and conceptual principles of calculus to the solutions of real-world problems.

**MATH 2318 Linear Algebra** (3 SCH version)

**MATH 2418 Linear Algebra** (4 SCH version)

Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering.

Pre-requisite: MATH 2414 Calculus II

Approval Number.....	27.0101.63	19
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Be able to solve systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion.
2. Be able to carry out matrix operations, including inverses and determinants.
3. Demonstrate understanding of the concepts of vector space and subspace.
4. Demonstrate understanding of linear independence, span, and basis.
5. Be able to determine eigenvalues and eigenvectors and solve problems involving eigenvalues.
6. Apply principles of matrix algebra to linear transformations.
7. Demonstrate application of inner products and associated norms.

**MATH 2320 Differential Equations** (3 SCH version)

**MATH 2420 Differential Equations** (4 SCH version)

Ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems.

Prerequisite: MATH 2414 Calculus II

Approval Number.....	27.0101.64	19
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Identify homogeneous equations, homogeneous equations with constant coefficients, and exact and linear differential equations.
2. Solve ordinary differential equations and systems of equations using:
  - a) Direct integration
  - b) Separation of variables
  - c) Reduction of order
  - d) Methods of undetermined coefficients and variation of parameters
  - e) Series solutions
  - f) Operator methods for finding particular solutions
  - g) Laplace transform methods.
3. Determine particular solutions to differential equations with given boundary conditions or initial conditions.
4. Analyze real-world problems in fields such as Biology, Chemistry, Economics, Engineering, and Physics, including problems related to population dynamics, mixtures, growth and decay, heating and cooling, electronic circuits, and Newtonian mechanics.

### MATH 2305 Discrete Mathematics (3 SCH version)

A course designed to prepare math, computer science, and engineering majors for a background in abstraction, notation, and critical thinking for the mathematics most directly related to computer science. Topics include: logic, relations, functions, basic set theory, countability and counting arguments, proof techniques, mathematical induction, combinatorics, discrete probability, recursion, sequence and recurrence, elementary number theory, graph theory, and mathematical proof techniques.

Prerequisite: MATH 2313 or 2413 Calculus I

Approval Number.....	27.0101.66	19
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

### Learning Outcomes

Upon successful completion of this course, students will:

1. Construct mathematical arguments using logical connectives and quantifiers.
2. Verify the correctness of an argument using propositional and predicate logic and truth tables.
3. Demonstrate the ability to solve problems using counting techniques and combinatorics in the context of discrete probability.

4. Solve problems involving recurrence relations and generating functions.
5. Use graphs and trees as tools to visualize and simplify situations.
6. Perform operations on discrete structures such as sets, functions, relations, and sequences.
7. Construct proofs using direct proof, proof by contraposition, proof by contradiction, proof by cases, and mathematical induction.
8. Apply algorithms and use definitions to solve problems to prove statements in elementary number theory.

### **MUAP (Applied Music)**

#### **Individual Instruction**

**MUAP 11xx, 12xx, 13xx**

**MUAP 21xx, 22xx, 23xx**

Individual instruction in voice, instrument, composition, or conducting.

Approval Number.....	50.0903.54	26
maximum SCH per student.....		20
maximum SCH per course .....		3
maximum contact hours per course.....		48

The common number format for MUAP courses is a 4-digit number. The 1st digit denotes the level of the course (1 for freshman, 2 for sophomore) and the 2nd digit represents the SCH value. A range of possible 3rd and 4th digits identifies the subject and course sequence.

### **MUEN (Music Ensemble)**

The common number format for MUEN courses is a 4-digit number. The 1st digit denotes the level of the course (1 for freshman, 2 for sophomore) and the 2nd digit represents the SCH value. A range of possible 3rd and 4th digits identifies the subject and course sequence. This arrangement allows institutions to assign up to 20 distinct numbers under each of the 4 CIP codes, for a total of 80 possible courses; no attempt has been made in the TCCN system to standardize individual numbers within these ranges.

<u>Approval Number</u>	<u>Course</u>	<u>3rd &amp; 4th digits</u>
50.0903.55 26	Major (Large) Instrumental Ensembles	21 through 30
50.0903.56 26	Chamber (Small) Instrumental Ensembles	31 through 40
50.0903.57 26	Major (Large) Vocal Ensembles	41 through 50
50.0903.58 26	Chamber (Small) Vocal Ensembles	51 through 60

#### **Major (Large) Instrumental Ensembles**

**MUEN xx21 through MUEN xx30**

Examples of major instrumental ensembles may include but are not limited to concert band, marching band, collaborative piano, jazz band, and orchestra.

Approval Number.....	50.0903.55	26
maximum SCH per student.....		8
maximum SCH per course .....		2
maximum contact hours per course.....		96

**Chamber (Small) Instrumental Ensembles  
MUEN xx31 through MUEN xx40**

Examples of small instrumental ensembles may include but are not limited to wind, string, percussion, piano, and mixed ensembles in various styles.

Approval Number.....	50.0903.56	26
maximum SCH per student.....		8
maximum SCH per course .....		2
maximum contact hours per course.....		96

**Major (Large) Vocal Ensembles  
MUEN xx41 through MUEN xx50**

Any large choral ensemble.

Approval Number.....	50.0903.57	26
maximum SCH per student.....		8
maximum SCH per course .....		2
maximum contact hours per course.....		96

**Chamber (Small) Vocal Ensembles  
MUEN xx51 through MUEN xx60**

Examples of small vocal ensembles may include but are not limited to glee club, madrigals, opera/musical theater, commercial, and folk.

Approval Number.....	50.0903.58	26
maximum SCH per student.....		8
maximum SCH per course .....		2
maximum contact hours per course.....		96

**MUSI (Music)**

**MUSI 1303 Fundamentals of Music**

Introduction to the basic elements of music theory, including scales, intervals, keys, triads, elementary ear training, notation, meter, and rhythm. Course does not apply to a music major degree.

Approval Number.....	50.0904.55	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Construct all major and minor scales and key signatures.
2. Construct simple and compound intervals, triads and seventh chords of any quality.
3. Identify and perform basic rhythmic and pitch patterns common in tonal music, and properly notate basic rhythms in simple or compound meters.
4. Identify fundamental musical elements aurally and/or on the keyboard.
5. Use appropriate musical vocabulary to describe theoretical concepts.

**MUSI 1306 Music Appreciation**

Understanding music through the study of cultural periods, major composers, and musical elements, illustrated with audio recordings and live performances. Course does not apply to a music major degree.

Approval Number.....	50.0902.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify musical works and elements in a variety of styles.
2. Analyze the elements and structures of music using appropriate terminology.
3. Critically evaluate the influence of social, political, technological, and/or cultural ideas on music.
4. Articulate the significance of music as an art form within historical, cultural and social contexts.

**MUSI 1307 Music Literature**

A survey of the styles and forms of music as it developed from the middle ages to the present. This course will familiarize the student with cultural context, terminology, genres, and notation.

Approval Number.....	50.0902.52	26
maximum SCH per student.....		3

maximum SCH per course .....	3
maximum contact hours per course.....	80

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify the major periods of music history, general style characteristics and genres of each period, and major composers of each period and representative works.
2. Articulate the relationship between historical developments and events with musical styles and aesthetics.
3. Critically evaluate musical works using specific terminology and listening skills.

**MUSI 1310 American Music**

A general survey of various styles of music of the Americas, including but not limited to jazz, folk, rock, and contemporary music.

Approval Number.....	50.0902.53	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify the elements, styles, and musicians representative of music within the chosen style(s).
2. Analyze the elements and structures of music using appropriate terminology.
3. Critically evaluate the influence of social, political, technological, and/or cultural ideas on the chosen musical style(s).
4. Articulate an informed personal reflection of the chosen musical style(s).

**MUSI 1311 Music Theory I**

The study of analysis and writing of tonal melody and diatonic harmony, including fundamental music concepts, scales, intervals, chords, 7<sup>th</sup> chords, and early four-part writing. Analysis of small compositional forms. Optional correlated study at the keyboard.

Approval Number.....	50.0904.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Construct and identify major scale and all forms of the minor scale.

2. Construct and identify triads and seventh chords in all inversions.
3. Analyze triads in harmonic context utilizing standard roman-numeral symbols.
4. Compose music in standard four-part chorale style.
5. Identify small musical forms.
6. Demonstrate musical concepts covered in class, including scales, triads, and basic harmonic progression on the keyboard.
7. Demonstrate an understanding of rhythmic meter and note duration through score analysis and composition.

## **MUSI 1312 Music Theory II**

The study of analysis and writing of tonal melody and diatonic harmony, including all diatonic chords and seventh chords in root position and inversions, non-chord tones, and functional harmony. Introduction to more complex topics, such as modulation, may occur. Optional correlated study at the keyboard.

Approval Number.....	50.0904.51	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Construct and identify all triads and seventh chords in root position and inversions.
2. Properly utilize and identify all non-chord tones.
3. Analyze harmonic progressions utilizing standard roman-numeral symbols.
4. Compose original harmonic progressions that properly utilize functional harmony.
5. Demonstrate on the keyboard musical concepts covered in class, including triads in inversions and progressions with non-chord tones.
6. Demonstrate an understanding of rhythmic meter and note duration through score analysis and composition.

## **MUSI 1116 Sight Singing & Ear Training I**

Singing tonal music in treble and bass clefs, and aural study of elements of music, such as scales, intervals and chords, and dictation of basic rhythm, melody and diatonic harmony.

Approval Number.....	50.0904.56	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply a method of sight singing to diatonic melodies in treble and bass clef, and oral

- demonstration of simple rhythms.
- 2. Classify elements of music, such as scales, intervals and chords.
- 3. Transcribe aural rhythms and diatonic melodies.
- 4. Transcribe and analyze aural basic harmonic progressions.
- 5. Read and reproduce rhythms in various simple meters.

**MUSI 1117 Sight Singing & Ear Training II**

Singing tonal music in various clefs, continued aural study of the elements of music, and dictation of intermediate rhythm, melody and diatonic harmony.

Approval Number.....	50.0904.56	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

- 1. Apply a method of sight singing to diatonic melodies in various clefs, and oral demonstration of simple and compound rhythms.
- 2. Classify elements of music, such as scales, intervals and chords.
- 3. Transcribe more complex aural rhythms and diatonic melodies.
- 4. Transcribe and analyze diatonic harmonic progressions.
- 5. Read and reproduce rhythms in various simple and compound meters.

**MUSI 1157 Opera Workshop**

A study of the synthesis of singing and acting through the performance of opera.

Approval Number.....	50.0908.52	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

- 1. Research and prepare an opera character.
- 2. Demonstrate accurate musical preparation for a role.
- 3. Apply elements of stagecraft and movement to a performance.
- 4. Perform with peers in an opera scene.

**MUSI 1160 Italian Diction**

A study of the International Phonetic Alphabet (IPA) and its application to singing in Italian.

Approval Number.....	50.0908.53	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		32

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify IPA symbols and their sounds.
2. Accurately reproduce sounds associated with IPA symbols.
3. Transcribe texts with appropriate IPA symbols.
4. Perform songs in Italian in a way that demonstrates accurate diction.

### **MUSI 1161 International Phonetic Alphabet (IPA) for Singers**

A study of the International Phonetic Alphabet (IPA) and its application to singing in English, Italian, German, and French.

Approval Number.....	50.0908.53	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		32

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify IPA symbols and their sounds.
2. Accurately reproduce sounds associated with IPA symbols.
3. Transcribe texts with appropriate IPA symbols.
4. Perform songs in English, Italian, German, and/or French in a way that demonstrates accurate diction.

### **MUSI 2160 German Diction**

A study of the International Phonetic Alphabet (IPA) and its application to singing in German.

Approval Number.....	50.0908.53	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		32

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify IPA symbols and their sounds.
2. Accurately reproduce sounds associated with IPA symbols.

3. Transcribe texts with appropriate IPA symbols.
4. Perform songs in German in a way that demonstrates accurate diction.

### **MUSI 2161 French Diction**

A study of the International Phonetic Alphabet (IPA) and its application to singing in French.

Approval Number.....	50.0908.53	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		32

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify IPA symbols and their sounds.
2. Accurately reproduce sounds associated with IPA symbols.
3. Transcribe texts with appropriate IPA symbols.
4. Perform songs in French in a way that demonstrates accurate diction.

### **MUSI 1181 Piano Class I**

Beginning class instruction in the fundamentals of keyboard technique.

Approval Number.....	50.0907.51	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Produce five finger patterns in major and minor keys.
2. Play major and minor scales in selected keys.
3. Construct and play chords of different qualities.
4. Harmonize a melody.
5. Perform selected compositions.

### **MUSI 1182 Piano Class II**

Advanced beginning class instruction in the fundamentals of keyboard technique.

Approval Number.....	50.0907.51	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Play additional major and minor scales.
2. Introduce select chord progressions and concepts of voice leading.
3. Continued harmonization of melodies.
4. Perform selected compositions.

### MUSI 2181 Piano Class III

Intermediate class instruction of keyboard technique.

Approval Number.....	50.0907.51	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Play additional major and minor scales and arpeggios.
2. Harmonize melodies using varied accompaniment techniques.
3. Perform selected compositions.

### MUSI 2182 Piano Class IV

Advanced class instruction of keyboard technique.

Approval Number.....	50.0907.51	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate mastery of scales and chord progressions.
2. Demonstrate mastery of the harmonization of melodies using varied accompaniment techniques.
3. Demonstrate competence in various transpositions.
4. Perform selected compositions.

### MUSI 1183 Voice Class

Class instruction in the fundamentals of singing including breathing, tone production, and

diction. Designed for students with little or no previous voice training. Does not apply to a music major degree.

Approval Number.....	50.0908.51	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply principles of healthy efficient singing, including posture, breath management, and resonance.
2. Demonstrate proper performance techniques, including diction, articulation, and intonation.
3. Perform with technical and musical accuracy.

### **MUSI 1188 Percussion Class**

Class instruction in the fundamental techniques of playing percussion instruments.

Approval Number.....	50.0903.51	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate fundamental playing techniques for snare drum and mallet keyboard instruments.
2. Identify and distinguish characteristics for the traditional percussion instrument categories: snare drum, keyboard instruments, timpani, multi-percussion, drum set, and orchestral accessories.
3. Identify the appropriate percussion instrument requirements for various applications.
4. Demonstrate basic proficiency in methods of maintenance of such equipment.

### **MUSI 1192 Guitar Class**

Class instruction in fundamental guitar playing, including technique, music-reading, fretboard theory, melodic and harmonic realizations.

Approval Number.....	50.0911.51	26
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Show proper left- and right-hand technique.
2. Demonstrate an understanding of basic music reading in first position.
3. Perform basic harmonic chord progressions.

### **MUSI 2311 Music Theory III (3 SCH version)**

Advanced harmony voice leading, score analysis and writing of more advanced tonal harmony including chromaticism and extended-tertian structures. Optional correlated study at the keyboard.

Approval Number.....	50.0904.52	26
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		96

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Construct and identify extended-tertian and chromatic harmonies.
2. Analyze musical compositions, which include various forms of tonal modulation utilizing standard roman-numeral symbols.
3. Demonstrate proper voice-leading practices through composition in appropriate styles.
4. Demonstrate concepts covered in class on the keyboard, including progressions that utilize modulation.
5. Demonstrate an understanding of rhythmic meter and note duration through score analysis and composition.

### **MUSI 2312 Music Theory IV (3 SCH version)**

Continuation of advanced chromaticism and survey of analytical and compositional procedures in post-tonal music. Optional correlated study at the keyboard.

Approval Number.....	50.0904.52	26
Maximum SCH per student.....		3
Maximum SCH per course.....		3
Maximum contact hours per course.....		96

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Construct and identify advanced chromatic harmonies.
2. Analyze musical compositions that utilize advanced chromatic harmonies and foreign-key modulation techniques.
3. Analyze musical compositions that utilize a variety of post-tonal practices.
4. Compose music utilizing appropriate post-tonal practices.

5. Demonstrate musical concepts covered in class on the keyboard.
6. Demonstrate an understanding of rhythmic meter and note duration through score analysis and composition.

**MUSI 2116 Sight Singing & Ear Training III** (1 SCH version)

Singing more difficult tonal music in various clefs, aural study including dictation of more complex rhythm, melody, chromatic harmony, and extended tertian structures.

Approval Number.....	50.0904.57	26
maximum SCH per student.....		1
maximum SCH per course.....		1
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply a method of sight singing to more difficult tonal melodies, oral demonstration of complex rhythms.
2. Classify more difficult elements of music, including extended-tertian chords, compound intervals, and non-diatonic scales.
3. Transcribe more complex rhythms and diatonic and non-diatonic melodies.
4. Transcribe and analyze diatonic and chromatic harmonies.
5. Read and reproduce rhythms in various meters, including syncopation and irregular beat divisions.

**MUSI 2117 Sight Singing & Ear Training IV** (1 SCH version)

Singing advanced tonal music and introduction of modal and post-tonal melodies. Aural study including dictation of advanced rhythm, melody, and harmony.

Approval Number.....	50.0904.57	26
maximum SCH per student.....		1
maximum SCH per course.....		1
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply a method of sight singing to more difficult diatonic and non-diatonic melodies, including modes and non-tonal scales.
2. Transcribe more complex rhythms, including contemporary materials.
3. Transcribe increasingly more chromatic melodies.
4. Transcribe and analyze diatonic and chromatic harmonies.
5. Read and reproduce rhythms in various meters, including asymmetrical meters, syncopation, and irregular beat divisions.

**MUSI 2289 Academic Cooperative** (2 SCH version)  
**MUSI 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of music.

Approval Number..... 24.0103.52 12  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course.....144

**PHED (Physical Education)**

**KINE** (Kinesiology) may be used as an alternate Common Numbering rubric for PHED courses.

**Physical Activities**

Instruction and participation in physical and recreational activities. (Physical Fitness and Sport majors may have the option of eight credits.) (NOTE: Any number in the ranges 1100-1150 and 2100-2150 may be used for Physical Education activity and Recreational Dance, as opposed to theory/classroom, courses. Because such courses are so numerous and their specific course equivalency typically is not a significant transfer credit issue, no attempt has been made in the ACGM and the TCCN Matrix to standardize individual numbers within these ranges.)

Approval Number..... 36.0108.51 23  
 maximum SCH per student..... 4 (non-major); 8 (major)  
 maximum SCH per course ..... 1  
 maximum contact hours per course..... 48

**Recreational Dance**

Instruction and participation in folk, social, tap, or other dance forms. NOTE: These courses are recreational in nature and should bear the KINE/PHED prefix instead of the DANC prefix. (NOTE: Any number in the ranges 1100-1150 and 2100-2150 may be used for Physical Education activity and Recreational Dance, as opposed to theory/classroom, courses. Because such courses are so numerous and their specific course equivalency typically is not a significant transfer credit issue, no attempt has been made in the ACGM and the TCCN Matrix to standardize individual numbers within these ranges.)

Approval Number..... 36.0114.51 23  
 maximum SCH per student..... 4 (non-major); 8 (major)  
 maximum SCH per course ..... 1  
 maximum contact hours per course..... 48

## **PHED 1164 Introduction to Physical Fitness & Wellness**

This course will provide an overview of the lifestyle necessary for fitness and health. Students will participate in physical activities and assess their fitness status. Students will be introduced to proper nutrition, weight management, cardiovascular health, flexibility, and strength training.

Approval Number.....	31.0501.52	23
maximum SCH per student.....		1
maximum SCH per course .....		1
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe how the components of physical fitness impact health and wellness.
2. Explain the influence of personal behaviors and personal responsibilities on the development, treatment, and prevention of hypokinetic diseases, infectious diseases, stress, and addiction.
3. Analyze the relationship between physical activity, inactivity, and nutrition on weight and body composition.
4. Plan, implement, and evaluate a personal fitness program.
5. Develop an appreciation and positive attitude for a healthy lifestyle and the effects of global trends on physical activity.

## **PHED 1301 Foundations of Kinesiology**

The purpose of this course is to provide students with an introduction to human movement that includes the historical development of physical education, exercise science, and sport. This course offers the student both an introduction to the knowledge base, as well as information on expanding career opportunities.

Approval Number.....	31.0501.52	23
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Distinguish between and identify terminology and research within the sub-disciplines in the field of Kinesiology and their application to diverse careers.
2. Summarize the historical and philosophical approaches to physical activity, physical education, exercise science and sport.
3. Identify the characteristics of a physically educated person and the importance of assessment and advocacy in physical education, exercise science, and sport.
4. Discuss how the changing nature of education and technological advances may influence physical education, exercise science, and sport in the future.

- Identify major professional organizations, foundations, and associations supporting physical activity at local, state, national and international levels as well as data tools and resources.

### **PHED 1346 Drug Use & Abuse**

Study of the use, misuse and abuse of drugs and other harmful substances in today's society. Physiological, sociological, pharmacological and psychological factors will be emphasized.

Approval Number.....	51.1504.52	16
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

- Analyze the physiological, pharmacological and psychological effects of licit and illicit drugs, related to use, misuse and abuse including (but not limited to) alcohol, tobacco, performance enhancing, over-the-counter prescription, and designer/synthetic drugs.
- Evaluate the sociological impact of drugs within the context of health literacy, recreational use, social implications, stereotypes, family dynamics and work environments.
- Articulate and apply behaviors related to personal responsibility including (but not limited to) healthy attitudes and behaviors, refusal skills, decision-making, and risk-taking behavior.
- Compare and contrast how dependence and addiction occur including (but not limited to) treatments and prevention strategies.
- Survey the historical influence on the drug-oriented society, sport and cultural beliefs and its bearing on personal drug behavior to include (but not limited to) laws that arise related to substance use, misuse, and abuse.

### **PHED 1306 First Aid**

Instruction and practice for emergency care. Designed to enable students to recognize and avoid hazards within their environment, to render intelligent assistance in case of accident or sudden illness, and to develop skills necessary for the immediate and temporary care of the victim. Successful completion of the course may enable the student to receive a certificate from a nationally recognized agency.

Approval Number.....	51.1504.53	16
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Explain the workings of the systems in the human body particularly those systems, which are likely affected in emergency care.
2. Recognize and meet the needs of emergency situations including (but not limited to) first aid care, emergency assistance, life support skills, EMS protocols, CPR, and AED.
3. Justify layperson and professional roles and responsibilities in emergency situations including but not limited to legal ramifications, barriers to action, requirements for action, and psychological responses.
4. Explain and demonstrate skills for treating victims including (but not limited to) musculoskeletal injuries, bleeding, choking, and environmental emergencies.
5. Explain and demonstrate skills for respiratory distress including (but not limited to) CPR, rescue breathing, obstructed airway, and usage of an AED devices.
6. Promote safety and preventative educational methods that reduce the risk of injury, accidents, and life-style related diseases.

**PHED 1304 Personal/Community Health**

This course provides an introduction to the fundamentals, concepts, strategies, applications, and contemporary trends related to understanding personal and/or community health issues. This course also focuses on empowering various populations with the ability to practice healthy living, promote healthy lifestyles, and enhance individual well-being.

Approval Number.....	51.1504.51.16
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Evaluate the dimensions of health and how they relate to personal and/or community wellness.
2. Explain the importance of nutrition, a healthy lifestyle, and staying physically active in preventing premature disease and promoting wellness.
3. Describe the leading health problems, trends, and needs of diverse populations.
4. Identify major agencies, foundations, and associations supporting health at local, state, national and international levels as well as data tools and resources.
5. Evaluate sources of health information, including the internet, to determine reliability.
6. Develop and implement a plan of healthy behavior to meet personal and community needs to enhance quality of life.

**PHED 1308 Sports Officiating**

The purpose of the course is to study officiating requirements for sports and games with an emphasis on mechanics, rule interpretation, and enforcement.

Approval Number.....	31.0101.51 23
maximum SCH per student.....	3

maximum SCH per course .....	3
maximum contact hours per course.....	64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Interpret and enforce contest rules in a variety of sports and games.
2. Demonstrate officiating mechanics and techniques in a variety of sports and games for appropriate age and skill level.
3. Develop a personal philosophy guided by rules, ethics, and etiquette necessary to be an effective official.
4. Apply problem-solving techniques relevant to officiating a sports contest and how to maintain a positive self-image in a group contest environment.
5. Assess and manage player, coach, and spectator behaviors when officiating to provide a healthy sport environment.
6. Identify governing bodies of various sports and procedures for becoming an official.

**PHED 1321 Coaching/Sports/Athletics I**

Study of the history, theories, philosophies, rules, and terminology of competitive sports. Includes coaching techniques.

Approval Number.....	31.0505.51	23
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

**PHED 1331 Physical Education for Elementary Education Majors**

An overview of the program of activities in elementary school physical education. Includes the study and practice of activities and principles that promote physical fitness with an emphasis on historical development, philosophical implications, physical fitness, and kinesiology.

Approval Number.....	31.0501.52	23
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**PHED 1336 Introduction to Recreation**

Fundamental theory and concepts of recreational activities with emphasis on programs, planning, and leadership.

Approval Number.....	31.0101.51	23
maximum SCH per student.....		3
maximum SCH per course .....		3

maximum contact hours per course..... 48

### **PHED 1338 Concepts of Physical Fitness**

This course is designed to familiarize students with knowledge, understanding and values of health related fitness and its influence on the quality of life emphasizing the development and implementation of fitness programs.

Approval Number..... 31.0501.51 23  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course.....96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the elements of health-related physical fitness, performance related physical fitness, inactivity, and hypokinetic diseases on health and wellness.
2. Distinguish the influence of personal behavior and responsibility on the development, treatment, and prevention of infectious diseases, stress, and addictions.
3. Compare and contrast the relationships among physical activity, nutrition, and body composition.
4. Participate in physical fitness activities that will aid in assessing personal health related fitness.
5. Design, implement, and evaluate fitness programs to promote societal lifetime physical fitness.

### **PHED 2356 Care and Prevention of Athletic Injuries**

Prevention and care of athletic injuries with emphasis on qualities of a good athletic trainer, avoiding accidents and injuries, recognizing signs and symptoms of specific sports injuries and conditions, immediate and long-term care of injuries, and administration procedures in athletic training.

Approval Number..... 51.0913.52 16  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 48

## **PHIL (Philosophy)**

### **PHIL 1301 Introduction to Philosophy**

A study of major issues in philosophy and/or the work of major philosophical figures in philosophy. Topics in philosophy may include theories of reality, theories of knowledge, theories of value, and their practical applications.

Approval Number.....	38.0101.51	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Read, analyze, and critique philosophical texts.
2. Demonstrate knowledge of key concepts, major arguments, problems, and terminology in philosophy.
3. Present logically persuasive arguments both orally and in writing.
4. Demonstrate critical thinking skills in evaluation and application of philosophical concepts to various aspects of life.
5. Evaluate the personal and social responsibilities of living in a diverse world.

**PHIL 1304 Introduction to World Religions**

A comparative study of world religions, including but not limited to Hinduism, Buddhism, Judaism, Christianity, and Islam.

Approval Number.....	38.0201.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Read, analyze, and critique religious texts.
2. Demonstrate knowledge of beliefs, practices, values, and terminology of major world religions.
3. Trace the historical developments and cultural expressions of world religions.
4. Articulate key conceptual distinctions in world religions.
5. Communicate understanding of world religions, orally or in writing.
6. Communicate ways of living responsibly in a world where people have diverse religious beliefs.

**PHIL 2303 Introduction to Formal Logic**

The purpose of the course is to introduce the student to symbolic logic, including syllogisms, propositional and predicate logic, and logical proofs in a system of rules.

Approval Number.....	38.0101.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3

maximum contact hours per course..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Determine the logical structure of English arguments by identifying premises and conclusions.
2. Understand basic concepts in logic, such as truth functionality, validity, soundness, counter-examples, tautology, self-contradiction, logical equivalence, logical contradictoriness, and logical consistence.
3. Translate English statements into propositional and/or predicate notation.
4. Determine the validity of symbolic propositional or predicate arguments using such methods as direct/indirect truth tables, natural deduction, and/or the finite universe method.

**PHIL 2306 Introduction to Ethics**

The systematic evaluation of classical and/or contemporary ethical theories concerning the good life, human conduct in society, morals, and standards of value.

Approval Number..... 38.0101.53 12  
 maximum SCH per student ..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Read, analyze, and critique philosophical texts.
2. Define and appropriately use important terms such as relativism, virtue, duty, rights, utilitarianism, natural law, egoism, altruism, autonomy, and care ethics.
3. Demonstrate knowledge of major arguments and problems in ethics.
4. Present and discuss well-reasoned ethical positions in writing.
5. Apply ethical concepts and principles to address moral concerns.
6. Apply course material to various aspects of life.
7. Discuss ways of living responsibly in a world where people have diverse ethical beliefs.

**PHIL 2307 Introduction to Social & Political Philosophy**

A study of major issues in social and political theory and/or the work of major philosophical figures in this area.

Approval Number..... 38.0101.54 12  
 maximum SCH per student ..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Read, analyze, and critique texts in social and political philosophy.
2. Define and appropriately use important terms common to social and political philosophy.
3. Demonstrate knowledge of major forms of government and social systems.
4. Assess and evaluate social and political theories orally and/or in writing.
5. Apply course materials to social and political concerns including living responsibly in a world where people have diverse political priorities.
6. Apply course material to various aspects of life.
7. Discuss ways of living responsibly in a world where people have diverse political beliefs.

### **PHIL 2316      Classical Philosophy**

Study of major philosophers and philosophical themes from the ancient through medieval periods.

Approval Number.....	38.0101.55	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Read, analyze, and critique philosophical texts.
2. Demonstrate knowledge of major arguments, problems, and terminology in philosophy.
3. Trace and present orally or in writing the origin and historical developments of selected philosophical traditions.
4. Articulate key conceptual distinctions in philosophy.
5. Present logically persuasive arguments in writing.
6. Demonstrate an ability to discuss and reflect upon the application of the course material to various aspects of life.

### **PHIL 2321      Philosophy of Religion**

A study of the major issues in the philosophy of religion such as the existence and nature of God, the relationships between faith and reason, the nature of religious language, religious experience, and the problem of evil

Approval Number.....	38.0201.53	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

## Learning Outcomes

Upon successful completion of this course, students will:

1. Read, analyze, and critique texts in the philosophy of religion.
2. Demonstrate knowledge of major arguments, problems, and terminology in the philosophy of religion.
3. Articulate key concepts and issues in the philosophy of religion.
4. Write logically persuasive assessments of key concepts and issues.
5. Discuss the application of philosophy to various aspects of religion.
6. Evaluate the personal and social responsibilities of living in a diverse world.

**PHIL 2289 Academic Cooperative** (2 SCH version)

**PHIL 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of philosophy.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

### **PHYS (Physics)**

**PHYS 1301 College Physics I** (lecture)

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving.

Co-requisite: PHYS 1101 College Physics I (lab)

Prerequisites: MATH 1314 or 1414 College Algebra AND MATH 1316 Plane Trigonometry  
or MATH 2312 or 2412 Pre-Calculus

Approval Number.....	40.0801.53	03
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Determine the components of linear motion (displacement, velocity, and acceleration), and especially motion under conditions of constant acceleration.
2. Apply Newton's laws to physical problems including gravity.
3. Solve problems using principles of energy.
4. Use principles of impulse and linear momentum to solve problems.

5. Solve problems in rotational kinematics and dynamics, including the determination of the location of the center of mass and center of rotation for rigid bodies in motion.
6. Solve problems involving rotational and linear motion.
7. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level.
8. Demonstrate an understanding of equilibrium, including the different types of equilibrium.
9. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions.
10. Solve problems using the principles of heat and thermodynamics.
11. Solve basic fluid mechanics problems.

**PHYS 1101 College Physics I (lab)**

This laboratory-based course accompanies PHYS 1301, College Physics I. Laboratory activities will reinforce fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton’s Laws of Motion, and gravitation and other fundamental forces; emphasis will be on problem solving.

Co-requisite: PHYS 1301 College Physics I (lecture)

Approval Number.....	40.0801.53 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate techniques to set up and perform experiments, collect data from those experiments, and formulate conclusions from an experiment.
2. Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.
3. Determine the components of linear motion (displacement, velocity, and acceleration), and especially motion under conditions of constant acceleration.
4. Apply Newton’s laws to physical problems including gravity.
5. Solve problems using principles of energy.
6. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level.
7. Use principles of impulse and linear momentum to solve problems.
8. Solve problems in rotational kinematics and dynamics, including the determination of the location of the center of mass and center of rotation for rigid bodies in motion.
9. Solve problems involving rotational and linear motion.
10. Demonstrate an understanding of equilibrium, including the different types of equilibrium.
11. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions.
12. Solve problems using the principles of heat and thermodynamics.
13. Solve basic fluid mechanics problems.

**PHYS 1401 College Physics I (lecture + lab)**

This lecture and lab course should combine all of the elements of PHYS 1301 (lecture) and PHYS 1101 (lab), including the learning outcomes listed for both courses.

Approval Number.....	40.0801.53 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

**PHYS 1302 College Physics II (lecture)**

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving.

Co-requisite: PHYS 1102 College Physics II (lab)

Prerequisites: PHYS 1301/1101 or PHYS 1401 College Physics I (lecture + lab)

Approval Number.....	40.0801.53 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Solve problems involving the inter-relationship of fundamental charged particles, and electrical forces, fields, and currents.
2. Apply Kirchhoff's Rules to analysis of circuits with potential sources, capacitance, inductance, and resistance, including parallel and series capacitance and resistance.
3. Solve problems in the electrostatic interaction of point charges through the application of Coulomb's Law.
4. Solve problems involving the effects of magnetic fields on moving charges or currents, and the relationship of magnetic fields to the currents that produce them.
5. Use Faraday's and Lenz's laws to determine electromotive forces and solve problems involving electromagnetic induction.
6. Articulate the principles of reflection, refraction, diffraction, interference, and superposition of waves.
7. Describe the characteristics of light and the electromagnetic spectrum.

**PHYS 1102 College Physics II (lab)**

This laboratory-based course accompanies PHYS 1302, College Physics II. Laboratory activities will reinforce fundamental principles of physics, using algebra and trigonometry; the principles

and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving.

Co-requisite: PHYS 1302 College Physics II (lecture)

Approval Number.....	40.0801.53 03
maximum SCH per student.....	1
maximum SCH per course .....	1
maximum contact hours per course.....	64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Develop techniques to set up and perform experiments, collect data from those experiments, and formulate conclusions from an experiment.
2. Demonstrate the collections, analysis, and reporting of data using the scientific method.
3. Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.
4. Solve problems involving the inter-relationship of fundamental charged particles, and electrical forces, fields, and currents.
5. Apply Kirchoff's Rules to analysis of circuits with potential sources, capacitance, inductance, and resistance, including parallel and series capacitance and resistance.
6. Solve problems in the electrostatic interaction of point charges through the application of Coulomb's Law.
7. Solve problems involving the effects of magnetic fields on moving charges or currents, and the relationship of magnetic fields to the currents that produce them.
8. Use Faraday's and Lenz's laws to determine electromotive forces and solve problems involving electromagnetic induction.
9. Solve problems applying the principles of reflection, refraction, diffraction, interference, and superposition of waves.
10. Solve practical problems involving optics, lenses, mirrors, and optical instruments.

### PHYS 1402 College Physics II (lecture + lab)

This lecture and lab course should combine all of the elements of PHYS 1302 (lecture) and PHYS 1102 (lab), including the learning outcomes listed for both courses.

Approval Number.....	40.0801.53 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	112

- PHYS 1405 Elementary Physics I** (lecture + lab)
- PHYS 1305 Elementary Physics I** (lecture)
- PHYS 1105 Elementary Physics I** (lab)

**PHYS 1407 Elementary Physics II** (lecture + lab)  
**PHYS 1307 Elementary Physics II** (lecture)  
**PHYS 1107 Elementary Physics II** (lab)

**PHYS 1410 Elementary Physics** (single-semester course, lecture + lab)  
**PHYS 1310 Elementary Physics** (single-semester course, lecture)  
**PHYS 1110 Elementary Physics** (single-semester course, lab)

Conceptual level survey of topics in physics intended for liberal arts and other non-science majors. May or may not include a laboratory.

Approval Number..... 40.0801.51 03  
maximum SCH per student..... 8  
maximum SCH per course ..... 4  
maximum contact hours per course..... 96

**PHYS 1403 Stars and Galaxies** (lecture + lab)  
**PHYS 1303 Stars and Galaxies** (lecture)  
**PHYS 1103 Stars and Galaxies** (lab)

Study of stars, galaxies, and the universe outside our solar system. May or may not include a laboratory. (Cross-listed as ASTR 1403, 1303, & 1103)

Approval Number..... 40.0201.51 03  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course..... 96

**PHYS 1404 Solar System** (lecture + lab)  
**PHYS 1304 Solar System** (lecture)  
**PHYS 1104 Solar System** (lab)

Study of the sun and its solar system, including its origin. May or may not include a laboratory. (Cross-listed as ASTR 1404, 1304, & 1104)

Approval Number..... 40.0201.52 03  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course..... 96

**PHYS 1415 Physical Science I** (lecture + lab)  
**PHYS 1315 Physical Science I** (lecture)  
**PHYS 1115 Physical Science I** (lab)

**PHYS 1417 Physical Science II** (lecture + lab)  
**PHYS 1317 Physical Science II** (lecture)

**PHYS 1117 Physical Science II (lab)**

Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology. May or may not include a laboratory.

Approval Number.....	40.0101.51 03
maximum SCH per student.....	8
maximum SCH per course .....	4
maximum contact hours per course.....	96

**PHYS 2325 University Physics I (lecture)**

Fundamental principles of physics, using calculus, for science, computer science, and engineering majors; the principles and applications of classical mechanics, including harmonic motion, physical systems and thermodynamics; and emphasis on problem solving.

Co-requisite: PHYS 2125 University Physics I (lab)

Prerequisite: MATH 2313 or 2413 Calculus I

Approval Number.....	40.0801.52 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Determine the components of linear motion (displacement, velocity, and acceleration), and especially motion under conditions of constant acceleration.
2. Solve problems involving forces and work.
3. Apply Newton’s laws to physical problems.
4. Identify the different types of energy.
5. Solve problems using principles of conservation of energy.
6. Define the principles of impulse, momentum, and collisions.
7. Use principles of impulse and momentum to solve problems.
8. Determine the location of the center of mass and center of rotation for rigid bodies in motion.
9. Discuss rotational kinematics and dynamics and the relationship between linear and rotational motion.
10. Solve problems involving rotational and linear motion.
11. Define equilibrium, including the different types of equilibrium.
12. Discuss simple harmonic motion and its application to real-world problems.
13. Solve problems involving the First and Second Laws of Thermodynamics.

**PHYS 2125 University Physics I (lab)**

Basic laboratory experiments supporting theoretical principles presented in PHYS 2325 involving the principles and applications of classical mechanics, including harmonic motion and physical systems; experimental design, data collection and analysis, and preparation of laboratory reports.

Co-requisite: PHYS 2325 University Physics I (lecture)

Approval Number..... 40.0801.53 03  
maximum SCH per student..... 1  
maximum SCH per course ..... 1  
maximum contact hours per course..... 48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Prepare laboratory reports that clearly communicate experimental information in a logical and scientific manner.
2. Conduct basic laboratory experiments involving classical mechanics.
3. Relate physical observations and measurements involving classical mechanics to theoretical principles.
4. Evaluate the accuracy of physical measurements and the potential sources of error in the measurements.
5. Design fundamental experiments involving principles of classical mechanics.
6. Identify appropriate sources of information for conducting laboratory experiments involving classical mechanics.

### PHYS 2425 University Physics I (lecture + lab)

This lecture and lab course should combine all of the elements of PHYS 2325 University Physics I lecture and PHYS 2125 University Physics I lab, including the learning outcomes listed for both courses.

Approval Number..... 40.0801.54 03  
maximum SCH per student..... 4  
maximum SCH per course ..... 4  
maximum contact hours per course..... 96

### PHYS 2326 University Physics II (lecture)

Principles of physics for science, computer science, and engineering majors, using calculus, involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics.

Co-requisite: PHYS 2126 University Physics II (lab)

Prerequisites: PHYS 2325 University Physics I (lecture), MATH 2414 Calculus II

Approval Number..... 40.0801.55 03

maximum SCH per student .....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Articulate the fundamental concepts of electricity and electromagnetism, including electrostatic potential energy, electrostatic potential, potential difference, magnetic field, induction, and Maxwell's Laws.
2. State the general nature of electrical forces and electrical charges, and their relationship to electrical current.
3. Solve problems involving the inter-relationship of electrical charges, electrical forces, and electrical fields.
4. Apply Kirchhoff's Laws to analysis of circuits with potential sources, capacitance, and resistance, including parallel and series capacitance and resistance.
5. Calculate the force on a charged particle between the plates of a parallel-plate capacitor.
6. Apply Ohm's law to the solution of problems.
7. Describe the effects of static charge on nearby materials in terms of Coulomb's Law.
8. Use Faraday's and Lenz's laws to find the electromotive forces.
9. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level.
10. Articulate the principles of reflection, refraction, diffraction, interference and superposition of waves.
11. Solve real-world problems involving optics, lenses, and mirrors.

### PHYS 2126 University Physics II (lab)

Laboratory experiments supporting theoretical principles presented in PHYS 2326 involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics; experimental design, data collection and analysis, and preparation of laboratory reports.

Co-requisite: PHYS 2326 University Physics II (lecture)

Approval Number.....	40.0801.56 03
maximum SCH per student .....	1
maximum SCH per course .....	1
maximum contact hours per course.....	48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Prepare laboratory reports that clearly communicate experimental information in a logical and scientific manner.
2. Conduct basic laboratory experiments involving electricity and magnetism.
3. Relate physical observations and measurements involving electricity and magnetism to theoretical principles.

4. Evaluate the accuracy of physical measurements and the potential sources of error in the measurements.
5. Design fundamental experiments involving principles of electricity and magnetism.
6. Identify appropriate sources of information for conducting laboratory experiments involving electricity and magnetism.

**PHYS 2426 University Physics II** (lecture + lab)

This lecture and lab course should combine all of the elements of 2326 University Physics II Lecture and 2126 University Physics II Lab, including the learning outcomes listed for both courses.

Approval Number.....	40.0801.57 03
maximum SCH per student.....	4
maximum SCH per course .....	4
maximum contact hours per course.....	96

**PHYS 2289 Academic Cooperative** (2 SCH version)

**PHYS 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena.

Approval Number.....	40.0101.58 03
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	144

**PORT (Portuguese Language)**

**PORT 1411 Beginning Portuguese I** (4 SCH version)

**PORT 1412 Beginning Portuguese II** (4 SCH version)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number.....	16.0904.51 13
maximum SCH per student.....	8
maximum SCH per course .....	4
maximum contact hours per course.....	112

**PORT 2311 Intermediate Portuguese I**

**PORT 2312 Intermediate Portuguese II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number.....	16.0904.52	13
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		80

### **PSYC (Psychology)**

- PSYC 1100    Learning Framework** (1 SCH version)
- PSYC 1200    Learning Framework** (2 SCH version)
- PSYC 1300    Learning Framework** (3 SCH version)

A study of the 1) research and theory in the psychology of learning, cognition, and motivation, 2) factors that impact learning, and 3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. (Cross-listed as EDUC 1300)

**(NOTE:** While traditional study skills courses include some of the same learning strategies, e.g., note-taking, reading, test preparation as learning framework courses, the focus of study skills courses is solely or primarily on skill acquisition. Study skills courses, which are not under-girded by scholarly models of the learning process, are not considered college-level and therefore are distinguishable from Learning Framework courses.)

Approval Number.....	42.2701.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **PSYC 2301    General Psychology**

General Psychology is a survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes.

Approval Number.....	42.0101.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify various research methods and their characteristics used in the scientific study of psychology.
2. Describe the historical influences and early schools of thought that shaped the field of psychology.
3. Describe some of the prominent perspectives and approaches used in the study of psychology.
4. Use terminology unique to the study of psychology.
5. Describe accepted approaches and standards in psychological assessment and evaluation.
6. Identify factors in physiological and psychological processes involved in human behavior.

### **PSYC 2306 Human Sexuality**

This course will provide an overview of the broad field of human sexuality. Topics will be covered from various perspectives – biological, sociological, anthropological, etc., but will focus primarily on the psychological perspective. The goal is for each student to learn factual, scientifically based information that will provoke thought and contribute to his/her own decision-making on sexual issues outside of the classroom. (Cross-listed as SOCI 2306)

Approval Number.....	42.0101.53	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify common myths of human sexual functioning.
2. Identify human sexual behaviors and sexual responses.
3. Explain the relationship between sexuality and developmental changes throughout the lifespan.
4. Describe the causes, symptoms, and treatments for sexually transmitted infections and the behaviors that increase and decrease the risk of contracting an STI.
5. Describe the principles of effective communication and the specific barriers to effective communication about sex and sexuality.
6. Use an academic sexual vocabulary.
7. Discuss cultural differences in sexual attitudes and behaviors.
8. Identify the occurrence and causes of sexual variations.
9. Identify contraceptive methods and explain how these methods prevent conception.

### **PSYC 2307 Adolescent Psychology**

This course explores the physical, behavioral, mental, emotional, and social changes that accompany growth and development in adolescence. The purpose of this course is to provide an overview of theories, research, issues, and applications related to adolescent development.

Approval Number.....	42.2710.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the major theoretical perspectives in normal adolescent development.
2. Identify major changes in physical, cognitive and socioemotional development associated with adolescence.
3. Distinguish between normal and abnormal behavior (psychological problems) and development within adolescence.
4. Identify factors that put adolescents at risk.

**PSYC 2308 Child Psychology**

This course will address psychological development from conception through middle childhood with references to physical, cognitive, social and personality changes. Students will examine the interplay of biological factors, human interaction, social structures and cultural forces in development.

Approval Number.....	42.2703.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe how human beings change physically, cognitively, socially and emotionally from conception through childhood.
2. Identify fundamental concepts and theories, both recent and historical, within the field of child psychology.
3. Evaluate research issues and methodologies used to investigate developmental phenomena.
4. Describe the process of development and the multiple sources of influence on a developing child.

**PSYC 2314 Lifespan Growth & Development**

Life-Span Growth and Development is a study of social, emotional, cognitive and physical factors and influences of a developing human from conception to death.

Approval Number.....	42.2703.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3

maximum contact hours per course..... 48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the stages of the developing person at different periods of the life span from birth to death.
2. Discuss the social, political, economic, and cultural forces that affect the development process of the individual.
3. Identify factors of responsible personal behavior with regard to issues such as sexual activity, substance abuse, marriage and parenting.
4. Explain the biosocial, cognitive and psychological influences throughout the lifespan as an ongoing set of processes, involving both continuity and change.
5. Describe the different developmental perspectives of the major theories of development (i.e. cognitive, learning, humanistic and psychodynamic).
6. Identify examples of some of the cultural and ethnic differences that influence development throughout the lifespan.
7. Discuss the various causes or reasons for disturbances in the developmental process.

**PSYC 2315 Psychology of Adjustment**

Study of the processes involved in adjustment of individuals to their personal and social environments.

Approval Number..... 42.0101.56 25  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 48

**PSYC 2316 Psychology of Personality**

Study of various approaches to determinants, development, and assessment of personality.

Approval Number..... 42.0101.57 25  
 maximum SCH per student..... 3  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 48

**PSYC 2317 Statistical Methods in Psychology**

This course covers descriptive and inferential statistics used in psychological research and assessment. It includes measurement, characteristics of distributions; measures of central tendency and variability; transformed scores; correlation and regression; probability theory; and hypotheses testing and inference. (PSYC 2317 is included in the Psychology Field of Study.)

Prerequisite: PSYC 2301 General Psychology

## MATH 1314 College Algebra

Approval Number.....	42.0101.52	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Compute and interpret empirical and theoretical probabilities.
2. Define and explain the characteristics of data based on their reliability, validity, and scales of measurement.
3. Interpret visual representations of data, such as graphs and tables.
4. Compute and interpret descriptive statistics, such as mean, median, and mode; standard deviation and range; and transformed scores.
5. Compute and interpret inferential statistics and tests, such as z test, t test, ANOVA, and Chi-Square.
6. Calculate, evaluate, and interpret simple linear correlation/regression.
7. Construct and interpret confidence intervals.
8. Examine, analyze, and compare various sampling distributions.
9. Formulate, perform, and interpret hypotheses tests.
10. Identify the appropriate statistical analyses for given research problems, questions, hypotheses, and data sets.
11. Apply statistical knowledge to the interpretation of psychological research.
12. Explain features and purpose of statistical software packages.

### PSYC 2319 Social Psychology

Study of individual behavior within the social environment. Topics may include socio-psychological processes, attitude formation and change, interpersonal relations, group processes, self, social cognition, and research methods. (PSYC 2319 is included in the Psychology Field of Study.)

Approval Number.....	42.2707.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

Prerequisite: PSYC 2301 General Psychology

### Learning Outcomes

Upon successful completion of this course, students will:

1. Define social psychology and related terminology.
2. Discuss the relationship between the person and the situation and its influence on attitudes, prejudice, aggression, prosocial behavior, and interpersonal relationships.

3. Describe the dynamics of group behavior in areas of social influence, such as altruism, conformity, obedience, deindividuation, leadership, intergroup relations, and conflict and cooperation.
4. Identify and evaluate the current and historical research, and research methods of social psychology, including ethical considerations.
5. Apply social psychological principles to real-world issues.

**PSYC 2320 Abnormal Psychology**

This course provides an introduction to the psychological, biological, and socio-cultural factors involved in the development, diagnosis, and treatment of psychological disorders. It includes a review of the historical understanding of abnormal behavior and the development of modern diagnostic systems. It includes discussion of psychological research and practice as it relates to mental health and psychological functioning, as well as legal and ethical issues. (PSYC 2320 is included in the Psychology Field of Study.)

Prerequisite: PSYC 2301 General Psychology

Approval Number.....	42.0101.52	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Discuss the historical antecedents to modern understandings of abnormal behavior.
2. Identify and describe the major classes and characteristics of psychological disorders as presented in the Diagnostic and Statistical Manual (DSM).
3. Describe the factors and theoretical perspectives related to the development and maintenance of different types of abnormal behavior.
4. List the primary treatments for psychological disorders and discuss their effectiveness.
5. Discuss the current research and methodological issues in the study of abnormal behavior.
6. Discuss the legal and ethical issues associated with the treatment of and research related to abnormal behavior.
7. Develop an understanding of how social and cultural factors impact the expression of psychological disorders.
8. Examine the impact of biological factors on the development of psychological disorders.

**PSYC 2330 Biological Psychology**

An introduction to the biological bases of behavior. Topics include evolution, genetics, research methods in behavioral neuroscience, motivation and emotion, sensation and perception, learning and memory, lifespan development, cognition, psychological disorders, and other complex behaviors. (PSYC 2330 is included in the Psychology Field of Study.)

Prerequisites: PSYC 2301 General Psychology

Approval Number.....	42.0101.52	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Define and explain the biological foundations of behavior, including theories, history, and research methods.
2. Describe the evolution and development of the nervous system – neuroanatomy, neurophysiology, neurotransmission, and neuroendocrinology.
3. Identify the structures and function that underlie sensation, perception, and motor control.
4. Identify and discuss the regulation of behavior, including motivation and emotion, sexual behavior, and biological rhythms.
5. Articulate the biological components of learning, memory, and language.
6. Describe the biological underpinnings of age-related changes in cognition and socioemotional functioning over the lifespan.
7. Examine how biological processes impact health and well-being.

**PSYC 2289    Academic Cooperative** (2 SCH version)  
**PSYC 2389    Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on experience in psychology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

Approval Number.....	45.0101.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**RNSG (Nursing)**

**RNSG 1413    Foundations for Nursing Practice** (scheduled for deletion, funding ends August 31, 2021)  
**RNSG 1513    Foundations for Nursing Practice** (scheduled for deletion, funding ends August 31, 2021)

Introduction to the role of the professional nurse as a provider of care, coordinator of care, and member of a profession. Topics include but are not limited to the fundamental concepts of nursing practice, history of professional nursing, a systematic framework for decision-making, mechanisms of disease, the needs and problems that nurses help patients manage, and basic psychomotor skills. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

Approval Number.....	51.3801.51	14
Maximum SCH per student .....		5
Maximum SCH per course.....		5
Maximum contact hours per course.....		144

**RNSG 1105 Nursing Skills I** (scheduled for deletion, funding ends August 31, 2021)  
**RNSG 1205 Nursing Skills I** (scheduled for deletion, funding ends August 31, 2021)

Study of the concepts and principles essential for demonstrating competence in the performance of nursing procedures. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

Approval Number.....	51.3801.52	14
Maximum SCH per student .....		2
Maximum SCH per course.....		2
Maximum contact hours per course.....		80

**RNSG 1144 Nursing Skills II** (scheduled for deletion, funding ends August 31, 2021)  
**RNSG 1244 Nursing Skills II** (scheduled for deletion, funding ends August 31, 2021)

Study of the concepts and principles necessary to perform intermediate or advanced nursing skills; and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

Approval Number.....	51.3801.53	14
Maximum SCH per student .....		2
Maximum SCH per course.....		2
Maximum contact hours per course.....		80

**RNSG 1209 Introduction to Nursing** (scheduled for deletion, funding ends August 31, 2021)  
**RNSG 1309 Introduction to Nursing** (scheduled for deletion, funding ends August 31, 2021)

Overview of nursing and the role of the professional nurse as a provider of care, coordinator of care, and member of a profession. Topics include knowledge, judgment, skills and professional values with a legal/ethical framework. This course lends itself to a blocked approach.

Approval Number.....	51.3801.54	14
Maximum SCH per student .....		3
Maximum SCH per course.....		3
Maximum contact hours per course.....		96

**RNSG 2213 Mental Health Nursing** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

**RNSG 2313 Mental Health Nursing** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of clients and their families. This course lends itself to a blocked approach. (Note: 2113 & 2114 each represent half the required course content and must be offered as a 2-course sequence. A student may not receive credit for both of the single-semester offering and the 2-course sequence.)

Approval Number.....	51.3801.55	14
Maximum SCH per student .....		3
Maximum SCH per course .....		3
Maximum contact hours per course.....		64

**RNSG 1412 Nursing Care of the Childbearing and Childrearing Family** (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1512 Nursing Care of the Childbearing and Childrearing Family** (scheduled for deletion, funding ends August 31, 2021)

Study of the concepts related to the provision of nursing care for childbearing and childrearing families. Application of systematic problem-solving processes and critical thinking skills, including a focus on the childbearing family during preconception, prenatal, antepartum, neonatal, and postpartum periods and the childrearing family from birth to adolescence. Competency in knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

Approval Number.....	51.3801.56	14
Maximum SCH per student .....		5
Maximum SCH per course .....		5
Maximum contact hours per course.....		176

**RNSG 1151 Care of the Childbearing Family** (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1251 Care of the Childbearing Family** (scheduled for deletion, funding ends August 31, 2021)

Study of concepts related to the provision of nursing care for childbearing families. Topics may include selected complications. Topics include knowledge judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

Approval Number.....	51.3801.57	14
Maximum SCH per student .....		2
Maximum SCH per course.....		2
Maximum contact hours per course.....		80

**RNSG 2101 Care of Children and Families** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

**RNSG 2201 Care of Children and Families** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. (Note: 2102 & 2103 each represent half the required course content and must be offered as a 2-course sequence. A student may not receive credit for both the single-semester offering and the 2-course sequence.)

Approval Number.....	51.3801.58	14
Maximum SCH per student .....		2
Maximum SCH per course.....		2
Maximum contact hours per course.....		80

**RNSG 2208 Maternal/Newborn Nursing and Women's Health** (scheduled for deletion, funding ends August 31, 2021)

**RNSG 2308 Maternal/Newborn Nursing and Women's Health** (scheduled for deletion, funding ends August 31, 2021)

Study of concepts related to the provision of nursing care for normal childbearing families and those at risk, as well as women's health issues. Competency in knowledge, judgment, skill, and professional values within a legal/ethical framework, including a focus on normal and high-risk needs for the childbearing family during the preconception, prenatal, intrapartum, neonatal, and postpartum periods. Consideration of selected issues in women's health. This course lends itself to a blocked approach.

Approval Number.....	51.3801.59	14
Maximum SCH per student .....		3
Maximum SCH per course.....		3
Maximum contact hours per course.....		96

**RNSG 1331 Principles of Clinical Decision-making** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1431 Principles of Clinical Decision-making** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

Examination of selected principles related to the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession. Emphasis on clinical decision making for clients in medical-surgical settings experiencing health problems involving fluid and electrolytes; perioperative care; pain; respiratory disorders; peripheral vascular disorders; immunologic disorders; and infectious disorders. Discussions of knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. (Note: 1231 & 1232 each represent half the required course content and must be offered as a 2-course sequence. A student may not receive credit for both the single-semester offering and the 2-course sequence.)

Approval Number.....	51.3801.61	14
Maximum SCH per student .....		4
Maximum SCH per course.....		4
Maximum contact hours per course.....		128

**RNSG 1347 Concepts of Clinical Decision-making** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1447 Concepts of Clinical Decision-making** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1247 Concepts of Clinical Decision-making I** (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1248 Concepts of Clinical Decision-making II** (scheduled for deletion, funding ends August 31, 2021)

Integration of previous knowledge and skills into the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession. Emphasis on clinical decision-making for clients in medical-surgical settings experiencing health problems involving gastrointestinal disorders, endocrine and metabolic disorders, reproductive and sexual disorders, musculoskeletal disorders, eye-ear-nose-throat disorders and integumentary disorders. Discussion of knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. (Note: 1247 & 1248 each represent half the required course content and must be offered as a 2-course sequence. A student may not obtain credit for both the single-semester offering and the 2-course sequence.)

Approval Number.....	51.3801.62	14
Maximum SCH per student .....		4
Maximum SCH per course.....		4
Maximum contact hours per course.....		128

**RNSG 1341 Common Concepts of Adult Health** (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1441 Common Concepts of Adult Health** (scheduled for deletion, funding ends August 31, 2021)

Study of the general principles of caring for selected adult clients and families in structured settings with common medical-surgical health care needs related to each body system. Emphasis on knowledge judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

Approval Number.....	51.3801.63	14
Maximum SCH per student .....		4
Maximum SCH per course .....		4
Maximum contact hours per course.....		128

**RNSG 1343 Complex Concepts of Adult Health** (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1443 Complex Concepts of Adult Health** (scheduled for deletion, funding ends August 31, 2021)

Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession in the care of adult clients/families in structured health care settings with complex medical-surgical health care needs associated with each body system. Emphasis on knowledge, judgments, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

Approval Number..... 51.3801.64 14  
Maximum SCH per student ..... 4  
Maximum SCH per course..... 4  
Maximum contact hours per course.....128

**RNSG 1423 Introduction to Professional Nursing for Integrated Programs** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1523 Introduction to Professional Nursing for Integrated Programs** (single-semester course) (scheduled for deletion, funding ends August 31, 2021)

Introduction to the profession of nursing including the roles of the registered nurse with emphasis on health promotion and primary disease prevention across the life span. Essential components of the nursing health assessment; identification of deviations from expected health patterns; the application of a systematic, problem-solving process to provide basic nursing care to diverse clients across the life span; and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. (Note: 1222 & 1223 each represent half the required course content and must be offered as a 2-course sequence. A student may not receive credit for both the single-semester offering and the 2-course sequence.

Approval Number..... 51.3801.65 14  
Maximum SCH per student ..... 5  
Maximum SCH per course..... 5  
Maximum contact hours per course.....144

**RNSG 1119 Integrated Nursing Skills I** (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1219 Integrated Nursing Skills I** (scheduled for deletion, funding ends August 31, 2021)

Study of the concepts and principles essential for demonstrating competence in the performance of basic nursing skills for care of diverse clients across the life span. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach.

Approval Number.....	51.3801.66	14
Maximum SCH per student .....		2
Maximum SCH per course.....		2
Maximum contact hours per course.....		80

**RNSG 1129 Integrated Nursing Skills II** (scheduled for deletion, funding ends August 31, 2021)

**RNSG 1229 Integrated Nursing Skills II** (scheduled for deletion, funding ends August 31, 2021)

Study of the concepts and principles necessary to perform intermediate or advanced nursing skills for care of diverse clients across the life span. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach.

Approval Number.....	51.3801.67	14
Maximum SCH per student .....		2
Maximum SCH per course.....		2
Maximum contact hours per course.....		80

**RNSG 2404 Integrated Care of the Client with Common Health Care Needs**  
(single semester course) (scheduled for deletion, funding ends August 31, 2021)

**RNSG 2504 Integrated Care of the Client with Common Health Care Needs**  
(single-semester course) (scheduled for deletion, funding ends August 31, 2021)

Application of a systematic problem-solving process and critical thinking skills to provide nursing care to diverse clients/families across the life span with common health care needs including, but not limited to, common childhood/adolescent diseases, uncomplicated perinatal care, mental health concepts, perioperative care, frequently occurring adult health problems and health issues related to aging. Emphasis on secondary disease prevention and collaboration with members of the multidisciplinary health care team. Content includes applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. (Note: 2203 & 2204 each represent half the required course content and must be offered as a 2-course sequence. A student may not receive credit for both the single-semester offering and the 2-course sequence.)

Approval Number.....	51.3801.68	14
Maximum SCH per student .....		5
Maximum SCH per course.....		5
Maximum contact hours per course.....		128

## CLINICAL

The clinical courses do not have common course numbers. Institutions should number these courses according to the following procedure: The common number format for RNSG clinical

courses is a four-digit number. The 1st digit denotes the level of the course (1 for freshman, 2 for sophomore) and the 2nd digit represents the SCH value. Clinical courses may be offered for 1 to 6 semester credit hours. The 3rd and 4th digits range from 60 to 63 and identify the course sequence.

- RNSG XX60 Clinical** (scheduled for deletion, funding ends August 31, 2021)
- RNSG XX61 Clinical** (scheduled for deletion, funding ends August 31, 2021)
- RNSG XX62 Clinical** (scheduled for deletion, funding ends August 31, 2021)
- RNSG XX63 Clinical** (scheduled for deletion, funding ends August 31, 2021)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

Approval Number..... 51.3801.69 14  
 Maximum SCH per student ..... 19  
 Maximum SCH per course..... 6  
 Maximum contact hours per course.....576

### **RUSS (Russian Language)**

- RUSS 1411 Beginning Russian I** (4 SCH version)
- RUSS 1412 Beginning Russian II** (4 SCH version)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.

Approval Number..... 16.0402.51 13  
 maximum SCH per student..... 8  
 maximum SCH per course ..... 4  
 maximum contact hours per course.....112

- RUSS 2311 Intermediate Russian I**
- RUSS 2312 Intermediate Russian II**

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.

Approval Number..... 16.0402.52 13  
 maximum SCH per student..... 6  
 maximum SCH per course ..... 3  
 maximum contact hours per course..... 80

## **SGNL (American Sign Language)**

(NOTE: According to the Texas Education Code, section 51.303(c), "American Sign Language is recognized as a language, and any state institute of higher education may offer an elective course in American Sign Language. A student is entitled to count credit received for a course in American Sign Language toward satisfaction of a foreign language requirement of the institution of higher education where it is offered." Beginning in 2000, the federal CIP code classification shifted ASL to the area of Foreign Languages, Literatures, and Linguistics.)

- SGNL 1301 Beginning American Sign Language I** (3 SCH version)
- SGNL 1401 Beginning American Sign Language I** (4 SCH version)
- SGNL 1302 Beginning American Sign Language II** (3 SCH version)
- SGNL 1402 Beginning American Sign Language II** (4 SCH version)

Introduction to American Sign Language covering finger spelling, vocabulary, and basic sentence structure in preparing individuals to interpret oral speech for the hearing impaired.

Approval Number.....	16.1603.51	13
maximum SCH per student.....		8
maximum SCH per course .....		4
maximum contact hours per course.....		112

- SGNL 2301 Intermediate American Sign Language I**
- SGNL 2302 Intermediate American Sign Language II**

Review and application of conversational skills in American Sign Language; interpreting from signing to voice as well as from voice to signing. Introduction to American Sign Language literature and folklore.

Approval Number.....	16.1603.52	13
maximum SCH per student.....		6
maximum SCH per course .....		3
maximum contact hours per course.....		80

## **SOCI (Sociology)**

- SOCI 1301 Introduction to Sociology**

The scientific study of human society, including ways in which groups, social institutions, and individuals affect each other. Causes of social stability and social change are explored through the application of various theoretical perspectives, key concepts, and related research methods of sociology. Analysis of social issues in their institutional context may include topics such as social stratification, gender, race/ethnicity, and deviance.

Approval Number.....	45.1101.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3

maximum contact hours per course..... 48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Compare and contrast the basic theoretical perspectives of sociology.
2. Identify the various methodological approaches to the collection and analysis of data in sociology.
3. Describe key concepts in sociology.
4. Describe the empirical findings of various subfields of sociology.
5. Explain the complex links between individual experiences and broader institutional forces.

### **SOCI 1306 Social Problems**

Application of sociological principles and theoretical perspectives to major social problems in contemporary society such as inequality, crime and violence, substance abuse, environmental issues, deviance, or family problems.

Approval Number..... 45.1101.52 25  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe how the sociological imagination can be used to explain the emergence and implications of contemporary social problems.
2. Explain the nature of social problems from at least one sociological perspective, e.g., critical, functional, interpretive, etc.
3. Identify multidimensional aspects of social problems including the global, political, economic, and cultural dimensions of social problems.
4. Discuss how "solutions" to social problems are often contentious due to diverse values in society.
5. Describe how the proposed "solutions" to a social problem, including social policies, may bring rise to other social problems.

### **SOCI 2301 Marriage & the Family**

Sociological and theoretical analysis of the structures and functions of the family, the varied cultural patterns of the American family, and the relationships that exist among the individuals within the family, as well as the relationships that exist between the family and other institutions in society.

Approval Number..... 45.1101.54 25  
maximum SCH per student..... 3  
maximum SCH per course ..... 3

maximum contact hours per course..... 48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate understanding of the family and marriage as social institutions through theoretical perspectives.
2. Examine the diversity and complexity of contemporary families.
3. Explore changing cultural attitudes about marriage and alternatives to marriage.
4. Critically evaluate such issues as sexuality, partner choice, resolving marital issues, having and raising children, and combining work with family.
5. Demonstrate understanding of the relationship between theories and research methods used in the scientific study of marriage and family.
6. Describe some of the historical changes and current trends regarding the structural nature of the American family including the role of gender in relationships.
7. Identify causes and consequences of relevant problems within contemporary families.

### **SOCI 2306 Human Sexuality**

This course will provide an overview of the broad field of human sexuality. Topics will be covered from various perspectives – biological, sociological, anthropological, etc., but will focus primarily on the psychological perspective. The goal is for each student to learn factual, scientifically based information that will provoke thought and contribute to his/her own decision-making on sexual issues outside of the classroom. (Cross-listed as PSYC 2306)

Approval Number..... 42.0101.53 25  
maximum SCH per student..... 3  
maximum SCH per course ..... 3  
maximum contact hours per course..... 48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify common myths of human sexual functioning.
2. Identify human sexual behaviors and sexual responses.
3. Explain the relationship between sexuality and developmental changes throughout the lifespan.
4. Describe the causes, symptoms, and treatments for sexually transmitted infections and the behaviors that increase and decrease the risk of contracting an STI.
5. Describe the principles of effective communication and the specific barriers to effective communication about sex and sexuality.
6. Use an academic sexual vocabulary.
7. Discuss cultural differences in sexual attitudes and behaviors.
8. Identify the occurrence and causes of sexual variations.
9. Identify contraceptive methods and explain how these methods prevent conception.

### **SOCI 2319 Minority Studies**

This course studies minority-majority group relations, addressing their historical, cultural, social, economic, and institutional development in the United States. Both sociological and social psychological levels of analysis will be employed to discuss issues including experiences of minority groups within the context of their cultural heritage and tradition, as well as that of the dominant culture. Core concepts to be examined include (but are not limited to) social inequality, dominance/subordination, prejudice, and discrimination. Particular minority groups discussed may include those based on poverty, race/ethnicity, gender, sexual orientation, age, disability, or religion.

Approval Number.....	45.1101.53	25
maximum SCH per student.....		3
maximum SCH per course.....		3
maximum contact hours per course.....		48

### Learning Outcomes

Upon successful completion of this course, students will:

1. Explain how the concept of social inequality pertains to minority group status defined in terms of identities that may include social class, race/ethnicity, gender, sexual orientation, age, disability, or religion.
2. Differentiate between important concepts and theories of prejudice and discrimination including the effects of prejudice and discrimination on the everyday lives of minority group members in the context of social institutions.
3. Analyze the history of culture, experiences of inequality, and current life opportunities of various minority groups in the United States with contrasting reference to other countries.
4. Analyze minority group interactions in the United States focusing on immigration and migration patterns, assimilation processes, and adjustments to American life.

### SOCI 2326 Social Psychology

Study of individual behavior within the social environment. May include topics such as the socio-psychological process, attitude formation and change, interpersonal relations, and group processes.

Approval Number.....	42.2707.51	25
maximum SCH per student.....		3
maximum SCH per course.....		3
maximum contact hours per course.....		48

### SOCI 2336 Criminology

The course surveys various theories of crime, with an emphasis on understanding the social causes of criminal behavior. The techniques for measuring crime as a social phenomenon and the characteristics of criminals are examined. This course addresses crime types (such as consensual or white-collar crimes), the criminal justice system, and other social responses to crime.

Approval Number.....	45.0401.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Define key concepts associated with criminology.
2. Identify major criminological theories.
3. Describe the major categories of crime.
4. Explain the various methodological approaches used to research crime and criminal behavior.
5. Describe the components and explain the dynamics of the criminal justice system.

**SOCI 2340 Drug Use & Abuse**

Study of the use and abuse of drugs in today's society. Emphasizes the physiological, sociological, and psychological factors.

Approval Number.....	45.1101.55	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**SOCI 2289 Academic Cooperative (2 SCH version)**  
**SOCI 2389 Academic Cooperative (3 SCH version)**

An instructional program designed to integrate on-campus study with practical hands-on experience in sociology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

Approval Number.....	45.0101.51	25
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**SOCW (Social Work)**

**SOCW 2361 Introduction to Social Work**

An overview of the history and development of social work as a profession. The course is designed to foster a philosophical, historical, and critical understanding of the social work profession, including social work values, ethics, and areas of practice utilized under a Generalist Intervention Model. (SOCW 2361 is included in the Social Work Field of Study.)

Approval Number.....	44.0701.51	24
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Discuss the historical development of social work in the United States.
2. Distinguish the profession of social work from other helping professions.
3. Identify core values of social work as stated in the National Association of Social Worker (NASW) Code of Ethics.
4. Identify the primary roles and functions of social workers (advocate, broker, facilitator, etc.).
5. Identify practice settings where social workers function and articulate how these settings influence the roles of social workers.
6. Describe the Generalist Intervention Model.
7. Describe how the Texas State Board of Social Worker Examiners Code of Conduct guides social work practice.
8. Describe how the NASW Code of Ethics guides social work practice.
9. Describe social work’s goal of advancing human rights and justice.
10. Describe social work’s obligation to serve diverse populations.
11. Articulate the importance of self-care to prevent burnout, compassion fatigue, and secondary trauma.

**SOCW 2362 Social Welfare: Legislation, Programs, and Services**

This course offers a historical and contemporary examination of legislation and resulting programs, policies, and services in the context of the social welfare system in the United States. Special attention is given to the political, economic, environmental, and social conditions that prompted the development of legislation to meet the needs of vulnerable populations. Societal responses to legislation are also considered. (SOCW 2362 is included in the Social Work Field of Study.)

Approval Number.....	44.0701.52	24
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe characteristics of legislation.
2. Differentiate between legislation and policy.
3. Explain how legislation influences service delivery and identify current proposed or recently passed state or federal legislation that will influence services.

4. Trace the history of major pieces of social welfare legislation, including the political, economic, environmental, and social conditions affecting vulnerable populations that prompted the legislation's development.
5. Describe how political ideology and social constructions of vulnerable populations influences the development of social welfare legislation.
6. Describe how political ideology and social constructions of vulnerable populations influence societal responses.
7. Compare and contrast the residual, versus institutional, view of social welfare.
8. Articulate how social workers can actively and ethically engage in the political process to address social justice issues.

**SOCW 2389 Academic Cooperative (3 SCH version)**

A supervised experiential learning course designed to integrate program study with introductory exposure to the field of social work. In conjunction with individual study and/or seminars, the student will set specific goals and objectives in the study of social work and/or social institutions. The academic cooperative is not a social work skills-based practice experience, but instead, an observational volunteer experience. The course must include a minimum of 80 contact hours (48 hours in a social service setting). (SOCW 2389 is included in the Social Work Field of Study.)

Prerequisite: SOCW 2361

Approval Number.....	44.0701.53	24
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Articulate elements of the social agency's structure.
2. Summarize the agency's delivery of services.
3. Describe the delivery of services in relation to the agency's mission statement.
4. Explain how the agency meets the needs of the populations served.
5. Describe how the agency's services support the mission of social work, including diversity, justice, and equity.
6. Evaluate the learning experience in the context of professional goals.
7. Evaluate the learning experience in the context of personal goals.
8. Describe how a social worker enhances/could enhance service delivery within the organization.
9. Identify personal and social work values and reflect on value conflicts in the practice setting.

**SPAN (Spanish Language)**

**SPAN 1300 Beginning Spanish Conversation**

Basic practice in comprehension and production of the spoken language.

Approval Number.....	16.0905.54	13
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**SPAN 1411 Beginning Spanish I (4 SCH version)**

Basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level.

Approval Number.....	16.0905.51	13
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		112

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Engage in conversations using level-appropriate grammatical structures including narrating events that take place in the present and producing questions and responses on a variety of topics dealing with everyday life.
2. Demonstrate understanding of level-appropriate spoken Spanish.
3. Write simple sentences and organize them into short paragraphs.
4. Read and comprehend level-appropriate texts.
5. Identify and discuss traditions, customs and values of the Hispanic world.
6. Compare and contrast the traditions, customs and values of the Hispanic world with characteristics of their own culture.

**SPAN 1412 Beginning Spanish II (4 SCH version)**

Continued development of basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level.

Approval Number.....	16.0905.51	13
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		112

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Engage in conversations using level-appropriate grammatical structures including narrating events that take place in the past.
2. Demonstrate understanding of level-appropriate spoken Spanish produced by Spanish speakers of diverse origins.
3. Write simple to moderately complex sentences using level-appropriate grammatical structures and organize them into cohesive paragraphs.
4. Read and comprehend level-appropriate authentic texts.
5. Identify and discuss traditions, customs and values of the Hispanic world.
6. Compare and contrast the traditions, customs and values of the Hispanic world with characteristics of their own culture.

### **SPAN 2311 Intermediate Spanish I**

The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world.

Approval Number.....	16.0905.52	13
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		80

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate comprehension of authentic spoken discourse produced by Spanish speakers of diverse origins.
2. Produce oral Spanish comprehensible to native speakers using complex grammatical structures to narrate, describe and elicit information.
3. Demonstrate increasing comprehension of authentic written texts in a variety of genres.
4. Write descriptions and narratives at a low intermediate level using complex grammatical structures.
5. Formulate cohesive paragraphs and short/simple essays.
6. Describe cultural practices and products of the Spanish-speaking world drawing on authentic materials including literature and the visual arts.

### **SPAN 2312 Intermediate Spanish II**

The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world.

Approval Number.....	16.0905.52	13
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		80

#### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Summarize authentic spoken discourse produced by Spanish speakers of diverse origins.
2. Produce Spanish comprehensible to native speakers using complex grammatical structures to communicate analytical and interpretive information in both impromptu and prepared speech.
3. Demonstrate increasing comprehension of authentic written texts in a variety of genres.
4. Write evaluations and critiques at a high intermediate level using complex grammatical structures.
5. Formulate cohesive paragraphs and essays.
6. Interpret cultural practices and products of the Spanish-speaking world drawing on authentic materials including literature and the visual arts.

### **SPAN 2313 Spanish for Native/Heritage Speakers I**

Builds upon existing oral proficiencies of heritage speakers of Spanish. Enhances proficiencies in the home-based language by developing a full range of registers including public speaking and formal written discourse. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world.

Approval Number.....	16.0905.52	13
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		80

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Write dialogues, descriptions and narratives demonstrating:
  - Correct orthography and punctuation
  - Cohesion between sentences
  - Appropriate register
2. Demonstrate an expanded vocabulary.
3. Apply strategies for linking ideas in complex sentences.
4. Identify similarities and differences among distinct varieties of Spanish.
5. Give oral presentations in a formal register appropriate for professional and academic settings.
6. Describe cultural practices and products of the Spanish-speaking world drawing on authentic materials including literature and the visual arts.

### **SPAN 2315 Spanish for Native/Heritage Speakers II**

Builds upon existing oral proficiencies of heritage speakers of Spanish. Enhances proficiencies in the home-based language by developing a full range of registers including public speaking and formal written discourse. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world.

Approval Number.....	16.0905.52	13
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		80

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Write evaluations, explanations and other types of academic writing demonstrating development of rhetorical skills.
2. Demonstrate an expanded vocabulary in discourse.
3. Apply strategies for linking ideas in complex sentences.
4. Identify similarities and differences among distinct varieties of Spanish.
5. Give oral presentations in a formal register appropriate for professional and academic settings.
6. Interpret cultural practices and products of the Spanish-speaking world drawing on authentic materials including literature and the visual arts.

**SPAN 2289 Academic Cooperative** (2 SCH version)

**SPAN 2389 Academic Cooperative** (3 SCH version)

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of Spanish language and literature.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

**SPCH (Speech)**

**SPCH 1311 Introduction to Speech Communication**

Introduces basic human communication principles and theories embedded in a variety of contexts including interpersonal, small group, and public speaking.

Approval Number.....	09.0101.51	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Apply the principles of human communication including perception, verbal communication, nonverbal communication, listening, and audience analysis.
2. Demonstrate how to establish and maintain relationships through the use of interpersonal communication.
3. Apply small group communication skills including problem solving, group roles, leadership styles, and cohesiveness.
4. Develop, research, organize, and deliver formal public speeches.
5. Recognize how to communicate within diverse environments.

**SPCH 1315 Public Speaking**

Application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech organizational techniques to develop students’ speaking abilities, as well as ability to effectively evaluate oral presentations.

Approval Number.....	09.0101.53	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate an understanding of the foundational models of communication.
2. Apply elements of audience analysis.
3. Demonstrate ethical speaking and listening skills by analyzing presentations for evidence and logic.
4. Research, develop and deliver extemporaneous speeches with effective verbal and nonverbal techniques.
5. Demonstrate effective usage of technology when researching and/or presenting speeches.
6. Identify how culture, ethnicity and gender influence communication.
7. Develop proficiency in presenting a variety of speeches as an individual or group (e.g. narrative, informative or persuasive).

**SPCH 1318 Interpersonal Communication**

Application of communication theory to interpersonal relationship development, maintenance, and termination in relationship contexts including friendships, romantic partners, families, and relationships with co-workers and supervisors.

Approval Number.....	09.0101.54	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Exhibit understanding of interpersonal theories and principles.
2. Demonstrate ability to analyze and critique verbal and nonverbal interactions in mediated and face-to-face contexts.
3. Identify perceptual processes as they relate to self and others.
4. Demonstrate critical thinking ability by effectively researching, evaluating, and applying communication theories in oral and/or written assignments.
5. Demonstrate understanding of the relevance of cross-cultural, co-cultural, gender and age influences on human communication.
6. Demonstrate ability to identify, evaluate, and apply conflict styles and conflict management techniques in dyads and/or groups.
7. Identify types of and barriers to effective listening.

### **SPCH 1321 Business & Professional Communication**

Study and application of communication within the business and professional context. Special emphasis will be given to communication competencies in presentations, dyads, teams and technologically mediated formats.

Approval Number.....	09.0101.52	06
maximum SCH per student.....		3
maximum SCH per course.....		3
maximum contact hours per course.....		48

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate communication competence and critical thinking through an understanding of the foundational communication models.
2. Demonstrate essential public speaking skills in professional presentations.
3. Demonstrate written and oral competencies as it relates to employment (including job searches, interviews, interpersonal interaction, conflict management, leadership and performance appraisals.)
4. Apply essential dyadic and small group processes as they relate to the workplace.
5. Utilize various technologies as they relate to competent communication.
6. Demonstrate effective cross-cultural communication.

### **SPCH 1342 Voice & Diction**

Physiology and mechanics of effective voice production with practice in articulation, pronunciation, and enunciation.

Approval Number.....	.09.0101.58	06
maximum SCH per student.....		3
maximum SCH per course.....		3
maximum contact hours per course.....		96

**SPCH 2333 Discussion & Small Group Communication**

Discussion and small group theories and techniques as they relate to group process and interaction.

Approval Number.....	09.0101.56	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**SPCH 2335 Argumentation & Debate**

Theories and practice in argumentation and debate including analysis, reasoning, organization, evidence, and refutation.

Approval Number.....	09.0101.59	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**SPCH 2341 Oral Interpretation**

Theories and techniques in analyzing and interpreting literature. Preparation and presentation of various literary forms.

Approval Number.....	09.0101.57	06
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		48

**SPCH 2289 Academic Cooperative (2 SCH version)**

**SPCH 2389 Academic Cooperative (3 SCH version)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of speech.

Approval Number.....	24.0103.52	12
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		144

## TECA (Early Childhood Education)

### TECA 1303 Families, School, & Community

A study of the child, family, community, and schools, including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth through age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. The course includes a minimum of 16 hours of field experiences.

Approval Number.....	13.0101.52 09
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	80

### Learning Outcomes

Upon successful completion of this course, students will:

1. Identify characteristics and issues relating to diverse cultures and caregiving lifestyles.
2. Analyze ways in which factors in the home and community (e.g. parent expectations, availability of community resources, community issues) impact learning, including an awareness of social and cultural factors to enhance development and learning.
3. Identify and apply strategies to maintain positive, collaborative relationships with diverse families (e.g. families with children with disabilities, poverty, single parent, cultural, homelessness, and dual-language learners).
4. Investigate community/educational resources (e.g. dentist on wheels, library programs, GED programs, family education programs, Early Childhood Intervention Strategies) to empower families to support children's development.
5. Recognize signs of abuse and neglect and describe ways to work effectively with abused and neglected children and their families.
6. Explain the importance of family involvement/home-school relationships in education.
7. Explain the importance of maintaining codes of ethical conduct and legal issues when working with families, colleagues, and community professionals.

### TECA 1311 Educating Young Children

An introduction to the education of the young child, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth through age eight. Requires students to participate in field experiences with children from infancy through age 12

in a variety of settings with varied and diverse populations; and the course includes a minimum of 16 hours of field experiences.

Approval Number.....	13.1202.51 09
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	80

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Identify the features of a quality developmentally appropriate program for young children.
2. Explain contributions of historical and contemporary professionals and theorists to the field of early childhood education.
3. Analyze various early childhood programs and curricular models that have influenced practice.
4. Describe current and future trends and issues in the field of education.
5. Apply classroom observation and assessment skills to identify developmentally appropriate programs in diverse early childhood educational settings.
6. Describe and adhere to professional code of legal and ethical requirements for educators.

### **TECA 1318 Wellness of the Young Child**

A study of the factors that impact the well-being of the young child including healthy behavior, food, nutrition, fitness, and safety practices. Focuses on local and national standards and legal implications of relevant policies and regulations. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth to age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 16 hours of field experiences.

Approval Number.....	13.0101.53 09
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	80

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Describe the relationship between health, safety and nutrition.
2. Describe the basic principles of healthy behavior and guidance practices that influence health promotion, safe practices and disease prevention for young children.
3. Analyze principles of nutrition and the application to nutritional assessment.
4. Identify policy and regulatory requirements for nutrition.
5. Describe the role of physical fitness as it contributes to healthy behavior.

6. Evaluate and make recommendations for modifications of regulations regarding child's safety, safety procedures, and children's environments for safety.
7. Describe how physical, social, and emotional environments influence a child's health.

**TECA 1354 Child Growth & Development**

A study of the physical, emotional, social, language, and cognitive factors impacting growth and development of children through adolescence.

Approval Number.....	13.1202 52 09
maximum SCH per student.....	3
maximum SCH per course .....	3
maximum contact hours per course.....	48

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Summarize principles of growth and development.
2. Identify typical stages of cognitive, social, physical, language, and emotional development.
3. Compare, contrast and apply theories of development in practice.
4. Discuss the impact of developmental processes on educational practices.
5. Identify the stages of play development (i.e. from solitary to cooperative) and describe the important role of play in young children's learning and development.
6. Demonstrate skills in practical application of developmental principles and theories, observation techniques, assessment, and recognition of growth and development patterns.

## Developmental Education

The following courses and interventions are developmental and do not result in degree or transferable credit. These courses and interventions may be offered for funding reimbursement.

Developmental educators should consider the application of Cross-Disciplinary Standards, as appropriate, in their courses and interventions. See the *Texas College and Career Readiness Standards*.

### Developmental Education Courses

#### Student Success Course

Psychology of learning and success. Examines factors that underlie learning, success, and personal development in higher education. Topics covered include information processing, memory, strategic learning, self-regulation, goal setting, motivation, educational and career planning, and learning styles. Techniques of study such as time management, listening and note taking, text marking, library and research skills, preparing for examinations, and utilizing learning resources are covered. Includes courses in college orientation and developments of students' academic skills that apply to all disciplines.

Approval Number.....	32.0101.52	12
maximum SCH per student.....		9
maximum SCH per course .....		3
maximum contact hours per course.....		96

#### Developmental Mathematics

The course supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving. This course may be taught in a 3 SCH or 4 SCH format.

Approval Number.....	32.0104.51	19
maximum SCH per student.....		4
maximum SCH per course .....		4
maximum contact hours per course.....		96

#### Learning Outcomes

Upon successful completion of this course, students will:

1. Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
2. Define, represent, and perform operations on real numbers, applying numeric reasoning to

investigate and describe quantitative relationships and solve real world problems in a variety of contexts.

3. Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.
4. Apply algebraic reasoning to manipulate expressions and equations to solve real world problems.
5. Use graphs, tables, and technology to analyze, interpret, and compare data sets.
6. Construct and use mathematical models in verbal, algebraic, graphical, and tabular form to solve problems from a variety of contexts and to make predictions and decisions.

### **Intermediate Algebra**

A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations.

Approval Number.....	32.0104.52	19
maximum SCH per student.....		3
maximum SCH per course .....		3
maximum contact hours per course.....		64

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Define, represent, and perform operations on real and complex numbers.
2. Recognize, understand, and analyze features of a function.
3. Recognize and use algebraic (field) properties, concepts, procedures (including factoring), and algorithms to combine, transform, and evaluate absolute value, polynomial, radical, and rational expressions.
4. Identify and solve absolute value, polynomial, radical, and rational equations.
5. Identify and solve absolute value and linear inequalities.
6. Model, interpret and justify mathematical ideas and concepts using multiple representations.
7. Connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines.

### **Developmental Reading**

Development of reading and higher order thinking skills necessary for college readiness.

Note: For institutions offering more than one level, this course shall be used for lower level(s) only.

Approval Number.....	32.0108.52	12
maximum SCH per student.....		9
maximum SCH per course .....		3
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Locate explicit textual information, draw complex inferences, and describe, analyze, and evaluate the information within and across multiple texts of varying lengths.
2. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
3. Describe, analyze, and evaluate information within and across a range of texts.
4. Identify and analyze the audience, purpose, and message across a variety of texts.
5. Describe and apply insights gained from reading a variety of texts.

## Developmental Writing

Development of college-level writing focusing on idea generation, drafting, organization, revision, and utilization of standard English.

Note: For institutions offering more than one level, this course shall be used for lower level(s) only.

Approval Number.....	32.0108.53	12
maximum SCH per student.....		9
maximum SCH per course .....		3
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Compose a variety of texts that demonstrate clear focus, the logical development of ideas, and the use of appropriate language that advances the writer's purpose.
2. Determine and use effective approaches and rhetorical strategies for given writing situations.
3. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
4. Evaluate relevance and quality of ideas and information to formulate and develop a claim.
5. Develop and use effective revision strategies to strengthen the writer's ability to compose college-level writing assignments.
6. Edit writing to conform to the conventions of standard English.

## Integrated Reading/Writing (IRW)

Integration of critical reading and academic writing skills. Successful completion of this course if taught at the upper (exit) level fulfills TSI requirements for reading and/or writing.

Note: For institutions offering one or more levels, this course shall be used for upper (exit) level and may be used for lower level(s).

Approval Number.....	32.0108.59	12
maximum SCH per student.....		9
Maximum SCH per course.....		4
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Locate explicit textual information, draw complex inferences, and describe, analyze, and evaluate the information within and across multiple texts of varying lengths.
2. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
3. Identify and analyze the audience, purpose, and message across a variety of texts.
4. Describe and apply insights gained from reading and writing a variety of texts.
5. Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advance the writer's purpose.
6. Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
7. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
8. Evaluate relevance and quality of ideas and information in recognizing, formulating, and developing a claim.
9. Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
10. Recognize and apply the conventions of standard English in reading and writing.

## Writing for Non-Native Speakers

Focuses on strategies and techniques of writing and composition. Open only to non-native speakers.

Approval Number.....	32.0108.54	12
maximum SCH per student.....		9
maximum SCH per course .....		3
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Write a clear, well-organized, multi-paragraph essay using a logical sequence in a prescribed rhetorical mode.
2. Demonstrate ability to use the writing process by generating ideas, drafting, revising, and editing.
3. Demonstrate functional vocabulary knowledge in a variety of contexts at a level appropriate for college level courses.
4. Write coherent and cohesive sentences in a variety of common patterns.
5. Recognize and use proper English mechanics.
6. Demonstrate proficiency in basic skills related to research-based academic writing, such as paraphrasing, summarizing, quoting, and citing sources according to prescribed style guidelines.

## ESOL Oral Communication

Develops listening and speaking skills in speakers of languages other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts.

Approval Number.....	32.0108.55	12
maximum SCH per student.....		9
maximum SCH per course .....		3
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate understanding of authentic oral texts (e.g., lectures, news casts, pod casts) that contain sophisticated vocabulary and structures by successfully completing comprehension tasks, such as answering questions, note-taking, outlining, paraphrasing, summarizing, or evaluating the content, etc. [comprehension tasks such as identifying main, supporting ideas, and implied meaning are subsumed.]
2. Plan and deliver formal oral presentations using appropriate vocabulary and syntax, recognizable organization, clear pronunciation, non-verbal cues, and appropriate volume and intonation, and respond appropriately to questions.
3. Speak with fluency, using complex and accurate language, clear pronunciation and prosodic elements (e.g., intonation, rhythm, word and sentence stress).
4. Demonstrate the ability to use a range of formal and informal language appropriate to context.
5. Participate in discussions in formal and informal settings using active listening skills and making appropriate and extended comments.
6. Assess own language production and use appropriate self-monitoring strategies such as re-phrasing, re-directing, asking for clarification, and circumlocution.
7. Analyze and evaluate oral expression by listening critically for elements that reflect an awareness of situation, audience, purpose, and diverse points of view.
8. Demonstrate knowledge of a wide range of cultural conventions and references in oral and nonverbal communication.

### **ESOL Reading and Vocabulary**

Develops English reading proficiency and vocabulary for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural, multilingual society.

Approval Number.....	32.0108.56	12
maximum SCH per student.....		9
maximum SCH per course .....		3
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Comprehend and summarize texts, including the identification main idea, supporting details, audience, and purpose of text.
2. Interpret and critically analyze author’s bias, purpose, and perspective in academic materials.
3. Make inferences and draw conclusions from a variety of college level texts.
4. Respond critically, orally and in writing, to various kinds of college level texts.
5. Understand and use academic vocabulary and linguistically complex structures across a variety of disciplines and genres.
6. Demonstrate knowledge of cultural and historical references to American society in written materials.

### **Grammar for Non-native Speakers**

Focuses on Standard English grammar usage for academic purposes. Open only to non-native speakers.

Approval Number.....	32.0108.57	12
maximum SCH per student.....		9
maximum SCH per course .....		3
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Use verb tenses and voice with proficiency.
2. Use simple, compound, and complex sentences structures including phrases and clauses with proficiency.
3. Use parts of speech (nouns, pronouns, verbs, adjectives, adverbs, prepositions, interjections, conjunctions) and determiners (quantifiers, articles, demonstratives, possessives) appropriately and with proficiency.
4. Use appropriate word choice, word form, and word order with proficiency.

### **Non-Semester-Length/Non-Course Competency-Based Options and Interventions (NCBO)**

**Note:** Approved non-semester-length developmental education interventions became eligible for formula funding beginning fall 2010 and are subject to limitations prescribed by law. In order to receive funding, institutions must ensure that for each intervention, student hours are logged and there is an instructor of record who can assist students upon request. Institutions may request reimbursement for non-semester-length interventions within the contact hour parameters identified below for each type of developmental education intervention.

### **Student Success Course (NCBO)**

Psychology of learning and success. Examines factors that underlie learning, success, and personal development in higher education. Topics covered include information processing, memory, strategic learning, self-regulation, goal setting, motivation, educational and career planning, and learning styles. Techniques of study such as time management, listening and note taking, text marking, library and research skills, preparing for examinations, and utilizing learning resources are covered. Includes courses in college orientation and developments of students' academic skills that apply to all disciplines.

Approval Number.....	32.0101.53	12
minimum contact hours per student .....		4
maximum contact hours per student .....		96
minimum contact hours per course .....		4
maximum contact hours per course.....		96

### **Developmental Mathematics (NCBO)**

The NCBO supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving.

Approval Number.....	32.0104.53	19
minimum contact hours per student .....		4
maximum contact hours per student .....		288
minimum contact hours per course .....		4
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
2. Define, represent, and perform operations on real numbers, applying numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts.
3. Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.
4. Apply algebraic reasoning to manipulate expressions and equations to solve real world problems.
5. Use graphs, tables, and technology to analyze, interpret, and compare data sets.
6. Construct and use mathematical models in verbal, algebraic, graphical, and tabular form to solve problems from a variety of contexts and to make predictions and decisions.

### **Intermediate Algebra (NCBO)**

A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations.

Approval Number.....	32.0104.54	19
minimum contact hours per student.....		4
maximum contact hours per student.....		64
minimum contact hours per course.....		4
maximum contact hours per course.....		64

### Learning Outcomes

Upon successful completion of this course, students will:

1. Define, represent, and perform operations on real and complex numbers.
2. Recognize, understand, and analyze features of a function.
3. Recognize and use algebraic (field) properties, concepts, procedures (including factoring), and algorithms to combine, transform, and evaluate absolute value, polynomial, radical, and rational expressions.
4. Identify and solve absolute value, polynomial, radical, and rational equations.
5. Identify and solve absolute value and linear inequalities.
6. Model, interpret and justify mathematical ideas and concepts using multiple representations.
7. Connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines.

### Developmental Reading (NCBO)

Development of reading and higher order thinking skills necessary for college readiness.

Note: For institutions offering more than one level, this NCBO shall be used for lower level(s) only.

Approval Number.....	32.0108.61	12
minimum contact hours per student.....		4
maximum contact hours per student.....		288
minimum contact hours per course.....		4
maximum contact hours per course.....		96

### Learning Outcomes

Upon successful completion of this course, students will:

1. Locate explicit textual information, draw complex inferences, and describe, analyze, and evaluate the information within and across multiple texts of varying lengths.
2. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
3. Describe, analyze, and evaluate information within and across a range of texts.
4. Identify and analyze the audience, purpose, and message across a variety of texts.
5. Describe and apply insights gained from reading a variety of texts.

### Developmental Writing (NCBO)

Development of college-level writing focusing on idea generation, drafting, organization, revision, and utilization of standard English.

Note: For institutions offering more than one level, this NCBO shall be used for lower level(s) only.

Approval Number.....	32.0108.62	12
minimum contact hours per student.....		4
maximum contact hours per student.....		288
minimum contact hours per course.....		4
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Compose a variety of texts that demonstrate clear focus, the logical development of ideas, and the use of appropriate language that advances the writer’s purpose.
2. Determine and use effective approaches and rhetorical strategies for given writing situations.
3. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
4. Evaluate relevance and quality of ideas and information to formulate and develop a claim.
5. Develop and use effective revision strategies to strengthen the writer’s ability to compose college-level writing assignments.
6. Edit writing to conform to the conventions of standard English.

### **Integrated Reading/Writing (IRW) (NCBO)**

Integration of critical reading and academic writing skills. Successful completion of this intervention if taught at the upper (exit) level fulfills TSI requirements for reading and/or writing.

Note: For institutions offering one or more levels, this NCBO shall be used for upper (exit) level and may be used for lower level(s).

Approval Number.....	32.0108.60	12
minimum contact hours per student.....		4
maximum contact hours per student.....		288
minimum contact hours per course.....		4
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Locate explicit textual information, draw complex inferences, and describe, analyze, and evaluate the information within and across multiple texts of varying lengths.
2. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
3. Identify and analyze the audience, purpose, and message across a variety of texts.
4. Describe and apply insights gained from reading and writing a variety of texts.
5. Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advance the writer’s purpose.

6. Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
7. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
8. Evaluate relevance and quality of ideas and information in recognizing, formulating, and developing a claim.
9. Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
10. Recognize and apply the conventions of standard English in reading and writing.

### **Writing for Non-Native Speakers (NCBO)**

Focuses on strategies and techniques of writing and composition. Open only to non-native speakers.

Approval Number.....	32.0108.63	12
minimum contact hours per student .....		4
maximum contact hours per student .....		288
minimum contact hours per course .....		4
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Write a clear, well-organized, multi-paragraph essay using a logical sequence in a prescribed rhetorical mode.
2. Demonstrate ability to use the writing process by generating ideas, drafting, revising, and editing.
3. Demonstrate functional vocabulary knowledge in a variety of contexts at a level appropriate for college level courses.
4. Write coherent and cohesive sentences in a variety of common patterns.
5. Recognize and use proper English mechanics.
6. Demonstrate proficiency in basic skills related to research-based academic writing, such as paraphrasing, summarizing, quoting, and citing sources according to prescribed style guidelines.

### **ESOL Oral Communication (NCBO)**

Develops listening and speaking skills in speakers of languages other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts.

Approval Number.....	32.0108.64	12
minimum contact hours per student .....		4
maximum contact hours per student .....		288
minimum contact hours per course .....		4
maximum contact hours per course.....		96

### **Learning Outcomes**

Upon successful completion of this course, students will:

1. Demonstrate understanding of authentic oral texts (e.g., lectures, news casts, pod casts) that contain sophisticated vocabulary and structures by successfully completing comprehension tasks, such as answering questions, note-taking, outlining, paraphrasing, summarizing, or evaluating the content, etc. [comprehension tasks such as identifying main, supporting ideas, and implied meaning are subsumed.]
2. Plan and deliver formal oral presentations using appropriate vocabulary and syntax, recognizable organization, clear pronunciation, non-verbal cues, and appropriate volume and intonation, and respond appropriately to questions.
3. Speak with fluency, using complex and accurate language, clear pronunciation and prosodic elements (e.g., intonation, rhythm, word and sentence stress).
4. Demonstrate the ability to use a range of formal and informal language appropriate to context.
5. Participate in discussions in formal and informal settings using active listening skills and making appropriate and extended comments.
6. Assess own language production and use appropriate self-monitoring strategies such as re-phrasing, re-directing, asking for clarification, and circumlocution.
7. Analyze and evaluate oral expression by listening critically for elements that reflect an awareness of situation, audience, purpose, and diverse points of view.
8. Demonstrate knowledge of a wide range of cultural conventions and references in oral and nonverbal communication.

## **ESOL Reading and Vocabulary (NCBO)**

Develops English reading proficiency and vocabulary for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural, multilingual society.

Approval Number.....	32.0108.65	12
minimum contact hours per student .....		4
maximum contact hours per student .....		288
minimum contact hours per course .....		4
maximum contact hours per course.....		96

## **Learning Outcomes**

Upon successful completion of this course, students will:

1. Comprehend and summarize texts, including the identification of main idea, supporting details, audience, and purpose of text.
2. Interpret and critically analyze author's bias, purpose, and perspective in academic materials.
3. Make inferences and draw conclusions from a variety of college level texts.
4. Respond critically, orally and in writing, to various kinds of college level texts.
5. Understand and use academic vocabulary and linguistically complex structures across a variety of disciplines and genres.
6. Demonstrate knowledge of cultural and historical references to American society in written materials.

## Grammar for Non-Native Speakers (NCBO)

Focuses on Standard English grammar usage for academic purposes. Open only to nonnative speakers.

Approval Number.....	32.0108.66	12
minimum contact hours per student .....		4
maximum contact hours per student .....		288
minimum contact hours per course .....		4
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Use verb tenses and voice with proficiency.
2. Use simple, compound, and complex sentences structures including phrases and clauses with proficiency.
3. Use parts of speech (nouns, pronouns, verbs, adjectives, adverbs, prepositions, interjections, conjunctions) and determiners (quantifiers, articles, demonstratives, possessives) appropriately and with proficiency.
4. Use appropriate word choice, word form, and word order with proficiency.

## Basic Academic Skills Education (BASE) (NCBO)

### Non-Semester-Length/Non-Course Competency-Based Options and Interventions

The addition of BASE NCBO is part of the Texas Success Initiative (TSI) Operational Plan. These interventions are designed for students assessed at BASE levels 3-4. The learning outcomes are intentionally the same as those for the existing Developmental Education courses and NCBO.

## Developmental Mathematics (BASE NCBO)

The BASE NCBO supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem solving.

This intervention is designed specifically for students assessed at BASE levels 3-4 and must be part of a student's co-enrollment (co-requisite) enrollment:

- as a mainstreamed intensifier providing contact hours for additional, just-in-time instructional support for the student's success in the developmental math course, or
- as a contextualized and/or integrated basic skills instructional support for a Career/Technical Education course.

Approval Number.....	32.0104.55	19
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minimum contact hours per student .....	4
maximum contact hours per student .....	288
minimum contact hours per course .....	4
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
2. Define, represent, and perform operations on real numbers, applying numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts.
3. Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.
4. Apply algebraic reasoning to manipulate expressions and equations to solve real world problems.
5. Use graphs, tables, and technology to analyze, interpret, and compare data sets.
6. Construct and use mathematical models in verbal, algebraic, graphical, and tabular form to solve problems from a variety of contexts and to make predictions and decisions.

**Developmental Reading (BASE NCBO)**

Development of reading and higher order thinking skills necessary for college readiness. This Intervention is designed specifically for students assessed at BASE levels 3-4 and must be part of a student’s co-enrollment (co-requisite) enrollment:

- as a mainstreamed intensifier providing contact hours for additional, just-in-time instructional support for the student’s success in the developmental reading course, or
- as a contextualized and/or integrated basic skills instructional support for a Career/Technical Education course.

Approval Number.....	32.0108.67 12
minimum contact hours per student .....	4
maximum contact hours per student .....	288
minimum contact hours per course .....	4
maximum contact hours per course.....	96

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Locate explicit textual information, draw complex inferences, and describe, analyze, and evaluate the information within and across multiple texts of varying lengths.
2. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
3. Describe, analyze, and evaluate information within and across a range of texts.
4. Identify and analyze the audience, purpose, and message across a variety of texts.
5. Describe and apply insights gained from reading a variety of texts.

## Developmental Writing (BASE NCBO)

Development of college-level writing focusing on idea generation, drafting, organization, revision, and utilization of standard English. This Intervention is designed specifically for students assessed at BASE levels 3-4 and must be part of a student's co-enrollment (co-requisite) enrollment:

- as a mainstreamed intensifier providing contact hours for additional, just-in-time instructional support for the student's success in the developmental writing course, or
- as a contextualized and/or integrated basic skills instructional support for a Career/Technical Education course.

Approval Number.....	32.0108.68	12
minimum contact hours per student .....		4
maximum contact hours per student .....		288
minimum contact hours per course .....		4
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Compose a variety of texts that demonstrate clear focus, the logical development of ideas, and the use of appropriate language that advances the writer's purpose.
2. Determine and use effective approaches and rhetorical strategies for given writing situations.
3. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
4. Evaluate relevance and quality of ideas and information to formulate and develop a claim.
5. Develop and use effective revision strategies to strengthen the writer's ability to compose college-level writing assignments.
6. Edit writing to conform to the conventions of standard English.

## Integrated Reading/Writing (IRW) (BASE NCBO)

Integration of critical reading and academic writing skills. This Intervention is designed specifically for students assessed at BASE levels 3-4 and must be part of a student's co-enrollment (co-requisite) enrollment:

- as a mainstreamed intensifier providing contact hours for additional, just-in-time instructional support for the student's success in the developmental IRW course, or
- as a contextualized and/or integrated basic skills instructional support for a Career/Technical Education course.

Approval Number.....	32.0108.69	12
minimum contact hours per student .....		4
maximum contact hours per student .....		288
minimum contact hours per course .....		4
maximum contact hours per course.....		96

## Learning Outcomes

Upon successful completion of this course, students will:

1. Locate explicit textual information, draw complex inferences, and describe, analyze, and evaluate the information within and across multiple texts of varying lengths.
2. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
3. Identify and analyze the audience, purpose, and message across a variety of texts.
4. Describe and apply insights gained from reading and writing a variety of texts.
5. Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advance the writer's purpose.
6. Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
7. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
8. Evaluate relevance and quality of ideas and information in recognizing, formulating, and developing a claim.
9. Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
10. Recognize and apply the conventions of standard English in reading and writing.

### **Appendix A: Lecture/Lab Table**

Please note that this table shows the many allowable lecture/lab combinations for academic courses, but not all possible combinations will fit with each academic course. For any particular course, be sure to follow the parameters given in the ACGM course entry for the number of credit hours and contact hours.

**Table 1. Lecture–Lab Credit/Contact Hour Combinations for Academic Courses**

<b>Semester Credit Hours</b>	<b>Contact Hour Range per Semester</b>	<b>Lectures per week for combination</b>	<b>Labs per week for combination</b>	<b>Total contact hours per semester for combination</b>
1 SCH	16-64	0	2	32
1 SCH	16-64	0	3	48
1 SCH	16-64	0	4	64
1 SCH	16-64	1	0	16
1 SCH	16-64	1	1	32
2 SCH	32-128	0	5	80
2 SCH	32-128	0	6	96
2 SCH	32-128	0	7	112
2 SCH	32-128	0	8	128
2 SCH	32-128	1	2	48
2 SCH	32-128	1	3	64
2 SCH	32-128	1	4	80
2 SCH	32-128	2	0	32
2 SCH	32-128	2	1	48
3 SCH	48-144	1	5	96
3 SCH	48-144	1	6	112
3 SCH	48-144	1	7	128
3 SCH	48-144	1	8	144
3 SCH	48-144	2	2	64
3 SCH	48-144	2	3	80
3 SCH	48-144	2	4	96
3 SCH	48-144	3	0	48
3 SCH	48-144	3	1	64
4 SCH	64-160	1	9	160
4 SCH	64-160	2	5	112
4 SCH	64-160	2	6	128
4 SCH	64-160	2	7	144
4 SCH	64-160	2	8	160
4 SCH	64-160	3	2	80
4 SCH	64-160	3	3	96
4 SCH	64-160	3	4	112
4 SCH	64-160	4	0	64
4 SCH	64-160	4	1	80
5 SCH	80-176	2	9	176
5 SCH	80-176	3	5	128
5 SCH	80-176	3	6	144
5 SCH	80-176	3	7	160
5 SCH	80-176	3	8	176
5 SCH	80-176	4	2	96
5 SCH	80-176	4	3	112
5 SCH	80-176	4	4	128
5 SCH	80-176	5	0	80
5 SCH	80-176	5	1	96

## **Appendix B: Funding Categories**

### Funding Category Names and Funding Codes

Category Name	First 2, 4, or 6 Digits of CIP Code*	Funding Code
Agriculture	01, 03	1
Architecture & Precision Production Trades	04, 47.04, 48	2
Biology, Physical Sciences & Science Technologies	26, 40, 41	3
Business Management, Marketing & Administrative Services	11.0202, 11.05, 11.09, 22.03, 51.07, 52	4
Career Pilot	49.0102	5
Communication	09, 10, 13.05	6
Computer and Information Sciences	11*	7
Construction Trades	46	8
Consumer and Homemaking Education	12, 13*, 19	9
Engineering	14	10
Engineering Related	15	11
English Language, Literature, Philosophy, Humanities & Interdisciplinary	23, 24, 25, 30, 32*, 38	12
Foreign Languages	16	13
Health Occupations – Dental Assisting, Medical Lab, and Associate Degree Nursing	51.0601 51.0802 51.1000 51.3801	14
Health Occupations – Dental Hygiene	51.0602	15
Health Occupations – Other (Excludes Dental Hygiene, Dental Assisting, Medical Lab, Associate Degree Nursing, Vocational Nursing, and Respiratory Therapy)	51*	16
Health Occupations – Respiratory Therapy	51.0908	17
Health Occupations – Vocational Nursing	51.3901	18
Mathematics	27, 32.0104	19
Mechanics and Repairers – Automotive	47*	20
Mechanics and Repairers – Diesel, Aviation, Mechanics & Transportation Workers	47.0605, 47.0607, 47.0608, 47.0609,49	21
Mechanics and Repairers – Electronics	47.01, 47.02	22
Physical Education and Fitness	31, 36.0108, 36.0114	23
Protective Services and Public Administration	22*, 43, 44	24
Psychology, Social Sciences, Ethnic/Cultural Studies, and History	05, 42, 45,54	25
Visual and Performing Arts	50	26
Non-State Funded	02,08,20,21,28, 29, 33, 34, 35, 36*,37,39	99

\*The four and six-digit CIP codes, when listed separately, are not included in their corresponding two-digit CIP code funding area.