

Biology/Botany

PROGRAM OBJECTIVES

The Biology/Botany degree provides knowledge of the biological sciences necessary for students pursuing careers, graduate study, or professional study for which a baccalaureate degree is appropriate. The courses provide knowledge needed by students in related fields, such as nursing, secondary education, wildlife, agriculture, and forestry, as well as providing knowledge desired by students majoring in other disciplines both within and outside of the College of Arts and Sciences. Other objectives include emphasizing to students the importance of experience and proficiency in several sciences; helping students develop and use precise, critical and independent thought; increasing students' perception, understanding, and appreciation of themselves and their environment; creating in students an awareness of and interest in the role of biological sciences in meeting social and economic needs; and to make available residents of Eastern Oregon the individual and combined resources of the biology faculty.

LEARNING OUTCOMES

Students completing a major in biology will be able to: - Demonstrate knowledge of fundamental organism structure, function, and systematics.

- Utilize the principles of Mendelian genetics and molecular biology to think critically and solve problems.

- Demonstrate an understanding of basic ecology.

- Demonstrate an understanding of physiology at the level of the cell and the organism.

- Demonstrate an understanding of general chemistry, organic chemistry, general physics, mathematics, and statistics.

- Demonstrate the ability to write a scientific research paper.

- Demonstrate an understanding of the central role evolution plays in all areas of biology.

- Complete the University Writing Requirement.

MEANS OF ASSESSMENT

Students will be assessed using a number of criteria. First, all students completing a biology major must do so with an overall minimum GPA of 2.00 and no grade lower than a "C-" in required biology courses. Second, students must complete all homework, writing assignments, exams, and other assigned work as required for each course. Third, students will be required to demonstrate problem-solving and critical-thinking skills in a wide variety of upper division lecture and lab courses. Finally, students will be required in several mandatory courses to research and summarize current

research both in the primary literature and in review articles.

REQUIREMENTS FOR THE BACHELOR OF ARTS OR THE BACHELOR OF SCIENCE IN BIOLOGY

1. Complete Eastern graduation requirements.

2. Complete a minimum of 51 hours of biology courses with a grade of "C-" or better in each required course, including:

a. One of the following introduction sequences:

BIOL 211, 212, 213 Prin of Biology (15) or

***BOT 201, 202 203** Plant Biology (15) or

***BOT 201, 202, BIOL 334** Plant Tax (15) or

***BIOL 211, BOT 202, BIOL 334** (15)

b. Each of the following principles courses:

BIOL 341, 342 Genetics (8)

BIOL 357 General Ecology (4)

BIOL 358 General Ecology Lab (1)

BIOL 431 Cell Structure and Function (5)

BIOL 432 Animal Physiology (5) or

BIOL 433 Plant Physiology (5)

BIOL 490 Evolution (3)

c. At least 10 hours selected from the following list of organism courses:

BIOL 317, 318 Vertebrate Structure (10)

BIOL 320 Ornithology (2)

BIOL 321 Mammalogy (2)

BIOL 322 Herpetology (5)

BIOL 323 General Microbiology (5)

***BIOL 334** Plant Taxonomy (5)

BIOL 347 Invertebrate Zoology (5)

***BIOL 421** Agrostology (4)

*If any of these sequences are taken instead of **BIOL 211, 212, 213** as the introductory sequence, then **BIOL 334** and **BIOL 421** cannot be used to satisfy the 10-hour organism course requirement.

3. Complete at least one course in Plant Biology.

4. Complete General Chemistry (**CHEM 204, 205, 206**; 15 hours) and Organic Chemistry (**CHEM 334, 335, 336**; 12 hours).

5. Complete one of the following: one term of General Physics (**PHYS 201, 202 or 203**; 4 hours)

6. Complete the following mathematics courses: **MATH 111** (or higher based on Math placement scores), **MATH 241** or **MATH 251** and **STAT 327**.

7. Obtain a GPA of 2.00 for all biology courses in addition to

at least a "C-" in all required biology courses.

TYPICAL FIRST YEAR CURRICULUM

Fall

BIOL 211 Principles of Biology (5) [1]
CHEM 204 General Chemistry (5) [2]
General Education & Elective Courses (5) [3]
MATH 111 or above

Winter

BIOL 212 Principles of Biology (5) [1]
CHEM 205 General Chemistry (5) [2]
General Education & Elective Courses (6) [3]
MATH 111 or above

Spring

BIOL 213 Principles of Biology (5) [1]
CHEM 206 Qualitative Analysis (5) [2]
General Education & Elective Courses (6) [3]

TYPICAL SECOND YEAR CURRICULUM

Fall

CHEM 334 Organic Chemistry I (4)
General Education or Elective Courses (8) [3]
Organism Course (5) – optional
STAT 327 (5)

Winter

CHEM 335 Organic Chemistry II (4)
BIOL 341 Genetics (4) or
Organism Course (5)
General Education or Elective Courses (8) [3]

Spring

CHEM 336 Organic Chemistry III (4)
BIOL 342 Genetics (4) or
Organism Course (2-5)
BIOL 357 Ecology (4)
BIOL 358 Ecology Lab (1)
General Education or Elective Courses (13) [3]

TYPICAL THIRD YEAR CURRICULUM

Fall

PHYS 201 Introduction to Physics (4)
Organism Course
General Education and Elective Courses (12) [3]

Winter

BIOL 341 Genetics (4) or
Organism Course
General Education and Elective Courses (11) [3]

Spring

BIOL 342 Genetics (4) or
Organism Course
BIOL 357 Ecology (4)
BIOL 358 Ecology Laboratory (1)
General Education and Elective Courses (7) [3]

TYPICAL FOURTH YEAR CURRICULUM

Fall

BIOL 431 Cell Structure & Function (5)

General Education or Elective Courses (10) [3]

Winter

BIOL 432 Animal Physiology (5) or
BIOL 433 Plant Physiology (5)
General Education or Elective Courses (11) [3]

Spring

BIOL 490 Evolution (3)
General Education or Elective Courses (13) [3]

Note:

[1] Must have completed or be concurrently enrolled in a college level chemistry sequence.

[2] Students not meeting admission requirements to CHEM 204, 205 should take appropriate level math and general education courses and perhaps CHEM 101, 102, 103.

[3] Selected to meet general education requirements or to meet biology program mathematics requirement.

REQUIREMENTS FOR THE MINOR IN BIOLOGY

This minor is also available via on-line/on-site.

1. A minimum of 30 graded credit hours in biology, including at least 15 upper division hours, selected from the following:

a. One of the following introduction sequences:
BIOL 211, 212, 213 Principles of Biology (15) or
***BOT 201, 202 203** Plant Biology (15) or
***BOT 201, 202, BIOL 334** Plant Tax (15) or
***BIOL 211, BOT 202, BIOL 334** (15)

b. At least one organism course, such as:
BIOL 317 Vertebrate Structure (5)
BIOL 318 Vertebrate Structure (5)
BIOL 320 Ornithology (2)
BIOL 321 Mammalogy (2)
BIOL 322 Herpetology (5)
BIOL 323 General Microbiology (5)
***BIOL 334** Plant Taxonomy (5)
BIOL 347 Invertebrate Zoology (5)
***BIOL 421** Agrostology (4)
***If BOT 202 and BIOL 334 are taken as the introductory sequence, then BIOL 334 and BIOL 421 cannot be used to satisfy this requirement.**

c. At least one principles course, such as:
BIOL 319 Vertebrate Natural History (3)
BIOL 341 Genetics (4)
BIOL 342 Genetics (4)
BIOL 350 Animal Behavior (4)
BIOL 357 General Ecology (4)
BIOL 431 Cell Structure and Function (5)
BIOL 432 Animal Physiology (5)
BIOL 433 Plant Physiology (5)
BIOL 445 Immunology (3)

2. A grade of "C-" or better in each course counting toward the minor. Obtain an overall GPA of 2.00 for all biology courses

counting toward the minor.

3. A minimum of 10 hours counting toward the minor must be completed at Eastern Oregon University.

BIOLOGY COURSE DESCRIPTIONS

BIOL 101- Intro to Biology*SMI Credits: 3.00

Gen Ed Core-Natural, Math & Info Sciences

Integrated study of biology including a discussion of the nature of science, evolution, cell biology, genetics, physiology and ecology of plants and animals, including man. Prerequisites: MATH 070.

BIOL 102- Intro to Biology*SMI Credits: 3.00

Gen Ed Core-Natural, Math & Info Sciences

Integrated study of biology including a discussion of the nature of science, evolution, cell biology, genetics, physiology and ecology of plants and animals, including man. Prerequisites: MATH 070, BIOL 101.

BIOL 103- Intro to Biology*SMI Credits: 3.00

Gen Ed Core-Natural, Math & Info Sciences

Integrated study of biology including a discussion of the nature of science, evolution, cell biology, genetics, physiology and ecology of plants and animals, including man. Prerequisites: MATH 070, BIOL 101, 102.

BIOL 104- Intro Biology Lab*SMI Credits: 1.00

Gen Ed Core-Natural, Math & Info Sciences

Survey of biological laboratory topics for the non-major student. Prerequisite: BIOL 102 or equivalent.

BIOL 105- Human Biology Credits: 3.00

This course is designed primarily to acquaint social work majors with essentials of human biology and assumes no or minimal prior exposure to the subject. Prerequisite: A prior course in college level biology or chemistry is helpful but not required.

BIOL 110- Selected Topics Credits: 1.00 TO 6.00

BIOL 210- Selected Topics Credits: 1.00 TO 6.00

Topics of current interest to students and faculty.

BIOL 211- Prin of Biology*SMI Credits: 5.00

Gen Ed Core-Natural, Math & Info Sciences

Basic concepts of modern biology. Cellular chemistry, biochemistry, cell biology, and genetics. Prerequisite: Recent high school biology courses. Co-requisite: CHEM 204 (preferred) or CHEM 101.

BIOL 211L - Prin of Biology Lab Credits: .00

BIOL 212- Prin of Biology*SMI Credits: 5.00

Gen Ed Core-Natural, Math & Info Sciences

Basic concepts of modern biology Molecular and developmental biology, evolution, morphology and diversity of major taxonomic groups. Prerequisite: BIOL 211 and co-requisite: CHEM 205 (preferred) or CHEM 102.

BIOL 212L - Prin of Biology Lab Credits: .00

BIOL 213- Prin of Biology*SMI Credits: 5.00

Gen Ed Core-Natural, Math & Info Sciences

Basic concepts of modern biology. Animal physiology and ecology. Prerequisite: BIOL 211 and BIOL 212, college level chemistry.

BIOL - Prin of Biol Lab 213L Credits: .00

BIOL 221- Intro Microbiology Credits: 4.00

BIOL - Intro Micro Lab 221L Credits: .00

BIOL 231- Human Anat & Physiology Credits: 4.00

Introduction to the principles of human anatomy and physiology. Includes basic chemistry, cell biology, histology, nervous, integument, and skeletal, anatomy and physiology. Prerequisite: MATH 070, high school biology or chemistry is highly recommended.

BIOL 231L - Hum Anat/Phys Lab Credits: .00

BIOL 232- Human Anat & Physiology Credits: 4.00

Continuation of the principles of human anatomy and physiology. Includes the anatomy and physiology of the muscle, blood, respiratory, digestive systems and metabolism. The cat is used as an anatomical model and the student is used for the physiological portion in the laboratory segment of this course. Prerequisite: BIOL 231.

BIOL 232L - Hum Anat/Phys Lab Credits: .00

BIOL 233- Human Anatomy & Physiology Credits: 4.00

Continuation of the principles of human anatomy and physiology. Includes the anatomy and physiology of the renal, reproductive, cardiovascular, lymphatic, sensory, and endocrine systems. The cat is used as an anatomical model and the student is used for the physiological portion in the laboratory segment of this course. Prerequisite: BIOL 232.

BIOL 233L - Human Anat & Phys Lab Credits: .00

BIOL 234- Intro Microbiology Credits: 4.00

Basic microbiology emphasizing bacteria and viruses, fungi, and protozoa, functions of the immune response in preventing and promoting disease, survey of microorganisms pathogenic to humans, laboratory methods for handling and studying bacteria. Students can not receive credit for both BIOL 234 and BIOL 244. Prerequisite: BIOL 231 & 232.

BIOL 234L - Intro Microbiology Lab Credits: .00

BIOL 235- Introductory Genetics Credits: 3.00

Must be enrolled in one of the following Major(s): Nursing/OHSU. Introduction to the principles of classical and molecular genetics using primarily human examples, with hands-on exercises demonstrating modern recombinant and molecular genetics techniques. Prerequisite: BIOL 231, 232, 233, admission to OSHU Nursing Program.

BIOL 244- Surv Medical Microbiology Credits: 4.00

This course focuses on medical aspects of microbiology and is intended for pre-nursing students. It surveys the bacteria

and viruses, functions of the immune system, mechanisms of pathogenesis, a survey of microorganisms pathogenic to humans, and laboratory topics emphasizing diagnostic tests for distinguishing organisms in clinical samples. Prerequisite: BIOL 231 & 232 or equivalent Anatomy and Physiology courses.

BIOL 310- Selected Topics Credits: 1.00 TO 6.00

Topics of current interest to the general public. Prerequisites: An introductory biology sequence for majors or non-majors. Student must have at least sophomore standing to register for this course.

BIOL 310L - Biology 310L Credits: .00

BIOL 311- Creating Nature Jrn*SMI Credits: 2.00

Gen Ed Core-Natural, Math & Info Sciences

The course provides guided field experiences with instruction in a variety of techniques that may be used for observing, interpreting and documenting living organisms in the natural world. Student must have at least sophomore standing to register for this course.

BIOL 317- Vertebrate Structure Credits: 5.00

Taxonomy, evolution, comparative anatomy, and histology of the vertebrates. Prerequisites: A majors-level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 317L - Vertebrate Struct Lab Credits: .00

Student must have at least sophomore standing to register for this course.

BIOL 318- Vertebrate Structure Credits: 5.00

Taxonomy, evolution, comparative anatomy, and histology of the vertebrates. Prerequisites: A majors-level biology sequence and BIOL 317. Student must have at least sophomore standing to register for this course.

BIOL 318L - Vertebrate Struct Lab Credits: .00

Student must have at least sophomore standing to register for this course.

BIOL 319- Vertebrate Natural Hist Credits: 3.00

Ecology and behavior of vertebrates including temperature and moisture adaptations, feeding, communication, reproduction, and zoogeography. Prerequisites: A majors-level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 320- Ornithology Credits: 2.00

Taxonomy, natural history, and identification of birds, emphasizing local species. Prerequisites: A majors-level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 321- Mammalogy Credits: 2.00

Taxonomy, natural history, and identification of mammals, emphasizing local species. Prerequisites: A majors-level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 322- Herpetology Credits: 5.00

Taxonomy, natural history and identification of amphibian and reptiles emphasizing local species. Prerequisite: A majors level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 322L - Herpetology Lab Credits: .00

BIOL 323- General Microbiology Credits: 5.00

Survey of prokaryotic and eukaryotic microorganisms emphasizing bacteria, viruses, protozoa, and fungi. Classification, evolution, cytology, genetics, physiology, and ecology of microorganisms; laboratory techniques for isolating, culturing, and identifying microorganisms. Prerequisite: A majors-level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 323L - Gen Microbiology Lab Credits: .00

Student must have at least sophomore standing to register for this course.

BIOL 334- Plant Taxonomy Credits: 5.00

Principles of plant classification, collection and identification. Prerequisites: BIOL 211, 212, 213; or BIOL 101 or BOT 201, BOT 202. Student must have at least sophomore standing to register for this course.

BIOL 334L - Plant Tax Lab Credits: .00

Student must have at least sophomore standing to register for this course.

BIOL 341- Genetics Credits: 4.00

Classical and modern principles of genetics emphasizing experimental design and interpretation. Prerequisites: A majors-level biology sequence and CHEM 334. Student must have at least sophomore standing to register for this course.

BIOL 341L - Genetics Lab Credits: .00

Student must have at least sophomore standing to register for this course.

BIOL 342- Genetics Credits: 4.00

Classical and modern principles of genetics emphasizing experimental design and interpretation. Prerequisites: A majors-level biology sequence, BIOL 341, and CHEM 334. Student must have at least sophomore standing to register for this course.

BIOL 342L - Genetics Lab Credits: .00

Student must have at least sophomore standing to register for this course.

BIOL 343- Future Of Genetics*SMI Credits: 2.00

Gen Ed Core-Natural, Math & Info Sciences

The course is designed to acquaint non-biology majors with important technology, methods, and major social ramifications of genetic engineering and gene cloning. The course will also focus on demystifying genetic engineering and providing a competent general understanding of the technology involved. Topics will include a background in molecular genetics, gene cloning methods, genetic engineering of crop plants and animals, genetic engineering in medicine and industry,

diagnosis and treatment of human genetic diseases, and ethical and legal implications of molecular genetics. Prerequisite: One term of a general biology course such as BIOL 101, 211, BOT 201, or consent of instructor. Student must have at least sophomore standing to register for this course.

BIOL 347- Invertebrate Zoology Credits: 5.00

Introduction to the comparative biology of the invertebrates with an emphasis on taxonomy, evolution, and comparative anatomy. Includes an introduction to the principles of parasitology. Prerequisites: A majors-level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 347L - Invert Zoo Lab Credits: .00

Student must have at least sophomore standing to register for this course.

BIOL 350- Animal Behavior Credits: 4.00

Evolutionary approach to the proximate and ultimate causes of behavior, including instincts and learning, sensory perception, behavioral control and organization, and the adaptiveness of behavior. Prerequisite: A majors-level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 357- General Ecology Credits: 4.00

An introduction to the principles of ecology including organism adaptations, population ecology, and community structure and function. Prerequisite: A majors level biology sequence. Student must have at least sophomore standing to register for this course.

BIOL 358- General Ecology Lab Credits: 1.00

An introduction to ecological methods, data analysis, and scientific writing. Prerequisite: STAT 315 or STAT/PSY 327 (preferred). Co-requisite: BIOL 357. Student must have at least sophomore standing to register for this course.

BIOL 390- Darwin & Evolution*SMI Credits: 5.00

Gen Ed Core-Natural, Math & Info Sciences

Darwin's proposal, in 1859, of natural selection as a mechanism to explain how evolution operates set in motion one of the greatest scientific and intellectual revolutions of all time. This course traces the development of this idea from before Darwin to the present day focusing on the progressive accumulation of scientific evidence supporting evolution and the continuing refinement and expansion of evolutionary theory. Today, while evolution remains controversial with certain groups, its scientific validity has been well established, and it has become the fundamental principle upon which all modern biology is based. Student must have at least sophomore standing to register for this course.

BIOL 401- Research Credits: 1.00 TO 15.00

Student must have at least junior standing to register for this course.

BIOL 402- Service Learning In Biology Credits: 1.00 TO 5.00

Students will partner with a biology faculty member and a

nonprofit or government organization to complete a service project involving the biological sciences. Prerequisite: BIOL 211, 212, 213. Student must have at least junior standing to register for this course.

BIOL 405- Reading & Conference Credits: 1.00 TO 15.00

Student must have at least junior standing to register for this course.

BIOL 407- Seminar Credits: 1.00 TO 15.00

Student lectures and written papers on aspects of a broad topic of interest. Prerequisite: BIOL 211, 212, 213; or BIOL 101, BOT 202, BIOL 334. Student must have at least junior standing to register for this course.

BIOL 409- Practicum/Internship Credits: 1.00 TO 5.00

Students will partner with a biology faculty member and a nonprofit or government organization to complete a practicum experience in the biological sciences. Student must have at least junior standing to register for this course.

BIOL 410- Selected Topics Credits: 1.00 TO 6.00

Topics of current interest to students and faculty. Prerequisites: A majors-level biology sequence*. Student must have at least junior standing to register for this course.

BIOL 410L - Lab Credits: .00

Student must have at least junior standing to register for this course.

BIOL 421- Agrostology Credits: 4.00

Classification and identification of grasses of the United States. Prerequisite: BIOL 334 or BOT 203. Student must have at least junior standing to register for this course.

BIOL 431- Cell Struct/Function Credits: 5.00

Intensive study of the structure and function of biological systems from the molecular to the tissue level. Emphasizes the molecular biology of cells and the regulatory mechanisms for biochemical and physiological processes. Prerequisites: A majors-level biology sequence; and CHEM 334. Student must have at least junior standing to register for this course.

BIOL 432- Animal Physiology Credits: 5.00

Principles of animal physiology, emphasizing homeostatic control mechanisms, functional, and fundamental inter-relationships between interacting systems in various invertebrate and vertebrate animals. Emphasizes research approaches. Prerequisites: BIOL 431. Student must have at least junior standing to register for this course.

BIOL 432L - Animal Phys Lab Credits: .00

Student must have at least junior standing to register for this course.

BIOL 433- Plant Physiology Credits: 5.00

Physical and biochemical processes of plant functions, including water relations, photosynthesis, and growth and development. Prerequisites: BIOL 211, 212, 213; or BIOL 101 or BOT 201, BOT 202. Student must have at least junior standing to register for this course.

BIOL 433L - Plant Phys Lab Credits: .00

Student must have at least junior standing to register for this course.

BIOL 445- Immunology Credits: 3.00

Fundamentals of immunochemistry, cellular immunology, and immunogenetics; current applications of immunological techniques; immune system dysfunctions and immunologically-related diseases. Prerequisite: A majors-level biology sequence and CHEM 334. Student must have at least junior standing to register for this course.

BIOL 490- Evolution Credits: 3.00

(Capstone) A capstone experience in biology providing a synthesis of the principles of biology in the context of evolutionary theory. Prerequisites: BIOL 357, 341, 342, 431, and 432 or 433. Student must have at least junior standing to register for this course.

BIOL 505- Reading & Conference Credits: 1.00 TO 15.00

Student must have graduate standing to register for this course. Student must have graduate standing to register for this course.

BIOL 510- Selected Topics Credits: 1.00 TO 6.00

Topics of current interest. Taught only during summer session. Prerequisites: An introductory sequence in biology; graduate standing. Student must have graduate standing to register for this course.

BOTANY COURSE DESCRIPTIONS**BOT 201 - Plant Biology I*SMI Credits: 5.00****Gen Ed Core-Natural, Math & Info Sciences**

Introduction to plant cell structure and function. Prerequisite: None.

BOT 202 - Plant Biol II*SMI Credits: 5.00**Gen Ed Core-Natural, Math & Info Sciences**

Comparative biology of plants. A survey of the plant kingdoms emphasizing life cycles, morphological features and anatomy. Prerequisite: BIOL 101 or BIOL 211.

BOT 203 - Plant Biology*SMI Credits: 5.00**Gen Ed Core-Natural, Math & Info Sciences**

Vascular plant taxonomy and spring flower identification. Prerequisite: BIOL 101, 102 OR BIOL 211, 212 OR BOT 201, 202.

Eastern Oregon University**Chemistry****PROGRAM OBJECTIVES**

The chemistry degree program prepares chemistry majors for graduate work in pure and applied chemistry, for employment as research chemists and chemical technicians, for entrance into schools for education in the health science and environmental fields, for governmental civil service and teaching positions.

LEARNING OUTCOMES

Eastern Oregon University chemistry graduates will understand the basic chemical principles in the major specialty areas which include inorganic, organic, physical and analytical chemistry. They will be proficient in using appropriate and safe laboratory practices and techniques including the use of instrumentation and computers. The graduates will be able to design and conduct chemical research with appropriate documentation including literature searches. They will understand the importance of their discipline to modern society and be able to communicate chemical knowledge both orally and in writing to their peers and to the lay public.

MEANS OF ASSESSMENT

Students are assessed by standardized examinations as they progress through the courses they take. This measures them in comparison to national standards. In addition, the capstone courses they take involve assessment by the entire chemistry

faculty members during their oral presentations. The results of their individual research projects are measures of their proficiency to design and conduct meaningful experiments.

REQUIREMENTS FOR THE BACHELOR OF ARTS OR THE BACHELOR OF SCIENCE IN CHEMISTRY

1. Complete Eastern graduation requirements with at least a "C-" in each course required for the Chemistry degree and have a grade point average of 2.00 or better.
2. Complete a minimum of 62 credit hours in Chemistry, of which 44 or more must be 300 or 400 level courses.
3. Complete a minimum of 34 credit hours in mathematics, physics, and computer science courses.
4. A minimum of 20 chemistry credit hours must be completed at Eastern Oregon University.
5. The designated capstone courses are CHEM 401 and CHEM 407.
6. Include within your planned program 96 hours in Chemistry and related areas as outlined below: