Appendix III: Academic Majors
Student Learning Outcomes
November 18, 2005

• Accounting

Student Learning Outcomes

Students who earn a B.S. in Accounting from the University of Wisconsin-Platteville should:

1. Possess the technical knowledge in financial accounting, management accounting, tax and auditing that is necessary to be successful in their careers.
2. Possess the broad understanding of the related subject matter (economics, marketing, management, computer applications, finance, human resource management, business law, business ethics) needed to be successful in the business world.
3. Possess effective interpersonal skills and the ability to communicate effectively verbally and in writing.
4. Possess enough familiarity with computer applications to be able to learn quickly the specific accounting applications which they may encounter in their careers.
5. Be able to obtain and retain accounting positions upon graduation and be successful in those positions.

• Agribusiness Program

Graduates will have the capacity to make and implement sound business decisions because they have gained knowledge and comprehension and have the ability to apply, analyze, synthesize, and/or evaluate as appropriate theories, concepts, tools, and processes in the following overall areas:

- Principles (agribusiness, agricultural science, economic, mathematical, and statistical)
- Communications
- Personal and Professional Development
- Integration and Application

Learning Outcomes:

Principles

1. Graduates will be able to identify, interpret and explain agribusiness, agricultural science, economics, math, and statistics principles.
2. Graduates will, through a variety of tools and processes, be able to apply the principles in analyzing and making management decisions. Evidence of success includes graduates being able to:

   a. define, interpret, and implement the functions and roles of management.
   b. describe and apply commodity marketing and price risk concepts including price fundamentals, basic technical analysis, and strategies of commodity marketing.
   c. describe and apply identity-based marketing concepts including analyzing customer needs and trends, assessing internal and market characteristics and trends, evaluating firm capacity, and designing and managing market strategy, pricing, distribution, product positioning, and promotion.
   d. illustrate the symbiotic role of the sales person as consultant, learn how to judge and analyze the needs of a specific situation, and develop a long-run strategy of mutual gain.
   e. interpret and use economic theories such as production, consumer, demand, supply, optimization, and marginality to explain price movements, trade, profitability, and other social and business decision behaviors and consequences.
   f. demonstrate the capacity to diagnose and make appropriate management decisions based on an ability to perform and analyze comprehensive financial and investment situations that conforms to GAAP and FFSC standards.
   g. interpret the general principles of soil and crop science, animal science, and agriculture engineering technology.
   h. apply appropriate quantitative tools including but not limited to regression, statistical testing, and variance analysis to assess management challenges and make appropriate management decisions.

**Communications**

3. Graduates will be known by the industry to be ahead of their peers in their ability to effectively communicate orally, in writing, and with and through teams. Evidence of success include graduates being able to:

   a. appraise and evaluate the functioning of a team and make conclusions as to how it could have functioned better.
   b. analyze and differentiate effective oral and written communications, both their own and of others, and assess how the communication could have been more effective.
   c. demonstrate the capacity to effectively use technology in communications including but not limited to powerpoint and other visual aids, web page design and development, audio, video, and graphics.

**Personal and Professional Development**

4. Graduates will have consciously mapped their future professional goals, have prepared themselves professionally to meet their goals, and have prepared
themselves to integrate social and professional ethics and etiquette behavior into all professional relationships. Evidence of success include graduates having:

a. completed a resume and career development plan, and have had it professionally reviewed, by the end of their sophomore year.
b. completed a personal portfolio for employment by the end of their junior year that includes writing samples, internships and other selected experiences, and examples of leadership, teamwork, developing and carrying out a vision, and independently completing an objective.
c. completed a professional internship experience.
d. the ability to define and evaluate ethical behavior, and be known in the industry for their high value of respect, integrity, and politeness in the workplace.

Integration and Application (Take them to the Crash Site)

5. Graduates will be able to integrate general education and disciplinary competencies in the analysis and formulation of appropriate business decisions. Key to this is experiential “crash-site” experiences in decision-making including but not limited to case studies, industry interaction, a capstone experience, extracurricular club activities and competitions, and an on-campus student-managed business. Evidence of success include graduates being able to:

a. interpret and explain how the global nature of agriculture and current trends of agriculture will impact agribusiness decisions. This will be accomplished through classroom activities, national student exchanges, and study abroad programs.
b. envision a future direction and make business decisions based on sound strategic assessments of internal and external environments.
c. describe, construct, and implement the component parts of management planning and the integrative role and value of each component including but not limited to strategic, business, commodity marketing, and identity-based marketing plans.

• Animal Science

Mission Statement:

The Animal Science major will prepare graduates who value and use critical thinking, communication and social skills through liberal arts and science-based technology education. They will contribute to the success and profitability of vocations involved in animal care, welfare and production of high quality animal-derived food and medicine for national and international consumption. Graduates will also acquire
skills that will guide them in designing and applying a synergy of animal production and land use with lasting environmental stability.

Goals:
Graduates of the Animal Science program will be:

1. Conscious of and sensitive to the issues involved with profitable and ethical management, care, welfare and health of animals.

   Outcomes:
   - Students support the scientific evidence for safety of world food supplied through science based production practices.
   - Students can examine and evaluate various perspectives of animal health and welfare.
   - Students can analyze the structure of regional, national and international policies that affect bio-security.

2. Critical thinkers with effective oral and written communication skills as individuals and as team members.

   Outcomes:
   - Students value and enhance their communication skills with liberal arts and science based knowledge.
   - Increase self confidence and comfort level during public speaking
   - Students demonstrate ability to independently investigate, analyze and conclude decisions clearly and concisely.
   - Collect and analyze information and compose professional, technical reports.

3. Able to determine and measure profitable and environmentally sustainable agricultural practices.

   Outcomes:
   - Competent in application of computerized technology.
   - Utilization of proven physical and chemical analyses.
   - Evaluate genetic selection and performance programs.
   - Appreciate and apply quality assurance programs for products.
   - Recognize and compare optimal and maximal production practices for sustainability.

4. Informed and aware of regional, national and international obligations, opportunities and experiences.

   Outcomes:
   - Generate interest and increased participation in cross cultural experiences.
   - Expand student’s comfort zone for global pursuits.
   - Benefit from external professional inputs of diverse backgrounds.
• **Biology Department**

Purpose Statement:

The Biology program provides biology students a fundamental knowledge of biology along with introducing students to the major areas in biology and opportunities to explore these areas. In this endeavor, the biology department provides students the ability to critically apply biological concepts to the understanding of natural phenomena and to dealing with biology related health, societal and conservation issues. In addition, the biology program prepares students for: advanced study and research in the biological and related sciences, healthcare professional programs, wildlife and forestry professional programs, veterinary professional programs, careers in education and biology related industry and governmental service. The biology program also provides courses for general education in the natural sciences to introduce students to science, biology, biological concepts and how these affect society. Finally, the biology program provides courses to support other university programs such as Agriculture, Education, Physical Education, Chemistry and Engineering.

Learning Outcomes

Through the biology department curriculum, students should:

**Attitudes**

1. appreciate science and especially biology. This appreciation should include how science and biology permeates our society and many other aspects of our lives.
2. develop a curiosity for the world around them. This curiosity should include not only “how does that work?” or “what is that bug” or “how are genes expressed”, but also “how do we know that?” or “how can we figure this out?”.
3. develop respect for equipment and specimens or materials. Biologists depend on these things and the proper care and want to care for them is critical.
4. develop an enthusiasm and motivation for biology and the sciences.
5. further develop integrity. This development would include integrity in scientific endeavors and communication such as the issues of plagiarism and “fudging data” in research.

**Skills**

1. be able to understand and apply the scientific method. Students need to understand what the process of science is and what it is not. In this light, students should understand its limitations.
2. develop and apply communication skills.
   a. These communication skills include being able to present in a logical, understandable fashion, ideas or information in written, oral and visual formats.
b. These skills also include “people” or inter-personal skills. Our students should be able to present themselves in a positive and professional way when interacting with others.

3. develop and apply critical thinking skills. Students should then be able to apply these skills to problems and/or issues in science, nature and society. This would include critical analysis and synthesis associated with the examination of literature and other informational resources.

4. develop resourcefulness and inventiveness. Students should develop the means to be able to identify and utilize available, pertinent resources (including those within his/her own person) in the solving of problems, the scientific process and in dealing with societal issues.

5. develop creativity. This would include developing novel ideas and approaches to solving problems, dealing with issues and experimental approaches.

6. be able to integrate multiple disciplines in the practice of science. For example, biology depends on the fundamental understanding of many other disciplines including physics, chemistry, astronomy, geology and geography.

7. develop and apply skills for the proper use and care of equipment.

Knowledge

1. Hierarchy of Biological Structure – Students should be able to describe the hierarchy and illustrate how the hierarchical context relates to different organisms. Students should also be able to explain the relationships among the different levels of the hierarchy and how those interactions influence organisms. Lastly, students should be able to distinguish biological systems within the context of the hierarchy.

2. Evolution – Students should be able to summarize the concept of evolution and assess the role of evolution in biology. Students also should be able to integrate the concepts of natural selection and evolution. Lastly, students should be able to relate the diversity of life to evolution and natural selection.

3. Diversity of Life – Students should be able to differentiate various organisms according to their evolutionary relationships. Students should also be able to explain how and why systematic approaches are used to organize and understand the diversity of organisms. Lastly, students should be able to describe how the concept of species fits within the context of biology.

4. Ecology – Students should be able to illustrate the interrelationships among organisms and the interrelationships between organisms and the environment. Students should also be able to describe energy and nutrient cycles and infer how those cycles influence organisms and the environment. Lastly, students should be able to relate ecological concepts to various disciplines within biology.

5. Genetics – Students should be able to describe the structure and expression of genes. Students should also be able to demonstrate the role of inheritance in determining differences among individual organisms, populations, and species. Lastly, students should be able to summarize the relationships among DNA, RNA, and protein synthesis.
6. **Cells** – Students should be able to compare and contrast the structures and functions of various cell types. Students should also be able to illustrate the processes of mitosis and meiosis, as well as describe the roles these processes have in a biological context. Lastly, students should be able to explain and relate the concepts of cellular respiration and photosynthesis.

7. **Properties of Life** – Students should be able to summarize the properties that are expressed by all living things. Consequently, students should also be able to discriminate living entities from non-living entities. Lastly, students should be able to describe the theory of chemical evolution (i.e. the biological explanation of how life began on earth).

8. **Energy** – Students should be able to explain what energy is and the different forms of energy. Students should also be able to apply the 1st and 2nd Laws of Thermodynamics to the form and function of biological systems. Lastly, students should be able to relate the concepts of entropy and homeostasis.

9. **Process of Science** – Students should be able to collect, analyze, interpret, summarize, and present biological data within the context of the scientific method. Students should also be able to distinguish between experimental and observational approaches and assess how each might be used to answer scientific questions. Students should also be able to integrate previous findings from scientific literature into both approaches. Lastly, students should be able to formulate testable hypotheses and assess the appropriate methods to test those hypotheses.

10. **History of Science** – Students should be able to relate historical contributions to science with the current approaches and knowledge base within biology. Students should also be able to describe the contributions of various individuals to the science of biology. Lastly,

11. **Science and Society** – Students should be able to illustrate how biology relates to society. As citizens, students should also be able to make informed decisions about biological issues and policies. Lastly, students should be able to differentiate the means by which biology is communicated to society and assess the advantages and disadvantages of each.

12. **Bioethics** – Students should be able to identify and assess different positions associated with ethical issues in biology. Students should also be able to describe the role of ethics in their present and future biological careers. Lastly, students should be able to explain the impact and importance of ethics on science and biology.

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**Business Administration Program**

**Student Learning Outcomes**

Students who earn a B.S. in Business Administration from the University of Wisconsin-Platteville should:
1. Have a basic knowledge of accounting, economics, marketing, management, computer applications, finance, human resource management and legal, social and international issues affecting business.
2. Communicate effectively verbally and in writing.
3. Develop effective interpersonal skills that will enable them to work with other individuals and within teams as either leaders or participants.
4. Know how to gather, use, and critically evaluate electronic and other information.
5. Enhance their understanding of and sensitivity to diversity in the workplace.
6. Develop a knowledge and appreciation of ethical principles as applied to business.
7. Use critical thinking skills to solve real or hypothetical business problems.
8. Have had experiences that cultivate or enhance an entrepreneurial spirit.

• Chemistry

In order to realize the mission of the University and the Vision of the College, the Chemistry Program has the mission of providing students with information, theories, and applications relating to the properties and interactions of matter, the methods used to obtain such insight, and the abilities to critically analyze and synthesize using such information. Further, the Chemistry Program has a commitment to the preparation of majors in the field of their choice with a strong background in the chemical sciences.

As such, the Chemistry Program will maintain an intellectual environment and educational experiences which will:

- Provide students majoring in chemistry with quality preparation for success either in the professional practice of chemistry or in graduate or other professional schools.
- Provide students majoring in other areas which specifically require chemistry as part of their curriculum with a broad-based knowledge of chemistry.
- Provide students taking chemistry as part of their liberal studies with a broad-based knowledge of chemistry as well as insight into the nature of the physical sciences.

Goals and Objectives of the Chemistry Program:

Four goals must be pursued in order for the chemistry program to achieve the above purposes. Broadly defined, these goals are excellence in: Curriculum, Faculty, Facilities, and Student Outcomes. Within each goal are specific objectives.

Curriculum
Provide an exciting, challenging, and flexible curriculum that will meet the educational needs of: a) chemistry majors and prepare them for success in careers as chemistry professionals or in graduate or professional schools and to imbue in them intellectual curiosity and a value for lifelong learning; b) students majoring in other areas that specifically require chemistry; and c) students taking chemistry as part of their liberal studies.

1. Maintain a Chemistry Major program that meets national standards.
2. Review the curriculum and make the appropriate changes as needed to keep it current in its content and effective in its pedagogy.
3. Provide opportunities for student involvement in research, internships, and other types of non-classroom learning.

Faculty

Maintain a diverse and qualified faculty that is afforded the opportunity to constantly develop their pedagogical proficiency and remain current and proficient in their academic discipline.

1. Attract and retain quality faculty.
2. Place an emphasis on teaching and on the development of teaching skills and strategies.
3. Place an emphasis on faculty research and support student involvement in the research.

Facilities

Maintain facilities and infrastructure that are state-of-the-art and create an environment that is conducive to effective teaching, learning, and research.

1. Provide laboratory facilities that are safe and adequately equipped to support the teaching and research efforts of the program.
2. Provide classroom facilities that meet modern standards for the delivery of instruction in the field of chemistry.
3. Provide computing facilities in teaching and research spaces that maintain currency with advancing technology.
4. Provide adequate access to the chemical literature and reference materials.
5. Provide sufficient support personnel to ensure operational readiness.

Students

Meet the educational needs of our majors, evaluate their progress, gather input from them regarding our program, and clearly state our expected student outcomes. Meet the educational needs of non-majors which require chemistry, gather input from them regarding our program, gather input from faculty in their majors, and clearly state our expected student outcomes. Meet the educational needs of the liberal arts students, gather input from them regarding our program, and clearly state our expected student outcomes.
1. A chemistry graduate will be scientifically literate and possess a broad-based knowledge of chemical principles and techniques.
2. A chemistry graduate will be able to solve problems through creative and analytical thinking.
3. A chemistry graduate will be an effective communicator.
4. A chemistry graduate will be intellectually curious and value lifelong learning.
5. A chemistry graduate will value professional ethics.
6. A chemistry graduate will be able to work independently as well as cooperatively.
7. Non-majors will apply their knowledge of chemistry content and laboratory practices to their major.
8. Liberal arts students will obtain a broad-based knowledge of chemistry and will discover the patterns, principles, and dynamics of natural phenomena and relate them to issues in their lives as citizens; comprehend scientific methodology and its limitations; and engage in the analysis of natural phenomena.

Specific Outcomes:

1. Is the Chemistry Major approved by the ACS?
2. Are chemistry students acquiring appropriate content, laboratory experiences, and safety training?
3. Are chemistry students acquiring adequate communication, computing, literature, interpersonal, and professional skills?
4. Are the facilities adequate for our stated purposes?
5. Is the laboratory instrumentation adequate for our several missions?
6. Are the needs of majors in other areas being met?
7. Are the needs of students taking chemistry as part of their natural science requirement being met?

Student Learning Outcomes:

1. A chemistry graduate will be scientifically literate and possess a broad-based knowledge of chemical principles and techniques.
2. A chemistry graduate will be able to solve problems through creative and analytical thinking.
3. A chemistry graduate will be an effective communicator.
4. A chemistry graduate will be intellectually curious and value lifelong learning.
5. A chemistry graduate will value professional ethics.
6. A chemistry graduate will be able to work independently as well as cooperatively.
7. Non-majors will apply their knowledge of chemistry content and laboratory practices to their major.
8. Liberal arts students will obtain a broad-based knowledge of chemistry and will discover the patterns, principles, and dynamics of natural phenomena and
relate them to issues in their lives as citizens; comprehend scientific methodology and its limitations; and engage in the analysis of natural phenomena.

- **Civil & Environmental Engineering**

Objectives and Goal Statement: Provide students with a professional, practice-oriented educational background that will enable them to enter and succeed in their future careers.

Student Learning Objectives

Graduates will:

1. Have the ability to successfully apply technical knowledge to solve civil engineering problems.
2. Have the ability to effectively and accurately communicate technical information orally and in writing.
3. Demonstrate progress towards obtaining professional engineering licensure.

- **Computer Science**

Goals and Objectives

Graduates are expected to have:

1. the ability to apply the principles of analysis and design to software development;
2. knowledge of data structures, databases, algorithms, computer architecture, and operating systems;
3. the ability to develop effective software tests at the unit and system level;
4. knowledge about the tools and environments used for software development;
5. written and oral communication skills, ethics, and professionalism to function effectively on software development teams, and in society in general; and
6. the ability to engage in life-long learning and recognize its importance.

Student Learning Outcomes

The following are expected of the graduates of the Computer Science program:

1. *Foundation:* Graduates will have a solid foundation computer science. These graduates will be able to apply this fundamental knowledge to both their immediate professional software development tasks, as well as to acquiring new professional skills throughout their lifetime.
2. *Development:* Graduates will be able to engage in effective software development practices over the entire system lifecycle. This includes requirements, analysis, design, implementation, and testing.

3. *Professionalism:* Graduates will conduct themselves ethically, honestly and professionally in all work environment activities. These activities include all interactions with employers, team members and peers, as well as customers.

4. *Quality:* Graduates will use industry recognized best practices to design, develop and deliver software that meets or exceeds applicable standards for utility, reliability, robustness, performance, correctness, maintainability, reusability, portability, and economy.

5. *Presentation:* Graduates will be capable of effective written and oral communication. Graduates will be capable of preparing and publishing the necessary project documents involved in the specification, design, testing, and deployment of software. Graduates will also be capable of actively participating in customary project discussions, walk-throughs, reviews and inspections.

6. *Growth:* Graduates will be able to provide themselves with life-long learning capabilities, such as the ability to learn new tools, to study new language processes, and generally adapt to new surroundings throughout their careers. This outcome is particularly critical due to the rapid evolution and rapid obsolescence of computer science knowledge and practices.

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**Criminal Justice**

**Educational Outcomes/Learning Objectives**

At the time of graduation from the Criminal Justice Program, students should:

1. exhibit an understanding of fundamental concepts related to the interrelationship of various components within the criminal justice system (i.e., law enforcement, courts, and corrections)
2. apply criminological theories in explaining criminal behavior and the criminal justice process;
3. demonstrate their ability to formulate a problem/topic, assemble relevant research and resources, and synthesize the data in a manner to constitute a formal proposal or research paper;
4. analyze and evaluate social, cultural, and technological change and its impact on the criminal justice system;
5. be able to understand, analyze, and critically evaluate social research;
6. display a working knowledge of qualitative and quantitative research methods;
7. demonstrate in-depth knowledge of substantive areas within the discipline of criminal justice;
8. be prepared to apply their knowledge toward further study and careers.
• **Communication Technologies**

Goals

1. Prepare undergraduate students for professional careers in one or more program emphases (broadcast production, imaging media, journalism, public relations).
2. Provide coursework for programs in Business & Accounting, Agribusiness, Fine Arts, Education, and other programs.
3. Provide elective coursework to satisfy the social science requirements in the General Education program.

Student Learning Outcomes

As a result of graduating with a bachelor of arts or a bachelor of science degree in Communication Technologies, our students will be able to:

1. demonstrate proficiency in both written and oral communication;
2. discuss the role of mass media in our society;
3. demonstrate knowledge about the concepts, terminology, and issues associated with technologies used in communication;
4. effectively capture, process, and edit images;
5. describe and discuss legal concepts, terminology, and issues in communication activities;
6. utilize appropriate technologies and computer software associated with at least one of four emphases in this program;
7. apply classroom knowledge in the workplace.
8. demonstrate knowledge of ethical decision making.

• **Education**

Mission Of The School Of Education

The mission of the School of Education is to serve the pre- and in-service needs of professionals in Southwestern Wisconsin and beyond.

*Baccalaureate:* The undergraduate curriculum prepares candidates for initial licensure as professional educators.

*Post Baccalaureate:* A variety of programs (e.g., cross categorical, education administration, reading licensure) are provided to assist teachers to extend their licensure areas and build professional portfolios.
Master of Science in Education: The graduate curriculum focuses on the enrichment of the professional in current practice, based on career cycle needs.

Partnership: The School and Center of Education for the Young Adolescent are in partnership to respond to the University of Wisconsin-Platteville mission that includes specialized programs in middle school education. There are multitudes of formal and informal partnerships that exist within the university community and other agencies and industries wherein reciprocal services are provided.

Knowledge, Skill, And Disposition Statements

Domain 1: Planning and Preparation
Candidates will:

- demonstrate knowledge of content and pedagogy;
- demonstrate knowledge of students;
- select instructional goals;
- demonstrate knowledge of resources;
- design coherent instruction;
- assess student learning.

Domain 2: The Classroom Environment
Candidates will:

- create an environment of respect and rapport;
- establish a culture for learning;
- manage classroom procedures;
- manage student behavior;
- organize physical space.

Domain 3: Instruction
Candidates will:

- communicate clearly and accurately;
- use questioning and discuss techniques;
- engage students in learning;
- provide feedback to students;
- demonstrate flexibility and responsiveness.

Domain 4: Professional Responsibilities
Candidates will:

- reflect on teaching;
- maintain accurate records;
- communicate with families;
- contribute to the school and district;
- grow and develop professionally;
• show professionalism.

Please contact the School of Education for further details regarding the assessment plan.

• **Electrical Engineering**

The educational goals are to graduate engineers who:

1. Have the laboratory skills and the ability to use modern analysis and design techniques and state-of-the-art equipment to solve practical engineering problems.

The expected student learning outcomes of this goal are to graduate engineers who have:

   a) the ability to apply science, engineering science, and mathematics to solve engineering problems;
   b) the ability to put their engineering and design skills into practice;
   c) the ability to use industrial-quality laboratory equipment and engineering software for analysis, testing, design, and communication;
   d) the ability to design systems, components, and processes that satisfy predetermined constraints;
   e) the ability to put engineering problems, put them in solvable form, and develop and evaluate alternative solutions.

2. Have the professional skills to function effectively in the work environment as well as in the community.

The expected student learning outcomes of this goal are to graduate engineers who have:

   f) the ability to communicate their ideas and designs clearly orally, in written form, and graphically;
   g) the ability to work as members of a team;
   h) had the opportunity to develop leadership skills;

3. Have a solid understanding of professional and ethical responsibility.

The expected student learning outcomes of this goal is to graduate engineers who:

   i) understand ethical principles and their role in the engineering profession.

4. Have a broad education in order to understand contemporary issues and the impacts of technology on society and the environment.

The expected student learning outcomes of this goal are to graduate engineers who:
j) have sufficient knowledge of the humanities and social sciences to understand contemporary issues concerning the interaction between technology and society;
k) understand that the products they develop and the methods used to manufacture them can affect the environment.

5. Have the ability to engage in life-long learning and recognize its importance.

The expected student learning outcomes of this goal are to graduate engineers who:
l) realize that the practice of electrical engineering is constantly evolving and that engineers must have the ability to acquire new knowledge and skills on their own;
m) have the ability to earn graduate degrees or pursue other continuing education opportunities.

• Engineering Physics

Educational Objectives

The Engineering Physics Program at UWP provides Engineering Physics majors with a quality undergraduate education in liberal studies, mathematics, science, and engineering to:

a. provide them with the knowledge and skills to address engineering problems which cross the traditional boundaries between physics and engineering, particularly mechanical and electrical, with an emphasis on optical and sensor technologies,
b. prepare them as good citizens as well as good engineers, and
c. prepare them for a lifetime of learning, as engineers and citizens.

Graduates of the Engineering Physics (EP) Program must fulfill the following outcomes as part of their education in engineering physics:

1. Engineering physicists must have a knowledge of mathematics, chemistry, advanced physics, and engineering. EP graduates from UWP must have demonstrated:
a. an understanding of how these disciplines are interrelated in engineering physics;
b. the ability to identify, formulate, and solve engineering physics problems which cross the traditional boundaries between physics, electrical, and mechanical engineering;
c. an understanding of the design process and the ability to apply that process to multidisciplinary engineering problems;
d. the ability to design, conduct, analyze, and interpret experiments in engineering physics.

2. Engineering physicists must have a variety of professional skills to be productive in today’s competitive environment. EP graduates from UWP must have demonstrated:
   a. effective oral and written communications;
   b. the ability to function effectively in multidisciplinary teams; and
   c. the ability to use modern engineering physics techniques and tools, computers and laboratory instrumentation.

3. Engineering physicists must have the educational background to be good citizens as well as good engineers. EP graduates from UWP must have:
   a. demonstrated an understanding of their professional and ethical responsibility to society along with a knowledge of the contemporary issues in engineering physics;
   b. completed a broad liberal studies curriculum necessary to understand the impact of engineering physics in a global and societal context; and
   c. a desire for life-long learning to improve themselves as citizens and engineers.

- **English**

**Mission Statement:**

All English majors and minors are designed to prepare students for writing and teaching careers in a variety of professional environments, in which creativity, critical thinking, and a broad cultural perspective are required. English courses teach proficiency in literary analysis, professional and creative writing, cultural analysis and creation, and the mastery of rhetorical devices. The English computer-writing classroom in 104 Boebel Hall allows students access to up-to-date computer technology.

**Objectives**

The basic pre-professional objective of the non-teaching English majors is twofold:

1. To provide graduates with a solid preparation for graduate studies (e.g. Master’s Degree in Education, Master of Fine Arts, Master’s in Professional Writing/ Communication, Literature, Library Science, Rhetoric and Composition, as well as Pre-Law).
2. To educate generalists for job placement in the publishing industry, in creative and editorial positions, in education, in businesses, in government, and in nonprofit agencies.
The more general, non-career oriented objective of the English program at UW-Platteville is to educate citizens who understand, think about, and argue complex cultural issues. Specifically our literature and advanced composition courses are designed to broaden students’ perspectives and to increase their cultural literacy. Students gain personally and professionally from an education in American, British, World, and other literatures by becoming intellectually more astute and literate. Technical Writing experience and other professional skills, including training in Teaching English as a Second or Other Language, are all highly marketable skills that graduates acquire in our program. Our emphasis on the broad variety of human experiences through internships, community-based (service) learning, as well as participation in forums on and off-campus, helps students to participate in meaningful ways in society. Graduates in English are taught to apply their knowledge in all personal, professional, and social situations in which ethical decisions demand a deepened knowledge of the human condition and an understanding of the past.

Specific Teaching Objectives Of The English Program

- Develops students’ critical thinking skills through instruction in rhetoric, linguistic logic, argumentation and general communication skills
- Cultivates students’ understanding of the role of literature and culture in social structures
- Emphasizes the understanding of literary movements across centuries, periods, and geographical regions
- Teaches to appreciate the ethical, aesthetic as well as socio-political elements of intellectual discourse
- Educates students to learn from the cultural achievements of past and present thinkers, writers, and wise people.
- Furthers the students’ ability to integrate newly developed technologies into their communication with others
- Raises awareness of the diversity of voices and global connections.

Student Learning Outcomes

Graduates of the English program shall be competent and knowledgeable in:

1. using language, in particular writing, to fit a variety of audiences and purposes;
2. integrating logic, argumentation and interpersonal communication skills (both verbal and non-verbal);
3. understanding a breadth of writing and ideas by female and male authors, both classic and contemporary, including a representative body of literature encompassing works of diverse national, cultural and ethnic groups;
4. distinguishing the function and variety of literary and aesthetic forms, including fiction, non-fiction, drama and poetry;
5. analyzing, interpreting, evaluating, and appreciating print and non-print texts, including film;
6. applying historic and contemporary rhetorical theories to all media and communication contexts;
7. conducting research, using a variety of sources, and reporting findings in diverse and appropriate formats and media.

- **Foreign Languages**

**Mission:**

The mission of the Foreign Language program is to:

- Serve well the general education mission of the university in the area of the humanities.
- Prepare students via foreign language skills and cultural exposure for professions in business, law enforcement, communications, counseling, translation, etc.
- Prepare highly qualified foreign language teachers in conjunction with the D.P.I. and the UWP School of Education through our teaching-minor and teaching-major programs. Students must attain a level of mastery in the areas of teaching methods and knowledge of the theories of second language acquisition.

**Student Learning Outcomes:**

**Goal 1: Proficient Oral Communication Skills**

1. Student will demonstrate minimum oral proficiency at a level equivalent to Intermediate High on the ACTFL Proficiency Scale OR Student will be able to discuss, narrate, and converse about a wide range of general interest topics in most informal and some formal situations.
2. Student will be able to be understood without difficulty by speakers unaccustomed to non-native speakers.

**Goal 2: Proficient Written Communication Skills**

3. Student will demonstrate knowledge and skills in effective written presentation, grammatical accuracy, in informal and formal styles, at a level roughly equal to one’s oral proficiency.
4. Student will be able to read, translate, analyze, explain, understand a variety of authentic written materials (e.g., letters, poems, books, etc.).

**Goal 3: Knowledge of Cultural Practices and Perspectives**

5. Student will complete a period of language immersion in residence in a country in which the language is spoken.
1. Student will be able to discuss, compare, describe, relate to the historical, geographical, political, socio-economical, literary and artistic features of a variety of peoples and countries that speak and use the target language.
• Geography

Mission

Our mission is tied to the University of Wisconsin-Platteville mission, which calls for providing students with a broad education, to provide baccalaureate degrees in programs that provide service to the people in our region, and to expect scholarly activity. Our students learn theoretically, meaning that they are exposed to a wide diversity of ideas that broaden their knowledge base. In addition, they are imbued with practical skills that will enable them to put their knowledge to use in service to the people of Wisconsin and beyond.

Goals

1. Geography students will have a solid understanding of geographic principles.
2. They will be prepared to understand, communicate, and use this knowledge in both theoretical and practical ways. Theoretical use is the ability to understand the framework of the discipline and synthesize ideas based on learned concepts, and practical is the ability to use the tools of the discipline, such as GIS, cartography, and other spatial-analytical skills.
3. They also will be prepared to demonstrate the link between theoretical and practical knowledge by conducting original research.

Student Learning Outcomes

By the time they graduate, we expect our majors to have the following abilities:

a) To be able to identify the Earth’s physical and cultural regions, with an understanding of the processes that go on within these regions that make them distinct from other regions (see Program Mission statement 1).

b) To be able to demonstrate technical geographic skills (see Program Mission statement 2) including:
   • the production and interpretation of professional maps;
   • the ability to read Topographic Maps and Air Photos; and
   • the ability to use GIS to analyze geographic data.

c) To be able to think in and logically express in written form important geographic concepts. (see Program Mission statement 2).

d) To be able to conduct, process, prepare, and present empirical geographic research at a fundamental level. (see Program Mission statement 3).

• History

Mission:
The History program provides its students with a solid grounding in American, European, and non-Western history. In learning about the historical past, our students understand the complexity of the factors and forces that cause communities and nations to arise, decline, and change. Our students are also able to analyze and evaluate historical narratives. As a result of their study of history, our graduates are broader in perspective, more literate, intellectually more astute, ethically more sensitive, able to apply historical understanding to the present, and able to participate wisely in society as knowledgeable citizens.

**Student Learning Outcomes:**

Our graduates will be able to:

1. write historical essays with a clear and focused thesis, developed by logical argument and substantiated with factual detail;
2. undertake historical research projects based on primary and secondary sources in both print and electronic formats, formulate historically significant questions, gather appropriate sources, and apply an appropriate method of analysis and synthesis;
3. critically analyze works of history; understand a work’s assumptions, methods, sources, and point of view, and evaluate its argument.

**Industrial Engineering**

The IE program has specified program outcomes which are directly related to its educational objectives. These outcomes are listed below.

1. *Foundation.* Graduates will have a strong foundation in engineering, science, and current industrial engineering practices and will have experience solving structured and unstructured problems using conventional and innovative solutions.
2. *Communication.* Graduates will have developed their communication and interpersonal skills through a variety of individual and team-related activities, both multi-functional and intra-disciplinary.
3. *Responsibility.* Graduates will have an understanding of the ethical and professional responsibilities of an engineer and the impact of engineering solutions on society and the global environment.
4. *Design.* Graduates will be able to effectively describe the problem, analyze the data, develop potential solutions, evaluate these solutions, and present the results using their oral, written and electronic media skills.
5. *Growth.* Graduates will be aware of the need for continued professional growth through the understanding of contemporary developments in industrial engineering.
• **Industrial Studies**

**Building Construction Management Option:**

Provides the business dimensions to the technical construction training with emphasis on technical processes and construction management with competencies in areas such as analysis of work methods, scheduling, illustration of three-dimensional CADD forms, application of estimating, structural calculations, field experience in scheduling, ordering materials, framing, basic brick and block laying, concrete forming techniques, and other procedures.

**Occupational Safety Management Option:**

Analysis of safety performance, identifies, evaluates, and resolves safety issues in business, industrial, and government organizations through the developed competencies of interpretation of OSHA regulations, conducting facility inspections, industrial noise monitoring, job safety analyses, development of safety programs, ergonomic workstation analyses, development of disaster preparedness plans with local emergency planning committees and others.

**Manufacturing Technology Management Option:**

Evaluation of the manufacturing aspect of the technological society through the analysis of industrial materials and processes, application of work measurement systems, production tooling, utilization of industrial problem solving and trouble shooting techniques with equipment problems in different manufacturing situations, etc., competencies in product design, time and motion measurement data, computer assisted part programming, plastics processing techniques, metal casting processes, and others.

• **International Studies**

**Mission:**

The International Studies major provides an understanding of transnational and intercultural relations through interdisciplinary work across departments in the social sciences, humanities, and fine arts. It includes curricular, experiential and skills components which enable students to engage in personal development, academic commitment, intercultural development in the form of understanding cultural values of different cultures, and career development.

**Student Learning Outcomes:**

Graduates will:
1. obtain familiarity with geographical, cultural, political, economic, literary, and historical approaches to global issues;
2. develop working knowledge of the methodologies central to the participating social sciences and humanities courses;
3. undertake an international experience through an appropriate study abroad program;
4. obtain competency in a second language, at least equivalent to three courses of college-level work.

• Mathematics

Mission Statement
The purpose of the mathematics curriculum is to provide all students with quantitative skills to function proficiently in a societal and professional capacity. In addition to offering majors and minors in mathematics, the Mathematics Department offers courses to support both the general education requirements of the University and the major and minor programs of other departments. Within this mission, the Mathematics Department strives to furnish an open, enlightened environment, with frequent student/faculty interaction, resulting in high quality undergraduate education that will develop and enhance students’ computational and reasoning skills.

The goals of the Mathematics Department at UW-Platteville are to:

a. provide mathematics courses that:
   • support the mathematics majors and minors which will enable students to pursue careers in education, business, and industry,
   • prepare students to continue their study of mathematics at the graduate level,
   • support the professional programs within the various colleges of the University, or
   • fulfill the general education mission of the University by providing graduates with the quantitative reasoning skills to function proficiently in a professional capacity;

b. provide a format for mathematical discussion within the University (and larger) community;

c. keep abreast of research trends in mathematics and in the national mathematics education community; and

d. provide students with opportunities to experience mathematics outside of their course work.

Student Learning Outcomes
1. General Education

Each student graduating from UW-P should have the knowledge to recognize mathematics in the world around them and be able to use that recognition to solve
problems that arise. To this end, by the end of their sophomore year, students should have completed a basic competency requirement in computational skills and quantitative perception. A student who successfully completes a course satisfying the competency requirement in math will:

a) acquire problem solving skills using the methods of mathematics;
   • recognize that a problem needs to be solved;
   • identify problem type and choose an appropriate problem solving strategy;
   • utilize a chosen strategy to obtain a solution to a problem;
   • evaluate the plausibility of a computed result.

b) use the recognition of patterns to solve problems;
   • predict the value of the next term in a sequence of observations;
   • understand the use of formulas related to problems of the same type;
   • conjecture an answer to a problem based on the ability to solve a related problem.

c) work with fundamental notions of number and space;
   • use numbers to measure, to compute, and to indicate quantity;
   • understand the properties of different types of numbers;
   • work with basic geometric concepts of two- and three-dimensional space;
   • represent geometric relationships algebraically.

d) distinguish between valid and invalid reasoning; and
   • distinguish between logical and illogical mathematical statements;
   • determine the logical consistency of an argument;
   • correctly apply axioms and known results to new problems.

e) remain alert to the plausibility of solutions.
   • identify when a proposed solution violates rules of mathematics;
   • know when a given answer is not consistent within the parameters of the problem;
   • judge acceptable limits of error when evaluating the appropriateness of a solution.

2. Mathematics Majors

Along with the general education requirements, mathematics majors should take a core of required mathematics courses while selecting other courses with regard to their career plans. A student’s future plans may include, for example, teaching, statistical applications, computer applications, or pre-professional preparation.

Required and elective mathematics courses for majors shall:

• prepare students with the skills needed to pursue careers in education, business, and industry;
• provide a theoretical foundation that will prepare students to continue their study of mathematics or statistics at the graduate level; and
• provide students with opportunities to experience mathematics outside of their regular course work.
Upon graduation, mathematics majors should be able to:

a) communicate mathematics effectively;

b) demonstrate a computational ability in solving a wide array of mathematical problems;

c) differentiate between valid and invalid mathematical reasoning;

d) develop mathematical ideas from basic axioms;

e) utilize mathematics to solve theoretical and applied problems; and

f) identify applications of mathematics in other disciplines and in society.

3. Mathematics Middle/Secondary Education Major

These are mathematics majors who are preparing to teach at the middle and secondary school level. These students take courses from both the Mathematics Department and the School of Education. In addition to fulfilling the requirements of both an education major and a mathematics major, these students must also complete requirements in the areas of content, and teaching and professional development. The successful student will:

a) understand basic geometric concepts and proofs;

b) communicate mathematics effectively using various instructional strategies;

c) effectively assess student work, and use that assessment to design activities incorporating a variety of instructional resources;

d) be familiar with the different philosophies of various high school curricula and be open to the use of any curriculum in the motivating and teaching of mathematics to students;

e) appreciate the value of professional development, being familiar with the various organizations concerned with mathematics education; and

f) be aware of the role of the teacher in the community.

4. Service Courses for Education Majors

These students from the School of Education are preparing to teach at the early childhood, elementary and/or middle school level. While not mathematics majors, the student completing the mathematics education courses and seeking licensure for these levels will:

a) demonstrate knowledge in mathematics (with a thorough understanding of the mathematics at the early childhood/elementary and middle level), including the concepts and procedures of mathematics and the connections and relationships among mathematical concepts;

b) apply fundamental heuristic strategies towards the solution of mathematical problems;

c) be able to communicate mathematics effectively; and

d) demonstrate knowledge of how mathematics is used in other disciplines and in society.
Additionally, the student completing the mathematics education courses will:

e) communicate mathematics effectively using various instructional strategies;

f) effectively assess student work, and use that assessment to design activities incorporating a variety of instructional resources;

g) demonstrate familiarity with research results addressing the learning and teaching of mathematics; and

h) be familiar with the various organizations focused on mathematics education.

5. Service Courses for Engineering, Science, and Other Majors

The mathematics department serves all engineering and science majors. A majority of these students are served by a three-semester Calculus sequence, followed by courses selected from Differential Equations, Linear Algebra, Statistics, and others. In addition, other majors across campus have specific requirements in mathematics, such as Applied Calculus, Elementary Statistics, and Discrete Mathematics. Upon completion of the mathematics requirement for their particular major, these students will:

a) demonstrate problem solving skills and an ability to reason mathematically;

b) demonstrate an understanding of the mathematical ideas relevant to their program or major; and

c) identify, formulate, and solve problems within their discipline.

• Mechanical Engineering

Student Learning Outcomes

1. Ability to apply mathematics and basic sciences to solve practical problems.

2. Solid background in engineering sciences and design.

3. Solid background in computer tools and methods.

4. Solid background in experimental methods.

5. Sufficient flexibility in curriculum so that students may pursue individual interests.

6. Communication skills including oral, written, and graphical.

7. Teamworking skills.

8. Awareness of and ability to effectively deal with a wide range of societal issues, such as aesthetic, economic, environmental, legal, and social, that shape engineering decision making.

9. Familiarity with the design process in a broad sense, including project planning, project management, and implementation.

10. Ability to keep up to date with current engineering practices, procedures and tools.
11. Understanding of ethical principles and typical dilemmas faced by practicing engineers
12. Familiarity with the laws pertaining to the professional practice of engineering and the responsibilities of engineers.
13. Solid liberal arts and social science background to develop connections between engineering and social and humanistic issues.
14. Support a variety of activities to enhance and broaden the students’ opportunities technically and socially.

• Ornamental Horticulture

Mission and Purpose:

The mission of the Ornamental Horticulture program is to prepare students for careers as responsible, ethical, and competent horticulturists. This is achieved by combining a solid liberal arts education with professional curricular and educational opportunities aimed at combining the important theoretical and practical aspects of the horticultural and biological sciences with the managerial skills necessary for preparing students for a successful career in ornamental horticulture. Specific goals and objectives for the ornamental horticulture program are to provide curricular and educational opportunities which result in graduates who:

1. demonstrate effective oral and written communication skills;
2. exhibit working knowledge of ornamental plant species;
3. demonstrate an in-depth comprehension of the horticultural and biological sciences, and are able to apply their knowledge as it relates to ornamental horticulture;
4. think creatively and are able to recognize, analyze diagnose and critically evaluate problems and practices;
5. possess the ability to employ problem-solving techniques by acting individually or using a team-oriented approach;
6. possess a comprehension of the administrative and managerial skills necessary when managing and operating a horticultural business;
7. are professionals and leaders in society and ornamental horticulture that act in a courteous, ethical, and responsible manner.

• Philosophy

I. Statement of Purpose in light of the UW-Platteville Mission Statement

With regard to our mission, the Philosophy program has two main goals:
• The first goal is to help each student in its courses, but especially our philosophy majors and minors, to become what UW-Platteville pledges in the first item of its mission statement, namely, “to become broader in perspective, more literate, intellectually more astute, ethically more sensitive, and to participate wisely in society as a competent professional and knowledgeable citizen.”
• The second goal is to provide our majors and minors the opportunity to develop in depth their ability to think critically about the most fundamental (and inescapable) questions that humans can raise about reality, knowledge, and values.
• As a corollary to this second goal, we aim to give our majors and minors a solid preparation for whatever they pursue after graduation, whether it be graduate studies, law school, medicine, education, academic computing, journalism, social work, ministry, a fine art, or business.

II. Student Learning Outcomes

What do we believe that majors and minors in the UW-Platteville philosophy program should know? Students who major or minor in philosophy will:

(1) acquire a broad understanding of the history of Western philosophy;
(2) become more ethically sensitive through the careful study of various ethical theories;
(3) enhance their ability to analyze and clarify ideas;
(4) refine their ability to think logically;
(5) demonstrate their ability to present their ideas and arguments effectively, both orally and in writing.

Psychology

Mission

The primary goal of the Psychology Department is to prepare students for professional human service roles and/or graduate study in psychology and related fields. Our program fosters (1) the requisite core of knowledge about the discipline, (2) an exposure to applied aspects of the field, and (3) a greater awareness of self, others, and socio-cultural influences. This goal serves the institution’s mission of broadening students’ perspectives, increasing their ethical sensitivity, and preparing them for their ultimate roles as competent professionals.

Student Learning Outcomes for the Psychology Major

The department adopts as objectives the ten guidelines developed by the American Psychological Association Task Force on Undergraduate Major Competencies.

Student Learning Outcomes Specific to the Discipline:
1. Graduates will demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.
2. Graduates will understand and apply basic research methods in psychology, including research design, data analysis, and interpretation.
3. Graduates will respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.
4. Graduates will understand and apply psychological principles to personal, social, and organizational issues.
5. Graduates will be able to weigh evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a discipline.

Student Learning Outcomes Fulfilled as Part of a Liberal Arts Education and Enhanced in the Psychology Program:

1. Graduates will demonstrate information competence and the ability to use computers and other technology for many purposes.
2. Graduates will be able to communicate effectively in a variety of formats.
3. Graduates will recognize, understand, and respect the complexity of socio-cultural and international diversity.
4. Graduates will develop insight into their own and others’ behavior and mental processes and apply effective strategies for self-management and self-improvement.
5. Graduates will emerge from the major with realistic ideas about how to implement their psychological knowledge, skills, and values in occupational pursuits in a variety of settings.

- **Physical Education**

**Mission Statement**

The mission of the Health and Physical Education program is three fold in nature:

- To produce pre-service Teachers ready to implement “Best Practices” in and Health, Physical Education and Adapted Physical Education.
- To produce Health Promotion Specialists ready for a wide variety of programs utilizing wellness components, such as YMCA’s, youth clubs and corporate/club fitness centers.
- To provide all university students the opportunity to develop positive concepts of wellness and the skills to participate in lifetime wellness activities.

**Learning Outcomes**

Majors Program – Teaching Emphasis
Student learning outcomes are fully outlined through the conceptual design of the School of Education, which has been adapted by our program. Following is a list of the Wisconsin Teacher Education Standards, which demonstrates our use of the Department of Public Instructions content guidelines as the student learning outcomes for students in the HPE program.

- **Standard 1 Content and Curriculum.** The teacher understands the central concepts, tools of inquiry, and structures of the discipline he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.
- **Standard 2 Development and Learning.** The teacher understands how children learn and develop, and can provide learning opportunities that support their intellectual, social, and personal development.
- **Standard 3 Diverse Learners.** The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.
- **Standard 4 Instructional Strategies.** The teacher understands and uses a variety of instructional strategies to encourage students’ development of critical thinking, problem solving, and performance standards.
- **Standard 5 Learning Environments.** The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.
- **Standard 6 Communication.** The teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.
- **Standard 7 Instructional Planning.** The teacher plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.
- **Standard 8 Assessment.** The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.
- **Standard 9 Reflection.** The teacher is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.
- **Standard 10 Collaboration.** The teacher fosters relationships with school colleagues, parents, and agencies in the larger community to support students’ learning and well-being.

Majors Program – Health Promotion Emphasis

Student learning outcomes are fully outlined through the following standards. Our faculty developed the UWP Health Promotion standards specifically for our students. These standards demonstrate our use of standards based instruction to aide the Health Promotion students in our physical education program.
• **Advocacy:** The health promoter understands, responds to, and interacts with the larger political, social, economic, legal, and cultural context that affects health promotions.

• **Collaboration:** The health promoter fosters relationships with professional colleagues, clients and agencies in the larger community to support client learning and well-being.

• **Professional Knowledge:** The health promoter understands the central concepts, tools of inquiry, and structures of health promotion and creates learning experiences that make specific aspects of health promotion meaningful to the client.

• **Diverse Learners:** The health promoter understands how clients differ in their approaches to learning and creates a variety of education/training methods that are adapted to diverse learners.

• **Leadership:** The health promoter leads by facilitating the development, articulation, implementation, and stewardship of a vision of healthy lifestyle that is shared by the health promotion community.

• **Communication:** The health promoter uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration and supportive interaction.

• **Reflection:** The health promoter is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (clients, volunteers and other professionals in the health promotion community) and who actively seeks out opportunities to grow professionally.

• **Assessment:** The health promoter understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the client.

**General Education Programming – Wellness Concept Development**

Students should learn how to achieve and maintain both their physical and mental well-being. A course meeting competency requirements in wellness is designed to enable students to:

• Assess their own overall fitness level.
• Understand what lifestyle changes are required to improve overall fitness.
• Develop an appreciation for, and basic skills in, an activity which if pursued will promote a lifetime of fitness and enjoyment.

• **Political Science**

**Mission and Purpose:**

The Political Science Program commits itself to the intellectual and personal development of its students. The Program seeks to:
1. Enable its students to acquire a broad understanding of the political world both at home and abroad, and to recognize the role of the individual in that world.
2. Educate students to knowledge and appreciation of political processes and institutions, development of political thought, and the nature of individual rights and governmental power.
3. Provide students with a basic knowledge of American government in light of both the sweep of its history and the immediacy of current events.

In addition the Program seeks to impart to its majors:

1. Knowledge of normative political ideas in Western culture and American experience.
2. Practical understanding of the application of empirical research methods to problems of political behavior.

Finally, the Program offers access to advice and guidance in seeking post-graduate education and training in law to students in all majors.

In sum, the Political Science Program of the Social Sciences Department seeks to prepare its graduates for employment and advanced study, and to stimulate students in anticipating their future roles as professionals, leaders, and citizens.

Goals and Objectives:

1. The political science curriculum will (a.) introduce students to political analysis through the study of structures and processes of government in a comparative perspective, and (b.) explore the origins, development, structure and operation of American government with emphasis on institutions, process and political actors.
2. The curriculum will also develop the ability of our students to (a.) explain the linkages of individuals and groups to the political process, (b.) the development, impact and evaluation of public policy, and (c.) to analyze current political issues facing the nation and the international system.
3. In addition, the curriculum will nurture the ability of our students to (a.) evaluate political decisions (b.) analyze normative theories, and (c.) interpret empirical research.
4. Finally, the curriculum will include opportunities for students to apply their knowledge and skills in active learning environments, which may take the form of internships, independent research and academic competitions.

- **Reclamation, Environment, and Conservation**

  Mission:
The purpose of the Reclamation, Environment and Conservation (REC) program is to promote environmental awareness and actions through interdisciplinary instruction and outreach. Its goal is to help protect, restore, and conserve the environment for future generations.

Student Learning Outcomes:

Graduates will:

1. describe land management and reclamation/restoration activities and outcomes, and explain their importance to a wide range of audiences;
2. demonstrate interdisciplinary knowledge and skills necessary to restore and manage a site;
3. characterize and apply various combinations of procedures and equipment to produce desired land management outcomes;
4. predict difficulties and challenges unique to a given reclamation/restoration site;
5. compare and evaluate the roles and effectiveness of various stakeholders such as agencies, groups, and organizations engaged in land management and reclamation/restoration;
6. apply the skills to plan, design and construct a reclamation/restoration project;
7. apply site analyses and assessments required for a reclamation/restoration project;
8. analyze and evaluate the successes of vegetation in plant community and habitat restoration;
9. possess a working knowledge of integrated pest management skills;
10. identify local common native plant species;
11. apply and evaluate techniques and cultural practices including seeding, planting, transplanting, erosion control and mechanical, chemical, biological and prescribed fire management techniques;
12. compile and defend scholarly reports on complex subject matter based on actual experience and reference documentation;
13. present technical information in an understandable manner;
14. manage a reclamation, environment and conservation project;
15. evaluate the efficacy of methods and materials used in reclamation project management;
16. demonstrate knowledge of project management control;
17. possess a working knowledge of reclamation/restoration terminology;
18. appreciate the role and responsibility of a project manager; and
19. perform various administrative tasks such as budgets, schedules, and project cost estimates.

- Social Science Comprehensive
Mission

Our program provides majors with a broad grounding in the Social Sciences and the equivalent of a minor in History.

"Social sciences" is not a discipline, in itself, but combines many disciplines. Therefore it provides no unique skills and concepts separate from those offered by Economics, History, Psychology, Political Science, and Sociology. In addition to the broad liberal arts education provided by each of the component disciplines, the Social Sciences Comprehensive Major with an Emphasis in History prepares social sciences instructors to teach in the public school system.

Goals and Objectives

Goals and objectives specific to each discipline are assessed as part of the assessment of the individual disciplines. The unique goal of the Social Science Comprehensive Major with an Emphasis in History is to provide a broad knowledge of Social Science and History facts and concepts.

- **Software Engineering**

Mission Statement

The mission of the Software Engineering Program is to provide a quality software engineering education with significant hands-on and laboratory experience that will enable our graduates to practice their profession with proficiency and integrity.

Goals

1. Graduates are effective team members, aware of cultural diversity, who conduct themselves ethically and professionally.

2. Graduates use effective communication skills and technical skills to assure production of quality software, on time and within budget.

3. Graduates build upon and adapt knowledge of science, mathematics, and engineering to take on more expansive tasks that require an increased level of self-reliance, technical expertise, and leadership.

Student Learning Outcomes

A. Foundation: Graduates shall have a strong foundation in science, mathematics, and engineering, and can apply this fundamental knowledge to software engineering tasks.
B. Development: Graduates can effectively apply software engineering practice over the entire system lifecycle. This includes requirements engineering, analysis, prototyping, design, implementation, testing, maintenance activities and management of risks involved in software and embedded systems.

C. Process: Graduates know various classical and evolving software engineering methods, can select appropriate methods for projects and development teams, and can refine and apply them to achieve project goals.

D. Professionalism: Graduates are knowledgeable of the ethics, professionalism, and cultural diversity in the work environment.

E. Quality: Graduates can apply basic software quality assurance practices to ensure that software design, development, and maintenance meets or exceeds applicable standards.

F. Presentation: Graduates have effective written and oral communication skills. Graduates can prepare and publish the necessary documents required throughout the project lifecycle. Graduates can effectively contribute to project discussions, presentations, and reviews.

G. Growth: Graduates understand the need for life-long learning and can readily adapt to new software engineering environments.

• **Soil and Crop Science**

Mission:

Students majoring in Soil and Crop Science will be prepared for careers as resourceful, ethically responsible, and competent agronomists by combining their liberal arts education with professional coursework and practical experience. Students completing this program will be prepared to pursue careers in agronomy or to continue their education through advanced study.

Student Learning Outcomes:

Graduates will:

1. conceptualize, understand and apply chemical, physical, biological and agronomic sciences to address practical agronomic problems;
2. apply scientific principles to gather, analyze, and interpret agronomic data;
3. effectively and accurately communicate agronomic information in written and oral forms;
4. use and become familiar with new technologies in agronomy and related sciences;
5. understand the professional, legal, and ethical responsibilities associated with careers in agronomy.