THE OFFICE OF ACADEMIC AFFAIRS

Undergraduate Learning Outcomes

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College of Arts and Sciences

Associate of Arts – A.A.

LEARNING OUTCOMES:

1. Students analyze and interpret significant forms of human thought, culture, and expression and place them in their proper world-historical context.
2. Students demonstrate computational skills and familiarity with algebra and geometry.
3. Students demonstrate critical, analytical reading and listening skills.
4. Students understand the pluralistic nature of arts and cultures across the world.
5. Students analyze the processes by which human, natural, and economic resources are used in forming human societies.
6. Students understand mathematical concepts and methods adequate to increase their general problem-solving skills.
7. Students grasp mathematical concepts and methods used to construct valid arguments and recognize inductive and deductive reasoning.
8. Students understand the basic facts, principles, theories and methods of modern science and its applications.
9. Students apply these skills to practical problems.
10. Students recognize social and philosophical implications of scientific discoveries and the potential of science and technology to address problems of the contemporary world.
11. Students describe the interdependence of scientific and technological developments.
12. Students understand key events in the development of science and recognize that science is an evolving body of knowledge.
13. Students understand theories in the social sciences that seek to explain human behavior, societies, cultures, and institutions.
14. Students communicate through writing and speaking using the conventions of academic discourse.

College of Arts and Sciences

DIVISION OF ARTS AND HUMANITIES

African-American and African Studies – B.A.

LEARNING OUTCOMES:

1. AAAS majors will demonstrate an in-depth knowledge and mastery of substantive information relevant to one area of concentration (African American, African or Diaspora) and an understanding of the interdependent black world.
2. Students identify, critique, and appreciate the intersections between race, class, gender, ethnicity, and sexuality from the historical and existential perspectives of African and African-descended peoples.
3. Students implement interdisciplinary research methods and methodological perspectives applicable to advanced study, community development, and public service.

Ancient History and Classics – B.A.

LEARNING OUTCOMES:

1. Students broaden their knowledge of the history of Greece and Rome in its overall development, major events, and the methods used in its scholarly research.
2. Students develop the ability to read a Greek and/or Latin text in its original language and to situate it in its cultural and historical context.
3. Students research topics of Greek or Roman history by using the original documents.
4. Students interpret cultures that are foreign both in place and in time, using the cultures, literatures and religions of Greece and Rome as case studies (“cultural competence”).

Arabic – B.A.

LEARNING OUTCOMES:

1. Demonstrate intermediate competency in reading, writing, speaking, and listening to Modern Standard Arabic.
2. Demonstrate expanded notions of literacy, navigating distinctions of culture, region, gender, class, access, and other differences.
3. Critique written, oral, and performative texts, demonstrating facility with literary and cultural theories across historical, social, cultural, and other contexts.
4. Students acquire analytical skills (understanding of grammatical structures).

Art – B.A.

LEARNING OUTCOMES:

1. Students possess a developed visual sensitivity.
2. Students possess the technical skills, perceptual development and understanding of principles of visual organization sufficient to achieve basic visual communication and expressions in one or more media.
3. Students possess the ability to make workable connections between concept and media. These connections are illustrated through each critique in each course.
4. Students possess some familiarity with the works and intentions of major artists and movements of the past and the present, both in the Western and non-Western worlds.
5. Students prepare materials for Graduate Studies and Professional Careers.

Art – B.F.A.

LEARNING OUTCOMES:

1. Students gain functional competence with principles of visual organization, including the ability to work with visual elements in two and three dimensions; color theory and its applications; and drawing.
2. Students present work that demonstrates perceptual acuity, conceptual understanding, and technical facility at a professional entry level in their chosen field(s).
3. Students become familiar with the historical achievements, current major issues, processes, and directions of their field(s).
4. Students are afforded opportunities to exhibit their work and to experience and participate in critiques and discussions of their work and the work of others.
5. Students prepare materials for Graduate Studies and Professional Careers.
6. Students acquire advanced knowledge of the materials, methodologies and critical developments and artistic practices related to a particular media or specialization.
7. Students demonstrate skills through the conception, creation and presentation of original works of art.

Art Education – B.A.E.

LEARNING OUTCOMES:

1. Teacher candidates will acquire content knowledge in the discipline.
2. Teacher candidates will acquire knowledge of instructional strategies as they relate to the 2007 Ohio Modified Multi-age Visual Arts/NASAD standards.
3. Teacher candidates will develop ability to plan instruction.
4. Teacher candidates will demonstrate effectiveness in P-12 student learning.
5. Teacher candidates will develop reflexive understanding of their role in the discipline.
6. Teacher candidates will practice and implement pedagogy through a 14-week internship in Pre-K-12 classroom.

Arts Management – B.A.M.

LEARNING OUTCOMES:

1. Students identify the issues, problems and policy interventions impacting the contemporary arts and cultural sector.
2. Students analyze the purpose, function, and professional decision making in arts and cultural organizations.
3. Students understand the professional role and responsibilities of the artist and the cultural worker in society.
4. Students practice the principles of entrepreneurship as applied to arts and culture.

Chinese – B.A.

LEARNING OUTCOMES:

1. Students demonstrate consideration of multiple critical approaches to an issue.
2. Students demonstrate sensitivity to cultural diversity based on what they have studied.
3. Students demonstrate a knowledge of cultural traditions and behaviors sufficient to situate the material studied in its larger cultural contexts.
4. Students demonstrate a critical literacy in media.
5. Students demonstrate the ability to interpret materials and behaviors that are presented orally and in writing.
6. Students demonstrate the ability to express themselves clearly, orally and in writing.

Choral Music – B.M.E.

LEARNING OUTCOMES:

1. Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences. Ensembles should be varied both in size and nature. Normally, performance study and ensemble experience continue throughout the baccalaureate program.
2. Students acquire keyboard competency.
3. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.

Classical Greek and Latin – B.A.

LEARNING OUTCOMES:

1. Students master language competence in Greek and Latin.
2. Students read and appreciate ancient Greek and Latin literary texts.
3. Students demonstrate understanding of the literatures of ancient Greece and Rome in their historical setting.
4. Students interpret cultures that are foreign both in place and in time, using the ancient cultures Greece and Rome as case studies.
5. Students research a topic in ancient literatures and cultures by making use of the original documents of these cultures.

Classical Humanities – B.A.

LEARNING OUTCOMES:

1. Students read and appreciate ancient Greek and Latin literary texts.
2. Students demonstrate understanding of the literatures of ancient Greece and Rome in their historical setting.
3. Students interpret cultures that are foreign both in place and in time, using the ancient cultures Greece and Rome as case studies.
4. Students research a topic in ancient literatures and cultures by making use of the original documents of these cultures.

Classics – B.A.

LEARNING OUTCOMES:

1. Students read and appreciate ancient Greek and/or Latin literary texts, either in the original languages or in translation.
2. Students demonstrate understanding of the literatures of ancient Greece and Rome in their historical setting.
3. Students interpret cultures that are foreign both in place and in time, using the ancient cultures Greece and Rome as case studies.
4. Students research a topic in ancient Greek and Roman literatures and cultures by making use of the original documents of these cultures in original languages.
5. Students master language competence in Greek and/or Latin (Classical Greek and Latin Concentration BA only).

Comparative Studies – B.A.

LEARNING OUTCOMES:

1. Students develop the capacity to analyze differences in culture and politics over time.
2. Students develop the capacity to engage and analyze issues of community and social justice.
3. Students develop interdisciplinary thinking and writing skills and understanding of relationships between disciplines.
4. Students develop the ability to read critically and interpret a diverse range of texts, material artifacts, and/or performance traditions.

Composition – B.M.

LEARNING OUTCOMES:

1. Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences. Ensembles should be varied both in size and nature. Normally, performance study and ensemble experience continue throughout the baccalaureate program.
2. Students acquire technical skills requisite for artistic self-expression in at least one major performance area at a level appropriate for the particular music concentration.
3. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.
4. Students acquire keyboard competency.

Dance – B.F.A.

LEARNING OUTCOMES:

1. Expertise in movement practice: Students develop expertise in traditional and contemporary dance techniques, performance, improvisation and somatic practices.
2. Theoretical inquiry: Students acquire and apply skills and knowledge in dance history/theory/ literature, writing, movement analysis, education and kinesiology.
3. Engage in the creative process: Creative Process: Students explore art-making in choreography, performance, dance film, lighting, sound design, costume design, interdisciplinary projects, and creative technologies for dance.
4. Dance Research: Students conduct in-depth explorations of a specific area of interest through research and creative projects.

English – B.A.

LEARNING OUTCOMES:

1. Students exhibit broad knowledge, understanding, and appreciation of literatures written in English, especially the British and American traditions, including main literary-historical periods, major authors, and history of the English language.
2. Students demonstrate high levels of proficiency in oral and written communication and the ability to write persuasively and elegantly using the argumentation, creativity, rhetoric, style, editing, and bibliographic citation appropriate to their areas of concentration.
3. Students display an informed awareness of different critical theories, methodologies and approaches to studying texts; demonstrate skill in using the critical tools and terminologies needed to analyze and assess a range of texts, including those produced by their peers; and the ability to identify the formal properties of texts as well as major literary forms and genres.
4. By graduation, students demonstrate the knowledge, skills, and independent thinking necessary to produce a substantial project appropriate to their concentrations and to be successful in their chosen career paths.

Film Studies – B.A.

LEARNING OUTCOMES:

1. Film Studies students learn to recognize formal elements; they acquire and apply tools (terminology, methods) to carry out rigorous formal analysis of film.
2. Film Studies students learn to explain how film has changed over time as an aesthetic form, as an industry, and as a social institution.
3. Film Studies students construct focused knowledge in one area and reflect on its relation to Film Studies as a field of interdisciplinary inquiries about cinema.
4. Film Studies students learn to develop general conclusions by synthesizing specific cases and by utilizing film-studies methods.
5. Film Studies students compose convincing written arguments backed by evidence from films and secondary sources.

French – B.A.

LEARNING OUTCOMES:

1. Successful students will be able to discuss important aspects of both high and popular cultures of France and the Francophone world, including history, literature, music and fine arts. They will be able to incorporate this knowledge into their oral presentations and written essays.
2. Successful students will be able to understand the main ideas and many of the cultural references in oral discourse such as radio, TV, and film.
3. Successful students will be able to perform the speaking tasks outlined in the ACTFL guidelines for ‘advanced low’ level.
4. Successful students will be able to understand, critically interpret, and discuss relatively complex ideas presented in full-length, original texts in a variety of genres such as literary prose, poetry, theater, history narratives, advertisements, and visual texts.
5. Successful students' level of writing proficiency is expected to correspond to the ‘advanced low’ level in the ACTFL guidelines.
6. Successful students will be able to use the contextual knowledge gained from exposure to the major historical, socio-cultural, and literary periods of French and Francophone cultural history to critically evaluate and write on a number of topics pertaining to the foreign culture and their own.

General Music – B.M.E.

LEARNING OUTCOMES:

1. Students acquire technical skills requisite for artistic self-expression in at least one major performance area at a level appropriate for the particular music concentration.
2. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.
3. Students acquire keyboard competency.

German – B.A.

LEARNING OUTCOMES:

1. Students demonstrate linguistic proficiency in German at the B2 or C1 level of CEFR, they reflect on their own language and gain translation skills.
2. Students demonstrate knowledge of German Linguistics, German History, German Cultural Achievements, and the current German-speaking world.
3. Students demonstrate the ability to undertake critical reading and analysis of texts, to interpret cultural products and events within relevant contexts, and to express ideas and perspectives clearly, cogently and persuasively.
4. Students demonstrate an understanding of differences in verbal and nonverbal communication, recognize cultural differences and similarities, and gain perspective on their own world view and cultural values.
5. Students demonstrate the ability to use sophisticated tools for research and knowledge acquisition, and to evaluate the validity of resources available in the media landscape.

Hebrew – B.A.

LEARNING OUTCOMES:

1. Demonstrate intermediate competency in reading, writing, speaking, and listening to Hebrew.
2. Demonstrate familiarity with the historical breadth of Hebrew language and culture from Biblical through modern.
3. Demonstrate expanded notions of literacy, navigating distinctions of culture, region, gender, class, access, and other differences.
4. Critique written, oral, and performative texts, demonstrating facility with literary and cultural theories across historical, social, cultural, and other contexts.

History – B.A.

LEARNING OUTCOMES:

1. Students construct an integrated perspective on history and on the factors that shape human activity.
2. Students describe and analyze the origins and nature of contemporary issues.
3. Students write critically about primary and/or secondary historical sources by examining diverse interpretations of past events and ideas in their historical contexts.

History of Art – B.A.

LEARNING OUTCOMES:

1. Students gain a general familiarity with and knowledge of major art historical monuments. Students learn basic facts related to the works' historical and social context.
2. Students acquire a basic understanding of current approaches in art history as well as an acquaintance with the history of the discipline. Principally through reading seminal texts in the field, students become aware of the history of the discipline and so also begin to understand its current emphases and values.
3. Students learn to look, read, and think critically, as well as to articulate and support sustained arguments.
4. Students acquire the fundamental writing and research skills necessary to produce art historical scholarship.
5. Students acquire a fundamental knowledge of the materials and techniques of art making and an understanding of the relevance of this knowledge for art historical interpretation.

Industrial Design – B.S.D.

LEARNING OUTCOMES:

1. Students demonstrate abilities to address Design opportunities, including the skills of problem identification, formulation, qualitative and quantitative research, analysis, synthesis, prototyping, user-testing, and evaluation of outcomes.
2. Students demonstrate competency with tools, technologies, skills and materials in the exploration, creation, and production of products, artifacts, environments, systems, communications and services.
3. Students demonstrate understanding of basic professional practices, including the ability to communicate, document, organize and lead work productively as team members able to adapt to the evolving role of Design.
4. Students demonstrate understanding of the role and responsibility of Design in context, including the application of ethical concepts of sustainable development, social innovation and human-centered design.
5. Students demonstrate knowledge of established and emerging theory and practice, including critical thinking and an understanding of interdisciplinary relationships in order to recognize and act on opportunities.
6. Students demonstrate the ability to recognize the role of the Designer as the expert practitioner and/or catalyst for collective creativity.

Instrumental Music – B.M.E.

LEARNING OUTCOMES:

1. Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences. Ensembles should be varied both in size and nature. Normally, performance study and ensemble experience continue throughout the baccalaureate program.
2. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.
3. Students acquire keyboard competency.

Interior Design – B.S.D.

LEARNING OUTCOMES:

1. Students demonstrate abilities to address Design opportunities, including the skills of problem identification formulation, qualitative and quantitative research, analysis, synthesis, prototyping, user-testing, and evaluation of outcomes.
2. Students demonstrate competency with tools, technologies, skills and materials in the exploration, creation, and productions of products, artifacts, environments, systems, communications and services.
3. Students demonstrate understanding of basic professional practices, including the ability to communicate, document, organize and lead work productively as team members able to adapt to the evolving role of Design.
4. Students demonstrate understanding of the role and responsibility of Design in context, including the application of ethical concepts of sustainable development, social innovation and human-centered design.
5. Students demonstrate knowledge of established and emerging theory and practice, including critical thinking and an understanding of interdisciplinary relationships in order to recognize and act on opportunities.
6. Students demonstrate the ability to recognize the role of the Designer as the expert practitioner and/or catalyst for collective creativity.

Islamic Studies – B.A.

LEARNING OUTCOMES:

1. Students develop intermediate language proficiency in one language relevant to Islamic studies: Arabic, Turkish or Persian.
2. Students think, analyze, speak, and write critically about sacred texts, drawing on literary and critical theory.
3. Students display knowledge about the history of Muslim societies and develop a foundation for comparative understanding with other societies of the given period, and with Muslim societies today.
4. Students learn to interpret Islamic beliefs and practices within their historical, cultural, social, and political contexts.
5. Students develop an overview grasp of various strands of Muslim thought.
6. Students are able to situate the study of Islam within the discipline of religious studies.

Italian – B.A.

LEARNING OUTCOMES:

1. Successful students will be able to perform the speaking tasks outlined in the ACTFL guidelines for 'advanced low' level.
2. Students will be able to discuss significant features of Italian high and popular culture, historical and literary movements, Italian music and fine art and incorporate this knowledge into their essays and presentations.
3. Students will be able to understand, critically interpret and discuss relatively complex ideas presented in full-length, original texts in a variety of genres, such as literary prose, poetry, theatre, histories, and linguistics texts.
4. Successful students will be able to understand the main ideas and many of the cultural references in oral discourse (such as radio, TV and film).
5. Successful students will be able to use contextual knowledge gained from exposure to the major historical, socio-cultural, and literary periods of Italian cultural history to write on a number of topics pertaining to the foreign culture and their own. Their level of performance is expected to correspond to the ‘advanced low’ level in the ACTFL guidelines.

Japanese – B.A.

LEARNING OUTCOMES:

1. Students demonstrate consideration of multiple critical approaches to an issue.
2. Students demonstrate sensitivity to cultural diversity based on what they have studied.
3. Students demonstrate a knowledge of cultural traditions and behaviors sufficient to situate the material studied in its larger cultural contexts.
4. Students demonstrate a critical literacy in media.
5. Students demonstrate the ability to interpret materials and behaviors that are presented orally and in writing.
6. Students demonstrate the ability to express themselves clearly, orally and in writing.

Jazz Studies – B.M.

LEARNING OUTCOMES:

1. Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences. Ensembles should be varied both in size and nature. Normally, performance study and ensemble experience continue throughout the baccalaureate program.
2. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.
3. Students acquire keyboard competency.

Jewish Studies – B.A.

LEARNING OUTCOMES:

1. No Outcomes Reported.

Korean – B.A.

LEARNING OUTCOMES:

1. Students demonstrate consideration of multiple critical approaches to an issue.
2. Students demonstrate sensitivity to cultural diversity based on what they have studied.
3. Students demonstrate a knowledge of cultural traditions and behaviors sufficient to situate the material studied in its larger cultural contexts.
4. Students demonstrate a critical literacy in media.
5. Students demonstrate the ability to interpret materials and behaviors that are presented orally and in writing.
6. Students demonstrate the ability to express themselves clearly, orally and in writing.

Linguistics – B.A.

LEARNING OUTCOMES:

1. Comprehend the fundamental analytical components needed for linguistic analysis for multiple linguistics sub disciplines.
2. Apply the relevant analytical method(s) to uncover the characteristics of a particular linguistic situation or form.
3. Formulate a well-organized, well-supported argument.
4. Use multiple methods of linguistics inquiry to evaluate the relationship between Lang and society.
5. Engage in original research.

Medieval & Renaissance Studies – B.A.

LEARNING OUTCOMES:

1. Medieval and Renaissance Studies Majors will demonstrate a broad, interdisciplinary appreciation of the history and culture of the Medieval and Renaissance world.
2. Students demonstrate the capacity to think critically and in a complex manner about historical texts and artifacts as well as the writings of present-day scholars.
3. Students demonstrate that they are capable of utilizing primary sources, including visual objects and artifacts; that they can use library resources to identify and access historical primary sources and scholarly secondary sources; and that they can read and understand texts written in a language other than English.
4. Students demonstrate the capacity to express themselves and to exercise sharpened communication skills in exams, papers, and discussions.

Modern Greek – B.A.

LEARNING OUTCOMES:

1. Assess students's ability to speak, read, write, and aurally understand Modern Greek. Majors achieve proficiency and confidence needed for effective language use. Students perform at the appropriate ACTFL level of proficiency:
   MG 1101: Novice Low/Mid
   MG 1102: Novice Mid/High
   MG 1103: Novice High
   MG 4001: Intermediate Low
   MG 4002: Intermediate High (Active)
2. Modern Greek majors demonstrate a critical understanding and appreciation of Modern Greek culture, history, and traditions.
3. Modern Greek majors demonstrate analytic skills need to discuss, analyze, and conduct research on Modern Greek media, texts, and other cultural artifacts.

Music – B.A.

LEARNING OUTCOMES:

1. Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences. Ensembles should be varied both in size and nature. Normally, performance study and ensemble experience continue throughout the baccalaureate program.
2. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.
3. Students acquire keyboard competency.

Music Theory – B.M.

LEARNING OUTCOMES:

1. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.
2. Students acquire keyboard competency.

Musicology – B.M.

LEARNING OUTCOMES:

1. Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences. Ensembles should be varied both in size and nature. Normally, performance study and ensemble experience continue throughout the baccalaureate program.
2. Students acquire keyboard competency.
3. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.

Performance – B.M.

LEARNING OUTCOMES:

1. Growth in artistry, technical skills, collaborative competence and knowledge of repertory through regular ensemble experiences. Ensembles should be varied both in size and nature. Normally, performance study and ensemble experience continue throughout the baccalaureate program.
2. Students acquire keyboard competency.
3. Students acquire a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications.

Philosophy – B.A.

LEARNING OUTCOMES:

1. Students develop critical thinking about philosophy.
2. Students read, think, and write about the history of philosophy.
3. Students read, think, and write about contemporary philosophical topics.
4. Students learn formal methods in logic.

Portuguese – B.A.

LEARNING OUTCOMES:

1. Students develop an analytical approach to literary, cultural and linguistic objects of inquiry.
2. Students become independent critical thinkers through the study of literatures, cultures and linguistics.
3. Students in literature and culture courses demonstrate understanding of historical processes related to various literary and cultural moments and periods.
4. Students gain in-depth knowledge of languages, linguistics and cultural practices through research and study of diverse cultural productions, literature and language.
5. Students engage in interdisciplinary approaches to the study of diverse literatures, cultures and languages.
6. Students develop oral/aural and written, receptive and expressive linguistic abilities in Portuguese.
7. Students in linguistics courses demonstrate understanding of processes inherent to distinct subdomains of language.

Religious Studies – B.A.

LEARNING OUTCOMES:

1. Students attain a broad knowledge of the world's religions.
2. Students will understand some of the methodological challenges facing any scholar of religion.
3. Students will develop an understanding of religion and how to study it comparatively and critically in a range of cultural and historical contexts.
4. Students will develop multi-disciplinary skills to appreciate the role religion plays in social and cultural production (in terms of art, literature, politics, society).

Romance Studies – B.A.

LEARNING OUTCOMES:

1. Students develop cross-cultural understanding through a focused program of study in language/linguistics or literature/culture in one field designated as the primary field.
2. Students develop intermediate-high/advanced-low speaking skills in their primary language according to the ACTFL guidelines, intermediate-low skills in a second language, and novice skills in a third language.
3. Students develop multicultural awareness and the ability to move and interact fluidly in an increasingly globalized world. Students develop their ability to analyze arguments and think critically.

Russian – B.A.

LEARNING OUTCOMES:

1. Language Proficiency: majors achieve proficiency and confidence needed for effective language use: students perform at the appropriate ACTFL level of proficiency:
    - Russian 1101: Novice Low/Mid
    - Russian 1102: Novice Mid/High
    - Russian 1103: Novice High
    - Russian 2104: Novice High/Intermediate Low
    - Russian 3101: Intermediate Low
    - Russian 3102: Intermediate Mid
    - Russian 4101: Intermediate Mid/Intermediate High
    - Russian 4102: Intermediate High
    - Russian 5101: Intermediate High/Advanced Low
    - Russian 5102: Advanced Low
2. Analytic Skills: Russian majors demonstrate analytic skills needed to discuss, analyze, and conduct research on Russian media, texts and other cultural artifacts.
3. Cultural Appreciation: Russian majors demonstrate a critical understanding and appreciation of Russian literature, culture, history, traditions, etc.

Sexuality Studies – B.A.

LEARNING OUTCOMES:

1. Students develop an understanding of the ways in which ideas about sexuality are normalized within specific discourses and institutions, which consequently produce non-normative sexual “others” who bear the burden of stigma and marginalization.
2. Students acquire an appreciation of and sensitivity to key debates related to the subject of sexuality.
3. Students develop an understanding of the ways in which sexuality is shaped by other social differences such as race, gender, class, dis/ability, religion, nationality, and ethnicity.

Spanish – B.A.

LEARNING OUTCOMES:

1. Students become independent critical thinkers through the study of literatures, cultures and linguistics.
2. Students develop an analytical approach to literary, cultural and linguistic objects of inquiry.
3. Students gain in-depth knowledge of languages, linguistics and cultural practices through research and study of diverse cultural productions, literature and language.
4. Students develop oral/aural and written, receptive and expressive linguistic abilities in Spanish.

Studio Art – B.F.A.

LEARNING OUTCOMES:

1. Students gain functional competence with principles of visual organization, including the ability to work with visual elements in two and three dimensions; color theory and its applications; and drawing.
2. Students present work that demonstrates perceptual acuity, conceptual understanding, and technical facility at a professional entry level in their chosen field(s).
3. Students become familiar with the historical achievements, current major issues, processes, and directions of their field(s).
4. Students are afforded opportunities to exhibit their work and to experience and participate in critiques and discussions of their work and the work of others.
5. Students prepare materials for Graduate Studies and Professional Careers.
6. Students acquire advanced knowledge of the materials, methodologies and critical developments and artistic practices related to a particular media or specialization.
7. Students demonstrate skills through the conception, creation and presentation of original works of art.

Theatre – B.A.

LEARNING OUTCOMES:

1. Students exhibit broad knowledge, appreciation, and understanding of live theatrical performance as a diverse and malleable art form that can influence history, culture, politics, and society.
2. Students understand the technical, physical, and vocal skills required by live performers and develop these skills in practical and theoretical contexts.
3. Students value lighting, scenic, costume, sound, and media design practice, as well as technical support like stage management and technical direction, and develop these skills in practical and theoretical contexts.
4. Students develop critical faculties as audience members, able to encounter each theatrical work on its own terms.
5. Students obtain experiences as generative theatre scholar/artists who create work (as playwrights, solo performers, devisers, and filmmakers).
6. Students grasp the terrain of contemporary theatre practice and are prepared to seek a career in the field.

Visual Communication Design – B.S.D.

LEARNING OUTCOMES:

1. Students demonstrate abilities to address design opportunities, including the skills of problem identification, formulation, qualitative and quantitative research, analysis, synthesis, prototyping, user-testing, and evaluation of outcomes.
2. Students demonstrate competency with tools, technologies, skills and materials in the exploration, creation, and production of products, artifacts, environments, systems, communications and services.
3. Students demonstrate understanding of basic professional practices, including the ability to communicate, document, organize and lead work productively as team members able to adapt to the evolving role of Design.
4. Students demonstrate understanding of the role and responsibility of Design in context, including the application of ethical concepts of sustainable development, social innovation and human-centered design.
5. Students demonstrate knowledge of established and emerging theory and practice, including critical thinking and an understanding of interdisciplinary relationships in order to recognize and act on opportunities.
6. Students demonstrate the ability to recognize the role of the Designer as the expert practitioner and/or catalyst for collective creativity.

Women's, Gender & Sexuality Studies – B.A.

LEARNING OUTCOMES:

1. Student will be able to think critically about gender and women's issues.
2. Student will be able to pursue interdisciplinary inquiries about gender and to pose questions that cut across disciplinary fields.
3. Student will be able to perform women's studies research: develop an argument, organize data and evidence for that argument, and express ideas in writing.

World Literatures – B.A.

LEARNING OUTCOMES:

1. Students develop strong critical, analytical, and writing skills.
2. Students understand the importance of literary and cultural theory in the interpretation of literary texts and gain the ability to use theory to analyze texts productively.
3. Students appreciate the complexity of issues related to translation, particularly in regard to highly language-sensitive literary texts, and to the transmission of ideas and values across cultures.
4. Students develop appreciation for the multiplicity and diversity of the world's different cultures and modes of literary and cultural expression.

DIVISION OF NATURAL AND MATHEMATICAL SCIENCES

1. Listed Alphabetically

Actuarial Science – B.A.

LEARNING OUTCOMES:

1. Students will be supplied a strong general background in mathematics, statistics, and relevant concepts from the insurance industry.
2. Students will be prepared to take some of the national actuarial examinations administered by the Society of Actuaries and the Casualty Actuarial Society.

Actuarial Science – B.S.

LEARNING OUTCOMES:

3. Students will be supplied a strong general background in mathematics, statistics, and relevant concepts from the insurance industry.
4. Students will be prepared to take some of the national actuarial examinations administered by the Society of Actuaries and the Casualty Actuarial Society.

Astronomy and Astrophysics – B.S.

LEARNING OUTCOMES:

1. Undergraduate Astronomy and Astrophysics majors acquire a basic mastery of the four fundamental areas of physics.
2. Undergraduate Astronomy and Astrophysics majors develop powerful analytical and problem solving skills in areas involving astrophysics, physics, and mathematics.
3. Undergraduate Astronomy and Astrophysics majors acquire a basic mastery of the fundamentals of astronomy and astrophysics.
4. Undergraduate Astronomy and Astrophysics majors acquire a basic mastery of data reduction and error analysis.
5. Undergraduate Astronomy and Astrophysics majors are able to effectively communicate their physical understanding both professionally and colloquially (orally and in writing).

Biochemistry – B.A.

LEARNING OUTCOMES:

1. Communicate scientific concepts clearly and concisely, orally and in writing, including knowledge of scientific writing and presentation styles and interpret research seminars and articles from the current literature to demonstrate broader comprehension of research methods in biochemistry.
2. Use scientifically valid reasoning to investigate and articulate how biochemical knowledge is acquired through the understanding and application of the scientific method; understand the theoretical basis, design, and conduct of experimental protocols; interpret and formulate valid conclusions from experimental data; and articulate a research problem and plan.
3. Apply biochemical concepts to explain basic cellular processes including how enzymes and other biological molecules interact in metabolic pathways to carry out dynamic chemical changes in cells, including an understanding of feedback loops and energy flow, and how these relate to inherited and infectious disease scenarios.
4. Describe and identify the molecular structure, dynamics, biological functions, and mechanisms of the major classes of biological macromolecules such as proteins, nucleic acids, carbohydrates, and lipids as well as the relative merits of the methods used to study each.
5. Apply chemical, mathematical, and physical concepts to describe biological processes including bioenergetics and thermodynamics, transport processes, chemical and enzyme kinetics along with catalytic mechanisms, biomolecular interactions, and macromolecular stability.
6. Understand the relationship of biochemistry to broader areas of science by demonstrating an understanding of Mendelian, molecular, and population genetics, as well as molecular biology and to discuss evolution, ecology, and organismal biology as a broader context for biochemical processes and to delineate genotype-phenotype correlations, a pre-requisite for understanding the diversity of life.

Biochemistry – B.S.

LEARNING OUTCOMES:

1. Communicate scientific concepts clearly and concisely, orally and in writing, including knowledge of scientific writing and presentation styles and interpret research seminars and articles from the current literature to demonstrate broader comprehension of research methods in biochemistry.
2. Use scientifically valid reasoning to investigate and articulate how biochemical knowledge is acquired through the understanding and application of the scientific method; understand the theoretical basis, design, and conduct of experimental protocols; interpret and formulate valid conclusions from experimental data; and articulate a research problem and plan.
3. Apply biochemical concepts to explain basic cellular processes including how enzymes and other biological molecules interact in metabolic pathways to carry out dynamic chemical changes in cells, including an understanding of feedback loops and energy flow, and how these relate to inherited and infectious disease scenarios.
4. Describe and identify the molecular structure, dynamics, biological functions, and mechanisms of the major classes of biological macromolecules such as proteins, nucleic acids, carbohydrates, and lipids as well as the relative merits of the methods used to study each.
5. Apply chemical, mathematical, and physical concepts to describe biological processes including bioenergetics and thermodynamics, transport processes, chemical and enzyme kinetics along with catalytic mechanisms, biomolecular interactions, and macromolecular stability.
6. Understand the relationship of biochemistry to broader areas of science by demonstrating an understanding of Mendelian, molecular, and population genetics, as well as molecular biology and to discuss evolution, ecology, and organismal biology as a broader context for biochemical processes and to delineate genotype-phenotype correlations, a pre-requisite for understanding the diversity of life.

Biology – B.A.

LEARNING OUTCOMES:

1. Describe the hierarchical relationship between structure and function at all levels: molecular, cellular, and organismic.
2. Diagram, explain, and contrast the major cellular processes in Archaea, bacteria, and eukaryotes.
3. Differentiate types of biological macromolecules and compare their contributions to cellular structure and function.
4. Apply the principles of genetics and describe the flow of genetic information.
5. Explain changes in organisms through time by applying the principles of evolutionary biology.
6. Demonstrate how relationships among living things are understood through taxonomy and phylogenetic analysis.
7. Describe ecological relationships between organisms and their environment.
8. Apply the scientific process, including designing and conducting experiments and testing hypotheses.
9. Use laboratory equipment, employ safe laboratory practices, and adapt tools such as laboratory notebooks and spreadsheets to organize and analyze data associated with scientific processes.
10. Retrieve information from the life sciences literature; read, understand, and critically review scientific papers.
11. Prepare oral and written reports following a recognized scientific format.
12. Develop an awareness of the careers and professions that rely on knowledge of biological sciences.
13. Demonstrate at least one of the following skills with regard to biology and society: communication, argumentation, social responsibility, ethics, and cultural competency.
14. Value biology as an integral part of society and everyday life.

Biology – B.S.

LEARNING OUTCOMES:

1. Describe the hierarchical relationship between structure and function at all levels: molecular, cellular, and organismic.
2. Diagram, explain, and contrast the major cellular processes in Archaea, bacteria, and eukaryotes.
3. Differentiate types of biological macromolecules and compare their contributions to cellular structure and function.
4. Apply the principles of genetics and describe the flow of genetic information.
5. Explain changes in organisms through time by applying the principles of evolutionary biology.
6. Demonstrate how relationships among living things are understood through taxonomy and phylogenetic analysis.
7. Describe ecological relationships between organisms and their environment.
8. Apply the scientific process, including designing and conducting experiments and testing hypotheses.
9. Use laboratory equipment, employ safe laboratory practices, and adapt tools such as laboratory notebooks and spreadsheets to organize and analyze data associated with scientific processes.
10. Retrieve information from the life sciences literature; read, understand, and critically review scientific papers.
11. Prepare oral and written reports following a recognized scientific format.
12. Develop an awareness of the careers and professions that rely on knowledge of biological sciences.
13. Demonstrate at least one of the following skills with regard to biology and society: communication, argumentation, social responsibility, ethics, and cultural competency.
14. Apply quantitative skills in the analysis of biological processes.
15. Apply concepts from chemistry in the analysis of biological processes.
16. Apply concepts from physics in the analysis of biological processes.
17. Value biology as an integral part of society and everyday life.

LEARNING OUTCOMES:

1. Students develop a foundational knowledge within a historical perspective of the general chemistry principles and theories, both factual and conceptual.
2. Working both individually and in groups, students solve both classical and contemporary chemistry problems which exemplify the current integrated nature of science disciplinary and interdisciplinary principles.
3. Students plan and perform experimental laboratory procedures in a safe and ethical manner, collect and properly evaluate scientific data using modern instrumentation and computer aided calculations, analyses and graphical representations, and prepare effective laboratory reports that encapsulate valid analysis, interpretations and conclusions.
4. Students develop effective skills in oral and written communication of scientific knowledge, formulate logical explanations and conclusions, and construct effective arguments.
5. Students retrieve information from the literature, and become proficient in online database searching including the evaluation of the quality and validity of both the source and content of such searches.
6. Students recognize social, historical, and philosophical implications of scientific discoveries, and understand the potential of science and technology to address problems of the contemporary world.

Chemistry – B.S.

LEARNING OUTCOMES:

1. Students develop a foundational knowledge within a historical perspective of the general chemistry principles and theories, both factual and conceptual.
2. Working both individually and in groups, students solve both classical and contemporary chemistry problems which exemplify the current integrated nature of science disciplinary and interdisciplinary principles.
3. Students plan and perform experimental laboratory procedures in a safe and ethical manner, collect and properly evaluate scientific data using modern instrumentation and computer aided calculations, analyses and graphical representations, and prepare effective laboratory reports that encapsulate valid analysis, interpretations and conclusions.
4. Students develop effective skills in oral and written communication of scientific knowledge, formulate logical explanations and conclusions, and construct effective arguments.
5. Students retrieve information from the literature, and become proficient in online database searching including the evaluation of the quality and validity of both the source and content of such searches.
6. Students recognize social, historical, and philosophical implications of scientific discoveries, and understand the potential of science and technology to address problems of the contemporary world.

Computer & Information Science – B.A.

LEARNING OUTCOMES:

1. Students in the BA-CIS program will attain an ability to explore the potential application of computing techniques to solve problems in other domains.
2. Students in the BA-CIS program will attain an ability to communicate effectively with a range of audiences.
3. Students in the BA-CIS program will attain a knowledge of contemporary issues.
4. Students in the BA-CIS program will attain an ability to design, implement, and evaluate a software system or component to solve problems either in computing or in related domains.
5. Students in the BA-CIS program will attain an understanding of professional, ethical, legal, and social issues and responsibilities.
6. Students in the BA-CIS program will attain an ability to design and conduct experiments, as well as to analyze and interpret data.
7. Students in the BA-CIS program will attain an ability to apply knowledge of computing and mathematics including discrete mathematics.
8. Students in the BA-CIS program will attain a recognition of the need for, and an ability to engage in life-long learning and continuing professional development.
9. Students in the BA-CIS program will attain an ability to analyze the local and global impact of computing on individuals, organizations, and society.
10. Students in the BA-CIS program will attain an ability to function on multi-disciplinary teams.

Computer & Information Science – B.S.

LEARNING OUTCOMES:

1. Students in the BS-CIS program will attain an ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics.
2. Students in the BS-CIS program will attain an ability to communicate effectively with a range of audiences.
3. Students in the BS-CIS program will attain a knowledge of contemporary issues.
4. Students in the BS-CIS program will attain an ability to design and conduct experiments, as well as to analyze and interpret data.
5. Students in the BS-CIS program will attain an ability to design, implement, and evaluate a software or a software/hardware system, component, or process to meet desired needs within realistic constraints such as memory, runtime efficiency, as well as appropriate constraints related to economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability considerations.
6. Students in the BS-CIS program will attain a recognition of the need for, and an ability to engage in life-long learning and continuing professional development.
7. Students in the BS-CIS program will attain an ability to analyze the local and global impact of computing on individuals, organizations, and society.
8. Students in the BS-CIS program will attain an ability to: function on multi-disciplinary teams.
9. Students in the BS-CIS program will attain an ability to use the techniques, skills, and modern engineering tools necessary for practice as a computing professional.
10. Students in the BS-CIS program will attain an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
11. Students in the BS-CIS program will attain an ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
12. Students in the BS-CIS program will attain an ability to apply design and development principles in the construction of software systems of varying complexity.
13. Students in the BS-CIS program will attain an understanding of professional, ethical, legal, security and social issues and responsibilities.
14. Students in the BS-CIS program will attain an ability to identify, formulate, and solve computing problems.

Data Analytics – B.S.

LEARNING OUTCOMES:

1. Students will demonstrate an understanding of and ability to apply mathematical and statistical models and concepts to detect patterns in data, as well as draw inferences and conclusions supported by the data.
2. Students will demonstrate the ability to communicate findings and their implications, and to apply them effectively in organizational settings.

Earth Sciences – B.A.

LEARNING OUTCOMES:

1. Students critically read and evaluate Earth Science literature.
2. Students present Earth Science information in a clear and logical manner, both orally and in writing.
3. Students apply knowledge of Earth Science data to understand the dynamic physical, chemical, and biological processes of the Earth and its history.
4. Students identify Earth Science problems and develop solutions.
5. Students will develop the necessary knowledge and skills for admission to graduate school or employment following graduation.
6. Students will be able to apply knowledge of modern applications from chemistry, physics, biology, mathematics, statistics, and computing to the solution of geological problems.

Earth Sciences – B.S.

LEARNING OUTCOMES:

1. Students critically read and evaluate Earth Science literature.
2. Students present Earth Science information in a clear and logical manner, both orally and in writing.
3. Students apply knowledge of Earth Science data to understand the dynamic physical, chemical, and biological processes of the Earth and its history.
4. Students apply knowledge of appropriate techniques, field methods, field mapping, and numerical methods to measure, portray, analyze, and interpret Earth Science data in specific subdisciplines.
5. Students identify Earth Science problems and develop solutions.
6. Students apply knowledge of modern applications from chemistry, physics, biology, mathematics, statistics, and computing to the solution of Earth Science problems.
7. Students develop the necessary knowledge and skills for admission to graduate school or employment following graduation.
8. Students graduate with high satisfaction from their major and the GE classes at the university.

Evolution and Ecology – B.S.

LEARNING OUTCOMES:

1. Students are able to describe the processes that underlie evolution and their manifestation in the natural world.
2. Students are able to explain ecological concepts, methods of study, and the interactions among organisms and between organisms and their environment.
3. Students are able to understand organismal diversity and functioning at all levels, from the molecular and cellular to the whole organism, as well as the interplay between organismal functioning and ecological and evolutionary processes.
4. Students participate in the process of discovery by conducting experimental and observational studies, synthesizing results with the primary literature, and communicating their questions, hypotheses, observations, and experiences to others.
5. Students demonstrate proficiency in mathematics, statistics, computer modeling, and the use of computers, as these topics relate to biology.
6. Students know the theoretical framework of evolution, ecology and organismal biology and understand science as a process, including the history of science as it relates to these three disciplines within biology.
7. Students are aware of current issues in biology, especially those that have significant ethical and societal implications, and will be able to communicate scientific concepts and processes.

Mathematics – B.A.

LEARNING OUTCOMES:

1. Math majors will learn conceptual frameworks needed to study higher mathematics, including an introduction to mathematical reasoning, and an understanding of how to read and write proofs.
2. Math majors will acquire basic mastery of core areas of mathematics, including calculus, analysis and algebra.
3. Math majors will develop powerful mathematical problem solving skills.
4. Math majors will learn to communicate mathematical understanding effectively.
5. Math majors will become proficient in chosen tracks within the major.

Mathematics – B.S.

LEARNING OUTCOMES:

1. Math majors will learn conceptual frameworks needed to study higher mathematics, including an introduction to mathematical reasoning, and an understanding of how to read and write proofs.
2. Math majors will acquire basic mastery of core areas of mathematics, including calculus, analysis and algebra.
3. Math majors will develop powerful mathematical problem solving skills.
4. Math majors will learn to communicate mathematical understanding effectively.
5. Math majors will become proficient in chosen tracks within the major.

Microbiology – B.S.

LEARNING OUTCOMES:

1. Students acquire the ability to interrelate and apply the fundamental concepts of chemistry, physics and mathematics to the functions of living cells.
2. Students understand the chemical properties of biological molecules and how these molecules function in the molecular mechanisms underlying physiological processes in microbial cells.
3. Students understand evolutionary processes, the diversity of microorganisms, and how microorganisms impact their environment, including their roles in human health and disease.
4. Students acquire the ability to design experiments to test hypotheses, perform analyses, interpret and analyze data, and present scientific information in written and oral formats.
5. Students acquire the ability to appraise scientific data presented in the popular press for accuracy and scientific merit and understand issues and ethical conflicts associated with applications of biotechnology.

Molecular Genetics – B.S.

LEARNING OUTCOMES:

1. Undergraduate molecular genetics majors acquire a basic mastery of fundamental concepts of biology, chemistry, mathematics, physics, and the scientific method.
2. Undergraduate molecular genetics majors acquire a basic mastery of fundamental areas of molecular genetics, including transmission genetics, the central dogma, regulation of gene expression, quantitative and population genetics, genomics, recombinant DNA and biotechnology, and cell and developmental biology.
3. Undergraduate molecular genetics majors develop analytical and problem solving skills in areas of genetics and molecular biology.
4. Undergraduate molecular genetics majors acquire a basic mastery of experimental techniques and approaches in genetics and molecular biology.
5. Undergraduate molecular genetics majors acquire a basic mastery of data analysis and statistical approaches used in genetics.
6. Undergraduate molecular genetics majors effectively communicate their understanding of genetics and molecular biology both orally and in writing.
7. Undergraduate majors participate in academic research and/or outreach activities that are consistent with their interests and postgraduate plans.
8. Undergraduate majors acquire expertise relevant to their chosen area of specialization.

Physics – B.S.

LEARNING OUTCOMES:

1. Undergraduate Physics majors acquire a basic mastery of fundamental areas of physics, from classical mechanics, through electricity and magnetism, and finally to modern physics including quantum mechanics and relativity.
2. Undergraduate Physics majors develop powerful analytical and problem solving skills in areas involving both physics and mathematics.
3. Undergraduate Physics majors acquire a basic mastery of experimental physics.
4. Undergraduate Physics majors have acquired a basic mastery of data reduction and error analysis.
5. Undergraduate Physics majors effectively communicate their physical understanding both professionally and colloquially (orally and in writing).
6. Undergraduate majors are apprised of and encouraged to participate in academic research, industrial research and/or outreach activities which are consistent with their interest, ability and postgraduate plans.
7. Undergraduate majors acquire expertise relevant to their chosen program option.

Zoology – B.A.

LEARNING OUTCOMES:

1. Students are able to describe the processes that underlie evolution and their manifestation in the natural world.
2. Students are able to explain ecological concepts, methods of study, and the interactions among organisms and between organisms and their environment.
3. Students are able to understand organismal diversity and functioning at all levels, from the molecular and cellular to the whole organism, as well as the interplay between organismal functioning and ecological and evolutionary processes.
4. Students participate in the process of discovery by conducting experimental and observational studies, synthesizing results with the primary literature, and communicating their questions, hypotheses, observations, and experiences to others.
5. Students demonstrate proficiency in mathematics, statistics, computer modeling, and the use of computers, as these topics relate to biology.
6. Students know the theoretical framework of evolution, ecology and organismal biology and understand science as a process, including the history of science as it relates to these three disciplines within biology.
7. Students are aware of current issues in biology, especially those that have significant ethical and societal implications, and will be able to communicate scientific concepts and processes.

Zoology – B.S.

LEARNING OUTCOMES:

1. Students are able to describe the processes that underlie evolution and their manifestation in the natural world.
2. Students are able to explain ecological concepts, methods of study, and the interactions among organisms and between organisms and their environment.
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6. Students know the theoretical framework of evolution, ecology and organismal biology and understand science as a process, including the history of science as it relates to these three disciplines within biology.
7. Students are aware of current issues in biology, especially those that have significant ethical and societal implications, and will be able to communicate scientific concepts and processes.

DIVISION OF SOCIAL AND BEHAVIORAL SCIENCES

1. Listed Alphabetically

Anthropological Sciences – B.S.

LEARNING OUTCOMES:

1. Students acquire foundational knowledge in each of the three major sub-disciplines within the major (physical anthropology, cultural anthropology and archaeology).
2. Students achieve mastery of core concepts in each of the three sub-disciplines within the major (physical anthropology, cultural anthropology, and archaeology). In doing so, they will acquire rigorous and empirically oriented skills.
3. Students accumulate breadth of knowledge by completing elective coursework in each of the three sub-disciplines within the major (physical anthropology, cultural anthropology and archaeology).
4. Students achieve in depth knowledge in one (or more) field by choosing at least two additional courses in any sub-discipline (physical anthropology, cultural anthropology and archaeology) within the major.

Anthropology – B.A.

LEARNING OUTCOMES:

1. Students acquire foundational knowledge in each of the three major sub-disciplines within the major (physical anthropology, cultural anthropology and archaeology).
2. Students achieve mastery of core concepts in each of the three sub-disciplines within the major (physical anthropology, cultural anthropology, and archaeology). In doing so, they will acquire rigorous and empirically oriented skills.
3. Students accumulate breadth of knowledge by completing elective coursework in each of the three sub-disciplines within the major (physical anthropology, cultural anthropology and archaeology).
4. Students achieve in depth knowledge in one (or more) field by choosing at least two additional courses in any sub-discipline (physical anthropology, cultural anthropology and archaeology) within the major.

Atmospheric Sciences – B.S.

LEARNING OUTCOMES:

1. Students acquire the theoretical basis for fundamental atmospheric processes and systems.
2. Students are introduced to the computational and other corms of technology used in the atmospheric sciences.
3. Students learn to communicate atmospheric science concepts and methods clearly and concisely.
4. Students develop the ability to solve problems faced by atmospheric scientists.

Communication – B.A.

LEARNING OUTCOMES:

1. Students should have an understanding of the principles of communication.
2. Students should be exposed to systematic trends in the development of core concepts related to communication.
3. Students should be able to apply critical thinking and analytical skills to systematically evaluate communication problems and processes.
4. Students graduating from the program should demonstrate basic competency in oral communication.
5. Students graduating from the program should demonstrate basic competency in written communication.
6. Encourage each student to complete an internship before graduation.
7. To facilitate knowledge transfer from the laboratory to the community, students will be encouraged to participate in independent research with the faculty.

Criminology and Criminal Justice – B.A.

LEARNING OUTCOMES:

1. Students Obtain Comprehensive Knowledge of the Field of Criminology.
2. Students acquire a grasp of the theoretical perspectives and concepts of the discipline.
3. Students are able to understand and evaluate research methods, designs, and statistical procedures and have opportunities to conduct research.
4. Students are provided with a strong foundation for seeking employment or graduate or professional training.
5. Honors students are able to engage in original research, write a senior thesis, and successfully compete for national scholarships and admission to leading graduate programs.

Economics – B.A.

LEARNING OUTCOMES:

1. Students demonstrate substantive knowledge of economics and public policy issues.
2. Students will demonstrate their analytic and quantitative abilities, including their mathematics and statistical ability and logical thinking skills.
3. Students develop their written communication skills.
4. Students will be prepared for graduate training and / or employment.

Economics – B.S.

LEARNING OUTCOMES:

1. Students demonstrate substantive knowledge of economics and public policy issues.
2. Students will demonstrate their analytic and quantitative abilities, including their mathematics and statistical ability and logical thinking skills.
3. Students develop their communication skills.
4. Students will be prepared for graduate training and / or employment.

Geographic Information Sciences – B.S.

LEARNING OUTCOMES:

1. Students acquire fundamental concepts of geographic information sciences.
2. Students achieve proficiency with methods of geographic information sciences.
3. Students can represent complex technical information orally, visually, or in writing.
4. Students can apply geographic information science concepts and methods in experiential and/or research settings.

Geography – B.A.

LEARNING OUTCOMES:

1. Students acquire fundamental concepts of geography.
2. Students achieve familiarity with methods used in geography.
3. Students can communicate geographical concepts and methods orally, visually, or in writing.
4. Students can apply geographical concepts and methods in experiential and/or research settings.

Geography – B.S.

LEARNING OUTCOMES:

1. Students acquire fundamental concepts of geography.
2. Students achieve familiarity with methods used in geography.
3. Students can communicate geographical concepts and methods orally, visually, or in writing.
4. Students can apply geographical concepts and methods in experiential and/or research settings.

Globalization Studies – B.A.

LEARNING OUTCOMES:

1. Students are competent in a foreign language.
2. Students understand the diversity of influences - historical, economic, political, social and cultural - that shape domestic and international processes and outcomes.
3. Students understand a globalization process that brings peoples and communities across the globe into closer and more sustained interaction at the same time as intertwining their destinies.
4. Students appreciate that globalization is a multi-faceted process of change, embracing cultural, economic, and political forces that are redefining the state-centered international system.

International Studies – B.A.

LEARNING OUTCOMES:

1. Students are prepared for diverse types of employment and/or graduate-level education programs.
2. Show an ability to analyze and draw conclusions about international events and developments employing multiple analytical perspectives.
3. Show an understanding of the diversity of cultures, ideas and practices across the world.
4. Demonstrate proficiency in a foreign language appropriate to their specialization.

International Studies – B.S.

LEARNING OUTCOMES:

1. Students are able to specify a regression model.
2. Students subscribe to a theory of world transsovereign organization and are able to describe successful peace-building behaviors given that theory.

Journalism – B.A.

LEARNING OUTCOMES:

1. Students should have an understanding of the core concepts and principles of the role of media in society.
2. Students training to become journalists should be able to apply critical thinking and analytical skills to systematically evaluate problems and processes.
3. Students graduating from the program should demonstrate basic competency in journalistic skills of reporting and editing.
4. Students graduating from the program should demonstrate improved ability to integrate knowledge from different fields.
5. Encourage each student in our program to complete an internship before graduation.
6. To facilitate knowledge transfer from the laboratory to the community, students will be encouraged to participate in independent research projects with the faculty.

Neuroscience – B.S.

LEARNING OUTCOMES:

1. Students acquire a strong foundational background in core disciplines of neuroscience.
2. Students acquire statistical skills.

Political Science – B.A.

LEARNING OUTCOMES:

1. Students have basic knowledge across the four major substantive fields of political science: American Politics, Comparative Politics, International Relations, and Political Theory.
2. Students gain deeper knowledge of the scholarly literature, including debates about theories, research methods, and substantive issues, in one of the areas of specialization.
3. Students develop analytic and critical thinking skills that will enable them to rigorously evaluate competing arguments and to appraise value-based claims.

Political Science – B.S.

LEARNING OUTCOMES:

1. Students have basic knowledge, including a fundamental understanding of the theories and issues that guide the study of politics, across three of the four major substantive fields of Political Science: American Politics, Comparative Politics, International Relations, and Political Theory.
2. Students have advanced knowledge of the methods of research design and data analysis as used in the discipline of Political Science.
3. Students develop analytic and critical thinking skills that will enable them to rigorously evaluate competing arguments and to appraise value-based claims.

Psychology – B.A.

LEARNING OUTCOMES:

1. Students will demonstrate fundamental knowledge and comprehension of the major concepts, theoretical perspectives, historical trends, and empirical findings to discuss how psychological principles apply to behavioral problems.
2. Students will understand and apply basic research methods in psychology, including research design, data analysis, and interpretation, and have opportunities to apply them in research endeavors.
3. Students will respect and use critical thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.
4. Students will develop ethically and socially responsible behaviors for professional and personal settings in a landscape that involves increasing diversity.
5. Students will demonstrate competence in writing and in oral and interpersonal communication skills.
6. Students will demonstrate application of psychology-specific content and skills, effective self-reflection, project-management skills, teamwork skills, and career preparation.

Psychology – B.S.

LEARNING OUTCOMES:

1. Students will demonstrate fundamental knowledge and comprehension of the major concepts, theoretical perspectives, historical trends, and empirical findings to discuss how psychological principles apply to behavioral problems.
2. Students will understand and apply basic research methods in psychology, including research design, data analysis, and interpretation, and have opportunities to apply them in research endeavors.
3. Students will respect and use critical thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.
4. Students will develop ethically and socially responsible behaviors for professional and personal settings in a landscape that involves increasing diversity.
5. Students will demonstrate competence in writing and in oral and interpersonal communication skills.
6. Students will demonstrate application of psychology-specific content and skills, effective self-reflection, project-management skills, teamwork skills, and career preparation.

Social Science Air Transportation – B.A.

LEARNING OUTCOMES:

1. Students' reflection papers directly link aircraft performance with a decision-making behavior.
2. Students critically evaluate a case study.

Sociology – B.A.

LEARNING OUTCOMES:

1. Students develop comprehensive knowledge of discipline.
2. Students understand theories and concepts.
3. Students understand/apply methods and statistics.
4. Students are prepared for employment and/or graduate school.
5. Honors students achieve goals 1-4 at a heightened level.

Speech and Hearing Science – B.A.

LEARNING OUTCOMES:

1. Acquire knowledge of the physical, biological and behavioral sciences underlying human communication.
2. Acquire basic research & data analysis skills.
3. Practice discipline specific writing skills.
4. Develop the laboratory skills needed to advance knowledge in the discipline.
5. Acquire knowledge of basic testing methods for the assessment of speech and language disorders.
6. Acquire knowledge of basic testing methods for the assessment of hearing disorders.

World Politics – B.A.

LEARNING OUTCOMES:

1. Students have basic knowledge in the areas of foreign policy and security, political institutions and processes, political economy and development, and international theory.
2. Students have advanced knowledge of the scholarly literature in one of these areas (foreign policy and security, political institutions and processes, political economy and development, and international theory).
3. Students have the analytic and critical thinking skills that are needed to rigorously evaluate competing arguments and to appraise value-based claims.

Fisher College of Business

BY PROGRAM:

Alphabetical

Accounting – B.S.B.A.

LEARNING OUTCOMES:

1. Graduates will have a working knowledge of accounting theories, concepts and methods and be able to explain how accounting is done and why it is done.
2. Graduates will be able to solve problems by applying fundamental principles to a variety of issues.
3. Graduates will demonstrate effective oral communication skills.
4. Graduates will demonstrate effective written communication skills.
5. Graduates will be able to research issues and business decision problems by finding, analyzing, and interpreting accounting, tax, and other financial data.
6. Graduates will recognize ethical dimensions in accounting issues and practice in order to become responsible professionals and citizens.

Business Administration – B.S.B.A.

LEARNING OUTCOMES:

1. Graduates possess strong analytical and problem-solving skills, enabling them to identify and critically assess problems facing contemporary businesses.
2. Graduates demonstrate in-depth knowledge of Specialization.
3. Graduates possess a global perspective and can critically evaluate the international context a contemporary business operates in.
4. Graduates can identify and assess ethical issues surrounding business decisions.
5. Graduates are able to work effectively in a team-based environment.
6. Graduates demonstrate professional deportment and effective oral and written communication skills.

College of Dentistry

BY PROGRAM:

Alphabetical

Dental Hygiene Degree Completion – B.S.

LEARNING OUTCOMES:

1. Students will identify the components of sound research design.
2. Students will identify basic statistical tools used in research.
3. Students will be able to interpret and apply professional research to dental hygiene practice.
4. Students will identify recent advances in periodontal therapy.
5. Students will be prepared for additional roles in education, research, public health, business or administration.
6. Students will examine current issues in the dental hygiene profession.
7. Students will be able to describe health behavior change theories.
8. Students will implement a health behavior change technique in a clinical setting.

Dental Hygiene – B.S.

LEARNING OUTCOMES:

1. Students will be prepared to provide appropriate dental hygiene therapy for patients with different oral health needs utilizing assessment, planning, implementation, and evaluation skills.
2. Students will utilize case management skills, interpersonal communication skills, and practice management principles to provide quality dental hygiene care in a safe, efficient and humanistic manner.
3. Students will understand and practice according to the ADHA Code of Ethics.
4. Students will understand and adhere to state and federal laws and guidelines pertaining to the practice of dental hygiene.
5. Students will demonstrate an understanding of the concepts of sound research design.
6. Students will demonstrate an understanding of statistical tools used in research.
7. Students will be able to interpret and apply professional research to dental hygiene practice.
8. Students will demonstrate social responsibility by initiating and participating in the delivery of dental healthcare and education in the community.
9. Students will understand the dynamics of and participate in a variety of interdisciplinary health care settings.

College of Education and Human Ecology

BY PROGRAM:

Alphabetical

Consumer and Family Financial Services – B.S.

LEARNING OUTCOMES:

1. Students acquire fundamental concepts of Consumer and Family Financial Services.
2. Students achieve familiarity with methods used in Consumer and Family Financial Services.
3. Students are provided with a strong foundation for seeking employment or graduate or professional training.

Early and Middle Childhood Education – B.S.

LEARNING OUTCOMES:

1. Know about, understand, and value the importance and complex characteristics of children, their families and communities.
2. Integrate their understanding of and relationships with children and families, their understandings of developmentally appropriate approaches to teaching and learning, and their knowledge of academic disciplines to design, implement, and evaluate experiences that promote positive development and learning for youth.
3. Create learning environments that build on resources in community-based educational settings and meet the needs of youth and families in communities.
4. Know options for acquiring resources that support learning in community-based and/or school-based educational settings.
5. Experience out-of-school learning in a supervised community-based or school-based internship.

Early Childhood Education – B.S.

LEARNING OUTCOMES:

1. Promoting Child Development and Learning: Candidates use their understanding of young children's characteristics and needs, and of multiple interacting influences on children's development and learning, to create environments that are healthy, respectful, supportive, and challenging for all children.
2. Building Family and Community Relationships: Candidates know about, understand, and value the importance and complex characteristics of children's families and communities. They use this understanding to create respectful, reciprocal relationships that support and empower families, and to involve all families in their children's development and learning.
3. Observing, Documenting, and Assessing to Support Young Children and Families: Candidates know about and understand the goals, benefits, and uses of assessment. They know about and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence children's development and learning.
4. Teaching and Learning: Candidates integrate their understanding of and relationships with children and families; their understanding of developmentally effective approaches to teaching and learning; and their knowledge of academic disciplines to design, implement, and evaluate experiences that promote positive development and learning for all children.
5. Becoming a Professional: Candidates identify and conduct themselves as members of the early childhood profession. They know and use ethical guidelines and other professional standards related to early childhood practice. They are continuous, collaborative learners who demonstrate knowledgeable, reflective, and critical perspectives on their work, making informed decisions that integrate knowledge from a variety of sources. They are informed advocates for sound educational practices and policies.

Exercise Science Education – B.S.

LEARNING OUTCOMES:

1. Understand the physiological and behavioral foundations of physical activity, health and fitness.
2. Explain the impact of physical activity, exercise, and sport on the health of individuals, groups, and communities.
3. Promote basic and applied research on health, disease prevention, human behavior, and human performance.
4. Assess the educational and fitness needs of individuals, groups and communities to promote health and human performance.
5. Implement educational strategies to help individuals, groups, and communities to maintain and enhance physical performance, fitness, health, and quality of life.
6. Evaluate strategies to help individuals, groups, and communities to maintain and enhance physical performance, fitness, health, and quality of life.
7. Study the structural, functional and behavioral phenomena related to health and exercise behavior in sport, clinical, and community settings.

Fashion and Retail Studies – B.S.

LEARNING OUTCOMES:

1. Acquire industry and consumer knowledge to enter a professional field related to Fashion and Retail Studies.
2. Develop communication (oral, written& visual), management and technology skills in individual and group settings.
3. Solve problems creatively in consumer and industry settings by gathering information, analyzing needs, developing, implementing and evaluating strategies of constituents.
4. Evaluate and plan strategically through evaluation of opportunities and risks in Fashion and Retail Industries.
5. Acquire knowledge, solve problems, and plan strategically in a global market.
6. Develop and apply professional skills to enhance career success and satisfaction.

Foreign Language Education – B.S.

LEARNING OUTCOMES:

1. Candidates (a) engage in professional development opportunities that strengthen their own linguistic and cultural competence and promote reflection on practice and (b) know the value of foreign language learning to the overall success of all students and understand that they will need to become advocates with students, colleagues, and members of the community to promote the field.
2. Candidates (a) demonstrate an understanding of the goal areas and standards of the Standards for Foreign Language Learning and their state standards, and they integrate these frameworks into curricular planning; (b) integrate the Standards for Foreign Language learning and their state standards into language instruction; and (c) use standards and curricular goals to evaluate, select, design, and adapt instructional resources.
3. Candidates (a) demonstrate that they understand the connections among the perspectives of a culture and it's practices and products, and they integrate the cultural framework for foreign language standards into their instructional practices; (b) recognize the value and role of literary and cultural texts and use them to interpret and reflect upon the perspectives of the target cultures over time; and (c) integrate knowledge of other disciplines into foreign language instruction and identify distinctive viewpoints accessible only through the target language.

Health Promotion, Nutrition & Exercise Science – B.S.

LEARNING OUTCOMES:

1. Learn to use critical thinking, evidence-based principles, and effective communication to promote health, nutrition and physical activity.
2. Understand the biochemical, physiological and behavioral foundations of nutrition and physical activity.

Hospitality Management – B.S.

LEARNING OUTCOMES:

1. Students will identify and analyze consumer needs, perceptions, and experiences to influence consumer decision-making.
2. Students will understand global economic, social, and environmental issues that impact consumer and business decisions.
3. Students will understand the functional areas of different hospitality organizations by outlining operational systems, their differences and commonalities as well as analyze problem areas and design solutions.
4. Students will integrate academic concepts into practical assignments or projects to enhance the effectiveness of business and improve the communication between industry and consumers.
5. Students will incorporate the development of marketable skills while focusing on the key competencies of communication, financial and accounting skills, ethics and problem solving.

Human Development and Family Science – B.S.

LEARNING OUTCOMES:

1. Students will understand the conditions in the family, community, and society, as well as biological and cognitive changes, that enhance, support, and impede individual development and family well-being across time.
2. Students will understand human development across the various stages of the life-span.
3. Students will understand how effective and ineffective family systems affect the health and well-being of the members of the system.
4. Students will understand issues and methods of inquiry in human development and family science research.

Human Nutrition – B.S.

LEARNING OUTCOMES:

1. Students will learn to use critical thinking, evidence-based principles, and current information to analyze situations, issues, and problems.
2. Students will learn how to reason and act consistently in an ethical fashion, with honesty, integrity, fairness, objectivity, sensitivity to cultural differences, and respect for the unique needs and values of individuals.
3. Students will learn how to communicate effectively, both orally and in writing.
4. Students will develop awareness of contemporary issues and public policies, learn how to become involved and act with social responsibility, and develop leadership abilities.
5. Students will demonstrate an understanding of the scientific method, including research methods important in the study of nutrition, and research opportunities that exist in food-related companies, government agencies, and universities.
6. Students will demonstrate understanding of social, behavioral, physical and biological sciences, including biochemistry, physiology, and molecular genetics, and the ability to apply these scientific principles to study of nutrition.
7. Students will gain an understanding of digestion, absorption, metabolism and functions of nutrients and other bioactive dietary compounds at the whole body, cellular and molecular levels, and in relation to health and disease.
8. Students will learn to assess nutrient needs across the life span and gain a broad perspective in nutrition assessment and diet selection and planning.
9. Students will demonstrate their understanding of the science of food safety in foodservice, food systems, and food safety issues related to the nutrition.
10. Students will learn fundamental concepts of energy balance including practices in fitness and exercise science, and will gain understanding of the combined areas of physical activity and nutrition.

Integrated Language Arts/English Education – B.S.

LEARNING OUTCOMES:

1. Through modeling, advisement, instruction, field experiences, assessment of performance, and involvement in professional organizations, candidates adopt and strengthen professional attitudes needed by English language arts teachers.

Middle Childhood Education – B.S.

LEARNING OUTCOMES:

1. Middle level teacher candidates understand the major concepts, principles, theories, and research related to young adolescent development, and they provide opportunities that support student development and learning.
2. Middle level teacher candidates understand the major concepts, principles, theories, and research underlying the philosophical foundations of developmentally responsive middle level programs and schools, and they work successfully within these organizational components.
3. Middle level teacher candidates understand the major concepts, principles, theories, standards, and research related to middle level curriculum and assessment, and they use this knowledge in their practice.
4. Middle level teacher candidates understand and use the central concepts, tools of inquiry, standards, and structures of content in their chosen teaching fields, and they create meaningful learning experiences that develop all young adolescents' competence in subject matter and skills.
5. Middle level teacher candidates understand and use the major concepts, principles, theories, and research of effective instruction and assessment, and they employ a variety of strategies for a developmentally appropriate climate to meet the varying abilities and learning styles of all young adolescents.
6. Middle level teacher candidates understand the major concepts, principles, theories, and research related to working collaboratively with family and community members, and they use that knowledge to maximize the learning of all young adolescents.
7. Middle level teacher candidates understand the complexity of teaching young adolescents, and they engage in practices and behaviors that develop their competence as professionals.

Physical Education, Sport and Physical Activity – B.S.

LEARNING OUTCOMES:

1. PETE Standard 1: Scientific and Theoretical Knowledge. Physical education teacher candidates know and apply discipline-specific scientific and theoretical concepts critical to the development of physically educated individuals.
2. PETE Standard 2: Skill-Based and Fitness-Based Competence. Physical education teacher candidates are physically educated individuals with the knowledge and skills necessary to demonstrate competent movement performance and health-enhancing fitness as delineated in SHAPE America's K-12 Standards.
3. PETE Standard 3: Planning and Implementation. Physical education teacher candidates plan and implement developmentally appropriate learning experiences aligned with local, state and national standards to address the diverse needs of all students.
4. PETE Standard 4: Instructional Delivery and Management. Physical education teacher candidates use effective communication and pedagogical skills and strategies to enhance student engagement and learning.
5. PETE Standard 5: Impact on Student Learning. Physical education teacher candidates utilize assessments and reflection to foster student learning and to inform instructional decisions.
6. PETE Standard 6: Professionalism. Physical Education teacher candidates demonstrate dispositions essential to becoming effective professionals.
7. PAS Goal 1. Understand how individuals learn and develop in diverse contexts and can create appropriate physical activity instruction that supports their physical, cognitive, social, and emotional development.
8. PAS Goal 2: Provide children and youth with rewarding physical activity experiences during which they can develop intra- and inter-personal skills.
9. PAS Goal 3: Use an understanding of individual and group motivation and behavior to create a safe learning environment that encourages physically active lifestyles, positive social interaction, and self-motivation.
10. PAS Goal 4: Use knowledge of effective verbal, non-verbal, and media communication techniques to enhance learning and engagement in physical activity settings.
11. PAS Goal 5: Foster relationships with colleagues, parents/guardians, community and school agencies to support the growth and well-being of children and youth.

Science & Mathematics Education – B.S.

LEARNING OUTCOMES:

1. Candidates know, understand and apply the process of mathematical problem solving.
2. Candidates reason, construct, and evaluate mathematical arguments and develop as appreciation for mathematical rigor and inquiry.
3. Candidates communicate their mathematical thinking orally and in writing to peers, faculty and others.
4. Candidates recognize, use, and make connections between and among mathematical ideas and in contexts outside mathematics to build mathematical understanding.
5. Candidates use varied representations of mathematical ideas to support and deepen students' mathematical understanding.
6. Candidates embrace technology as an essential tool for teaching and learning mathematics.
7. Candidates support a positive disposition toward mathematical processes and mathematical learning.
8. Candidates possess a deep understanding of how students learn mathematics and of the pedagogical knowledge specific to mathematics teaching and learning.
9. Knowledge of Number and Operations, Algebra, Geometries, Discrete Mathematics, Data Analysis, Statistics and Probability, and Measurement.
10. Candidates apply and use measurement concepts and tools.
11. Candidates demonstrate an understanding of concepts and practices related to data analysis, statistics, and probability.
12. Candidates apply the fundamental ideas of discrete mathematics in the formulation and solution of problems.
13. Candidates use spatial visualization and geometric modeling to explore and analyze geometric shapes, structures, and their properties.
14. Candidates emphasize relationships among quantities including functions, ways of representing mathematical relationships, and the analysis of change.

Special Education – B.S.

LEARNING OUTCOMES:

1. Demonstrate an understanding of special education foundations.
2. Demonstrate an ability to create safe, inclusive, and culturally responsive learning environments.
3. Use knowledge of general and specialized curricula to individualize learning for individuals with exceptionalities.
4. Use multiple methods of assessment.
5. Use evidence-based strategies to advance learning of individuals with exceptionalities.
6. Demonstrate competency with ethical professional practice.
7. Demonstrate collaboration skills.

Sport Industry – B.S.

LEARNING OUTCOMES:

1. To provide students with the practical content skills required for involvement at an entry level position in various components of the sport industry, students will be knowledgeable about issues related to programming, leadership, marketing, delivery systems and legal aspects as it relates to the sport industry.
2. To provide students, through internships, the practical work experiences needed for entry-level positions within the sport industry.
3. To provide students with the knowledge to understand the social, economic, and cultural context in which the sport industry is situated and to have them explore the varied meanings individuals and social groups bring to and extrapolate from their engagement in sport, students will be knowledgeable about college sport both past and present; be informed about issued relating to theories regarding the social values attached sport participation and administration; comprehend how sporting practices have been contoured by class, race, gender, regionalism, and nationalism; and understand the ongoing and every changing intersections between sport and the mass media.
4. To provide students with the academic content and skills to enable them to do research on issues and themes pertaining to the sport industry; such skills should enhance their opportunities to advance to the best graduate programs in either sport management or sport studies nationally.

Teaching English to Speakers of Other Languages – B.S.

LEARNING OUTCOMES:

1. Candidates know, understand, and use the major theories and research related to the structure and acquisition of language to help English language learners (ELLs) develop language and literacy and achieve in the content areas. Issues of language structure and language acquisition development are interrelated. The divisions of the standards into 1.a. language as a system, and 1.b. language acquisition and development do not prescribe an order.
2. Candidates know, understand, and use major concepts, principles, theories, and research related to the nature and role of culture and cultural groups to construct supportive learning environments for ELLs.
3. Candidates know, understand, and use evidence-based practices and strategies related to planning, implementing, and managing standards-based ESL and content instruction. Candidates are knowledgeable about program models and skilled in teaching strategies for developing and integrating language skills. They integrate technology as well as choose and adapt classroom resources appropriate for their ELLs.
4. Candidates demonstrate understanding of issues and concepts of assessment and use standards- and performance-based procedures with ELLs.
5. Candidates keep current with new instructional techniques, research results, advances in the ESL field, and education policy issues and demonstrate knowledge of the history of ESL teaching. They use such information to reflect on and improve their instruction and assessment practices. Candidates work collaboratively with school staff and the community to improve the learning environment, provide support, and advocate for ELLs and their families.

Technical Education & Training – B.S.

LEARNING OUTCOMES:

1. CTE Goal 1: Students will develop an understanding of the content areas for which they have instructional responsibility.
2. CTE Goal 2: Students will understand student learning and development and respect the diversity of the students they teach.
3. CTE Goal 3: Students will create learning environments that promote high levels of learning and achievement for all students.
4. BETE Goal 1: Students will develop an understanding of the content areas for which they have instructional responsibility.
5. BETE Goal 2: Students will understand student learning and development and respect the diversity of the students they teach.
6. BETE Goal 3: Students will create learning environments that promote high levels of learning and achievement for all students.
7. FCS Goal 1: Students will develop an understanding of the content areas for which they have instructional responsibility.
8. FCS Goal 2: Students will understand student learning and development and respect the diversity of the students they teach.
9. FCS Goal 3: Students will create learning environments that promote high levels of learning and achievement for all students.

BY PROGRAM:

Alphabetical

Aeronautical & Astronautical Engineering – B.S.

LEARNING OUTCOMES:

1. Students in the BS-AAE program will attain an ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics, science, and engineering.
2. Students in the BS-AAE program will attain an ability to design and conduct experiments, as well as to analyze and interpret data.
3. Students in the BS-AAE program will attain an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Students in the BS-AAE program will attain an ability to function on multi-disciplinary teams.
5. Students in the BS-AAE program will attain an ability to identify, formulate, and solve engineering problems.
6. Students in the BS-AAE program will attain an understanding of professional and ethical responsibilities.
7. Students in the BS-AAE program will attain an ability to communicate effectively.
8. Students in the BS-AAE program will attain the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. Students in the BS-AAE program will attain a recognition of the need for, and an ability to engage in life-long learning.
10. Students in the BS-AAE program will attain a knowledge of contemporary issues.
11. Students in the BS-AAE program will attain an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Architecture – B.S.

LEARNING OUTCOMES:

1. Students develop expertise in the assembly, evaluation, and representation of technical data as it relates to the discipline of architecture.
2. Students acquire a conceptual breadth through the study of architectural history and the cultural ideas that have informed architecture.
3. Students develop an ability to synthesize technological expertise and cultural understanding by making architectural propositions for the world.

Aviation – B.S.

LEARNING OUTCOMES:

1. Prepare Students for successful careers in the Aviation industry.
2. Engage in learning across multiple aviation related disciplines.
3. Gain experience in working within and leading multi-disciplinary teams through classroom exercises, projects, and other teaming activities.
4. Have the ability to effectively and professionally communicate within the industry's technical, regulatory, business, and public environments.
5. Embody the importance of safety, security, and ethical behavior in their careers.

Biomedical Engineering – B.S.

LEARNING OUTCOMES:

1. Students will have attained an ability to apply knowledge of mathematics, science, and engineering.
2. Students will have attained an ability to design and conduct experiments, as well as to analyze and interpret data.
3. Students will have attained an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Students will have attained an ability to function on multidisciplinary teams.
5. Students will have attained an ability to identify, formulate, and solve engineering problems.
6. Students will have attained an understanding of professional and ethical responsibility.
7. Students will have attained an ability to communicate effectively.
8. Students will have attained the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. Students will have attained a recognition of the need for, and an ability to engage in life-long learning.
10. Students will have attained a knowledge of contemporary issues.
11. Students will have attained an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
12. Students will have attained an understanding of biology and physiology, and the capability to apply advanced mathematics (including differential equations and statistics), science, and engineering to solve the problems at the interface of engineering and biology.
13. Students will have attained the ability to make measurements on and interpret data from living systems, addressing the problems associated with the interaction between living and non-living materials and systems.

Chemical Engineering – B.S.

LEARNING OUTCOMES:

1. Graduates will have attained an ability to apply knowledge of mathematics, science, and engineering.
2. Graduates will have attained an ability to design and conduct experiments, as well as to analyze and interpret data.
3. Graduates will have attained an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Graduates will have attained an ability to function on multidisciplinary teams.
5. Graduates will have attained have an ability to identify, formulate, and solve engineering problems.
6. Graduates will have attained an understanding of professional and ethical responsibility.
7. Graduates will have attained an ability to communicate effectively.
8. Graduates will have attained the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. Graduates will have attained a recognition of the need for, and an ability to engage in life-long learning.
10. Graduates will have attained a knowledge of contemporary issues.
11. Graduates will have attained an ability to use modern techniques, skills, and modern engineering tools necessary for engineering practice.

City and Regional Planning – B.S.

LEARNING OUTCOMES:

1. Students develop expertise in the (1) assembly, evaluation, and representation of technical data and (2) processes of engagement and collaboration as they relate to the discipline of city and regional planning.
2. Students acquire a conceptual breadth through the study of the history of both urbanization and city and regional planning as well as the interdisciplinary ideas that inform city and regional planning.
3. Students develop an ability to synthesize methods and the historical and theoretical foundations of city and regional planning by making propositions for the cities and regions of the world.

Civil Engineering – B.S.

LEARNING OUTCOMES:

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to design and conduct experiments, as well as to analyze and interpret data.
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. An ability to function on multidisciplinary teams.
5. An understanding of professional and ethical responsibility.
6. An ability to communicate effectively.
7. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
8. A recognition of the need for, and an ability to engage in life-long learning.
9. A knowledge of contemporary issues.
10. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
11. An ability to identify, formulate, and solve engineering problems.

Computer Science & Engineering – B.S.

LEARNING OUTCOMES:

1. Students in the BS-CSE program will attain an ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics, science, and engineering.
2. Students in the BS-CSE program will attain an ability to design and conduct experiments, as well as to analyze and interpret data.
3. Students in the BS-CSE program will attain an ability to design, implement, and evaluate a software or a software/hardware system, component, or process to meet desired needs within realistic constraints such as memory, runtime efficiency, as well as appropriate constraints related to economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability considerations.
4. Students in the BS-CSE program will attain an ability to function on multi-disciplinary teams.
5. Students in the BS-CSE program will attain an ability to identify, formulate, and solve engineering problems.
6. Students in the BS-CSE program will attain an understanding of professional, ethical, legal, security and social issues and responsibilities.
7. Students in the BS-CSE program will attain an ability to communicate effectively with a range of audiences.
8. Students in the BS-CSE program will attain an ability to analyze the local and global impact of computing on individuals, organizations, and society.
9. Students in the BS-CSE program will attain a recognition of the need for, and an ability to engage in life-long learning and continuing professional development.
10. Students in the BS-CSE program will attain a knowledge of contemporary issues.
11. Students in the BS-CSE program will attain an ability to use the techniques, skills, and modern engineering tools necessary for practice as a CSE professional.
12. Students in the BS-CSE program will attain an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
13. Students in the BS-CSE program will attain an ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
14. Students in the BS-CSE program will attain an ability to apply design and development principles in the construction of software systems of varying complexity.

ECE-Computer Engineering – B.S.

LEARNING OUTCOMES:

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to design and conduct experiments, as well as to analyze and interpret data.
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. An ability to function on multi-disciplinary teams.
5. An ability to identify, formulate, and solve engineering problems.
6. An understanding of professional and ethical responsibility.
7. An ability to communicate effectively.
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. A recognition of the need for, and an ability to engage in life-long learning.
10. A knowledge of contemporary issues.
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
12. Students have learned a range of technical topics comprising both breadth and depth. Students have learned circuits, systems and computer hardware and software sub-disciplines plus technical elective topics.
13. Students can apply tools and knowledge, both technical and non-technical, obtained from their undergraduate experience to a major design project.
14. Graduates are aggressively recruited by both industry and graduate programs.

ECE-Electrical Engineering – B.S.

LEARNING OUTCOMES:

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to design and conduct experiments, as well as to analyze and interpret data.
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. An ability to function on multidisciplinary teams.
5. An ability to identify, formulate, and solve engineering problems.
6. An understanding of professional and ethical responsibility.
7. An ability to communicate effectively.
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. A recognition of the need for, and an ability to engage in life-long learning.
10. A knowledge of contemporary issues.
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
12. Students have learned a range of technical topics comprising both breadth across circuits, systems, electromagnetics and electronic devices and depth in at least two sub-disciplines within electrical engineering.
13. Students can apply tools and knowledge, both technical and non-technical, obtained from their undergraduate experience to a major design project.
14. Graduates are aggressively recruited by both industry and graduate programs.

Engineering Physics – B.S.

LEARNING OUTCOMES:

1. Alumni of the Engineering Physics program will have an ability to communicate effectively.
2. Alumni of the engineering physics program will have a knowledge of contemporary issues.
3. Undergraduate Engineering Physics majors have acquired a basic mastery of data reduction and error analysis.
4. Undergraduate Physics majors are able to effectively communicate their physical understanding both professionally and colloquially.
5. Alumni of the Engineering Physics program will have an understanding of professional and ethical responsibility.
6. Engineering Physics alumni will have an ability to design and conduct experiments, as well as to analyze and interpret data.
7. Engineering Physics alumni will have an ability to apply knowledge of mathematics, science, and engineering.
8. Alumni of the Engineering Physics program will have the ability to recognize the need for, and ability to engage in life-long learning.
9. Undergraduate Engineering Physics majors will use their understanding of the fundamental areas of physics (classical mechanics, electromagnetism, and quantum mechanics), experimental physics, data reduction, error analysis, and computing to succeed in: a.) Technical careers in industry, academia, or government b.) Careers involving engineering or scientific practice, research and development, or service c.) Non-technical careers in areas such as law, medicine, business, public policy, secondary education, service industries, etc. d.) Careers involving management or entrepreneurship e.) Graduate school in physics or engineering.
10. Undergraduate Engineering Physics majors have acquired a basic mastery of experimental physics.
11. Alumni of the Engineering Physics program will be able to identify, formulate, and solve engineering problems.
12. Undergraduate Engineering Physics majors have developed powerful analytic and problem solving skills.
13. Engineering Physics alumni will have an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
14. Engineering Physics alumni will have the ability to function on multidisciplinary teams.
15. Alumni of the Engineering Physics program will have the ability to use the techniques, skills, and modern engineering tools necessary for engineering practices.
16. Alumni of the Engineering Physics program will have the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

Environmental Engineering – B.S.

LEARNING OUTCOMES:

1. Students in the BS – EnvEng program will attain at graduation an ability to apply knowledge of mathematics, science, and engineering.
2. Students in the BS – EnvEng program will attain at graduation an ability to design and conduct experiments, as well as to analyze and interpret data.
3. Students in the BS – EnvEng program will attain at graduation an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Students in the BS – EnvEng program will attain at graduation an ability to function on multidisciplinary teams.
5. Students in the BS – EnvEng program will attain at graduation an ability to identify, formulate, and solve engineering problems.
6. Students in the BS – EnvEng program will attain at graduation an understanding of professional and ethical responsibility.
7. Students in the BS – EnvEng program will attain at graduation an ability to communicate effectively.
8. Students in the BS – EnvEng program will attain at graduation the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. Students in the BS – EnvEng program will attain at graduation a recognition of the need for, and an ability to engage in life-long learning.
10. Students in the BS – EnvEng program will attain at graduation a knowledge of contemporary issues.
11. Students in the BS – EnvEng program will attain at graduation an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Food, Agricultural and Biological Engineering – B.S.

LEARNING OUTCOMES:

1. Apply knowledge of mathematics, science, and engineering.
2. Design and conduct experiments.
3. Analyze and interpret data.
4. Design a system, component, or process to meet desired needs.
5. Identify engineering problems.
6. Formulate solutions for engineering problems.
7. Use the techniques, skills, and modern engineering tools necessary for engineering practice.
8. Demonstrate the ability to function within multi-disciplinary teams.
9. Employ an understanding of professional and ethical responsibility.
10. Demonstrate the ability to communicate effectively.
11. In a global and societal context, appraise the impacts of engineering solutions.
12. Recognize the need for, and an ability to engage in life-long learning.
13. Examine the contemporary issues of engineering.

Industrial and Systems Engineering – B.S.

LEARNING OUTCOMES:

1. An ability to apply knowledge of mathematics, science, and engineering.
2. We expect our students at the time of graduation to have an ability to design and conduct experiments, as well as to analyze and interpret data.
3. At the time of graduation our students will have an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. At the time of graduation our students will have an ability to identify, formulate, and solve engineering problems.
5. At the time of graduation our students will have the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
6. At the time of graduations our students will have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
7. At the time of graduation, the students will have a recognition of the need for, and an ability to engage in life-long learning.
8. At the time of graduation, our students will have an ability to communicate effectively.
9. At the time of graduation our students will have a knowledge of contemporary issues.
10. At the time of graduation students will have an ability to function on multidisciplinary teams.
11. At the time of graduation students will have an understanding of professional and ethical responsibility.
12. At the time of graduation students will have the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

Landscape Architecture – B.S.

LEARNING OUTCOMES:

1. Students develop expertise in the assembly, evaluation, and representation of technical data as it relates to the discipline of landscape architecture.
2. Students acquire a conceptual breadth through the study of landscape architectural history and the cultural ideas that have informed landscape architecture.
3. Students develop an ability to synthesize technological expertise and cultural understanding by making landscape architectural propositions for the world.

Materials Science and Engineering – B.S.

LEARNING OUTCOMES:

1. Upon graduation, MSE students will have gained an ability to apply knowledge of mathematics, science and engineering.
2. Upon graduation, MSE students will have gained an ability to design and conduct experiments, as well as to analyze and interpret data.
3. Upon graduation, MSE students will have gained an ability to design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Upon graduation, MSE students will have gained an ability to function on multi-disciplinary teams.
5. Upon graduation, MSE students will have gained an ability to identify, formulate and solve engineering problems.
6. Upon graduation, MSE students will have gained an understanding of professional and ethical responsibility.
7. Upon graduation, MSE students will have gained an ability to communicate effectively.
8. Upon graduation, MSE students will have gained the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context.
9. Upon graduation, MSE students will have gained a recognition of the need for and an ability to engage in life-long learning.
10. Upon graduation, MSE students will have gained a knowledge of contemporary issues.
11. Upon graduation, MSE students will have gained an ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

Mechanical Engineering – B.S.

LEARNING OUTCOMES:

1. Students in the BS-ME program will attain an ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics, science, and engineering.
2. Students in the BS-ME program will attain an ability to design and conduct experiments, as well as to analyze and interpret data.
3. Students in the BS-ME program will attain an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Students in the BS-ME program will attain an ability to function on multi-disciplinary teams.
5. Students in the BS-ME program will attain an ability to identify, formulate, and solve engineering problems.
6. Students in the BS-ME program will attain an understanding of professional and ethical responsibilities.
7. Students in the BS-ME program will attain an ability to communicate effectively.
8. Students in the BS-ME program will attain the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. Students in the BS-ME program will attain a recognition of the need for, and an ability to engage in life-long learning.
10. Students in the BS-ME program will attain a knowledge of contemporary issues.
11. Students in the BS-ME program will attain an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
12. Students in the BS-ME program will attain the ability to apply principles of engineering, basic science, and mathematics to model and analyze components or processes.
13. Students in the BS-ME program will attain the ability to apply principles of engineering, basic science, and mathematics to design and realize physical systems, components, or processes.
14. Students in the BS-ME program will attain an ability to work professionally in thermal systems areas.
15. Students in the BS-ME program will attain an ability to work professionally in mechanical systems areas.

Welding Engineering – B.S.

LEARNING OUTCOMES:

1. Graduates from the BSWE program must demonstrate an ability to apply knowledge of mathematics, science, and engineering.
2. Graduates from the BSWE program must demonstrate an ability to design and conduct experiments, as well as to analyze and interpret data.
3. Graduates from the BSWE program must demonstrate an ability to design a system, component, or process to meet desired needs.
4. Graduates from the BSWE program must demonstrate an ability to function on multi-disciplinary teams.
5. Graduates from the BSWE program must demonstrate an ability to identify, formulate, and solve engineering problems.
6. Graduates from the BSWE program must demonstrate an understanding of professional and ethical responsibility.
7. Graduates from the BSWE program must demonstrate an ability to communicate effectively.
8. Graduates from the BSWE program must demonstrate the broad education necessary to understand the impact of engineering solutions in a global and societal context.
9. Graduates from the BSWE program must demonstrate a recognition of the need for, and an ability to engage in life-long learning.
10. Graduates from the BSWE program must demonstrate a knowledge of contemporary issues.
11. Graduates from the BSWE program must demonstrate an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
12. Graduates from the BSWE program must demonstrate an ability to select and design welding materials, processes and inspection techniques based on application, fabrication and service conditions.
13. Graduates from the BSWE program must demonstrate an ability to develop welding procedures that specify materials, processes, design and inspection requirements.
14. Graduates from the BSWE program must demonstrate an ability to design welded structures and components to meet application requirements.

BY PROGRAM:

Alphabetical

Agribusiness – A.S.

LEARNING OUTCOMES:

1. Interpret financial data.
2. Prepare financial records.
3. Analyze financial data and records commonly used in agribusiness.
4. Proficiently use a variety of computer applications and software used agribusiness.
5. Prepare a marketing plan for a product/service of an agribusiness.
6. Explain the elements of an agribusiness' marketing mix.
7. Prepare and present a sales presentation for an agribusiness product/service.
8. Prepare a small business plan that provides the foundation for obtaining capital and starting a business.
9. Explain the principals involved in recruiting, selecting, training, evaluating and compensating employees.
10. Apply the principles of resources allocation to production and consumption decisions.

Agribusiness and Applied Economics – B.S.

LEARNING OUTCOMES:

1. Demonstrate comprehension of the four major functions of management: planning, organization, leadership and control.
2. Create marketing plans developed in support of an agribusiness.
3. Evaluate the financial situation of agribusiness firms.
4. Analyze the management, marketing and financial elements of an agribusiness firm's strategic plan and corresponding action plan.
5. Describe the content of and the purpose behind core business records.
6. Create relevant income, expense and inventory records for a new business.
7. Develop financial statements, analysis and reports necessary for strategic planning, personnel management and tax compliance.
8. Apply the concepts of supply, demand and elasticity in the context of an agribusiness.
9. Use key econometric and quantitative programming concepts to design agribusiness strategies.
10. Explain how the economic concepts of efficiency, externalities, market power are applied to the management and regulation of agribusiness.

THE OFFICE OF ACADEMIC AFFAIRS

Agricultural Communication – A.S.

LEARNING OUTCOMES:

1. Assess audience needs based upon demographics and speaking situation.
2. Design research-based communications.
3. Create effective oral arguments or rationale to support a position.
4. Demonstrate the ability to write effectively for different purposes.
5. Demonstrate in-depth technical knowledge in a technical field (Food, Agriculture, or Environment).
6. Illustrate integrating technical content with appropriate communication strategies.
7. Create communication artifacts that reflect professional standards.
8. Analyze and resolve ethical dilemmas in Agricultural Communication.
9. Demonstrate ability to meet deadlines.

Agricultural Communication – B.S.

LEARNING OUTCOMES:

1. Assess audience needs.
2. Practice conducting SWOT analyses.
3. Design research-based communications.
4. Demonstrate in-depth technical knowledge in a technical field (Food, Agriculture, or Environment).
5. Identify new communication messages within a specific discipline.
6. Illustrate integrating technical content with appropriate communication strategies.
7. Apply appropriate technology tools in particular situations.
8. Demonstrate knowledge of contemporary emerging technology.
9. Create communication artifacts that reflect professional standards.
10. Analyze and Resolve Ethical Dilemmas in Agricultural Communication.
11. Demonstrate ability to meet deadlines.
12. Design visual communication that is creative and aesthetically pleasing.
13. Create effective oral arguments or rationale to support a position.
14. Demonstrate the ability to write effectively for different purposes.

Agricultural Systems Management – A.S.

LEARNING OUTCOMES:

1. Demonstrate mastery of mathematical and scientific principles underlying agricultural systems and technologies.
2. Demonstrate proficiency in a required set of technical skills related to managing agricultural technology.
3. Apply knowledge of mathematics and science to identify and solve technical problems related to agricultural technologies.
4. Demonstrate an understanding of economics as it applies to food and natural resource management.
5. Apply proper business and management practices related to farm or agribusiness operations.
6. Communicate effectively in both oral and written forms.
7. Express an appreciation of society and culture both in the United States and in other parts of the world.

Agricultural Systems Management – B.S.

LEARNING OUTCOMES:

1. Demonstrate knowledge of the current technology used in agricultural production including machinery, buildings, material handling systems and soil and water resources.
2. Define a problem with or an opportunity to improve an agricultural production practice including functional, economic, environmental, safety and legal constraints.
3. Develop solutions for implementation to agricultural production problems or opportunities to improve efficiency.
4. Estimate the cost of various field operations.
5. Evaluate the machinery requirements of a farm.
6. Assess the economics of improving drainage or other agricultural water management practices.
7. Demonstrate the ability to function within multi-disciplinary teams.
8. Demonstrate the ability to communicate effectively.
9. Recognize the importance of serving in relevant industry associations and organizations.
10. Recognize the need to engage in continuous professional and personal.

Agriscience Education – A.S.

LEARNING OUTCOMES:

1. Use the historical roots of the discipline to better understand current trends in Agriscience Education.
2. Apply disciplinary knowledge as a scholarly contribution to the discipline.
3. Select the most appropriate source of information.
4. Make judgments about (appraise | evaluate | judge) the quality and validity of information.
5. Incorporate relevant new knowledge into written content.
6. Identify various educational strategies.
7. Apply knowledge of the discipline to program planning.
8. Use the foundational roots of the discipline to evaluate the educational strategies of an existing program.

Agriscience Education – B.S.

LEARNING OUTCOMES:

1. Display knowledge of how students learn and of the development characteristics of age groups.
2. Demonstrate an understanding of what students know and use this knowledge to meet the needs of all students.
3. Exhibit an expectation that all students will achieve to their full potential.
4. Model respect for students' diverse cultures, language, skills, and experiences.
5. Recognize characteristics of gifted students, students with disabilities, and at-risk students in order to assist in appropriate identification, instruction, and intervention.
6. Illustrate a knowledge the of content to be taught and use that knowledge within content-area concepts.
7. Demonstrate an understanding of and use content-specific instructional strategies to effectively teach the central concepts and skills of the discipline.
8. Exhibit an understanding of school and district curriculum priorities and the Ohio academic content standards.
9. Apply an understanding of the relationship of knowledge within the discipline to other content areas.
10. Connect content to relevant life experiences and career opportunities.
11. Demonstrate knowledge about assessment types, their purposes, and the data they generate.
12. Select, develop, and use a variety of diagnostic, formative, and summative assessments.
13. Analyze own strengths and opportunities for growth.
14. Collaborate and Communicate student progress with students, parents, and colleagues.
15. Involve learners in self-assessment and goal setting to address gaps between performance and potential.
16. Align instructional goals and activities with school and district priorities and Ohio's academic content standards.
17. Use information about students' learning and performance to plan and deliver instruction that will close the achievement gap.
18. Communicate clear learning goals and explicitly link learning activities to those defines goals.
19. Apply knowledge of how students think and learn to instructional design and delivery.
20. Differentiate instruction to support the learning needs of all students, including students identified as gifted, students with disabilities, and at risk students.
21. Create and select activities that are designed to help students develop as independent learners and complex problem-solvers.
22. Use resources effectively, including technology, to enhance student learning.
23. Establish an environment that is respectful, supportive and caring.
24. Create an environment that is physically and emotionally safe.
25. Motivate students to work productively and assume responsibility for their own learning.
26. Create learning situations in which students work independently, collaboratively and/or as a whole class.
27. Maintain (create/manage) an environment that is conducive to learning for all students.
28. Communicate clearly and effectively.

29. Share responsibility with parents and caregivers to support student learning, emotional and physical development and mental health.
30. Collaborate effectively with other teachers, administrators and school district staff.
31. Collaborate effectively with the local community and community agencies, when and where appropriate, to promote a positive environment for student learning.
32. Understand, uphold, and follow professional ethics, policies and legal codes of professional conduct.
33. Take (practice/perform) responsibility for engaging in continuous, purposeful professional development.
34. Perform as a change agent who seeks opportunities to positively impact teaching quality, school improvements and student achievement.

Agronomy – A.S.

LEARNING OUTCOMES:

1. Demonstrate knowledge of the morphology and physiology of agronomic crop plants.
2. Plan a reasonable agronomic crop rotation based on goals for the system.
3. Compare seed and forage crop plants to livestock nutritional requirements.
4. Examine risk posed by insect, disease, and weed pests to agronomic plan crop production.
5. Identify methods for properly planting, harvesting, and storing agronomic crops.
6. Identify markets and marketing strategies for harvested agronomic crops.
7. Appraise crop plant health in the field.
8. Demonstrate an understanding of soil development and management.
9. Evaluate soil-plant nutrient analysis report and make fertilizer recommendations for agronomic crops.
10. Assess soil management for impact on biological, chemical, and physical characteristics of the soil.
11. Examine the role of agronomic crop production in food, fiber, and fuel systems industries.
12. Demonstrate professional development in the agronomic crops industry.
13. Identify the importance of agronomic crop industries in the local, national, and global economy.
14. Demonstrate crop plant health in the field.
15. Operate field equipment.
16. Collect soil samples.

Animal Sciences – A.S.

LEARNING OUTCOMES:

1. Develop skills required to care for livestock.
2. Apply knowledge related to livestock production and management.
3. Describe the principles of genetic inheritance and their effect on animal performance.
4. Discuss monogastric and ruminant digestion and metabolism.
5. Explain the anatomy and physiology of the estrous cycle.
6. Evaluate herd management situations.
7. Demonstrate effective written communication skills.
8. Demonstrate effective oral communication skills.
9. Practice skills to become a cooperative team member.

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Animal Sciences – B.S.

LEARNING OUTCOMES:

1. Demonstrate effective oral communication skills.
2. Demonstrate effective written communication skills.
3. Examine global issues relating to the use of animals.
4. Demonstrate citizenship and social responsibility.
5. Identify and analyze characteristics of management systems that are respectful of animals and the environment.
6. Evaluate the impact of animal use and production on animals, the environment and society.
7. Demonstrate how biological systems interact.
8. Examine the interrelationships between biological systems relative to the impact on animal use.
9. Demonstrate use of reliable knowledge and sound logic in problem solving situations.
10. Demonstrate use of principles of ethical decision making.
11. Illustrate how the disciplines of Animal Sciences can be used to enhance production and companion animal management systems.
12. Recognize how the disciplines of Animal Sciences impact products resulting from production and companion animals.

Animal Sciences – B.S.N.

LEARNING OUTCOMES:

1. Demonstrate effective oral communication skills.
2. Demonstrate effective written communication skills.
3. Examine global issues relating to the use of animals.
4. Demonstrate citizenship and social responsibility.
5. Identify and analyze nutritional strategies for animals that are respectful of the environment.
6. Demonstrate the role of nutritional strategies in biological systems.
7. Examine the interrelationships between biological systems relative to nutrient requirements and metabolism.
8. Demonstrate use of reliable knowledge and sound logic in problem solving situations.
9. Demonstrate use of principles of ethical decision making.
10. Illustrate how nutrition can be used to enhance animal management systems.
11. Recognize how nutritional sciences impact development, health and disease.

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Biochemical Sciences – A.S.

LEARNING OUTCOMES:

1. Describe what critical thinking is, how evidence is used to develop an argument, and how to avoid errors in critical thinking.
2. Evaluate the extent to which critical thinking is employed in a group research project related to BioChemical Science.
3. Apply critical thinking to a real-world BioChemical issue.
4. Demonstrate a basic level of sufficiency in written communication.
5. Demonstrate a basic level of sufficiency in oral communication.
6. Apply theoretical concepts in inorganic chemistry to understand biochemical sciences.
7. Demonstrate an understanding organic chemistry in biochemical sciences.
8. Apply theoretical concepts in classical physics to understand biochemical sciences.

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Business Management – A.A.S.

LEARNING OUTCOMES:

1. Process financial data.
2. Analyze Balance sheets, Income Statements, and Cash Flow.
3. Prepare Balance Sheets, Income Statements, and Cash Flow.
4. Proficiently use a variety of computer applications and software used in Business Management.
5. Prepare a marketing plan for a product/service used in business management.
6. Explain the elements of a business' marketing mix.
7. Prepare and present a sales presentation for a product/service.
8. Prepare a small business plan that provides the foundation for obtaining capital and starting a business.
9. Effectively interact with and manage a diverse group of people in agricultural commerce.
10. Apply the basic principles of economics to business' operations.
11. Apply decision making/problem solving skills to a variety of business situations.
12. Demonstrate critical thinking in solving business problems.

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Community Leadership – A.S.

LEARNING OUTCOMES:

1. Describe how major leadership concepts are applied to an individual's approach to leadership.
2. Develop a personal philosophy of small group leadership.
3. Describe critical elements of leadership within small groups.
4. Analyze critical elements of leadership within small groups.
5. Develop a written document outlining practices within an extension program (Extension track specific).
6. Create a written document evaluating an extension program (Extension track specific).
7. Develop a functional communication plan within an organization (Leadership track specific).

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Community Leadership – B.S.

LEARNING OUTCOMES:

1. Describe how major leadership concepts are applied to an individual's approach to leadership.
2. Develop a written personal and professional leadership philosophy.
3. Analyze critical elements of leadership within organizations.
4. Develop strategies to lead within organizations.
5. Demonstrate capacity to create and evaluate educational programs.
6. Demonstrate capacity to implement educational programs and volunteer management strategies.
7. Exhibit skills and ability to explain and conduct formative and summative program evaluation.
8. Describe factors that influence change.
9. Analyze factors that influence change.
10. Develop strategies to influence change.

THE OFFICE OF ACADEMIC AFFAIRS

Construction Management – A.A.S.

LEARNING OUTCOMES:

1. Apply systematic thought processes of construction related topics for installation and operations sequencing.
2. Develop management skills and tools to oversee execution of construction activities, and ensure earning any predetermined ecolabels associated with the project.
3. Determine reputable sources of information when researching and analyzing available information.
4. Identifying data trends while developing solutions for a variety of obstacles that may occur within the construction management industry.
5. Excel in situations requiring professional behavior and personal responsibility.
6. Understanding the importance of life-long learning in improving self and society.

Construction Systems Management – A.S.

LEARNING OUTCOMES:

1. Apply systematic thought processes of construction related topics for installation and operations sequencing.
2. Develop management skills and tools to oversee execution of construction activities, and ensure earning any predetermined ecolabels associated with the project.
3. Determine reputable sources of information when researching and analyzing available information.
4. Identify data trends while developing solutions for a variety of obstacles that may occur within the construction management industry.
5. Excel in situations requiring professional behavior and personal responsibility.
6. Understanding the importance of life-long learning in improving self and society.
7. Implement the project or process utilizing techniques that result in positive societal impacts, and minimize any detrimental impacts to the environment.
8. Access the proper channels to work with regulating agencies and maintain project compliance.

Construction Systems Management – B.S.C.

LEARNING OUTCOMES:

1. Develop a management plan for the construction of buildings and other infrastructure, which includes all associated systems.
2. Assess the functional, safety, environmental, legal and economic requirements for a construction project.
3. Demonstrate knowledge and understanding of construction industry principles and practices and apply them in industry related employment.
4. Apply knowledge of business and ethical practices to aspects of construction business components.
5. Employ professional and ethical practices.
6. Describe a business plan to build and maintain a viable company serving the construction industry.
7. Demonstrate the ability to function within multi-disciplinary teams.
8. Communicate effectively in both written and oral contexts.
9. Actively engage in continuous professional development.
10. Contribute technical and management skills to improve local communities and actively participate in community activities, organizations and charities.
11. Identify the benefits of actively engaging and serving relevant industry associations and organization.

LEARNING OUTCOMES:

1. Demonstrate knowledge of the morphology and physiology of agronomic crop plants.
2. Demonstrate knowledge of the morphology and physiology of weedy plants.
3. Plan a reasonable agronomic crop rotation based on goals for the system.
4. Match seed and forage crop plants to livestock nutritional requirements.
5. Examine risk posed by insect, disease, and weed pests to agronomic crop production.
6. Identify methods for properly planting, harvesting, and storing agronomic crops.
7. Identify markets and marketing strategies for harvested agronomic crops.
8. Appraise crop plant health in the field.
9. Demonstrate an understanding of soil development and management.
10. IUT soil-plant nutrient analysis report and make fertilizer recommendations for agronomic crops.
11. Assess soil management for impact on biological, chemical and physical characteristics of the soil.
12. Examine the role of agronomic crop production in food, fiber, and fuel systems industries.
13. Demonstrate professional development in the agronomic crops industry.
14. Demonstrate an effective farm business management plan for agronomic crop production.
15. Appraise crop plant health in the field.
16. Operate field equipment and geospatial technologies.
17. Collect soil samples.
18. Apply within class learning to field experience.

Culinary Science – B.S.

LEARNING OUTCOMES:

1. Communicate effectively in a variety of formats (i.e., oral and written communication, listening, interviewing, etc.).
2. Apply business concepts important for effective food business decision-making.
3. Demonstrate knowledge of core competencies of food processing.
4. Apply principles of food processing.
5. Effectively analyze technical problems.
6. Formulate effective answers to technical problems.
7. Identify pathogenic, spoilage and beneficial microorganisms in food systems.
8. Relate principles of food preservation and processing (including cleaning and sanitation) to the control of microorganisms.
9. Show effective written communication skills.
10. Exhibits effective oral presentation skills.
11. Demonstrate effective team-based skills.

Dairy Cattle Production & Management Technology – A.A.S.

LEARNING OUTCOMES:

1. Analyze dairy herd management practices.
2. Apply knowledge related to dairy production.
3. Develop skills required to care for dairy cattle.
4. Describe factors that impact dairy farm “mailbox” milk prices.
5. Prepare financial statements for a dairy farm.
6. Organize a dairy farm labor plan.
7. Evaluate herd management situations.
8. Demonstrate effective written communication skills.
9. Demonstrate effective oral communication skills as a team member.
10. Practice skills to become a cooperative team member.

Dairy Science – A.S.

LEARNING OUTCOMES:

1. Analyze dairy herd management practices.
2. Apply knowledge related to dairy production.
3. Develop skills required to care for dairy cattle.
4. Describe gene action related to animal performance.
5. Discuss ruminant digestion metabolism.
6. Explain the anatomy and physiology of the estrous cycle.
7. Evaluate herd management situations.
8. Demonstrate effective written communication skills.
9. Demonstrate effective oral communication skills as a team member.
10. Practice skills to become a cooperative team member.

Entomology – B.S.

LEARNING OUTCOMES:

1. Search for common themes and distinctions between insects and other organisms at the molecular, cellular, and organismal levels.
2. Explain the unique ecological roles of insects at the population, community, ecosystem, and biosphere levels.
3. Identify ecological, physiological, and molecular factors that allow some arthropod species to become pests of crops, forests, landscapes, human health, or domestic animals.
4. Discuss how the formation of management guidelines for crops, forests, landscapes, human health, or domestic animals is affected by the presence of pest species.
5. Describe the ecosystem services or beneficial roles that insects serve.
6. Explain how understanding of insect biology can be used to devise tactics to manage pest populations and to promote insects' ecosystem services.
7. Define the tactics of pest management.
8. Compare the tactics of pest management.
9. Evaluate how tactics can be combined into integrated pest management systems.
10. Give examples of how entomologists have used the scientific method to answer questions about insects, as well as how insects have been used to explore broader questions about life.
11. Explain how to plan and report a scientific experiment to test a hypothesis.
12. Evaluate the accuracy and scientific basis of entomologic information as reported in a variety of formats, including popular media and scientific publications.
13. Synthesize science-based information about insects and explain it in oral and written forms to both peer and lay audiences.

Environment, Economy, Development and Sustainability (EEDS) – B.S.E.

LEARNING OUTCOMES:

1. Describe what critical thinking is, how evidence is used to develop an argument, and how to avoid errors in critical thinking.
2. Evaluate the extent to which critical thinking is employed in a group research project related to environmental science, forestry/fisheries/wildlife science and management, natural resource management, environmental policy and decision making, or similar fields related to environmental sustainability.
3. Apply critical thinking to a real-world environmental issue in which the role of the soil is central, such as food security, land degradation, carbon cycle/global change, downstream water quality.
4. Critically analyze a current environmental or natural resources issue at a local, regional, state level, how a broad range of stakeholders are engaged in the issue, how concepts and issue-solving skills learned to-date can be applied to the issue, how possible means to address the issue may be received by stakeholders from environmental, social, and economic perspectives, and how to evaluate and communicate supportable and realistic solutions through a team effort.
5. Demonstrate critical thinking in solving environmental problems.
6. Relate concepts from social science theories to describe human dimensions of real-world environmental challenges.
7. Apply concepts of sustainability and sustainable development to assess the sustainability of specific projects and policies in domestic and international settings.
8. Apply theory to professional practice in solving environmental problems.
9. Demonstrate ability to apply quantitative methods of benefit-cost analysis to address issues and policies of sustainable development.
10. Apply theory to professional practice in solving environmental problems.
11. Demonstrate a basic level of sufficiency in written communication.
12. Demonstrate a basic level of sufficiency in oral communication.
13. Communicate technical information with correct spelling and grammar, logically organized, and with technical style and format that is appropriate to the discipline for written forms of communication.
14. Communicate effectively in written and oral forms in professional settings following graduation.
15. Apply theoretical concepts in environmental science to understand how Earth's biotic and abiotic systems function, how humans affect the environment, and how to achieve global sustainability.
16. Demonstrate an understanding of abiotic components of natural systems, such as illustrating elements of the hydrologic cycle, and integration of the abiotic and biotic systems, such as illustrating elements of the carbon and nitrogen cycles.
17. Demonstrate a comprehension of the structure and dynamics of populations and communities in relation to sustaining resource production and biological diversity.
18. Apply understanding of natural systems with breadth across biotic and abiotic components in professional settings.
19. Identify concepts, theories and examples relevant to understanding human systems across individual, community, and polity levels of organization.

20. Appraise the nature and values of organizations and polities and their importance in social problem solving and policy making related to environmental and natural resource issues.
21. Apply understanding of human systems with breadth across individual, community, and polity levels of organization in professional settings.
22. Integrate information related to natural and human dimensions of contemporary environmental issues and formulate professionally appropriate recommendations to address those issues.
23. Illustrate the integration of information related to natural and human dimensions of contemporary environmental issues while making professionally appropriate recommendations to address those issues.
24. Demonstrate basic knowledge of the role of spatial information and information systems in addressing environmental and natural resource issues.
25. Analyze spatial information relevant to natural resource and ecosystem management and resource planning by utilizing digital vertical image interpretation and geographic information systems.
26. Demonstrate professional competency through job placement and success in professional certification exams (soil, water, forestry, fisheries, wildlife, other).
27. Demonstrate professional competencies.
28. Demonstrate basic sustainable development and sustainability management job skills.

Environment & Natural Resources – A.S.

LEARNING OUTCOMES:

1. Describe what critical thinking is, how evidence is used to develop an argument, and how to avoid errors in critical thinking.
2. Evaluate the extent to which critical thinking is employed in a group research project related to environmental science, forestry/fisheries/wildlife science and management, natural resource management, environmental policy and decision making, or similar fields related to environmental sustainability.
3. Apply critical thinking to a real world environmental issue in which the role of the soil is central, such as food security, land degradation, carbon cycle/global change, downstream water quality.
4. Relate concepts from social science theories to describe human dimensions of real-world environmental challenges.
5. Demonstrate a basic level of sufficiency in written communication.
6. Demonstrate a basic level of sufficiency in oral communication.
7. Apply theoretical concepts in environmental science to understand how Earth's biotic and abiotic systems function, how humans affect the environment, and how to achieve global sustainability.
8. Demonstrate an understanding of abiotic components of natural systems, such as illustrating elements of the hydrologic cycle, and integration of the abiotic and biotic systems, such as illustrating elements of the carbon and nitrogen cycles.
9. Identify concepts, theories and examples relevant to understanding human systems across individual, community, and polity levels of organization.
10. Appraise the nature and values of organizations and polities and their importance in social problem solving and policy making related to environmental and natural resource issues.

Environmental Policy and Decision Making – B.S.

LEARNING OUTCOMES:

1. Describe what critical thinking is, how evidence is used to develop an argument, and how to avoid errors in critical thinking.
2. Evaluate the extent to which critical thinking is employed in a group research project related to environmental science, forestry/fisheries/wildlife science and management, natural resource management, environmental policy and decision making, or similar fields related to environmental sustainability.
3. Apply critical thinking to a real-world environmental issue in which the role of the soil is central, such as food security, land degradation, carbon cycle/global change, downstream water quality.
4. Critically analyze a current environmental or natural resources issue at a local, regional, state level, how a broad range of stakeholders are engaged in the issue, how concepts and issue-solving skills learned to-date can be applied to the issue, how possible means to address the issue may be received by stakeholders from environmental, social, and economic perspectives, and how to evaluate and communicate supportable and realistic solutions through a team effort.
5. Demonstrate critical thinking in solving environmental problems.
6. Relate concepts from social science theories to describe human dimensions of real-world environmental challenges.
7. Relate concepts from environmental science and environmental policy and management to address contemporary environmental issues.
8. Apply theory to professional practice in solving environmental problems.
9. Demonstrate a basic level of sufficiency in written communication.
10. Demonstrate a basic level of sufficiency in oral communication.
11. Communicate technical information with correct spelling and grammar, logically organized, and with technical style and format that is appropriate to the discipline for oral and written forms of communication.
12. Communicate effectively in written and oral forms in professional settings following graduation.
13. Apply theoretical concepts in environmental science to understand how Earth's biotic and abiotic systems function, how humans affect the environment, and how to achieve global sustainability.
14. Demonstrate an understanding of abiotic components of natural systems, such as illustrating elements of the hydrologic cycle, and integration of the abiotic and biotic systems, such as illustrating elements of the carbon and nitrogen cycles.
15. Demonstrate a comprehension of the structure and dynamics of populations and communities in relation to sustaining resource production and biological diversity.
16. Apply understanding of natural systems with breadth across biotic and abiotic components in professional settings.
17. Identify concepts, theories and examples relevant to understanding human systems across individual, community, and polity levels of organization.
18. Appraise the nature and values of organizations and polities and their importance in social problem solving and policy making related to environmental and natural resource issues.

19. Apply understanding of human systems with breadth across individual, community, and polity levels of organization in professional settings.
20. Understand coupled systems, human and natural, and their relevance for environmental policy and decision making.
21. Integrate information related to natural and human dimensions of contemporary environmental issues and formulate professionally appropriate recommendations to address those issues.
22. Illustrate the integration of information related to natural and human dimensions of contemporary environmental issues while making professionally appropriate recommendations to address those issues.
23. Demonstrate basic knowledge of the role of spatial information and information systems in addressing environmental and natural resource issues.
24. Analyze spatial information relevant to natural resource and ecosystem management and resource planning by utilizing digital vertical image interpretation and geographic information systems.
25. Demonstrate professional competency through job placement and success in professional certification exams (soil, water, forestry, fisheries, wildlife, other).
26. Demonstrate professional competencies.
27. Demonstrate competency in skills and procedures related to: the legal and regulatory frameworks for planning at the Federal and State levels; Federal and State property records; map reading; writing goals, objectives and action statements for the results of the VRM, ROS, and LAC labs; and, developing program budgets to implement the VRM, ROS, and LAC objectives and actions.

Environmental Science – B.S.

LEARNING OUTCOMES:

1. Describe what critical thinking is, how evidence is used to develop an argument, and how to avoid errors in critical thinking.
2. Evaluate the extent to which critical thinking is employed in a group research project related to environmental science, forestry/fisheries/wildlife science and management, natural resource management, environmental policy and decision making, or similar fields related to environmental sustainability.
3. Apply critical thinking to a real-world environmental issue in which the role of the soil is central, such as food security, land degradation, carbon cycle/global change, downstream water quality.
4. Critically analyze a current environmental or natural resources issue at a local, regional, state level, how a broad range of stakeholders are engaged in the issue, how concepts and issue-solving skills learned to-date can be applied to the issue, how possible means to address the issue may be received by stakeholders from environmental, social, and economic perspectives, and how to evaluate and communicate supportable and realistic solutions through a team effort.
5. Demonstrate critical thinking in solving environmental problems.
6. Relate concepts from social science theories to describe human dimensions of real-world environmental challenges.
7. Relate concepts from environmental science and environmental policy and management to address contemporary environmental issues.
8. Apply theory to professional practice in solving environmental problems.
9. Demonstrate a basic level of sufficiency in written communication.
10. Demonstrate a basic level of sufficiency in oral communication.
11. Communicate technical information with correct spelling and grammar, logically organized, and with technical style and format that is appropriate to the discipline for oral and written forms of communication.
12. Communicate effectively in written and oral forms in professional settings following graduation.
13. Apply theoretical concepts in environmental science to understand how Earth's biotic and abiotic systems function, how humans affect the environment, and how to achieve global sustainability.
14. Demonstrate an understanding of abiotic components of natural systems, such as illustrating elements of the hydrologic cycle, and integration of the abiotic and biotic systems, such as illustrating elements of the carbon and nitrogen cycles.
15. Demonstrate a comprehension of the structure and dynamics of populations and communities in relation to sustaining resource production and biological diversity.
16. Apply understanding of natural systems with breadth across biotic and abiotic components in professional settings.
17. Identify concepts, theories and examples relevant to understanding human systems across individual, community, and polity levels of organization.
18. Appraise the nature and values of organizations and polities and their importance in social problem solving and policy making related to environmental and natural resource issues.

19. Apply understanding of human systems with breadth across individual, community, and polity levels of organization in professional settings.
20. Integrate information related to natural and human dimensions of contemporary environmental issues and formulate professionally appropriate recommendations to address those issues.
21. Illustrate the integration of information related to natural and human dimensions of contemporary environmental issues while making professionally appropriate recommendations to address those issues.
22. Demonstrate basic knowledge of the role of spatial information and information systems in addressing environmental and natural resource issues.
23. Analyze spatial information relevant to natural resource and ecosystem management and resource planning by utilizing digital vertical image interpretation and geographic information systems.
24. Demonstrate professional competency through job placement and success in professional certification exams (soil, water, forestry, fisheries, wildlife, other).
25. Demonstrate professional competencies.

Floral Design & Marketing Technology – A.A.S.

LEARNING OUTCOMES:

1. Interpret the information from customer orders regarding occasion, style, flower preferences and price to make determinations regarding design selections that will satisfy customers.
2. Design saleable arrangements in traditional design shapes and contemporary styles.
3. Design saleable wedding, funeral and party floral designs.
4. Effectively communicate in written form.
5. Effectively communicate orally.
6. Develop products and services that reach the target market of the campus flower shop.
7. Develop effective advertising and promotions for floral products and services.
8. Identify, by scientific and common name, fresh flowers and foliage readily available on the commercial flower market and herbaceous plants and houseplants commonly sold by retail florists.
9. Demonstrate knowledge of the vase life potential of fresh flowers and the proper care and handling practices that maximize vase life.
10. Demonstrate knowledge of the cultural practices recommended for growth and development of woody plants, herbaceous plants and houseplants.
11. Develop effective visual merchandising of floral products while directing others in the process.
12. Develop effective customer service skills while leading others in developing theirs.
13. Manage the design and delivery of an assigned load of weekly flower orders while overseeing the work of other floral designers.
14. Successfully complete a two-course series of mathematics classes.
15. Calculate retail prices for fresh flowers and floral arrangements.
16. Design modern, artistic arrangements with original shapes, techniques and mechanics.
17. Demonstrate an understanding of and appreciation for the creative process and the initiative to pursue further educational and artistic growth opportunities outside the classroom.

Food, Agricultural and Biological Engineering – B.S.

LEARNING OUTCOMES:

1. Apply knowledge of mathematics, science, and engineering.
2. Design and conduct experiments.
3. Analyze and interpret data.
4. Design a system, component, or process to meet desired needs.
5. Identify engineering problems.
6. Formulate solutions for engineering problems.
7. Use the techniques, skills, and modern engineering tools necessary for engineering practice.
8. Demonstrate the ability to function within multi-disciplinary teams.
9. Employ an understanding of professional and ethical responsibility.
10. Demonstrate the ability to communicate effectively.
11. In a global and societal context, appraise the impacts of engineering solutions.
12. Recognize the need for, and an ability to engage in life-long learning.
13. Examine the contemporary issues of engineering.

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Food Business Management – A.S.

LEARNING OUTCOMES:

1. Interpret financial data.
2. Prepare financial records.
3. Analyze financial data and records commonly used in food business.
4. Proficiently use a variety of computer applications and software used in food business.
5. Prepare a marketing plan for a product/service of a food business.
6. Explain the elements of a food business' marketing mix.
7. Prepare and present a sales presentation for a food business product/service.
8. Prepare a small business plan that provides the foundation for obtaining capital and starting a business.
9. Relate human resource management and development to the food business industry.
10. Apply the principles of resources allocation to production and consumption decisions.

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Food Business Management – B.S.

LEARNING OUTCOMES:

1. Demonstrate knowledge of the laws that relate to the use of materials in foods and the operation of food plants and the federal, state and local level.
2. Identify and apply the principles of food plant operation and management.
3. Identify pathogenic, spoilage and beneficial microorganisms in food systems.
4. Relate principles of food preservation and processing (including cleaning and sanitation) to the control of microorganisms.
5. Effectively analyze technical problems.
6. Formulate effective answers to technical problems.
7. Demonstrate knowledge of core competencies of food processing.
8. Apply principles of food processing.
9. Show effective written communication skills.
10. Exhibit effective oral presentation skills.
11. Demonstrate effective team-based skills.

Food Science and Technology – B.S.F.

LEARNING OUTCOMES:

1. Demonstrate knowledge of core competencies of food chemistry & analysis and knowledge of current events/trends in the field.
2. Analyze information in core competencies of food chemistry and analysis.
3. Express confidence in an ability and understanding of food chemistry and analysis.
4. Demonstrate to employers the ability and understanding of food chemistry and analysis.
5. Identify the causes of food spoilage and predict the microorganisms that can spoil a given food, when prepared, processed and stored under given conditions.
6. Apply food microbiology and food safety knowledge and plans and executes a mini research project.
7. Express confidence in ability and understanding of food chemistry and analysis.
8. Demonstrate to employers the ability and understanding of food microbiology.
9. Demonstrate knowledge of core competencies of food processing and engineering and knowledge of current events/trends in the field.
10. Apply principles of food processing and engineering.
11. Effectively analyze technical problems.
12. Formulate effective answers to technical problems.
13. Show effective written communication skills.
14. Exhibit effective oral presentation skills.
15. Demonstrate effective team-based skills.

Forestry, Fisheries and Wildlife – B.S.

LEARNING OUTCOMES:

1. Describe what critical thinking is, how evidence is used to develop an argument, and how to avoid errors in critical thinking.
2. Evaluate the extent to which critical thinking is employed in a group research project related to environmental science, forestry/fisheries/wildlife science and management, natural resource management, environmental policy and decision making, or similar fields related to environmental sustainability.
3. Apply critical thinking to a real- world environmental issue in which the role of the soil is central, such as food security, land degradation, carbon cycle/global change, downstream water quality.
4. Critically assess forestry, fisheries, and wildlife resources present on an evaluation site by identifying current conditions, management opportunities and constraints, and desired future condition.
5. Demonstrate critical thinking in solving environmental problems.
6. Relate concepts from social science theories to describe human dimensions of real-world environmental challenges.
7. Apply theoretical concepts, empirical data, and practical knowledge of forestry, fisheries, and wildlife sciences and natural resources management for developing, evaluating, and recommending management alternatives designed to address contemporary forest, fisheries, and wildlife management and other resource conservation issues or problems.
8. Apply theory to professional practice in solving environmental problems.
9. Demonstrate a basic level of sufficiency in written communication.
10. Demonstrate a basic level of sufficiency in oral communication.
11. Demonstrate proficiency with summarizing, analyzing, and interpreting research results presented in tables and figures prepared for oral and written forms of communication.
12. Convey technical information with correct spelling and grammar, logically organized, and with technical style and format that is appropriate to the discipline for oral and written forms of communication.
13. Communicate effectively in written and oral forms in professional settings following graduation.
14. Apply theoretical concepts in environmental science to understand how Earth's biotic and abiotic systems function, how humans affect the environment, and how to achieve global sustainability.
15. Demonstrate an understanding of abiotic components of natural systems, such as illustrating elements of the hydrologic cycle, and integration of the abiotic and biotic systems, such as illustrating elements of the carbon and nitrogen cycles.
16. Demonstrate a comprehension of the structure and dynamics of populations and communities in relation to sustaining resource production and biological diversity.
17. Apply understanding of natural systems with breadth across biotic and abiotic components in professional settings.
18. Identify concepts, theories and examples relevant to understanding human systems across individual, community, and polity levels of organization.
19. Appraise the nature and values of organizations and polities and their importance in social problem solving and policy making related to environmental and natural resource issues.
20. Apply understanding of human systems with breadth across individual, community, and polity levels of organization in professional settings.

21. Apply the integration of information related to natural and human dimensions of contemporary resource conservation while managing problems and making professionally appropriate recommendations to address those problems.
22. Illustrate the integration of information related to natural and human dimensions of contemporary environmental issues while making professionally appropriate recommendations to address those issues.
23. Demonstrate basic knowledge of the role of spatial information and information systems in addressing environmental and natural resource issues.
24. Analyze spatial information relevant to natural resource and ecosystem management and resource planning by utilizing digital vertical image interpretation and geographic information systems.
25. Demonstrate professional competency through job placement and success in professional certification exams (soil, water, forestry, fisheries, wildlife, other).
26. Demonstrate professional competencies.
27. Proficiency in use and application of tools, instruments, and analytical techniques that are used to inventory forests and measure terrestrial and aquatic wildlife populations and habitats.
28. Practice working effectively as member of interdisciplinary teams to accomplish assigned tasks or projects.

Greenhouse & Nursery Management – A.A.S.

LEARNING OUTCOMES:

1. Identify greenhouse structures and equipment used to produce greenhouse and nursery crops.
2. Discuss the principles and concepts of producing quality greenhouse and nursery crops.
3. Demonstrate appropriate greenhouse production methods for production quality greenhouse and nursery crops.
4. Prepare suitable horticultural root media for the production of greenhouse and nursery crops.
5. Effectively collaborate with peers and manage workers in a commercial greenhouse/nursery.
6. Calculate heating, cooling, and fertilizer requirements required for healthy plant growth.
7. Measure light intensity, relative humidity and air temperatures and adjust as needed to manipulate plant growth.
8. Prepare written reports summarizing greenhouse and nursery production practices.
9. Provide an optimum production environment that favors vigorous plant growth and does not favor insect pest pathogen development.
10. Apply Integrated Pest Management (IPM) and Integrated Plant Health Management (IPHM) principles.
11. Discuss environmentally sound methods of plant production that do not adversely affect the immediate environment.
12. Apply sustainable greenhouse and nursery production practices in a commercial setting.

Horse Production & Management – A.A.S.

LEARNING OUTCOMES:

1. Demonstrate skills required to care for horses.
2. Apply knowledge related to horse production and management.
3. Compare management practices between breeds, disciplines and uses.
4. Describe equine ethograms.
5. Apply common behavioral modification techniques.
6. Evaluate safety in equine involved situations.
7. Design horse herd nutritional and disease prevention plans.
8. Formulate cost effective management strategies based on market fluctuations.
9. Synthesis and critique solutions to management problems/issues.
10. Demonstrate effective written communication skills.
11. Demonstrate effective oral communication skills.
12. Practice skills to become a cooperative team member.

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Horse Science – A.S.

LEARNING OUTCOMES:

1. Demonstrate skills required to care for horses.
2. Apply knowledge related to horse production and management.
3. Compare management practices between breeds, disciplines and uses.
4. Explain the anatomy and physiology of the estrous cycle.
5. Compare digestion and metabolism in monogastrics, ruminants and cecal digesters.
6. Diagnose and present solutions to production problems using biological principles.
7. Describe the principles of genetic inheritance and their effect on animal performance.
8. Design horse herd nutritional and disease prevention plans.
9. Formulate cost effective management strategies based on market fluctuations.
10. Synthesis and critique solutions to management problems/issues.
11. Demonstrate effective written communication skills.
12. Demonstrate effective oral communication skills.
13. Practice skills to become a cooperative team member.

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Horticultural Science – A.S.

LEARNING OUTCOMES:

1. Discuss the concept of sustainability.
2. Practice proper citing of source information.
3. Prepare a scientific paper including hypothesis, materials and methods, discussion and conclusion.
4. Identify plants common to managed landscapes.

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Hydraulic Power & Motion Control – A.A.S.

LEARNING OUTCOMES:

1. Demonstrate skills required to measure basic engineering quantities.
2. Apply knowledge related to function and service of fluid power equipment.
3. Compare performance of components and basic fluid power systems.
4. Describe fluid power equipment components and functions of the components.
5. Apply component functions to fluid power systems and controls.
6. Evaluate safety in fluid power systems and service practices.
7. Design fluid power equipment service plans.
8. Formulate cost effective solutions to fluid power systems.
9. Analyze system and component defects that devise a resolution.
10. Demonstrate effective written communication skills.
11. Demonstrate effective oral communication skills.
12. Practice skills to acquire appropriate technical information to resolve equipment issues.

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Landscape Horticulture – A.A.S.

LEARNING OUTCOMES:

1. Prepare an accurate estimate of costs from a provided landscape plan.
2. Discuss the concept of sustainability.
3. Demonstrate competency in identifying landscape plants.
4. Accurately place plants in landscape plans for best future performance and health.
5. Discuss the impact of construction on plants and describe methods of protecting plants.
6. Solve mathematical problems related to soil amendments and fertilizers.
7. Solve mathematical problems related to material and labor costs.
8. Present a design to a client.
9. Prepare a concise report on a topic.

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Livestock Production & Management – A.A.S.

LEARNING OUTCOMES:

1. Demonstrate skills required to care for livestock.
2. Apply knowledge related to livestock production and management.
3. Describe the various factors that influence meat prices.
4. Analyze livestock herd production records.
5. Demonstrate an understanding of sound livestock business management practices.
6. Evaluate herd management situations.
7. Demonstrate effective written communication skills.
8. Demonstrate effective oral communication skills.
9. Practice skills to become a cooperative team member.

Meat Science – B.S.

LEARNING OUTCOMES:

1. Demonstrate effective oral communication skills.
2. Demonstrate effective written communication skills.
3. Examine global issues relating to the use of animals.
4. Demonstrate citizenship and social responsibility.
5. Demonstrate how economic principles impact meat production.
6. Examine the interrelationships between biological systems and fresh meat quality.
7. Identify and practice principles of food safety.
8. Explore principles of product development.
9. Demonstrate using reliable knowledge and sound logic in problem solving situations.
10. Demonstrate using principles of ethical decision making.

Natural Resource Management – B.S.

LEARNING OUTCOMES:

1. Describe what critical thinking is, how evidence is used to develop an argument, and how to avoid errors in critical thinking.
2. Evaluate the extent to which critical thinking is employed in a group research project related to environmental science, forestry/fisheries/wildlife science and management, natural resource management, environmental policy and decision making, or similar fields related to environmental sustainability.
3. Apply critical thinking to a real-world environmental issue in which the role of the soil is central, such as food security, land degradation, carbon cycle/global change, downstream water quality.
4. Critically assess forestry, fisheries, and wildlife resources present on an evaluation site by identifying current conditions, management opportunities and constraints, and desired future condition.
5. Demonstrate critical thinking in solving environmental problems.
6. Relate concepts from social science theories to describe human dimensions of real-world environmental challenges.
7. Apply theoretical concepts, empirical data, and practical knowledge of forestry, fisheries, and wildlife sciences and natural resources management for developing, evaluating, and recommending management alternatives designed to address contemporary forest, fisheries, and wildlife management and other resource conservation issues or problems.
8. Apply theory to professional practice in solving environmental problems.
9. Demonstrate a basic level of sufficiency in written communication.
10. Demonstrate a basic level of sufficiency in oral communication.
11. Demonstrate proficiency with summarizing, analyzing, and interpreting research results presented in tables and figures prepared for oral and written forms of communication.
12. Convey technical information with correct spelling and grammar, logically organized, and with technical style and format that is appropriate to the discipline for oral and written forms of communication.
13. Communicate effectively in written and oral forms in professional settings following graduation.
14. Apply theoretical concepts in environmental science to understand how Earth's biotic and abiotic systems function, how humans affect the environment, and how to achieve global sustainability.
15. Demonstrate an understanding of abiotic components of natural systems, such as illustrating elements of the hydrologic cycle, and integration of the abiotic and biotic systems, such as illustrating elements of the carbon and nitrogen cycles.
16. Demonstrate a comprehension of the structure and dynamics of populations and communities in relation to sustaining resource production and biological diversity.
17. Apply understanding of natural systems with breadth across biotic and abiotic components in professional settings.
18. Identify concepts, theories and examples relevant to understanding human systems across individual, community, and polity levels of organization.
19. Appraise the nature and values of organizations and polities and their importance in social problem solving and policy making related to environmental and natural resource issues.

20. Apply understanding of human systems with breadth across individual, community, and polity levels of organization in professional settings.
21. Demonstrate an understanding of the links between human and natural systems in the context of Limits of Acceptable Change planning frameworks.
22. Apply the integration of information related to natural and human dimensions of contemporary resource conservation while managing problems and making professionally appropriate recommendations to address those problems.
23. Illustrate the integration of information related to natural and human dimensions of contemporary environmental issues while making professionally appropriate recommendations to address those issues.
24. Demonstrate basic knowledge of the role of spatial information and information systems in addressing environmental and natural resource issues.
25. Analyze spatial information relevant to natural resource and ecosystem management and resource planning by utilizing digital vertical image interpretation and geographic information systems.
26. Demonstrate professional competency through job placement and success in professional certification exams (soil, water, forestry, fisheries, wildlife, other).
27. Demonstrate professional competencies.
28. Proficiency in use and application of tools, instruments, and analytical techniques that are used to inventory forests and measure terrestrial and aquatic wildlife populations and habitats.
29. Practice working effectively as member of interdisciplinary teams to accomplish assigned tasks or projects.

Plant Health Management – B.S.

LEARNING OUTCOMES:

1. Explain pest and disease impacts on agricultural and natural ecosystems, including global and social issues, scientific discovery, and policy/management decision.
2. Demonstrate a holistic understanding of sustainability that includes entomology and plant pathology.
3. Describe biotic and abiotic influences on plant health.
4. Recall the basis of plant-microbe interactions.
5. Discuss insect biology at the molecular, biochemical, organismal, population, community and ecosystem level.
6. Formulate a plant health management study using sound judgement.
7. Demonstrate professional behavior.
8. Select current primary informational resources used in plant health and pest management.
9. Describe integrated plant health management strategies and tactics.
10. Construct an integrated plant health management program.
11. Describe integrated plant health management strategies and tactics.
12. Create a student career portfolio.
13. Construct an integrated plant health management program.
14. Apply an integrated plant health management program.

Plant Pathology – B.S.

LEARNING OUTCOMES:

1. Discuss significant historical events, global and social issues, principles, and practices of plant pathology.
2. Recall the basis of plant-microbe interactions.
3. Describe biotic and abiotic causes of plant disease.
4. Illustrate the disease cycle for each pathogen group and specific diseases.
5. Demonstrate, using the disease triangle, factors that influence disease development.
6. Identify laboratory techniques to study plant-associated microbes.
7. Formulate a study of plant disease in a field or laboratory.
8. Demonstrate professional behavior.
9. Select current primary informational resources used in plant health and pest management.
10. Describe the integrated plant disease management strategies.
11. Construct an integrated plant disease management program.
12. Create a student portfolio.

Power Equipment – A.A.S.

LEARNING OUTCOMES:

1. Demonstrate skills required to measure basic engineering qualities.
2. Apply knowledge related to function and service of power equipment.
3. Compare performance of components and basic power systems.
4. Describe power equipment components and functions of the components.
5. Apply component functions to power systems and controls.
6. Evaluate safety in equipment systems and services practices.
7. Design equipment service plans.
8. Formulate cost effective solutions to service of equipment and the application of power equipment.
9. Analyze system and component defects then devise a resolution.
10. Demonstrate effective written communication skills.
11. Demonstrate effective oral communication skills.
12. Practice skills to acquire appropriate technical information to resolve equipment issues.

Professional Golf Management – B.S.

LEARNING OUTCOMES:

1. Collect data/information.
2. Analyze data/information.
3. Calculate discipline-related quantitative measurements.
4. Determine the effect of environmental conditions on plant growth.
5. Demonstrate the skills required to effectively and professionally present information gathered for reports and projects.
6. Practice effective interactions with peers, other professionals, and lay persons.
7. Establish and express operational goals.
8. Appraise strategies for accomplishing established goals.
9. Employ best practices for customer service, economics, compliance with regulations, etc.
10. Demonstrate professionalism through personal presentation and conduct.
11. Employ identified and selected continuing education opportunities such as short courses, workshops, and seminars.
12. Identify how to achieve success in one's career by capitalizing on continuous professional development opportunities and self-promotion practices.
13. Demonstrate increasing leadership responsibility.
14. Critique one's own abilities by performing self-evaluations.
15. Demonstrate the ability to work with a people with varying cultures, backgrounds, ideas, ideals, and status.
16. Explain the importance of diversity in managed ecosystems.
17. Practice properly citing source information.
18. Exhibit the skills required to perform effectively as a contributing team member.
19. Demonstrate a positive work ethic.

Renewable Energy – A.S.

LEARNING OUTCOMES:

1. Identify and analyze major environmental, societal, and economic issues associated with consumption of various types of energy.
2. Explain the effectiveness, potential, and limitations of various energy systems in relation to availability, practicality, and geographical location.
3. Explain the basic principles of fermentation processes used in bioenergy production.
4. Explain the basic principles and scientific concepts specific to photovoltaic power energy systems.
5. Explain the basic principles and scientific concepts specific to wind power energy systems.
6. Apply the knowledge of optimum operational conditions for effective energy production and harvesting.
7. Demonstrate understanding of design issues.
8. Demonstrate understanding of operating issues.
9. Assess the logistical, economic, and qualitative aspects of bioenergy resources.
10. Assess the logistical, economic, and qualitative aspects of solar resources.
11. Assess the logistical, economic, and qualitative aspects of wind resources.
12. Identify the various federal, state, and local codes, standards and regulations that pertain to renewable energy systems and ensure conformity with these rules in system proposals and throughout the management of a project.
13. Research current economic factors affecting site and source selection, including integrating the renewable system into the existing infrastructure.
14. Relate classroom instruction to occupational goals.
15. Recognize the importance of developing sound personal qualities and skills to gain and retain employment.

Sustainable Agriculture – A.S.

LEARNING OUTCOMES:

1. Explain the origin and evolution of agriculture through human pre-history and history.
2. Discuss the meaning of sustainable agriculture.
3. Identify the role of human philosophy in determining the application of agricultural technologies.
4. Describe agriculture in the context of holistic systems thinking.
5. Identify the role of animals in the food, fiber, and fuel production system.
6. Identify the role of crops in the food, fiber and fuel production system.
7. Identify the role of soils in the food, fiber and fuel production system.
8. Demonstrate use of record keeping and accounting to manage agricultural enterprises.
9. Illustrate how to legally set up an agricultural enterprise and to manage it in a sustainable manner.
10. Identify the key components of sustainable business practices.
11. Apply within class learning to field operations.

Sustainable Plant Systems – B.S.

LEARNING OUTCOMES:

1. Acquire information and/or data.
2. Analyze information and/or data.
3. Interpret information and/or data.
4. Understand the concept of sustainability.
5. Apply the concept of sustainability to a managed plant ecosystem.
6. Calculate discipline-related quantitative measurements.
7. Assess the effect of environmental conditions on plant growth.
8. Prepare information and/or data for a written report.
9. Prepare information and/or data for a presentation.
10. Practice effective interactions with peers, other professionals, and lay persons.
11. Develop projects utilizing digital communication technologies.
12. Establish goals.
13. Appraise strategies for accomplishing established goals.
14. Apply best practices for horticulture and crop enterprises.
15. Participate in extracurricular educational opportunities.
16. Critique one's own abilities by performing self-evaluations.
17. Demonstrate knowledge of range of cultures, values, and political perspectives relevant for living in a global community.
18. Properly credit sources of information.
19. Perform effectively as a contributing team member.
20. Demonstrate a positive work ethic.
21. Demonstrate professionalism.

Turfgrass Management Technology – A.A.S.

LEARNING OUTCOMES:

1. Demonstrate the ability to identify, establish and maintain various species of fine turfgrasses as well as ornamentals and native plants.
2. Demonstrate competencies in the application of technical practices, processes, procedures, and skills necessary to meet the expectations of employers.
3. Prepare responsible, realistic and reliable cultural and maintenance programs for maintain high-end turfgrass facilities while being a steward of the environment.
4. Demonstrate the ability to communicate effectively through means of oral communication with diverse populations.
5. Demonstrate the ability to communicate effectively through the use of electronic media and visual illustrations.
6. Solve mathematical equations associated with determining fertilizer and pesticide rates for proper applications.
7. Prepare a complex turfgrass cultural maintenance program based on mathematical calculations and developing appropriate cultural practices for maintaining fine turfgrasses.

College of Medicine

BY PROGRAM:

Alphabetical

Biomedical Science – B.S.

LEARNING OUTCOMES:

1. BMS graduates will be able to demonstrate advanced Critical Thinking.
2. BMS graduates will be able to demonstrate advanced Written and Verbal Communication.
3. BMS graduates will be able to demonstrate advanced Team Work.
4. BMS graduates will be able to demonstrate advanced Peer and Self Evaluation.

SCHOOL OF HEALTH AND REHABILITATION SCIENCES:

Alphabetical-by program

Athletic Training – B.S.

LEARNING OUTCOMES:

1. Communicate in a clear and effective manner with people from various socio-cultural backgrounds, both verbally and in writing.
2. Demonstrate critical thinking, professional decision-making, and psychomotor skills necessary for safe and competent practice in Athletic Training.
3. Integrate evidence-based practice and scholarship in making and prioritizing professional decisions in Athletic Training.

Health Information Management & Systems – B.S.

LEARNING OUTCOMES:

1. Communicate in a clear and effective manner with people from various socio-cultural backgrounds, both verbally and in writing.
2. Demonstrate critical thinking, professional decision making, and/or psychomotor skills necessary for safe and competent practice in Health Information Management.
3. Integrate evidence-based practice and scholarship in making and prioritizing professional decisions in Health Information Management.

THE OFFICE OF ACADEMIC AFFAIRS

Health Sciences – B.S.

LEARNING OUTCOMES:

1. To communicate in a clear and effective with people from various socio-cultural backgrounds, both verbally and in writing.
2. To develop critical and creative thinking skills that will allow graduates to solve problems & integrate a variety of perspectives, to use resources & research, & make informed decisions about health care delivery & program implementation & review.
3. Integrate evidence-based practice decision making and scholarship in making and prioritizing health care delivery.

Medical Dietetics – B.S.

LEARNING OUTCOMES:

1. To communicate in a clear and effective way with people from various socio-cultural backgrounds, both verbally and in writing.
2. Demonstrate critical thinking, professional decision making, and/or psychomotor skills necessary for safe and competent practice in Dietetics.
3. Integrate evidence-based practice and scholarship in making and prioritizing professional decisions in Medical Dietetics.

Medical Technology – B.S.

LEARNING OUTCOMES:

1. To communicate in a clear and effective with people from various socio-cultural backgrounds, both verbally and in writing.
2. To demonstrate critical thinking, professional decision making, and psychomotor skills necessary.
3. Integrate evidence-based practice and scholarship in making and prioritizing professional decisions.

THE OFFICE OF ACADEMIC AFFAIRS

Radiologic Sciences & Therapy – B.S.

LEARNING OUTCOMES:

1. Communicate in a clear and effective manner, both verbally and in writing with people of diverse backgrounds.
2. Demonstrate clinical competency through master of knowledge, psychomotor skills and clinical reasoning while providing high quality patient care.
3. Demonstrate critical thinking through evidence-based practice and professional decision making in the care of patients.
4. Cultivate a professional work ethic, demonstrating a positive attitude and leadership skills.

Respiratory Therapy – B.S.

LEARNING OUTCOMES:

1. Communicate in a clear and effective manner with people from various socio-cultural backgrounds, both verbally and in writing.
2. Demonstrate critical thinking, professional decision making, and psychomotor skills necessary for safe and competent practice.
3. Integrate evidence-based practice and scholarship in making and prioritizing professional decisions in Respiratory Therapy.

College of Nursing

BY PROGRAM:

Alphabetical

Health and Wellness
Innovation in Healthcare – B.A.

LEARNING OUTCOMES:

1. Practicum performance meets needs.
2. Synthesis of evidence-based practice competencies.
3. Achieves milestones related to the professional role.
4. Students will demonstrate understanding of dimensions of wellness.

Nursing – B.S.N.

LEARNING OUTCOMES:

1. Students are successful the first time taking the NCLEX-RN exam after graduation.
2. Students are able to obtain employment as a registered nurse and/or begin graduate studies in nursing.
3. Students are successful in all courses taken in the required general education courses and the nursing courses.
4. Students are able to use knowledge and skills to promote health, reduce risks, prevent illness, and manage illness in a variety of health care settings and the community.
5. Students are able to utilize the nursing process in the context of diverse health care environments.
6. Students use skills necessary to deliver safe and competent evidence-based nursing care.
7. Students can apply knowledge and skills in leadership, quality improvement, and patient safety that area essential for assessment and providing high quality health care.
8. Students are able to evaluate evidence from a variety of sources to use in information management and technologies necessary in the delivery of high quality nursing care.
9. Students are able to use information and health care technology to plan and improve care delivery for individuals and their families across the life span.
10. Students can analyze and use therapeutic relations and effective communication in nursing practice settings.
11. Students can collaborate and negotiate as a member and leader with other health care disciplines.
12. Students demonstrate professionalism and the inherent nursing values of altruism, autonomy, human dignity, integrity, and social justice.
13. Students can articulate a morally defensible position related to every day and complex health care issues relate to the discipline of nursing.
14. Students are able to understand and apply health care policies, including financial and regulatory, that influence the nature and functioning of the healthcare system that are important in professional nursing practice.

Nursing – R.N. to B.S.N.

LEARNING OUTCOMES:

1. Clinical practice performance meets competencies.
2. Synthesis of evidence-based practice competencies.
3. Application of professional role as a BSN prepared nurse.

College of Pharmacy

BY PROGRAM:

Alphabetical

Pharmaceutical Sciences – B.S.

LEARNING OUTCOMES:

1. Demonstrate an understanding of the essential content of the pharmaceutical sciences and their interrelationship within the context of health care and the drug discovery and development process.
2. Apply practical and critical-thinking skills to solve complex problems.
3. Acquire, assess, and evaluate information.
4. Effectively communicate scientific content and concepts, both verbally and in written form.
5. Understand professionalism while appreciating ethics, cultural awareness, and teamwork in all aspects of performance.
6. Demonstrate an awareness of diversity in the context of the pharmaceutical sciences, particularly with respect to cultural, biological, organizational, and human values differences.
7. Describe various careers in the pharmaceutical sciences, and be prepared to matriculate directly into the workforce or a graduate/professional program.

John Glenn College of Public Affairs

BY PROGRAM:

Alphabetical

THE OFFICE OF ACADEMIC AFFAIRS

Public Affairs – B.A.

LEARNING OUTCOMES:

1. Students can examine governmental, financial, economic, legal, and political institutions, and systems that constitute the public and nonprofit sectors.
2. Students can describe and explain public sector policy making and administrative processes.
3. Students can recognize and interpret human behavior- individual, group, and organizational- in the context of the public and nonprofit sectors.
4. Students can integrate and apply knowledge gained in their area of specialization in public affairs (e.g. community organization).
5. Students can define and address problems in the public and/or nonprofit sector using analytical tools.
6. Students can communicate effectively via written, oral and electronic methods in the public and/or nonprofit sectors.
7. Students can analyze and navigate different behavioral situations in the public and/or nonprofit sectors.
8. Students have an appreciation for the diversity and interdisciplinary nature of public affairs.
9. Students understand the role of citizenship and ethical public service in the democratic process.
10. Students have an appreciation for individual and group differences in perspectives, backgrounds, interests, and needs.
11. Students can apply management tools to enhance organizational performance in the public and/or nonprofit sectors.
12. Students possess the skills to become effective leaders in the public and/or nonprofit sectors.

College of Public Health

BY PROGRAM:

Alphabetical

Public Health – B.S.

LEARNING OUTCOMES:

1. Summarize the historic milestones in public health which have influence current roles and responsibilities of current public health agencies, organizations and systems.
2. Compare and contrast types of major domestic and international public health issues, including sources/causes of infectious/chronic diseases, transmission, risk factors, morbidity and mortality.
3. Discuss various approaches/strategies for identification, response and intervention to address and attempt to resolve common public health issues.
4. Identify genetic, social, political, cultural, behavioral, socioeconomic, demographic and ethical factors and relationships to domestic/ international public health issues and determinants of health.
5. Apply the fundamental principles of the five core disciplines of public health (biostatistics; environmental health; epidemiology; health administration/policy; health behavior/promotion) to domestic and international population health issues.
6. Develop quantitative awareness of the multiple-scale, and multiple interactions that characterize public health problems.
7. Summarize major factors that contribute to human disease and compromised quality of life.
8. Apply theory to public health issues identified within contemporary society.
9. Summarize issues of social inequality and environmental justice.
10. Calculate, analyze and interpret fundamental statistical and epidemiological data.
11. Communicate ideas and results that solve community-based public health problems.
12. Summarize intervention and disease prevention strategies to sustain and improve quality of life.
13. Write and communicate applicable case summaries.
14. Apply principles of math, chemistry, biology to applied science of environmental public health.
15. Summarize major sources, hazardous agents, conditions, and other exposure factors that contribute to environmentally-related human diseases.
16. Describe how quality of environmental media (air/ water/soil/food) are adversely affected by contamination from chemical, biological and physical agents.
17. Apply theory to environmental public health issues identified within indoor/outdoor and occupational/non-occupational settings.
18. Calculate, analyze and interpret fundamental statistical, epidemiological, and environmental monitoring/surveillance, and risk assessment data.
19. Summarize management and technical measures and approaches that control human exposure to environmental contaminants.
20. Identify regulations, policies, standards and guidelines applicable to the quality of air, water, soil and food and the prevention of environmentally-related human exposures and diseases.
21. Write and communicate applicable case summaries.

College of Social Work

BY PROGRAM:

Alphabetical

Social Work – B.S.W.

LEARNING OUTCOMES:

1. Identify as a professional social worker and conduct oneself accordingly.
2. Apply social work ethical principles to guide professional practice.
3. Apply critical thinking to inform and communicate professional judgments.
4. Engage diversity and difference in practice (includes age, class, color, culture, disability, ethnicity, gender, gender identity and expression, immigration status, political ideology, race, religion, and sexual orientation).
5. Advance human rights and social economic justice.
6. Engage in research-informed practice and practice-informed research.
7. Apply knowledge of human behavior and the social environment.
8. Engage in policy to practice to advance social and economic well-being and to deliver effective social work services.
9. Respond to contexts that shape practice.
10.
    a. Engage with individuals, families, groups, organizations, and communities.
    b. Assess individuals, families, groups, organizations, and communities.
    c. Intervene with individuals, families, groups, organizations, and communities.
    d. Evaluate with individuals, families, groups, organizations, and communities.

11. Students would recommend the BSSW program to others wishing to obtain a social work degree