Biological Sciences Department
BS Biology
At the successful conclusion of this program, students will be able to:
1. Outline the foundational concepts of biology including cellular, organismic, ecological, and evolutionary biology.
2. Evaluate hypotheses, design research, test hypotheses, conduct data analysis, and draw conclusions on biology related problems.
3. Integrate knowledge of scientific literacy in oral and written assignments when communicating biological topics.
4. Evaluate information to discriminate between science and non-science.
5. Develop an understanding of why science is an integral activity for addressing social and environmental problems.

BS Biology with Integrated Science
At the successful conclusion of this program, students will be able to:
1. Outline the foundational concepts of biology including cellular, organismic, ecological, and evolutionary biology.
2. Evaluate hypotheses, design research, test hypotheses, conduct data analysis, and draw conclusions on biology related problems.
3. Integrate knowledge of scientific literacy in oral and written assignments when communicating biological topics.
4. Develop an understanding of why science is an integral activity for addressing social and environmental problems.
5. Analyze evidence to continually reflect on and adapt practices to meet the needs of K-12 learners.

BS Bioinformatics
At the successful conclusion of this program, students will be able to:
1. Outline the foundational concepts of biology, chemistry, computer science, and mathematics.
2. Create computational solutions to biological and biology-related research problems using interpreted and compiled programming languages, recognizing the need for continual learning and skill development.
3. Devise and understand the range of high-throughput, large-scale research projects in contemporary inquiry in biology and biology related fields.
4. Develop and apply algorithms and statistical strategies used in analysis of biological and biology-related research problems.

Computer and Design Department
BS Computer Science
At the successful conclusion of this program, students will be able to:
1. Design, implement, and evaluate computational systems to address needs in a variety of contexts and disciplines.
2. Devise new solutions from foundational principles informed by current practice.
3. Weigh and apply ethical, legal, and social responsibilities in all aspects of practice.
4. Construct effective solutions in teams to accomplish a common goal.
5. Author effective visual, oral, and written communication for a range of audiences.

BS Computer & Information Technology
At the successful conclusion of this program, students will be able to:
1. Design and create technological solutions that address contemporary real-world problems.
2. Evaluate current techniques, skills, and tools necessary for professional practice.
3. Weigh and apply ethical, legal, and social responsibilities in all aspects of practice.
4. Construct effective solutions in teams to accomplish a common goal.
5. Author effective visual, oral, and written communication for a range of audiences.

BA/BS Design
At the successful conclusion of this program, students will be able to:
1. Synthesize content into form using the design process.
2. Consider different theories, design principles and processes in generating solutions.
3. Weigh and apply ethical, legal, and social responsibilities in all aspects of practice.
4. Construct effective solutions in teams to accomplish a common goal.
5. Author effective visual, oral, and written communication for a range of audiences.

Mathematics Department
BA/BS Mathematics
At the successful conclusion of this program, students will be able to:
1. Employ mathematical techniques in computational problems.
2. Interpret mathematical models.
3. Construct quantitative and logical arguments.
4. Apply mathematical knowledge to real world problems.
5. Communicate in mathematical language through the use of proper notation and terminology.
6. Explore and analyze mathematical concepts using technology as appropriate.

BA/BS Mathematics Education
At the successful conclusion of this program, students will be able to:
1. Employ mathematical techniques in computational problems.
2. Interpret mathematical models.
3. Construct quantitative and logical arguments.
4. Apply mathematical knowledge to real world problems.
5. Communicate in mathematical language through the use of proper notation and terminology.
6. Adapt and convey complex mathematical concepts to varying levels of audience readiness.

**BS Applied and Computational Math**
At the successful conclusion of this program, students will be able to:
1. Integrate mathematical techniques in solving computational problems.
2. Design mathematical models to solve real-world problems.
3. Communicate in mathematical language through the use of accurate notation and terminology.
4. Formulate and analyze mathematical concepts using technology as appropriate.
5. Author effective communication in a variety of formats for a range of audiences.

**Physical Science Department**
**BS Physical Science Composite Teaching**
At the successful conclusion of this program, students will be able to:
1. Assess and critique local and global issues based on acquired knowledge in science to formulate solutions to problems.
2. Integrate knowledge of basic fundamental laws, concepts, and theories to apply them to everyday life.
3. Consider the process of science — how scientific knowledge is generated and validated — to make independent, empirical inquiries about the natural world.
4. Evaluate, interpret, and communicate data in the form of tables, graphs, and charts in oral and or written form.
5. Create individual lesson plans and activities reflecting the curriculum and informed by best practices in pedagogy and technology.

**BS Chemistry**
At the successful conclusion of this program, students will be able to:
1. Assess and critique local and global issues based on acquired knowledge in chemistry to formulate solutions to problems.
2. Integrate knowledge of basic fundamental laws, concepts, and theories to apply them to everyday life.
3. Consider the process of science — how scientific knowledge is generated and validated — to make independent, empirical inquiries about the chemical world.
4. Evaluate, interpret, and communicate data in the form of tables, graphs, and charts in oral and or written form.
5. Analyze original data through research or internship and present findings in a professional setting.

**BS Mechanical Engineering**
At the successful conclusion of this program, students will be able to:
1. Formulate and evaluate complex engineering problems by applying principles of engineering, science, and mathematics.
2. Create solutions using the engineering design process that meet specified needs with appropriate consideration for global, cultural, social, environmental, ethical, and economic factors.
3. Design experiments for physical systems or processes, analyze experimental data, and make informed conclusions from the data.
4. Collaborate effectively with others both orally and in writing to establish goals, plan tasks, meet deadlines, and articulate results.
5. Model, analyze, design, and prototype physical systems, components or processes.

BS Molecular Biology-Biochemistry
At the successful conclusion of this program, students will be able to:
1. Assess and critique local and global issues based on acquired knowledge in molecular biology and biochemistry to formulate solutions to problems.
2. Distinguish between chemical and biological concepts and evaluate how they interface to create life.
3. Consider the process of science — how scientific knowledge is generated and validated — to make independent, empirical inquiries about the biochemical world.
4. Evaluate, interpret, and communicate data in the form of tables, graphs, and charts in oral and or written form.
5. Analyze original data through research or internship and present findings in a professional setting.

AS Pre-Engineering (APE)
At the successful conclusion of this program, students will be able to:
1. Analyze engineering problems by applying principles of engineering, science, and mathematics.
2. Design solutions that use the engineering design process to meet specified customer needs.
3. Perform experiments on physical systems or processes, analyze experimental data, and make informed conclusions from the data.
4. Communicate effectively with others both orally and in writing to establish goals, plan tasks, meet deadlines, and articulate results.
5. Model, evaluate and prototype physical systems, components or processes.