Biomedical Sciences, B.S.

Learning Outcomes
Graduates of the biomedical sciences program will achieve the following.

**Foundational Knowledge: Comprehension of Fundamental Principles and Concepts in the Natural and Social Sciences**
Graduates will be able to:

- integrate across the natural and social sciences;
- apply foundational knowledge and conceptual frameworks to biomedicine;
- recognize the consequences of evolutionary history in the understanding of human biology and disease; and
- evaluate new information reported in the news and/or in scientific publications against prior knowledge.

**New Discovery: Scientific Reasoning and Experimental Process in Biomedicine**
Graduates will be able to:

- perform basic laboratory procedures, including correct operation of devices;
- formulate questions about natural processes based on current knowledge;
- construct a hypothesis to guide experimental enquiry;
- design experiments, identifying variables of analysis and controls for error;
- consider appropriate strategies or technologies applicable to investigate a novel problem;
- collect, organize, summarize, and interpret data;
- analyze and evaluate experimental results to inform a hypothesis; and
- distinguish between necessary and sufficient causes.

**Quantitative Skills: Mathematical Reasoning and Basic Numeracy Applied to Biomedicine**
Graduates will be able to:

- perform essential mathematical operations such as unit conversions, dilutions, and molarity calculations;
- apply mathematical concepts and rules of probability to make predictions;
- select and apply appropriate statistical tests to determine significance of experimental results; and
- use mathematical and/or statistical expressions to evaluate hypotheses with experimental data.

**Information Literacy: Acquisition, Analysis, and Summary of Published Biomedical Information**
Graduates will be able to:

- locate and evaluate the relevance and credibility of information from electronic and print sources;
- navigate and obtain relevant information from public databases;
- recognize and appropriately cite sources of information;
- identify questions addressed and methodologies used; and
- assess findings reported and conclusions drawn in published scientific articles.

**Communication Proficiency: Written and Oral Presentation of Biomedical Information**
Graduates will be able to:

- write concise scientific reports based on findings or literature searches;
- construct visual presentations of results or findings from the scientific literature; and
- present findings or results from the literature orally with appropriate media.