

BIOMEDICAL SCIENCES

Learning Outcomes

Master of Science (M.S.)

1. **Know:** Graduates will demonstrate a) a broad base of the biological knowledge and concepts required to understand the molecular, cellular, and organismal processes related to biomedical sciences; b) a broad understanding of experimental approaches used to investigate biomedical problems; c) specific knowledge within their area of research interest, and d) the highest standards of research ethics.
2. **Apply/Create:** Graduates will participate in the development of experimental approaches to test hypotheses and ideas of current relevance to their research interests.
3. **Apply/Create:** Graduates will perform experiments that address current problems in biomedical sciences leading to rigorous and reproducible outcomes.
4. **Think:** Graduates will begin developing skills to evaluate experimental approaches and results of their research.
5. **Communicate:** Graduates will convey ideas, experimental approaches, and results in clear and concise oral and written formats.
6. **Professional Practice:** Graduates will collaborate in a collegial and ethical manner with other professionals within their field.
7. **Professional Practice:** Graduates will evaluate potential careers to pursue following graduation and choose their specific career interest(s).

Doctor of Philosophy (Ph.D.)

1. **Know:** Graduates will demonstrate a) a broad base of the biological knowledge and concepts required to understand the molecular, cellular, and organismal processes related to biomedical sciences; b) a broad understanding of experimental approaches used to investigate biomedical problems; c) in-depth knowledge within their specific areas of research interests, and d) the highest standards of research ethics.
2. **Apply/Create:** Graduates will creatively synthesize theory and literature to generate questions, ideas, or hypotheses addressing current problems in human health and disease, and will devise critical experimental approaches to test these ideas and hypotheses.
3. **Apply/Create:** Graduates will perform independent and original research studies that address current problems in biomedical sciences leading to rigorous and reproducible experimental outcomes.
4. **Think:** Graduates will critically evaluate experimental approaches and results of their own research and the research of others.
5. **Communicate:** Graduates will convey ideas, experimental approaches, and results in clear, concise, well-organized papers, posters, proposals, oral presentations, and discussions.
6. **Professional Practice:** Graduates will collaborate in a collegial and ethical manner with other professionals within their field or with diverse scientific backgrounds.
7. **Professional Practice:** Graduates will evaluate potential careers to pursue following graduation and choose their specific career interest(s).