



**College of Sciences
Academic Learning Compacts**

Physics - B.S./B.A.

Discipline Specific Knowledge, Skills, Behavior and Values

1. Physics program graduates will know and use the concepts and knowledge of mechanics, thermal physics, optics and waves
2. Physics program graduates will know and use the concept and knowledge of Electricity and Magnetism.
3. Physics program graduates will know and use the concepts and knowledge of Quantum Mechanics, Atomic physics, and Nuclear and Particle physics.
4. Physics program graduates will know how to conduct physics research under faculty supervision.
5. Physics program graduates will know how to apply standard laboratory techniques and use basic scientific instruments in experiments, to study physical phenomena.
6. Physics program graduates will know how to communicate scientific information orally in front of faculty and peers or in a professional setting, such as scientific conference or professional meeting.
7. Physics program graduates will know how to communicate effectively scientific information in writing, through lab reports or in a professional setting, such as scientific or professional journals.
8. Students in the Physics BA program who take the PHY4912 course "Teaching Introductory Physics" will develop knowledge and skills to teach a first semester introductory Physics course.
9. Students in the BA program will develop knowledge to prepare them for interdisciplinary careers or further education.

Critical Thinking

1. Physics program graduates will know and use the concepts and knowledge of mechanics, thermal physics, optics and waves
2. Physics program graduates will know and use the concept and knowledge of Electricity and Magnetism.
3. Physics program graduates will know and use the concepts and knowledge of Quantum Mechanics, Atomic physics, and Nuclear and

Particle physics.

- 4. Physics program graduates will know how to conduct physics research under faculty supervision.**
- 5. Physics program graduates will know how to gather and evaluate information, including library literature search and the use of technology in searching information.**
- 6. Physics program graduates will know how to apply standard laboratory techniques and use basic scientific instruments in experiments, to study physical phenomena.**
- 7. Physics program graduates will know how to communicate scientific information orally in front of faculty and peers or in a professional setting, such as scientific conference or professional meeting.**
- 8. Physics program graduates will know how to communicate effectively scientific information in writing, through lab reports or in a professional setting, such as scientific or professional journals.**
- 9. Students in the Physics BA program who take the PHY4912 course "Teaching Introductory Physics" will develop knowledge and skills to teach a first semester introductory Physics course.**
- 10. Students in the BA program will develop knowledge to prepare them for interdisciplinary careers or further education.**

Communication

- 1. Physics program graduates will know how to conduct physics research under faculty supervision.**
- 2. Physics program graduates will know how to gather and evaluate information, including library literature search and the use of technology in searching information.**
- 3. Physics program graduates will know how to communicate scientific information orally in front of faculty and peers or in a professional setting, such as scientific conference or professional meeting.**
- 4. Physics program graduates will know how to communicate effectively scientific information in writing, through lab reports or in a professional setting, such as scientific or professional journals.**
- 5. Students in the Physics BA program who take the PHY4912 course "Teaching Introductory Physics" will develop knowledge and skills to teach a first semester introductory Physics course.**
- 6. Students in the BA program will develop knowledge to prepare them for interdisciplinary careers or further education.**

Assessment of Physics - B.S./B.A. Outcomes

These outcomes will be assessed using a variety of assessment methods, including:

- **Projects**
- **Experiments and reports**
- **Research papers**
- **Oral and written presentations**
- **Exams/tests**
- **Journals**