

Bachelor in Theoretical Physics - Minor in Faith-Based Science Education
HBI University
Course Duration: 3 years
Credit Hours: 135 (including minor)



Program Description

The Bachelor in Theoretical Physics at HBI University provides students with a deep understanding of the fundamental laws of nature, mathematical modeling, and advanced scientific theories. This program prepares students for careers in physics research, academia, and scientific analysis.

The Minor in Faith-Based Science Education enhances this degree by integrating theological perspectives into science education, exploring the relationship between faith and scientific discovery. Students will gain expertise in communicating scientific knowledge while maintaining a faith-based worldview, making them well-equipped for roles in faith-based institutions and science advocacy.

Admissions Requirements

- High school diploma or equivalent
- Minimum GPA of 2.5
- Personal statement outlining career goals and interest in theoretical physics
- Two letters of recommendation
- Resume (if applicable)
- SAT/ACT scores (if applicable)

General Education Courses (30 Credit Hours)

Course Code	Course Name	Credit Hours
GEN 101	English Composition I	3
GEN 102	English Composition II	3
GEN 103	College Algebra	3
GEN 104	Introduction to Philosophy	3
GEN 105	Introduction to World Religions	3
GEN 106	Public Speaking and Communication	3
GEN 107	Ethics and Critical Thinking	3
GEN 108	Research Methods	3
GEN 109	Leadership and Team Development	3
GEN 110	Cross-Cultural Communication	3

Core Theoretical Physics Courses (45 Credit Hours)

Course Code	Course Name	Credit Hours
PHY 201	Introduction to Theoretical Physics	3
PHY 202	Classical Mechanics and Dynamics	3
PHY 203	Quantum Mechanics and Wave Theory	3
PHY 204	Electromagnetism and Field Theory	3
PHY 205	Thermodynamics and Statistical Mechanics	3
PHY 206	Relativity and Space-Time Physics	3
PHY 207	Advanced Mathematical Methods for Physics	3
PHY 208	Computational Physics and Simulation	3
PHY 209	Particle Physics and Quantum Field Theory	3
PHY 210	Cosmology and Astrophysical Theories	3
PHY 211	Condensed Matter and Solid-State Physics	3
PHY 212	String Theory and Multiverse Hypotheses	3
PHY 213	Artificial Intelligence in Scientific Research	3

PHY 214	Experimental and Observational Techniques	3
PHY 215	Capstone: Research in Theoretical Physics	3

Elective Courses (15 Credit Hours)

Course Code	Course Name	Credit Hours
ELEC 301	Quantum Computing and Information Theory	3
ELEC 302	Philosophy of Science and Metaphysics	3
ELEC 303	Energy and Environmental Physics	3
ELEC 304	Physics of Time and Space	3
ELEC 305	Faith and Scientific Innovation	3

Minor in Faith-Based Science Education (15 Credit Hours)

Course Code	Course Name	Credit Hours
FSE 401	Faith and the Scientific Method	3
FSE 402	Teaching Science in Faith-Based Institutions	3
FSE 403	History of Science and Theology	3
FSE 404	Ethics and Moral Responsibility in Scientific Discovery	3
FSE 405	Science, Faith, and Public Engagement	3

Capstone Project (15 Credit Hours)

The capstone project in Theoretical Physics allows students to explore advanced scientific theories, conduct original research, and engage with the philosophical implications of physics and faith. Students will:

- Develop a research paper on a fundamental question in theoretical physics.
- Investigate the intersection of science, faith, and ethics in modern research.
- Conduct a study on cosmology, quantum mechanics, or a related area.
- Present findings through a detailed research paper and academic presentation.

Program Outcomes

Graduates of this program will:

- Master advanced theoretical physics concepts and mathematical modeling.
- Integrate faith-based perspectives into science education and outreach.
- Utilize research skills to contribute to scientific and philosophical discussions.
- Develop frameworks for ethical scientific advancements.
- Lead science education and advocacy initiatives in faith-based and academic settings.

Career Outcomes and Potential Pay Scale

Career Path	Average Salary (Annual)
Theoretical Physicist	\$80,000 - \$160,000
Faith-Based Science Educator	\$50,000 - \$110,000
Astrophysicist	\$85,000 - \$170,000
Philosopher of Science and Theology	\$60,000 - \$120,000
Scientific Researcher	\$75,000 - \$140,000