

Master in Astronomy - Minor in Faith-Based Space Education and Public Outreach

HBI University

Course Duration: 2 years

Credit Hours: 69 (including 15 credit hours for minor)



Program Description

The Master in Astronomy at HBI University is designed for students seeking expertise in observational and theoretical astronomy, astrophysics, and space science research. This program integrates planetary science, cosmology, and computational astrophysics to prepare graduates for careers in research institutions, space education, and science outreach programs.

The Minor in Faith-Based Space Education and Public Outreach offers a specialized focus on integrating faith with astronomical discovery, scientific literacy, and community-based space education. Students will explore theological perspectives on the universe, ethical space exploration, and faith-driven public engagement with astronomy and science communication.

This 69-credit hour program includes 30 credit hours of foundational astronomy courses, 24 credit hours of core astrophysics and space research training, 15 credit hours in Faith-Based Space Education and Public Outreach, elective coursework, a supervised practicum, and a research-based master's thesis or capstone project.

Admissions Requirements

- Bachelor's degree in astronomy, physics, astrophysics, or a related field
- Minimum GPA of 3.0
- Two letters of recommendation from faculty or professionals in space science or education
- Statement of purpose outlining career goals in astronomy and faith-based space education
- Research proposal or portfolio submission (optional)
- Interview with faculty committee (if required)

Practicum Requirement

Students must complete a 300-hour supervised practicum in planetariums, space research centers, observatories, nonprofit science education initiatives, or faith-based astronomy outreach programs. Practicum placements include Christian science outreach organizations, space museums, and international astronomy education projects.

Master's Thesis / Capstone Project

Students must complete either a research-based master's thesis on cosmology, exoplanet discovery, or the ethical implications of space exploration, or develop a capstone project implementing a faith-based astronomy education program.

Program Outcomes

Graduates of this program will be able to:

- Conduct advanced astronomical research using observational and computational methods.
- Develop public outreach programs that integrate astronomy and faith-based education.
- Analyze space exploration and ethical considerations through a faith-based lens.
- Promote scientific literacy and public engagement with astronomy in faith communities.
- Apply astrophysical research to theological discussions on the nature of the universe.

Career Outcomes & Potential Salary

- Astronomer & Space Science Researcher – \$85,000 - \$170,000
- Science Communicator & Astronomy Outreach Specialist – \$70,000 - \$140,000
- Faith-Based STEM Educator & Science Ethicist – \$75,000 - \$150,000
- Director of Planetarium & Public Astronomy Programs – \$80,000 - \$160,000
- Space Policy Analyst & Ethical Space Exploration Consultant – \$90,000 - \$185,000

Advocacy and Professional Development

Students are encouraged to join organizations such as:

- International Astronomical Union (IAU)
- Christian Science Educators Network
- Society for Faith & Astronomy Research
- NASA Space Education & Outreach Program

Participation in astronomy research conferences, faith-based science education workshops, and space policy forums is highly recommended.

Course Breakdown (Total: 69 Credit Hours)

A. Foundational Astronomy Courses (30 Credit Hours)

Course Code	Course Name	Credit Hours
AST-101	Introduction to Astronomy & Space Science	3
AST-102	Stellar Evolution & Galactic Structure	3
AST-103	Planetary Science & Exoplanet Research	3
AST-104	Observational Astronomy & Telescopic Techniques	3
AST-105	Theoretical Astrophysics & Mathematical Modeling	3
AST-106	Research Methods in Astronomy & Space Science	3
AST-107	Cosmology & The Origin of the Universe	3
AST-108	Space Technology & Human Spaceflight	3
AST-109	Astrobiology & The Search for Extraterrestrial Life	3
AST-110	Astronomy, Faith, & Theological Perspectives on the Cosmos	3

B. Core Astrophysics and Space Research Training (24 Credit Hours)

Course Code	Course Name	Credit Hours
AST-201	High-Energy Astrophysics & Black Hole Research	3
AST-202	Astronomical Data Analysis & Computational Modeling	3
AST-203	Space Weather & Solar Physics	3

Course Code	Course Name	Credit Hours
AST-204	The Role of Faith in Space Exploration Ethics	3
AST-205	The Future of Space Colonization & Interstellar Travel	3
AST-206	Planetary Defense & Asteroid Impact Risk Management	3
AST-207	Space Policy & Global Space Governance	3
AST-208	Supervised Astronomy Practicum	3

C. Faith-Based Space Education and Public Outreach Minor (15 Credit Hours)

Course Code	Course Name	Credit Hours
FBSE-301	Theology & The Cosmos: Faith-Based Views on Astronomy	3
FBSE-302	Science Education & Astronomy Literacy in Faith Communities	3
FBSE-303	The Ethics of Space Exploration & Stewardship	3
FBSE-304	Faith-Based Public Astronomy Engagement Programs	3
FBSE-305	Space Ethics & Theological Implications of Extraterrestrial Life	3

D. Electives (9 Credit Hours)

Course Code	Course Name	Credit Hours
ELEC-3501	AI & Machine Learning in Astronomical Research	3
ELEC-3502	Space Diplomacy & Faith-Based Space Policy	3
ELEC-3503	The Role of Astronomy in Biblical & Religious History	3

