



BACHELOR OF SCIENCE DEGREE ASTRONOMY & ASTROPHYSICS

(1) UNIVERSITY REQUIREMENTS

Writing Requirement

English/Writing (WRA):

Four semester credits equivalent to MSU's Writing, Rhetoric and American Cultures course

Writing: Science and Technology (WRA 110)

Integrative Studies

ISS

ISS 200-level course (4 credits)

ISS 300-level course (4 credits)

IAH

IAH 201-210 (4 credits)

IAH 211-241 (4 credits)

Mathematics

Four semester credits equivalent to one of the following

MSU courses: MTH 110, MTH 116, MTH 124, MTH 132

Minimum number of credits required

120

Minimum cumulative and major GPA

2.0

(2) COLLEGE OF NATURAL SCIENCE REQUIREMENTS

Biological Science

Complete **one** of the following courses

BS 161, BS162, BS 171 or BS 172

Chemistry

Complete **one** sequence from the following

CEM 141, CEM 142, CEM 161

CEM 151, CEM 152, CEM 161

CEM 181H, CEM 182H, CEM 185H

Mathematics

MTH 132 (Calculus 1)*

MTH 133 (Calculus 2)*

Physics

PHY 183 (Physics for Scientists & Engineers – 1)*

PHY 184 (Physics for Scientists & Engineers – 2)*

*Physics and Mathematics courses also meet graduation requirements for major.

(3) MAJOR REQUIREMENTS

Complete all of the following physics courses

PHY 191 (Physics Laboratory for Scientists -1)
PHY 192 (Physics Laboratory for Scientists – 2)
PHY 215 (Thermodynamics and Modern Physics
PHY 321 (Classical Mechanics -1)
PHY 410 (Thermal and Statistical Physics)
PHY 471 (Quantum Physics - 1)
PHY 481 (Electricity and Magnetism - 1)

Complete all of the following astrophysics courses

AST 207 Science of Astronomy
AST 208 Planet and Telescopes
AST 304 Stars
AST 308 Galaxies and Cosmology

Complete all of the following mathematics courses

MTH 234 (Multivariable Calculus)
MTH 235 (Differential Equations)

Complete Tier II requirement

AST 410 Senior Thesis (2 semesters)

Complete Capstone requirement

AST 410 Senior Thesis (2 semesters)

IMPORTANT: These guidelines are presented for planning purposes only. Students MUST consult a department advisor for confirmation of major requirements.

To make an appointment with the academic advisor please follow the instructions at <http://www.pa.msu.edu/academics/undergraduate-program/academic-advising>

For additional information, please contact:
Kim Crosslan (crosslan@pa.msu.edu or 517-884-5531)