

Program Change Request

Date Submitted: 04/17/19 10:13 am

Viewing: **SC-BS-ASTR : Astronomy, BS**

Last approved: 04/01/19 4:29 pm

Last edit: 05/02/19 12:28 pm

Changes proposed by: prubin

Catalog Pages [Astronomy, BS](#)
Using this Program

In Workflow

1. **PHYS UG Committee**
2. **PHYS Chair**
3. **SC Curriculum Committee**
4. SC Associate Dean
5. SC CAT Editor
6. Assoc Provost-Undergraduate
7. Registrar-Programs: Duration
8. Registrar-Programs

Are you completing this form on someone else's behalf?

No

Effective Catalog: 2020-2021

Program Level: Undergraduate

Program Type: Bachelor's

Degree Type: Bachelor of Science

Title: Astronomy, BS

Banner Title: Astronomy, BS

Registrar/OAPI Use Only – SCHEV Status Approved

Registrar's Office Use Only – Program Start Term

Registrar/OAPI Use Only – SCHEV Letter

Concentration(s):

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Physics & Astronomy

Jointly Owned Program? No

Justification

With new courses and course modifications, the major requires updating. Also, some editorial housekeeping is necessary for clarity.

Approval Path

1. 05/15/19 1:04 pm Philip Rubin (prubin): Approved for PHYS UG Committee
2. 05/15/19 4:42 pm Paul So (paso): Approved for PHYS Chair

History

1. Nov 17, 2017 by clmig-jwehrheim
2. Jan 11, 2018 by Rebekah Zacharias (rzachari)
3. Feb 16, 2018 by Rebekah Zacharias (rzachari)
4. Mar 8, 2018 by Jennifer Bazaz Gettys (jbazaz)
5. Jan 15, 2019 by Tory Sarro (vsarro)
6. Mar 20, 2019 by Tory Sarro (vsarro)
7. Apr 1, 2019 by Tory Sarro (vsarro)

Total Credits Required: Total credits: minimum 120

Registrar's Office Use Only - Program Code: SC-BS-ASTR

Registrar/IRR Use
Only – Program CIP
Code

Admission
Requirements:

Admissions

University-wide admissions policies can be found in [Undergraduate Admissions Policies](#).

To apply for this program, please complete the [George Mason University Admissions Application](#).

Program-Specific
Policies:

Policies

Students must fulfill all [Requirements for Bachelor's Degrees](#) including the [Mason Core](#).

At least 18 credits used to fulfill an Astronomy, BS cannot be used to fulfill another major or minor. Some course substitutions are allowed for double majors, subject to approval from the [Department of Physics and Astronomy](#).

By taking [ASTR 402](#) RS: Methods of Observational Astronomy ([Mason Core](#)), astronomy majors satisfy the university's writing-intensive requirement.

For policies governing all undergraduate programs, see [AP.5 Undergraduate Policies](#).

Degree Requirements:

Students should refer to the [Admissions & Policies](#) tab for specific policies related to this program.

Students must complete a total of ~~59~~ **55** credits in physics and astronomy and 14 credits in mathematics with a minimum GPA of 2.00.

Required Astronomy Courses

Code	Course List Title	Credits
ASTR 124	Introduction to Observational Astronomy	1
ASTR 210	Introduction to Astrophysics	3
ASTR 328	Stars	3
ASTR 401	Computer Simulation in Astronomy	3
ASTR 402	RS: Methods of Observational Astronomy (Mason Core) ¹	4
Total Credits		14

¹ Fulfills the writing intensive requirement.

Additional Astronomy Courses

Code	Course List Title	Credits
Select two courses from the following:		6
ASTR 403	Planetary Science	
ASTR 404	Galaxies and Cosmology	
ASTR 420	Exoplanets	
ASTR 480	The Interstellar Medium	
Total Credits		6

Required Physics Courses

Code	Course List Title	Credits
PHYS 160	University Physics I (Mason Core)	3
PHYS 161	University Physics I Laboratory (Mason Core)	1
PHYS 260	University Physics II (Mason Core)	3

Code	Title	Credits
PHYS 261	University Physics II Laboratory (Mason Core)	1
PHYS 251	Introduction to Computer Techniques in Physics (Mason Core)	3
PHYS 301	Analytical Methods of Physics	3
PHYS 303	Classical Mechanics	3
PHYS 305	Electromagnetic Theory	3
PHYS 308	Modern Physics	3
PHYS 416	Undergraduate Physics Review	1
Total Credits		24

Required Math Courses

Code	Course List Title	Credits
MATH 113	Analytic Geometry and Calculus I (Mason Core)	4
MATH 114	Analytic Geometry and Calculus II	4
MATH 213	Analytic Geometry and Calculus III	3
MATH 214	Elementary Differential Equations	3
Total Credits		14

Astronomy and Physics Courses

Code	Course List Title	Credits
Select 15 credits from the following (at least 12 credits must be from upper-level courses):		15
ASTR 301	Astrobiology	
ASTR 408	Senior Research	
PHYS 306	Wave Motion and Electromagnetic Radiation	
PHYS 307	Thermal Physics	
PHYS 402	Introduction to Quantum Mechanics and Atomic Physics	
ASTR 403	Planetary Science 1	
ASTR 404	Galaxies and Cosmology 1	
ASTR 420	Exoplanets 1	
ASTR 480	The Interstellar Medium 1	
PHYS 428	Relativity	
Other ASTR course with the permission of the department		
Other PHYS course with the permission of the department		
Total Credits		15

1If [ASTR 403](#) Planetary Science, [ASTR 404](#) Galaxies and Cosmology, [ASTR 420](#) Exoplanets, or [ASTR 480](#) The Interstellar Medium are not taken as part of the additional astronomy course requirement above, they may be used here.

Retroactive
Requirements
Updates:

Plan of Study:

Honors
Information:

Honors in the Major

Eligibility

Astronomy majors who have completed the prerequisites for [ASTR 405](#) Honors Thesis in Astronomy I, have a GPA of at least 3.50 in ASTR and PHYS courses taken at Mason, and have a GPA of at least 3.50 in all courses taken at Mason may apply for admission to the astronomy honors program. Please visit the department for details.

Honors Requirements

To graduate with honors in astronomy, a student must maintain a GPA of at least 3.50 in their ASTR/PHYS courses. Students accepted into the honors program must complete [ASTR 405](#) Honors Thesis in Astronomy I and [ASTR 406](#) Honors Thesis in Astronomy II with a GPA of at least 3.50 and a grade of 'A-' or better in [ASTR 406](#) Honors Thesis in Astronomy II. Students in [ASTR 405](#) Honors Thesis in Astronomy I/[ASTR 406](#) Honors Thesis in Astronomy II will complete a research project and write a thesis working under the supervision of a faculty member. At the end of [ASTR 406](#) Honors Thesis in Astronomy II, the student will write a substantial thesis paper and make a presentation of results to their honors committee.

Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

Courses offered via distance (if applicable):

What is the primary delivery format for the program?
Face-to-Face Only

Does any portion of this program occur off-campus?

No

Are you working with a vendor / other collaborators to offer your program?

No

Related Departments

Could this program prepare students for any type of professional licensure, in Virginia or elsewhere?

No

Are you adding or removing a licensure component?

No

Additional SCHEV & SACSCOC Information

Are you changing the total number of credits required for this program?

No

Are you changing the delivery format in any way (e.g adding an online option)?

No

Are you adding/removing a licensure option which was approved by SCHEV?

No

Will any portion of this program be offered at an off-campus location?

No

Are you adding significant new content areas to the program?

No

Will this program change affect any specialized accreditation?

No

Green Leaf Program Designation

Is this a Green Leaf program? No

Does this program cover material which crosses into another department?

No

Additional Attachments [UGC-COS-Mod Program ASTR BS.pdf](#)

SCHEV Proposal

Executive Summary

Updating major description editorially and to include new and revised courses.

Reviewer Comments

Additional Comments

Is this course required of all students in this degree program?

%wi_required.eshtml%

Key: 563