

# Program Change Request

Date Submitted: 04/25/20 8:12 pm

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

Last approved: 10/02/19 9:29 am

Last edit: 08/07/20 3:28 pm

Changes proposed by: prubin

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

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 –

## 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

## Approval Path

1. 05/13/20 9:35 am  
Philip Rubin  
(prubin): Approved for PHYS UG Committee
2. 05/13/20 11:06 am  
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)

**Concentration CIP Code****College/School:** College of Science**Department / Academic Unit:** Physics & Astronomy**Jointly Owned Program?** No**Academic Themes:**

4. Mar 8, 2018 by Jennifer Bazaz (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)
8. Oct 2, 2019 by Philip Rubin (prubin)

**Justification**

The total number of elective credits would stay the same, but this is more straightforward and explicitly lists all of the possible elective courses, eliminating the need for "departmental approval."

**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 credits in physics and astronomy and 14 credits in mathematics with a minimum GPA of 2.00.

## Required Astronomy Courses ~~Additional Astronomy Courses~~

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~~Select two courses from the following:~~

~~6~~

<del>ASTR 403</del>	<del>Planetary Science</del>
<del>ASTR 404</del>	<del>Galaxies and Cosmology</del>
<del>ASTR 420</del>	<del>Exoplanets</del>
<del>ASTR 480</del>	<del>The Interstellar Medium</del>

~~Total Credits~~

~~0~~

<a href="#">ASTR 124</a>	Introduction to Observational Astronomy	1
<a href="#">ASTR 210</a>	Introduction to Astrophysics	3
<a href="#">ASTR 328</a>	Stars	3
<a href="#">ASTR 401</a>	Computer Simulation in Astronomy	3
<a href="#">ASTR 402</a>	RS: Methods of Observational Astronomy ( <a href="#">Mason Core</a> )	1

Total Credits

14

1 Fulfills the writing intensive requirement.

## Required Physics Courses

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<a href="#">PHYS 160</a>	University Physics I ( <a href="#">Mason Core</a> )	3
<a href="#">PHYS 161</a>	University Physics I Laboratory ( <a href="#">Mason Core</a> )	1
<a href="#">PHYS 260</a>	University Physics II ( <a href="#">Mason Core</a> )	3
<a href="#">PHYS 261</a>	University Physics II Laboratory ( <a href="#">Mason Core</a> )	1
<a href="#">PHYS 251</a>	Introduction to Computer Techniques in Physics	3
<a href="#">PHYS 301</a>	Analytical Methods of Physics	3
<a href="#">PHYS 303</a>	Classical Mechanics	3
<a href="#">PHYS 305</a>	Electromagnetic Theory	3
<a href="#">PHYS 308</a>	Modern Physics	3
<a href="#">PHYS 416</a>	Undergraduate Physics Review	1

Total Credits

24

## Required Math Courses

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<a href="#">MATH 113</a>	Analytic Geometry and Calculus I ( <a href="#">Mason Core</a> )	4
<a href="#">MATH 114</a>	Analytic Geometry and Calculus II	4

<u>MATH 213</u>	Analytic Geometry and Calculus III	3
<u>MATH 214</u>	Elementary Differential Equations	3
Total Credits		14

## Additional Coursework

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~~Select 15 credits from the following (at least 12 credits must be from upper-level courses):~~ ~~15~~

Select 21 credits from the following (at least 18 credits must be upper-level courses): 21

<u>ASTR 301</u>	Astrobiology
<u>ASTR 403</u>	Planetary Science
<u>ASTR 404</u>	Galaxies and Cosmology
<u>ASTR 408</u>	Senior Research
or <u>ASTR 409</u>	Astronomy Internship
<u>ASTR 420</u>	Exoplanets
<u>ASTR 480</u>	The Interstellar Medium
<u>PHYS 306</u>	Wave Motion and Electromagnetic Radiation
<u>PHYS 307</u>	Thermal Physics
<b><u>PHYS 311</u></b>	<b>Instrumentation</b>
<b><u>PHYS 312</u></b>	<b>Waves and Optics</b>
<b><u>PHYS 325</u></b>	<b>Intermediate Methods of Experimental Physics</b>
<u>PHYS 402</u>	Introduction to Quantum Mechanics and Atomic Physics
<b><u>PHYS 403</u></b>	<b>Quantum Mechanics II</b>
<u>PHYS 428</u>	Relativity
<del>Other ASTR course with the permission of the department</del>	
<del>Other PHYS course with the permission of the department</del>	
<b><u>PHYS 440</u></b>	<b>Nuclear and Particle Physics</b>
<b><u>PHYS 465</u></b>	<b>Planetary Atmospheres and Ionospheres</b>
<b><u>PHYS 475</u></b>	<b>Atmospheric Physics</b>

Total Credits 21

~~Astronomy and Physics Courses~~

~~1 If ASTR 403%7C, ASTR 404%7C, ASTR 420%7C Code Title, or ASTR 480%7C 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

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## Eligibility

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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

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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

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*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

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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

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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%