

Program Change Request

Date Submitted: 09/13/16 12:59 pm

Viewing: **PHYSBS-ASTR : Physics Astronomy Concentration**

Last approved: 05/17/16 1:31 pm

Last edit: 09/28/16 1:54 pm

Changes proposed by: jkennef

In Workflow

1. ARSC Dean Initial
2. Director of Program Assessment and Review
3. Registrar Initial
4. PHYS Chair
5. ARSC Curriculum Committee
6. ARSC Dean
7. Global Campus
8. Provost Review
9. University Course and Program Committee
10. Faculty Senate
11. Provost Final
12. Provost's Office-- Notification of Approval
13. Registrar Final
14. Catalog Editor Final

Approval Path

1. 09/13/16 1:59 pm
jdurdik: Approved for ARSC Dean Initial
2. 09/15/16 5:17 pm
agriffin: Approved for Director of Program Assessment and Review
3. 09/16/16 5:10 pm
lkulcza: Approved for Registrar Initial
4. 09/16/16 8:15 pm
jgeabana: Approved for PHYS Chair
5. 10/10/16 5:03 pm
fspiegel: Approved for ARSC Curriculum Committee
6. 10/10/16 6:45 pm
jdurdik: Approved for

ARSC Dean
 7. 10/11/16 4:42 pm
 pritchey: Approved
 for Global Campus
 8. 10/13/16 5:14 pm
 tmartin: Approved for
 Provost Review

History

1. Aug 27, 2014 by crsleaf1
2. Aug 27, 2014 by crsleaf1
3. Jun 8, 2015 by lkulcza
4. May 17, 2016 by lkulcza

Catalog Pages Using this Program [Physics B.S. with Astronomy Concentration](#)
[Physics \(PHYS\)](#)

Submitter: User ID: crsleaf1
 Phone: **5916 7456**

Academic Level Undergraduate

Select a reason for the proposed change: Making Minor Changes to an Existing Degree (e.g. changing 15 or fewer hours, changing admission/graduation requirements, adding Focused Study)

Program Status Active

Academic Unit Major/Field of Study

Are you adding, changing or deleting a concentration? No

Action	Proposed Code	Proposed Name

Are you adding, changing or deleting a track? No

Action	Proposed Code	Proposed Name

Are you adding, changing or deleting a focused study? No

Action	Proposed Code	Proposed Name

Effective Catalog Year **Fall 2017** ~~Summer 2014~~

College, School, Division Fulbright College of Arts and Sciences (ARSC)

Department Code	Department of Physics (PHYS)
Program Code	PHYSBS-ASTR
Degree	Bachelor of Science
CIP Code	40.0801 - Physics, General.
Program Title	Physics Astronomy Concentration
Method of Delivery	On Campus
Is this program interdisciplinary or use courses from another College?	No
Does this change the total hours needed to complete the program?	No

Program Requirements, Description and 8-Semester Plan

Astronomy Concentration

PHYS 3544	Optics (Fa)	4
6 semester hours of ASTR courses numbered 3000 or above (ASTR 4033, ASTR 4043, ASTR 4073)		6
6 additional hours numbered 3000 and above in physics or astronomy		6
Total Hours		16

Physics B.S. with Astronomy Concentration

Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see the [Eight-Semester Degree Policy](#) in the Academic Regulations chapter for university requirements of the program as well as Fulbright College requirements.

Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area. Students should consult their advisers.

First Year	Units
	Fall Spring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Sp, Su, Fa)	3
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Sp, Su, Fa) ¹	4

University/State Core US History requirement	3
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Sp, Su, Fa) ¹	4
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Sp, Su, Fa)	3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505) (Sp, Su, Fa) ¹	4
University/State Core Fine Arts or Humanities requirement	3
General Electives	1
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Sp, Su, Fa) ¹	4
Year Total:	14 15

Second Year**Units
Fall Spring**

PHYS 2094 University Physics III (Fa) ¹	4
Select one of the following four-hour lecture/lab combinations	4
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
CSCE 2004 Programming Foundations I (Sp, Fa)	
CSCE 2014 Programming Foundations II (Sp, Fa)	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) or BIOL 1584 Biology for Majors (Sp, Fa)	
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603) (Sp, Su, Fa) ¹	4
University/State Core Humanities or Fine Arts requirement (as needed)	3
PHYS 3613 Modern Physics (Sp, Su, Fa) ^{1,2}	3
University/State Core Social Science requirement	3
MATH 2584 Elementary Differential Equations (Sp, Su, Fa) ^{1,2}	4
Select one of the following four-hour lecture/lab combinations	4
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) (Su, Fa) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) (Sp, Su, Fa)	
CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) (Sp, Su, Fa) & CHEM 1121L University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) (Sp, Su, Fa)	
CSCE 2004 Programming Foundations I (Sp, Fa)	
CSCE 2014 Programming Foundations II (Sp, Fa)	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) (Sp, Su, Fa) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) (Sp, Su, Fa) or BIOL 1584 Biology for Majors (Sp, Fa)	
GEOS 1113 General Geology (ACTS Equivalency = GEOL 1114 Lecture) (Sp, Su, Fa) & GEOS 1111L General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab) (Sp, Su, Fa)	
GEOS 1133 Earth Science (ACTS Equivalency = GEOL 1124 Lecture) (Sp, Fa) & GEOS 1131L Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab) (Sp, Fa)	
Year Total:	15 14

Third YearPHYS/ASTR Group A ^{1,2}~~MATH 4423 Introduction to Partial Differential Equations (Sp, Su, Fa)^{1,2}~~

PHYS/ASTR Group A or General Elective

MATH 3083 Linear Algebra (Sp, Su, Fa)PHYS 3213 Electronics in Experimental Physics (Odd years, Sp)^{1,2}PHYS 3414 Electromagnetic Theory (Sp)^{1,2}

University/State Core Social Science requirement

General Elective or PHYS/ASTR Group A (as needed)

General Elective

University/State Core Social Science requirement

Year Total:

Units**Fall Spring**

4

~~3~~ -

4

3

3

4

3

3

3

3

14 16

Fourth YearPHYS 4073 Introduction to Quantum Mechanics (Fa)^{1,2}PHYS 3544 Optics (Fa)^{1,2}~~ASTR 4073 Cosmology (Odd years, Sp)~~**ASTR 4033 Course ASTR 4033 Not Found**^{1,2}

General Electives

PHYS 4991 Physics Senior Seminar (Sp, Su, Fa)^{1,2}PHYS 4734 Introduction to Laser Physics (Sp)^{1,2}or PHYS 4773 Introduction to Optical Properties of Materials (Even years, Sp)~~ASTR 4013 Astrophysics (Even years, Sp)^{1,2}~~**ASTR 4043 Course ASTR 4043 Not Found**^{1,2}

General Electives

Year Total:

Units**Fall Spring**

3

4

~~3~~ -**3**

6

1

4

- ~~3~~**3**

8

16 16

Total Units in Sequence:

120

1 Meets 40-hour advanced credit hour requirement. See College Academic Regulations.

2 Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour rule. See College Academic Regulations.

Group Any PHYS or ASTR classes numbered 3000 or above.

A:

Are Similar Programs available in the area? No

Estimated Student Demand for Program: na

Scheduled Program

Review Date: na

Program Goals and Objectives: na

Learning Outcomes: na

Description and justification of the request: Changing MATH 4423 to MATH 3083 in 8-semester plans to align our program with new math minor requirements. MATH 3083 is needed for an upper level physics course - Intro to Quantum Mechanics (PHYS 4073). Also changing plan to reflect changes to our Astrophysics I and II series ASTR 3033 is being converted to ASTR 4033, and ASTR 4013 is being converted to ASTR 4043.

Program reviewer comments
ddraper (09/22/16 9:52 am): Made needed modifications to 8-semester plan to show change in additional science options, and rearranged ASTR requirement list.
ddraper (09/28/16 1:54 pm): Listed BIOL 1584 more prominently as an acceptable option to BIOL 1543/1541L in the list of approved other science courses in the 8-semester plan Fall Year 2.

Uploaded attachments:

Key: 535