

Date Submitted: 09/12/18 2:06 pm

Viewing: **PHYSBS-OPTC : Physics: Optics****Concentration**

Last approved: 05/24/18 2:15 am

Last edit: 10/15/18 10:46 am

Changes proposed by: jkennef

Catalog Pages Using

this Program

[Physics B.S. with Optics Concentration](#)[Physics \(PHYS\)](#)

Submitter:

5916 7456

User ID:

jkennef ~~kkulcza~~

Phone:

Program Status

Active

Academic Level

Undergraduate

Type of proposal

Major/Field of Study

Select a reason for this modification

Making Minor Changes to an Existing Degree (e.g. changing 15 or fewer hours, changing admission/graduation requirements, adding Focused Study)

Are you adding a concentration?

No

Are you adding a track?

No

Are you adding a focused study?

No

Effective Catalog Year

Fall 2019

College/School Code

Fulbright College of Arts and Sciences (ARSC)

Department Code

In Workflow

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

Approval Path

1. 09/12/18 4:54 pm
Jeannine Durdik (jdurdik): Approved for ARSC Dean Initial
2. 09/21/18 8:24 am
Alice Griffin (agriffin): Approved for Director of Program

Department of Physics(PHYS)

Program Code PHYSBS-OPTC
 Degree Bachelor of Science
 CIP Code

Assessment and Review

3. 09/24/18 11:31 am
Lisa Kulczak
(lkulcza): Approved for Registrar Initial
4. 09/24/18 11:55 am
Gary Gunderman
(ggunderm): Approved for Institutional Research
5. 09/25/18 11:14 am
Julia Kennefick
(jkennef): Approved for PHYS Chair
6. 10/15/18 1:00 pm
Pearl Dowe
(pkford): Approved for ARSC Curriculum Committee
7. 10/15/18 2:08 pm
Jeannine Durdik
(jdurdik): Approved for ARSC Dean
8. 10/15/18 3:36 pm
Miran Kang (kang): Approved for Global Campus
9. 10/16/18 10:31 am
Terry Martin
(tmartin): Approved for Provost Review

History

1. Aug 27, 2014 by
Leepfrog
Administrator
(clhelp)

2. Aug 27, 2014 by
Leepfrog
Administrator
(clhelp)
3. Jun 9, 2015 by Lisa
Kulczak (lkulcza)
4. May 17, 2016 by
Lisa Kulczak (lkulcza)
5. Mar 2, 2017 by
Donna Draper
(ddraper)
6. Apr 2, 2018 by Gina
Daugherty
(gdaugher)
7. May 24, 2018 by
Lisa Kulczak (lkulcza)

40.0801 - Physics, General.

Program Title

Physics: Optics Concentration

Program Delivery

Method

On Campus

Is this program interdisciplinary?

No

Does this proposal impact any courses from another College/School?

No

What are the total na
hours needed to
complete the
program?

Program Requirements and Description

Requirements

Optics Concentration

PHYS 3544	Optics (fulfills Junior Laboratory requirement)	4
PHYS 4734	Introduction to Laser Physics	3-4
or PHYS 4773	Introduction to Optical Properties of Materials	
8-9 semester hours (to total 16 hours total for the concentration) numbered 3000 and above in physics or astronomy.		8-9
Total Hours		16

8-Semester Plan

Physics B.S. with Optics 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.

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

First Year	Units
	FallSpring
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013)	3
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405)	4
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034)	4
Fine Arts university/state minimum core	3
General Electives	1
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023)	3
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505)	4
PHYS 2074 University Physics II (ACTS Equivalency = PHYS 2044 Lecture)	4
Humanities university/state minimum core	3
General Electives	1
Year Total:	15 15
Second Year	Units
	FallSpring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603)	4
PHYS 2094 University Physics III	4
Select one of the following four-hour science lecture/lab combinations:	4
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture)	

& [CHEM 1101L](#) University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab)

[CHEM 1123](#) University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture)

& [CHEM 1121L](#) University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)

[CSCE 2004](#) Programming Foundations I

[CSCE 2014](#) Programming Foundations II

[BIOL 1543](#) Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture)

& [BIOL 1541L](#) Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)

or [BIOL 1584](#) Biology for Majors

[GEOS 1113](#) General Geology (ACTS Equivalency = GEOL 1114 Lecture)

& [GEOS 1111L](#) General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab)

[GEOS 1133](#) Earth Science (ACTS Equivalency = GEOL 1124 Lecture)

& [GEOS 1131L](#) Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab)

or an approved four credit hours of other laboratory-based courses from these departments.

U.S. History university/state minimum core

3

~~General Elective~~

~~1 -~~

[MATH 2584](#) Elementary Differential Equations

4

[PHYS 3613](#) Modern Physics1,2

3

~~[PHYS 3213](#) Electronics in Experimental Physics (Recommended; else, 3000+ level PHYS or ASTR course)1,2~~

~~- 3~~

Select one of the following four-hour science lecture/lab combinations:

4

[CHEM 1103](#) University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture)

& [CHEM 1101L](#) University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab)

[CHEM 1123](#) University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture)

& [CHEM 1121L](#) University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)

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or [BIOL 1584](#) Biology for Majors

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& [GEOS 1111L](#) General Geology Laboratory (ACTS Equivalency = GEOL 1114 Lab)

[GEOS 1133](#) Earth Science (ACTS Equivalency = GEOL 1124 Lecture)

& [GEOS 1131L](#) Earth Science Laboratory (ACTS Equivalency = GEOL 1124 Lab)

or an approved four credit hours of other laboratory-based courses from these departments.

Social Sciences university/state minimum core

3

General Electives

1

Year Total:

15 15

Third Year

Units

Fall/Spring

~~[PHYS/ASTR Group A1,2](#)~~

~~4 -~~

PHYS/ASTR Group A1,2	4 -
PHYS/ASTR Group A or General Elective	4 -
<u>MATH 3083</u> Linear Algebra	3
PHYS 3544 Optics	4
Any PHYS or ASTR course numbered 3000 or higher	3
Social Sciences university/state minimum core	3
General Electives	2
<u>PHYS 3453</u> Electromagnetic Theory I	3
Any PHYS or ASTR course numbered 3000 or higher	3
Social Sciences university/state minimum core	3
General Elective or PHYS/ASTR Group A (as needed)1,2	- 3-4
General Elective	- 4
General Electives	6
Year Total:	15 15

Fourth Year	Units
	FallSpring
<u>PHYS 4073</u> Introduction to Quantum Mechanics	3
PHYS 3544 Optics1,2	4 -
Any PHYS or ASTR course numbered 3000 or higher	3
University Residency Requirement Electives	1
General Electives	8
<u>PHYS 4991</u> Physics Senior Seminar	1
<u>PHYS 4734</u> Introduction to Laser Physics	3-4
or <u>PHYS 4773</u> Introduction to Optical Properties of Materials	
General Electives	10-11
Year Total:	15 15

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 na

Demand for Program

Scheduled Program na

Review Date

Program Goals and
Objectives**Program Goals and Objectives**

na

Learning Outcomes

Learning Outcomes

na

Description and justification of the request

Description of specific change	Justification for this change
Updated 8 semester plan to reflect correct number of PHYS electives.	Number of PHYS electives were incorrect.

Upload attachments

Reviewer Comments

Ryan Cochran (rcc003) (10/12/18 11:08 am): Updated eight-semester degree plan.

Key: 539