

Term Information

Effective Term Spring 2021

General Information

Course Bulletin Listing/Subject Area Physics
Fiscal Unit/Academic Org Physics - D0684
College/Academic Group Arts and Sciences
Level/Career Undergraduate
Course Number/Catalog 2050.02
Course Title Polaris Mentoring Program II
Transcript Abbreviation PolarisPrgm2
Course Description The Polaris Mentorship Class will teach students about issues surrounding diversity and inclusion in STEM, provide time to meet with a near-peer mentor, and introduce students to Physics/Astronomy research at OSU. This is the second and last course of the program.
Semester Credit Hours/Units Fixed: 1

Offering Information

Length Of Course 14 Week
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? No
Grading Basis Satisfactory/Unsatisfactory
Repeatable No
Course Components Seminar
Grade Roster Component Seminar
Credit Available by Exam No
Admission Condition Course No
Off Campus Never
Campus of Offering Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites Physics 2050.01 or permission of instructor
Exclusions
Electronically Enforced Yes

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code 40.0801
Subsidy Level Baccalaureate Course
Intended Rank Freshman, Sophomore

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Students will come to understand the status of diversity and inclusion in Science, Technology, Engineering, and Mathematics (STEM), and the benefits and challenges that people from various backgrounds bring to STEM as students.
- Students will understand how to successfully maintain a mentor-mentee relationship, including developing goals, communicating effectively, and harnessing mentorship as a step to research or academic success.
- Students will use class time with mentors to work effectively on achieving the goals they have established.

Content Topic List

- Lab tours
- Summer research programs/applications
- Careers in STEM
- Research in Physics/Astronomy

Sought Concurrence

Yes

Attachments

- Polaris_Syllabus (1).pdf
(Syllabus. Owner: Thaler,Lindsey Nicole)
- Concurrence.pdf
(Concurrence. Owner: Thaler,Lindsey Nicole)
- Rationale.pdf: Course Rationale
(Other Supporting Documentation. Owner: Thaler,Lindsey Nicole)
- Learning Objectives.pdf: Learning Objectives
(Other Supporting Documentation. Owner: Thaler,Lindsey Nicole)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Thaler,Lindsey Nicole	11/18/2019 09:37 AM	Submitted for Approval
Approved	Perry,Robert James	11/18/2019 12:54 PM	Unit Approval
Approved	Haddad,Deborah Moore	11/18/2019 04:55 PM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Oldroyd,Shelby Quinn Vankeerbergen,Bernadette Chantal	11/18/2019 04:55 PM	ASCCAO Approval



Polaris 2019-20 Class Syllabus

Physics 2050

M: 5:30-6:30, McPherson Lab, 2015

Instructor: Emily Griffith
Office Building: McPherson Lab 4011
Office Hours: By appointment
e-mail: osupolaris@osu.com

Class Description

The Polaris Mentorship Class is a year-long course for students in their first two years in OSU physics, math, and astronomy. The goal of the program is threefold: firstly, students will come to understand the status of diversity and inclusion in Science, Technology, Engineering and Mathematics (STEM), and the benefits and challenges that people from various backgrounds bring to STEM as students. Secondly, students will understand how to successfully maintain a mentor-mentee relationship, including developing goals, communicating effectively, and harnessing mentorship as a step to research or academic success. Finally, students will be given time with mentors during each class period to work effectively on achieving the goals they have established. Some class days will be devoted to career development, skill building, and planning. As part of the course, students will be paired with mentors who are upper-level undergraduates and graduate students. The details of the program are as follows:

- Mentors and mentees will meet in class weekly.
- The class will begin with a presentation by a member of the Polaris leadership board. The presentation will last no more than ten minutes. The remainder of the time will be divided between small group discussion and individual mentor-mentee meetings (with the time division decided by the discussion leader for the day).
- The presentation topics will range from diversity and inclusion in STEM, to skills workshops. Polaris will also invite speakers from the Physics Education Research (PER) group to lead discussions on relevant topics.

Mentors will attend a training session before class begins; much of their training will occur through the class itself. We intend to ask mentors to attend class every week, but we recognize it may not be possible for some to register for the course officially. Polaris leadership will monitor the mentor-mentee relationships throughout the year and offer support and mediation. The goal of OSU Polaris is to increase retention of undergraduates in STEM at OSU. As such, and because space in the class is limited, we will consider applications for the class on the basis of interest in our mission, mutually-compatible mentor-mentee pairing, mentor availability, and diversity.

Details

- Time and place: **McPherson 2015; Mondays 5:30-6:30 PM**
- Class Coordinator: **Emily Griffith** (contact her at griffith.802@buckeyemail.osu.edu for questions or concerns)
- Assignments: Readings related to the topic of the next class may be assigned. Homework should take no more than 1-2 hours per week. There will one extended group project during the Fall semester which will culminate in a short presentation. Spring semester assignments will include one essay and an extended research project. Details will be provided at a later date. Mentors and mentees will be expected to meet outside of class time if one misses a class period due to an excused or unexcused absence.
- This is a 1 credit hour course which will be half lecture time and half mentoring time.
- The grading scheme for the class will be **pass/fail**. To pass, the student are expected to attend **all but one class period** (excused absences not counted toward this total) and participate in **at least one out-of-class career-building activity**.
- All course materials will be provided in class or electronically.
- The mentorship program is intended to be a *two-semester* commitment.

Out-of-Class Activities

Career-Building Activities

- Polaris will organize groups to attend a number of talks at OSU. When relevant, Polaris may also host a primer on the topic just before the talk.
- Polaris will organize groups to attend the undergraduate research forums.

Social Activities

- Polaris will host social gatherings throughout the year. Details will be provided at least two weeks in advance and during class.
- Mentors and mentees are encouraged to meet outside of the class.

Schedule (Subject to Revision)

Fall 2019

<i>Date</i>	<i>Topic</i>
8/26 ...	Kickoff Party/Expectations
9/2 ...	<i>Labor Day</i> - No class
9/9 ...	Mentor Contracts & On/Off Campus Resources
	<ul style="list-style-type: none">• HW: Complete the Goal Worksheet
9/16 ...	Study Skills and Academic Resources
	<ul style="list-style-type: none">• HW: Find one math/physics/astronomy study resource and post to the Carmen page with a summary of what information it targets and why it is helpful. Look at resources shared by two other peers.
9/23 ...	Mental Health and Work Life Balance
	<ul style="list-style-type: none">• HW: Hug a friend.
9/30 ...	Demographics and Science & How to Talk about Diversity and Inclusion in STEM
	<ul style="list-style-type: none">• HW: Complete demographics predictions worksheet. Read terms and definitions packet.
10/7 ...	Imposter Syndrome and Stereotype Threat
	<ul style="list-style-type: none">• HW: Take the Clance Imposter Phenomenon Test (found on Carmen).
10/14 ...	Under Represented Groups Part 1 (Work Day)
	<ul style="list-style-type: none">• HW: Read through provided materials on your topic.
10/21 ...	Under Represented Groups Part 2 (Presentations)
10/28 ...	Under Represented Groups Part 3 (Presentations)
11/4 ...	Class in STEM
	<ul style="list-style-type: none">• HW: Read about class theories (found on Carmen).
11/11 ...	<i>Veterans Day</i> - No class
11/18 ...	Implicit Bias
	<ul style="list-style-type: none">• HW: Answer discussion questions on Carmen and take the IAT (found on Carmen).
11/25 ...	Lab Tours/Introduction to Research
	<ul style="list-style-type: none">• HW: Research the OSU Physics/Astronomy professors and find one whose work you are interested in. Submit to Carmen
12/5 ...	End of Semester Discussion

Spring 2020

<i>Date</i>	<i>Topic</i>
1/6 ...	Welcome Back Event and Updating Contracts
1/13 ...	Summer Research Programs & Applications
	<ul style="list-style-type: none">• HW: Find one summer research program you are interested in and post to Carmen
1/20 ...	<i>Martin Luther King Day</i> - No class
1/27 ...	Essay Workshop Day
	<ul style="list-style-type: none">• HW: Submit essay draft 1 to Carmen
2/3 ...	Research Symposium
	<ul style="list-style-type: none">• HW: Submit essay final draft to Carmen
2/10 ...	Research Project Work Day
	<ul style="list-style-type: none">• HW: TBD by Mentor
2/17 ...	Resources for Research and Software Workshop
	<ul style="list-style-type: none">• HW: Bring laptop/iPad to class and make a SciServer account
2/24 ...	Research Project Work Day
	<ul style="list-style-type: none">• HW: TBD by Mentor
3/2 ...	Research Project Work Day
	<ul style="list-style-type: none">• HW: TBD by Mentor
3/9 ...	<i>Spring Break</i> - No class
3/16 ...	Careers in STEM
	<ul style="list-style-type: none">• HW: TBD
3/23 ...	Research Project Work Day
	<ul style="list-style-type: none">• HW: TBD by Mentor
3/30 ...	How to Make a Poster
	<ul style="list-style-type: none">• HW: TBD by Mentor
4/6 ...	Research Project Poster Work Day
	<ul style="list-style-type: none">• HW: TBD by Mentor
4/13 ...	Poster Presentation
	<ul style="list-style-type: none">• HW: Submit your poster to print by 4/9.
4/20 ...	End of Year Discussion
	<ul style="list-style-type: none">• HW: Reflection worksheet

Academic Misconduct

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so we recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct. If we suspect that a student has committed academic misconduct in this course, we are obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term academic misconduct includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact us.

Disabilities Services

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-4307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These

mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 and 24-hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org.

Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu.

Diversity

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Course Rationale

The Polaris Mentorship Program began development in 2016 after graduate student discussions about the nature of the retention issue for undergraduates in OSU Physics and Astronomy. In the 2017-2018 academic year, we launched a pilot mentoring program where a targeted population of undergraduates were paired with graduate student mentors. With no formal class, mentors and mentees were asked to meet 2 hours a week and attend a few large group gatherings throughout the semester. For the 2018-2019 school year, Polaris turned the mentorship program into a one-credit course. This allowed for more mentorship training, a structured schedule for one-on-one mentorship, and a discussion of content not traditionally addressed in physics curriculum. Since Fall 2018, The Polaris Mentorship Class has run as a 1 credit physics independent study with weekly class sessions. This semester (Fall 2019) we have 17 mentees enrolled in the course and documentation of daily lesson plans.

Polaris is committed to becoming a course listed on the registrar, rather than merely an independent study. Doing so will help our visibility to incoming students and will ease retainment of students from the 1st to 2nd semester. We would like to be listed as a course in the physics department rather than a first year seminar as we target incoming students in Physics, Astronomy, Engineering Physics, and Exploration. Students within these majors will likely take many classes together and Polaris will help them to build a cohort of students with whom they will complete their degree.

Learning Goals

- Academic Resources
 - Students will learn about the different resources on campus (legal, wellness, etc.)
 - Students will expand their notion of what resources are
 - We will normalize the experience of needing resources
- Study Skills
 - Students will find possible study website/resources
 - Students will learn about tutoring options on campus
 - Students will learn about different methods of studying and which are the most beneficial from literature and their peers
- Work Life Balance
 - Students will learn about strategies to maintain a healthy work life balance
 - Students will reflect on which strategies they are good at and which they need to improve upon
- Mental Health
 - Students will learn about ring theory and how we comfort inward and dump outward
 - Students will learn some tactics for helping a friend who is experiencing a crisis
 - Students will be reminded of mental health services available at OSU
- Demographics of STEM
 - Students will understand how certain groups are misrepresented in STEM
 - Students will understand the importance of having a diverse group of people in STEM
- Diversity and Inclusion in STEM Vocab
 - Students will begin to grow a vocabulary to talk about the issues we will discuss in the class
- Imposter Syndrome
 - Students will learn what imposter syndrome is and will learn about the imposter cycle
 - Students will understand that feeling imposter thoughts is normal and that many of their peers have had similar experiences
 - Students will discuss their own experiences of imposter syndrome and how they combat these feelings
- Stereotype Threat
 - Students will learn what stereotype threat is and see some examples of it
 - Students will discuss how stereotype threat influence our behavior and could affect undergraduate retention
 - Students will learn techniques to combat stereotype threat
- Under Represented Groups (Women, Under Represented Minorities, LGBTQ+ Students, Undocumented/DACAmented Students, Disabled Students, 1st Generation and Transfer Students)

- Students will learn about the demographics of these groups, their unique experiences, issues faced at large and at OSU, and ways to promote diversity in OSU Physics and Astronomy
- Students will take an in depth look at one group and practice distilling content into a short presentation
- Students will learn about and practice good presentation etiquette
- Class in STEM
 - Students will learn about socioeconomic status, come to understand that this is quantifiable and correlated with outcomes
 - Students will be introduced to three class theories that may serve to understand trends in STEM (Marx, Weber, Spencer)
 - Students will evaluate a text in a given class theory
- Implicit Bias
 - Students will understand the similarities and differences between explicit and implicit bias
 - Students will understand the prevalence of implicit bias and ways to combat it
 - Students will be able to cite specific examples of how implicit bias can have real-world consequences for underrepresented groups
- Laboratory Tours
 - Students will learn what types of research is being done in OSU Physics/Astro
- Summer Research/Internship Opportunities
 - Student will identify internships or research projects they can apply for
 - Students will learn the requirements for summer research applications
 - Students will practice editing peer application material
- Physics/Astro Faculty Research
 - Students will practice asking questions relevant to joining a research group
 - Students will learn what types of research is being done in OSU Physics/Astro
- Mentor/Mentee Research Project
 - Students will familiarize themselves with the process of tackling a research problem
 - Students will be introduced to their mentor's research
 - Students will learn about computational/experimental/software techniques that are used in research to collect and analyze data
 - Other more specific learning goals will be determined by the mentor

**The Ohio State University
College of the Arts and Sciences Concurrence Form**

The purpose of this form is to provide a simple system of obtaining departmental reactions to course requests. **An e-mail may be substituted for this form.**

An academic unit initiating a request should complete Section A of this form and send a copy of the form, course request, and syllabus to each of the academic units that might have related interests in the course. Units should be allowed two weeks to respond to requests for concurrence.

Academic units receiving this form should respond to Section B and return the form to the initiating unit. Overlap of course content and other problems should be resolved by the academic units before this form and all other accompanying documentation may be forwarded to the Office of Academic Affairs.

A. Proposal to review

<u>PHYSICA 2050.01 + 2056.02</u>	<u>- Polaris Mentoring Program</u>	
Initiating Academic Unit	Course Number	Course Title
<u>New Course proposal</u>		<u>11/7/2019</u>
Type of Proposal (New, Change, Withdrawal, or other)		Date request sent
<u>Astronomy</u>		
Academic Unit Asked to Review		Date response needed

B. Response from the Academic Unit reviewing

Response: include a reaction to the proposal, including a statement of support or non-support (continued on the back of this form or a separate sheet, if necessary).

The department of astronomy supports this proposal.

Signatures

<u>David M. Wang</u>	<u>Professor & Chair of Astronomy</u>	<u>11/8/2019</u>
1. Name	Position	Date
2. Name	Position	Date
3. Name	Position	Date