



## **OPTI 489/589 Optics Outreach**

### **Description of Course**

Students will learn methods for communicating with the general public about science, and optics in particular. Students are expected to develop and apply their knowledge and skills to effectively communicate about optics with a wide range of audiences. The primary audience targeted for this course is those at the high school level.

### **Course Prerequisites or Co-requisites**

None.

### **Instructors and Contact Information**

Ewan Wright  
Office: Meinel Bldg. Rm 636  
Phone: 621-2406  
Email: [ewan.wright@optics.arizona.edu](mailto:ewan.wright@optics.arizona.edu)

John Koshel  
Office: Meinel Bldg. Rm 403  
Phone: 621-6357  
Email: [jkoshel@optics.arizona.edu](mailto:jkoshel@optics.arizona.edu)

**Madeline Bergay**  
Email: [mbergay@arizona.edu](mailto:mbergay@arizona.edu)

**Khawlah Al Yahyaei**  
Email: [kayahyaei@optics.arizona.edu](mailto:kayahyaei@optics.arizona.edu)

### **Course Format and Teaching Methods**

This course consists of in-class lectures and demonstrations provided by the instructor. Students will be required to fulfill both in-class and out of class assignments.

Students are required to fulfill their outreach requirements in a variety of in-person and/or virtual demonstrations. The out of class requirements are as follows:

- Pick at least 2 outreach activities from the following
  - In-person demo at any level of school or organization or at an OSC organized outreach event. These events can be done solo or in conjunction with classmates or other OSC students
  - Laser Fun Day Chair Position
  - On-campus demo presentation to ENGR 102 students (Mondays at either 11:50 or 12:50 in Engineering 214)
  - YouTube video through OSC account + Outreach pamphlet
- Laser Fun Day Contribution
- Multi grade level recorded demo presentations
  - 15-minute elementary/middle school
  - 15-minute high school

- At least 1 presentation/demonstration in-person, or as allowed, as the primary presenter with a high school/community college class or high school level event or community college level event

In class requirements are as follows:

- In-class 5-minute flash presentation/demo on any topic of their choosing
- High school presentation prior to going to high school
- Both the 15-minute elementary/middle school and the 15-minute high school presentation
- Graduate level students will be required to design and present their own optics demonstration.

## **Course Objectives and Expected Learning Outcomes**

Understand principles of informative communication

Understand, as well as participate in public speaking projects

Demonstrate effective presentation skills to audiences in an educational setting

Comfortable working in a group presentation setting

Proficient at conducting virtual outreach via various media platforms

Graduate students will also come away with a stronger ability to perform in front of a group thus enhancing their speaking skills in preparation for their thesis defense

Recruit people for College of Optical Sciences

## **Absence and Class Participation Policy**

The UA's policy concerning Class Attendance, Participation, and Administrative Drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: <https://deanofstudents.arizona.edu/absences>

Participating in the course and attending lectures and other course events are vital to the learning process. As such, attendance is required at all lectures and discussion section meetings. Students who miss class due to illness or emergency are required to bring documentation from their health-care provider or other relevant, professional third parties. Failure to submit third-party documentation will result in unexcused absences.

## **Makeup Policy for Students Who Register Late**

Students who register after the first class meeting may make up missed assignments with no extended deadline

## **Course Communications**

All course communication will be done via UA e-mail and D2L

## **Required Texts or Readings**

There is no required reading for this course

## **Required or Special Materials**

No special tools or supplies are needed for this course. All demonstration material will be provided or paid for by the outreach department

## Required Extracurricular Activities

Students will be required to travel on their own time to schools and/or events to give presentations and demonstrations

## Assignments and Examinations: Schedule/Due Dates

Each student will give a personal in-class presentation within the first few weeks of the course. The second in-class presentation must be given before presenting to a school or event.

The third in-class presentation must be given prior to recording.

Completion of out of class assignments for this course do not have firm dates, but rather, are dictated by student and event availability.

Both undergraduates and graduates will be required to give multiple in class presentation

There will be no exams

All assignments must be completed by 12:30 on Wednesday of final exam week

## Final Examination or Project

There will be no final exam for the class. The final exam time period may be used for finishing up presentations

## Grading Scale and Policies

Undergraduate and Graduate:

High school presentation: 30%

Choice of outreach activities: 40%

In class presentations: 20%

Attendance: 10%

Grades will be given on an A-E scale.

**Requests for incomplete (I) or withdrawal (W)** must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

## Honors Credit

Students wishing to contract this course for Honors Credit should email me to set up an appointment to discuss the terms of the contract. Information on Honors Contracts can be found at <http://www.honors.arizona.edu/faculty-and-advisors/contracts>.

## Meeting Times

We will meet on Wednesday from 12:00-12:50 in Meinel Room 432.

## COVID Minimization Rules

**Face coverings are required in our classroom:** Per UArizona's Administrative Directive, face coverings that cover the nose, mouth, and chin are required to be worn in all learning spaces at the University of Arizona (e.g., in classrooms, laboratories and studios). Any student who violates this directive will be asked to immediately leave the learning space, and will be allowed to return only when they are wearing a face covering. Subsequent episodes of noncompliance will result in a Student Code of Conduct complaint being filed with the Dean of Students Office, which may result in sanctions being applied. The student will not be able to return to the learning space until the matter is resolved.

- The Disability Resource Center is available to explore face coverings and accessibility considerations if you believe that your disability or medical condition precludes you from utilizing any face covering or mask option. DRC will explore the range of potential options as well as remote course offerings. Should DRC determine an accommodation to this directive is reasonable, DRC will communicate this accommodation with your instructor.

**Physical distancing is required in our classroom:** During our in-person class meetings, we will respect CDC guidelines, including restricted seating to increase physical distancing. Any student who does not maintain physical distance from others may be asked to immediately leave the learning space. Noncompliance may result in a Student Code of Conduct complaint being filed with the Dean of Students Office, which may result in sanctions being applied.

**Classroom attendance:**

- If you feel sick, or may have been in contact with someone who is infectious, stay home. Except for seeking medical care, avoid contact with others and do not travel.
- Notify your instructors if you will be missing an in person or online course.
- Campus Health is testing for COVID-19. Please call (520) 621-9202 before you visit in person.
- Visit the UArizona COVID-19 page for regular updates.

**Academic advising:** If you have questions about your academic progress this semester, or your chosen degree program, please note that advisors at the Advising Resource Center can guide you toward university resources to help you succeed.

**Life challenges:** If you are experiencing unexpected barriers to your success in your courses, please note the Dean of Students Office is a central support resource for all students and may be helpful. The Dean of Students Office can be reached at 520-621-2057 or DOS-deanofstudents@email.arizona.edu.

**Physical and mental-health challenges:** If you are facing physical or mental health challenges this semester, please note that Campus Health provides quality medical and mental health care. For medical appointments, call (520-621-9202. For After Hours care, call (520) 570-7898. For the Counseling & Psych Services (CAPS) 24/7 hotline, call (520) 621-3334.

**Staying current:** You are required to complete all assignments on your own time

**Remain flexible:** If pandemic conditions warrant, the University may require that we return to remote operations. If that is the case, we will notify you by D2L Announcement and email that we are moving to remote operations.

**Class Recordings:** There will be no regular class recordings.

## Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

The use of personal electronics such as laptops, iPads, and other such mobile devices is distracting to the other students and the instructor. Their use can degrade the learning environment. Therefore, students are not permitted to use these devices during the class period.

## **Threatening Behavior Policy**

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See

<http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

## **Accessibility and Accommodations**

Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit <http://drc.arizona.edu>.

If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

## **Code of Academic Integrity**

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See:

<http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

The University Libraries have some excellent tips for avoiding plagiarism, available at

<http://www.library.arizona.edu/help/tutorials/plagiarism/index.html>.

*Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent.* Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions.

Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

## **UA Nondiscrimination and Anti-harassment Policy**

The University is committed to creating and maintaining an environment free of discrimination; see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

## **Additional Resources for Students**

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>

Student Assistance and Advocacy information is available at

<http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

## **Confidentiality of Student Records**

<http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa>

## **Subject to Change Statement**

Information contained in the course syllabus, other than the grade and absence policy, may be

subject to change with advance notice, as deemed appropriate by the instructor.