# Term Information

**Effective Term**                                        Spring 2024
*Previous Value*                                          *Autumn 2020*

# Course Change Information

**What change is being proposed? (If more than one, what changes are being proposed?)**

We are submitting Public Affairs 2620 as a course for the Citizenship for a Diverse and Just World theme in the new General Education.

**What is the rationale for the proposed change(s)?**

Faculty have revised the syllabus to reflect the the new GE theme.

**What are the programmatic implications of the proposed change(s)?**

**(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?**

N/A

**Is approval of the request contingent upon the approval of other course or curricular program request?** No

**Is this a request to withdraw the course?** No

# General Information

| | |
|---|---|
| **Course Bulletin Listing/Subject Area** | Public Affairs, John Glenn Col |
| **Fiscal Unit/Academic Org** | John Glenn College of Pub Aff - D4240 |
| **College/Academic Group** | John Glenn College of Pub Aff |
| **Level/Career** | Undergraduate |
| **Course Number/Catalog** | 2620 |
| **Course Title** | Science, Engineering, and Technology for Policy and the Public Interest |
| *Previous Value* | *Contemporary Issues in Science, Engineering, and Technology Policy* |
| **Transcript Abbreviation** | SciEngTech Policy |
| **Course Description** | Science, engineering and technology policy problems are inherently interdisciplinary and challenging: science and engineering can be used to inform public policy; and public policy shapes the conditions and manner in which science and engineering are performed. This survey course will provide a fast-paced introduction to these realities using examples drawn from contemporary events and analyses. |
| *Previous Value* | *This course provides a fast-paced introduction to the way Science and Engineering and Public Policy affect each other using examples drawn from contemporary events and analyses.* |
| **Semester Credit Hours/Units** | Fixed: 3 |

# Offering Information

| | |
|---|---|
| **Length Of Course** | 14 Week, 12 Week, 7 Week |
| **Flexibly Scheduled Course** | Never |
| **Does any section of this course have a distance education component?** | No |
| **Grading Basis** | Letter Grade |
| **Repeatable** | No |
| **Course Components** | Lecture |
| **Grade Roster Component** | Lecture |
| **Credit Available by Exam** | No |
| **Admission Condition Course** | No |
| **Off Campus** | Never |
| **Campus of Offering** | Columbus, Lima, Mansfield, Marion, Newark, Wooster |

*Previous Value*                          *Columbus*

## Prerequisites and Exclusions

**Prerequisites/Corequisites**
**Exclusions**
**Electronically Enforced**              No

## Cross-Listings

**Cross-Listings**

## Subject/CIP Code

**Subject/CIP Code**                     44.0401
**Subsidy Level**                        Baccalaureate Course
**Intended Rank**                        Freshman, Sophomore, Junior, Senior

## Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors
     Citizenship for a Diverse and Just World
The course is an elective (for this or other units) or is a service course for other units

*Previous Value*

*Required for this unit's degrees, majors, and/or minors*
*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**

- Grasp the breadth of science and engineering endeavors that have public policy dimensions and appreciate the diversity and interdisciplinary nature of public affairs
- Demonstrate a firm grasp of basic public affairs concepts and tools employed in this space, specifically: Governmental, financial, economic, legal, and political institutions.
- Practice essential professional skills that form the basis for engaging in science, engineering, and technology policy, specifically: human behavior – individual, group, and organizational – in the context of the public and nonprofit sectors
- Demonstrate the role of citizenship and ethical public service in a democratic process and just outcomes

*Previous Value*

- *Grasp the breadth of science and engineering endeavors that have public policy dimensions and appreciate the diversity and interdisciplinary nature of public affairs*
- *Demonstrate a firm grasp of basic public affairs concepts and tools employed in this space, specifically:Governmental, financial, economic, legal, and political institutions*
- *Practice essential professional skills that form the basis for engaging in science, engineering, and technology policy, specifically: human behavior – individual, group, and organizational – in the context of the public and nonprofit sectors*

**Content Topic List**

- Institutions in the Science, Engineering, and Technology Policy (SETP) landscape
- Policy Process: How does Policy Influence Science, Engineering, and Technology? How and Why does Policy Change?
- Analytical Tools: Analyzing and Communicating Complex Issues
- Current topics in SETP
- Mechanisms of SETP Change
- Pathways in the SETP landscape

**Sought Concurrence**   No

# Attachments

- GE Citizenship Inventory PA2620.pdf: GE Theme course submission worksheet: Citizenship

  *(Other Supporting Documentation. Owner: Adams,Christopher John)*

- 2620 Cover Letter.pdf: Cover Letter

  *(Cover Letter. Owner: Adams,Christopher John)*

- PA2620_SP2024_Syllabus.pdf: Syllabus

  *(Syllabus. Owner: Adams,Christopher John)*

# Comments

- We have responded to the panel feedback from 10/19 and are adjusting the request to focus on gaining approval as a GE course for the Citizenship for a Diverse and Just World theme. We will resubmit for a high impact practice designation at a future date. *(by Adams,Christopher John on 10/20/2023 01:35 PM)*
- Please see Subcommittee feedback email sent 10/19/2023. *(by Hilty,Michael on 10/19/2023 08:59 AM)*
- The filled-out form for team-teaching high impact practice has not been uploaded. *(by Vankeerbergen,Bernadette Chantal on 01/20/2022 03:19 PM)*

## Workflow Information

| Status | User(s) | Date/Time | Step |
|---|---|---|---|
| Submitted | Adams,Christopher John | 11/17/2021 01:40 PM | Submitted for Approval |
| Approved | Adams,Christopher John | 11/17/2021 01:41 PM | Unit Approval |
| Approved | Adams,Christopher John | 11/17/2021 01:42 PM | SubCollege Approval |
| Approved | Greenbaum,Robert Theodore | 11/17/2021 02:42 PM | College Approval |
| Revision Requested | Vankeerbergen,Bernadette Chantal | 11/18/2021 03:06 PM | ASCCAO Approval |
| Submitted | Adams,Christopher John | 11/24/2021 09:12 AM | Submitted for Approval |
| Approved | Adams,Christopher John | 11/24/2021 09:18 AM | Unit Approval |
| Approved | Adams,Christopher John | 01/20/2022 01:11 PM | SubCollege Approval |
| Approved | Greenbaum,Robert Theodore | 01/20/2022 01:55 PM | College Approval |
| Revision Requested | Vankeerbergen,Bernadette Chantal | 01/20/2022 03:19 PM | ASCCAO Approval |
| Submitted | Adams,Christopher John | 01/20/2022 04:55 PM | Submitted for Approval |
| Approved | Adams,Christopher John | 01/20/2022 04:55 PM | Unit Approval |
| Approved | Adams,Christopher John | 01/20/2022 04:56 PM | SubCollege Approval |
| Approved | Greenbaum,Robert Theodore | 01/20/2022 04:58 PM | College Approval |
| Revision Requested | Hilty,Michael | 04/27/2022 04:14 PM | ASCCAO Approval |
| Submitted | Adams,Christopher John | 03/27/2023 10:11 AM | Submitted for Approval |
| Approved | Adams,Christopher John | 03/27/2023 10:13 AM | Unit Approval |
| Approved | Adams,Christopher John | 03/27/2023 10:13 AM | SubCollege Approval |
| Approved | Greenbaum,Robert Theodore | 03/27/2023 10:29 AM | College Approval |
| Revision Requested | Hilty,Michael | 05/01/2023 08:43 AM | ASCCAO Approval |
| Submitted | Adams,Christopher John | 08/14/2023 03:35 PM | Submitted for Approval |
| Approved | Adams,Christopher John | 08/14/2023 03:36 PM | Unit Approval |
| Approved | Adams,Christopher John | 08/14/2023 03:37 PM | SubCollege Approval |
| Approved | Greenbaum,Robert Theodore | 08/24/2023 02:14 PM | College Approval |
| Revision Requested | Hilty,Michael | 10/19/2023 08:59 AM | ASCCAO Approval |
| Submitted | Adams,Christopher John | 10/20/2023 01:35 PM | Submitted for Approval |
| Approved | Adams,Christopher John | 10/20/2023 03:35 PM | Unit Approval |
| Approved | Adams,Christopher John | 10/20/2023 03:40 PM | SubCollege Approval |
| Approved | Greenbaum,Robert Theodore | 10/20/2023 03:46 PM | College Approval |
| Approved | Vankeerbergen,Bernadette Chantal | 10/21/2023 04:05 PM | ASCCAO Approval |
| Approved | Martin,Andrew William | 10/21/2023 04:13 PM | ASC Approval |
| Approved | Reed,Kathryn Marie | 10/23/2023 11:11 AM | OAA Approval |
| Pending Approval | Painter,Nicholas M Giese,Stephanie N Worth,Michael J Deel,Jonathan Michael Hunt,Ryan M Anthony,Sean Thomas Gable,Michael Philip McNeal,Kaitlyn A Brower,Sarah Elizabeth | 10/23/2023 11:11 AM | OUR Approval |

THE OHIO STATE UNIVERSITY

**John Glenn College of Public Affairs**

110 Page Hall
1810 College Road
Columbus, OH 43210
glenn.osu.edu

October 20, 2023

Dear ASC Curriculum Committee Themes Panel:

Thank you for your feedback on our submission of PUBAFRS 2620 for general education (GE) course status. Please find below our responses and descriptions of noteworthy revisions in our submission.

GEN Theme: Citizenship for a Just and Diverse World

Thank you for accepting this course within this theme. Note that we have addressed and integrated both contingencies and recommendations provided by the committee in their May feedback by adding the Citizenship for a Just and Diverse World theme goals and the university's academic misconduct statement and by removing the embedded literacy ELOs.

At this time, we are focusing on obtaining approval to offer this class as a 3-credit hour general education course under the Citizenship for a Diverse and Just World thematic category, with the hope of teaching it in Spring 2024. We will resubmit the course as a 4-redit hour high impact practice course at a future date.

We look forward to working with you to bring this general education course to fruition.

Kind Regards,

Lisa A. Frazier, PhD, MPH
Senior Researcher, Battelle Center for Science, Engineering and Public Policy
Instructor, John Glenn College of Public Affairs
The Ohio State University


Copies to:
Rob Greenbaum, Associate Dean for Curriculum, Glenn College
Jill Clark, Director of Undergraduate Studies, Glenn College
Kevin Cullen, Interim Executive Director, Battelle Center for Science, Engineering and Public Policy

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GEN Theme: Citizenship for a Diverse and Just World

• The Panel unanimously approved the request with two contingencies and one recommendation. As a reminder, the Panel's contingencies must be satisfied in a revision submitted via curriculum.osu.edu while the Panel's recommendation may be implemented when the course is next taught. ○ **Contingency:** The reviewing faculty

ask that the Goals of the GEN Theme category be added to the course syllabus, as it is a requirement of all GE courses to include the Goals, ELOs, and brief explanatory rationale. The Goals can be found on the ASC Curriculum and Assessment Services in an easy to copy-and-paste format here: https://asccas.osu.edu/new-general-education-gen-goals-and-elos.

○ **Contingency:** The reviewing faculty ask that the required academic misconduct statement be added to the course syllabus. The required statement can be found on the ASC Curriculum and Assessment Services website at: https://asccas.osu.edu/curriculum/syllabus-elements.

○ **Recommendation:** The reviewing faculty strongly encourage the Embedded Literacy ELOs be removed from the course syllabus (as found on pages 3 and 4), as this course will only meet the Embedded Literacies for students within your unit's major program and

this could cause potential confusion to students. If the unit would like to keep these ELOs on their syllabus, the reviewing faculty ask that they clearly be labeled for which specific major programs they fulfill the Embedded Literacy requirement for and acknowledge that they will not fulfill the Embedded Literacy requirement for any other major program.

# GE Theme course submission worksheet: Citizenship for a Just & Diverse World

## Overview

Courses in the GE Themes aim to provide students with opportunities to explore big picture ideas and problems within the specific practice and expertise of a discipline or department. Although many Theme courses serve within disciplinary majors or minors, by requesting inclusion in the General Education, programs are committing to the incorporation of the goals of the focal theme and the success and participation of students from outside of their program.

Each category of the GE has specific learning goals and Expected Learning Outcomes (ELOs) that connect to the big picture goals of the program. ELOs describe the knowledge or skills students should have by the end of the course. Courses in the GE Themes must meet the ELOs common for **all** GE Themes <u>and</u> those specific to the Theme, in addition to any ELOs the instructor has developed specific to that course. All courses in the GE must indicate that they are part of the GE and include the Goals and ELOs of their GE category on their syllabus.

The prompts in this form elicit information about how this course meets the expectations of the GE Themes. The form will be reviewed by a group of content experts (the Theme Advisory) and by a group of curriculum experts (the Theme Panel), with the latter having responsibility for the ELOs and Goals common to all themes (those things that make a course appropriate for the GE Themes) and the former having responsibility for the ELOs and Goals specific to the topic of **this** Theme.

## Briefly describe how this course connects to or exemplifies the concept of this Theme (Citizenship)

In a sentence or two, explain how this class "fits' within the focal Theme. This will help reviewers understand the intended frame of reference for the course-specific activities described below.

*(enter text here)*

## Connect this course to the Goals and ELOs shared by *all* Themes

Below are the Goals and ELOs common to all Themes. In the accompanying table, for each ELO, describe the activities (discussions, readings, lectures, assignments) that provide opportunities for students to achieve those outcomes. The answer should be concise and use language accessible to colleagues outside of the submitting department or discipline. The specifics of the activities matter—listing "readings" without a reference to the topic of those readings will not allow the reviewers to understand how the ELO will be met. However, the panel evaluating the fit of the course to the Theme will review this form in conjunction with the syllabus, so if readings, lecture/discussion topics, or other specifics are provided on the syllabus, it is not necessary to reiterate them within this form. The ELOs are expected to vary in their "coverage" in terms of number of activities or emphasis within the course. Examples from successful courses are shared on the next page.

**Goal 1:** Successful students will analyze an important topic or idea at a more advanced and in-depth level than the foundations. In this context, "advanced" refers to courses that are e.g., synthetic, rely on research or cutting-edge findings, or deeply engage with the subject matter, among other possibilities.

**Goal 2:** Successful students will integrate approaches to the theme by making connections to out-of-classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in future.

|  | Course activities and assignments to meet these ELOs |
|---|---|
| **ELO 1.1** Engage in critical and logical thinking. |  |
| **ELO 1.2** Engage in an advanced, in-depth, scholarly exploration of the topic or ideas within this theme. |  |
| **ELO 2.1** Identify, describe, and synthesize approaches or experiences. |  |
| **ELO 2.2** Demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts. |  |

*Example responses for proposals within "Citizenship" (from Sociology 3200, Comm 2850, French 2803):*

| *ELO 1.1 Engage in critical and logical thinking.* | *This course will build skills needed to engage in critical and logical thinking about immigration and immigration related policy through:* <br> *Weekly reading response papers which require the students to synthesize and critically evaluate cutting-edge scholarship on immigration;* <br> *Engagement in class-based discussion and debates on immigration-related topics using evidence-based logical reasoning to evaluate policy positions;* <br> *Completion of an assignment which build skills in analyzing empirical data on immigration (Assignment #1)* |
|---|---|

| | Completion 3 assignments which build skills in connecting individual experiences with broader population-based patterns (Assignments #1, #2, #3) Completion of 3 quizzes in which students demonstrate comprehension of the course readings and materials. |
|---|---|
| ELO 2.1 Identify, describe, and synthesize approaches or experiences. | Students engage in advanced exploration of each module topic through a combination of lectures, readings, and discussions. <br><br> *Lecture* <br> Course materials come from a variety of sources to help students engage in the relationship between media and citizenship at an advanced level. Each of the 12 modules has 3-4 lectures that contain information from both peer-reviewed and popular sources. Additionally, each module has at least one guest lecture from an expert in that topic to increase students' access to people with expertise in a variety of areas. <br><br> *Reading* <br> The textbook for this course provides background information on each topic and corresponds to the lectures. Students also take some control over their own learning by choosing at least one peer-reviewed article and at least one newspaper article from outside the class materials to read and include in their weekly discussion posts. <br><br> *Discussions* <br> Students do weekly discussions and are given flexibility in their topic choices in order to allow them to take some control over their education. They are also asked to provide information from sources they've found outside the lecture materials. In this way, they are able to explore areas of particular interest to them and practice the skills they will need to gather information about current events, analyze this information, and communicate it with others. <br><br> *Activity Example:* Civility impacts citizenship behaviors in many ways. Students are asked to choose a TED talk from a provided list (or choose another speech of their interest) and summarize and evaluate what it says about the relationship between civility and citizenship. Examples of Ted Talks on the list include Steven Petrow on the difference between being polite and being civil, Chimamanda Ngozi Adichie's talk on how a single story can perpetuate stereotypes, and Claire Wardle's talk on how diversity can enhance citizenship. |
| ELO 2.2 Demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts. | Students will conduct research on a specific event or site in Paris not already discussed in depth in class. Students will submit a 300-word abstract of their topic and a bibliography of at least five reputable academic and mainstream sources. At the end of the semester they will submit a 5-page research paper and present their findings in a 10-minute oral and visual presentation in a small-group setting in Zoom. <br><br> Some examples of events and sites: <br> The Paris Commune, an 1871 socialist uprising violently squelched by conservative forces |

| | |
|---|---|
| | *Jazz-Age Montmartre, where a small community of African-Americans– including actress and singer Josephine Baker, who was just inducted into the French Pantheon–settled and worked after World War I.* <br> *The Vélodrome d'hiver Roundup, 16-17 July 1942, when 13,000 Jews were rounded up by Paris police before being sent to concentration camps* <br> *The Marais, a vibrant Paris neighborhood inhabited over the centuries by aristocrats, then Jews, then the LGBTQ+ community, among other groups.* |

## Goals and ELOs unique to Citizenship for a Just & Diverse World

Below are the Goals and ELOs specific to this Theme. As above, in the accompanying Table, for each ELO, describe the activities (discussions, readings, lectures, assignments) that provide opportunities for students to achieve those outcomes. The answer should be concise and use language accessible to colleagues outside of the submitting department or discipline. The ELOs are expected to vary in their "coverage" in terms of number of activities or emphasis within the course. Examples from successful courses are shared on the next page.

**GOAL 3:** Successful students will explore and analyze a range of perspectives on local, national, or global citizenship, and apply the knowledge, skills, and dispositions that constitute citizenship.

**GOAL 4:** Successful students will examine notions of justice amidst difference and analyze and critique how these interact with historically and socially constructed ideas of citizenship and membership within societies, both within the US and/or around the world.

| | Course activities and assignments to meet these ELOs |
|---|---|
| **ELO 3.1** Describe and analyze a range of perspectives on what constitutes citizenship and how it differs across political, cultural, national, global, and/or historical communities. | |
| **ELO 3.2** Identify, reflect on, and apply the knowledge, skills and dispositions required for intercultural competence as a global citizen. | |
| **ELO 4.1** Examine, critique, and evaluate various expressions and implications of diversity, equity, inclusion, and explore a variety of lived experiences. | |
| **ELO 4.2** Analyze and critique the intersection of concepts of justice, difference, citizenship, and how these interact with cultural traditions, structures of power and/or advocacy for social change. | |

*Example responses for proposals within "Citizenship" (Hist/Relig. Studies 3680, Music 3364; Soc 3200):*

| | |
|---|---|
| ***ELO 3.1** Describe and analyze a range of perspectives on what constitutes citizenship and how it differs across political, cultural,* | *Citizenship could not be more central to a topic such as immigration/migration. As such, the course content, goals, and expected learning outcomes are all, almost by definition, engaged with a range of perspectives on local, national, and global citizenship.* |

| national, global, and/or historical communities. | Throughout the class students will be required to engage with questions about what constitutes citizenship and how it differs across contexts.

The course content addresses citizenship questions at the global (see weeks #3 and #15 on refugees and open border debates), national (see weeks #5, 7-#14 on the U.S. case), and the local level (see week #6 on Columbus). Specific activities addressing different perspectives on citizenship include Assignment #1, where students produce a demographic profile of a U.S-based immigrant group, including a profile of their citizenship statuses using U.S.-based regulatory definitions. In addition, Assignment #3, which has students connect their family origins to broader population-level immigration patterns, necessitates a discussion of citizenship. Finally, the critical reading responses have the students engage the literature on different perspectives of citizenship and reflect on what constitutes citizenship and how it varies across communities. |
|---|---|
| **ELO 3.2** Identify, reflect on, and apply the knowledge, skills and dispositions required for intercultural competence as a global citizen. | This course supports the cultivation of "intercultural competence as a global citizen" through rigorous and sustained study of multiple forms of musical-political agency worldwide, from the grass-roots to the state-sponsored. Students identify varied cultural expressions of "musical citizenship" each week, through their reading and listening assignments, and reflect on them via online and in-class discussion. It is common for us to ask probing and programmatic questions about the musical-political subjects and cultures we study. What are the possibilities and constraints of this particular version of musical citizenship? What might we carry forward in our own lives and labors as musical citizens Further, students are encouraged to apply their emergent intercultural competencies as global, musical citizens in their midterm report and final project, in which weekly course topics inform student-led research and creative projects. |
| **ELO 4.1** Examine, critique, and evaluate various expressions and implications of diversity, equity, inclusion, and explore a variety of lived experiences. | Through the historical and contemporary case studies students examine in HIST/RS 3680, they have numerous opportunities to examine, critique, and evaluate various expressions and implications of diversity, equity, and inclusion, as well as a variety of lived experiences. The cases highlight the challenges of living in religiously diverse societies, examining a range of issues and their implications. They also consider the intersections of religious difference with other categories of difference, including race and gender. For example, during the unit on US religious freedom, students consider how incarcerated Black Americans and Native Americans have experienced questions of freedom and equality in dramatically different ways than white Protestants. In a weekly reflection post, they address this question directly. In the unit on marriage and sexuality, they consider different ways that different social groups have experienced the regulation of marriage in Israel and Malaysia in ways that do not correspond simplistically to gender (e.g. different women's groups with very different perspectives on the issues).

In their weekly reflection posts and other written assignments, students are invited to analyze the implications of different regulatory models for questions of diversity, equity, and inclusion. They do so not in a simplistic sense of assessing which model is |

| | "right" or "best" but in considering how different possible outcomes might shape the concrete lived experience of different social groups in different ways. The goal is not to determine which way of doing things is best, but to understand why different societies manage these questions in different ways and how their various expressions might lead to different outcomes in terms of diversity and inclusion. They also consider how the different social and demographic conditions of different societies shape their approaches (e.g. a historic Catholic majority in France committed to laicite confronting a growing Muslim minority, or how pluralism *within* Israeli Judaism led to a fragile and contested status quo arrangement). Again, these goals are met most directly through weekly reflection posts and students' final projects, including one prompt that invites students to consider Israel's status quo arrangement from the perspective of different social groups, including liberal feminists, Orthodox and Reform religious leaders, LGBTQ communities, interfaith couples, and others. |
|---|---|
| **ELO 4.2** *Analyze and critique the intersection of concepts of justice, difference, citizenship, and how these interact with cultural traditions, structures of power and/or advocacy for social change.* | As students analyze specific case studies in HIST/RS 3680, they assess law's role in and capacity for enacting justice, managing difference, and constructing citizenship. This goal is met through lectures, course readings, discussion, and written assignments. For example, the unit on indigenous sovereignty and sacred space invites students to consider why liberal systems of law have rarely accommodated indigenous land claims and what this says about indigenous citizenship and justice. They also study examples of indigenous activism and resistance around these issues. At the conclusion of the unit, the neighborhood exploration assignment specifically asks students to take note of whether and how indigenous land claims are marked or acknowledged in the spaces they explore and what they learn from this about citizenship, difference, belonging, and power. In the unit on legal pluralism, marriage, and the law, students study the personal law systems in Israel and Malaysia. They consider the structures of power that privilege certain kinds of communities and identities and also encounter groups advocating for social change. In their final projects, students apply the insights they've gained to particular case studies. As they analyze their selected case studies, they are required to discuss how the cases reveal the different ways justice, difference, and citizenship intersect and how they are shaped by cultural traditions and structures of power in particular social contexts. They present their conclusions in an oral group presentation and in an individually written final paper. Finally, in their end of semester letter to professor, they reflect on how they issues might shape their own advocacy for social change in the future. |

# Science, Engineering and Technology for Policy and the Public Interest

PUBAFRS 2620 | Spring 2024

Part of the Glenn College undergraduate minor *Science and Engineering in the Public Interest*
A *Citizenship for a Just & Diverse World* General Education Theme course

# Course Information

## Class Schedule and Delivery Mode

**Course times and location:** Tuesdays and Thursdays, 11:00 a.m.-12:30 p.m. in Haggerty Hall 0186

**Credit hours:** 3
According to Ohio State bylaws on instruction (go.osu.edu/credithours), students should expect to spend approximately [3] hours per week actively learning during scheduled classes and up to [6] hours per week on work outside of class times.

**Mode of delivery**: In-person

## Instructor

**Dr. Lisa A. Frazier, PhD, MPH** *(she/her)*, **Battelle Center for Science, Engineering and Public Policy**

**Contact information:** frazier.202@osu.edu, 614-688-2073 (Office), 240B Page Hall

**Preferred modes of communication:** My preferred method for questions is **email.** You can also message me in CarmenCanvas. My class-wide communications will be sent through the Announcements tool in CarmenCanvas. Please check your notification preferences (go.osu.edu/canvas-notifications) to be sure you receive these messages.
Note: I will check my email regularly during the week, but if you email me after 8pm, you will likely not receive a response until the following morning. I check my email less regularly on the weekend.

**Office hours for student questions and support:** by appointment, virtually or in person

## Course Description

Technology is woven into the fabric of our lives and society. It has enabled us to stay connected with each other over long distances, expand educational opportunities, and realize more efficient and sustainable energy solutions. However, new technologies have also accelerated the spread of violent ideologies and misinformation, undermined democratic elections, and facilitated the climate-changing industrial activity that revolutionized the world.

Science, engineering, and technology are tools: their effects – good and bad – depend on human use. In this course, we explore current issues in science, engineering, and technology (SET) policy through the lens of **citizenship** and social welfare in order to establish the foundational understanding of how we can use SET to address complex problems and innovate in the public's interest.

This survey course will provide a fast-paced introduction to these realities using examples drawn from contemporary events and analyses. This course emphasizes applied research activities – in both independent and team-based efforts – carried out over the semester with frequent feedback from peers and faculty.

Students will explore the ethical, social, historical, and psychological dimensions of science, engineering, and technology and reflect on their individual values and role as informed citizens. Course content and activities help students develop understanding of diverse perspectives on the role of SET in citizenship and notions of justice, both globally and in the U.S. In addition to gaining familiarity with core issues, processes, and frameworks in the SET policy and citizenship, students will develop skills in the policy sciences and their associated research methodologies, including identifying, analyzing, and communicating innovative solutions to a range of policy audiences. This is a foundational course of the Glenn College's *Science and Engineering in the Public Interest* (SEPI) minor and a valuable experience for STEM majors who are interested in using their skills to build a more just, resilient, and healthy society.

## Learning Outcomes

Because this is a general education course and foundational course for the Glenn College's SEPI minor, by the end of this course, students should successfully be able to:

### Course ELOs

1. Grasp the breadth of science and engineering endeavors that have public policy dimensions and appreciate the diversity and interdisciplinary nature of public affairs.

2. Demonstrate a firm grasp of basic public affairs concepts and tools employed in this space, specifically:

    a) Governmental, financial, economic, legal, and political institutions and systems that constitute public and nonprofit sectors;

    b) Public sector policy making and administrative processes;

    c) The role of citizenship and ethical public service in a democratic process and just outcomes;

    d) Core research methodologies employed to bridge scientific knowledge and public action.

3. Practice essential professional skills that form the basis for engaging in science, engineering, and technology policy, specifically:

    a) Use primary sources and research methodologies appropriate to the policy sciences to describe, analyze, and evaluate public policy problems;

    b) Recognize and interpret human behavior – individual, group, and organizational – in the context of public policy and policy research and systematically incorporate human behaviors and values into empirical research;

    c) Communicate effectively via written, oral, and electronic methods for varied policy audiences and consumers of policy research;

    d) Appreciate individual and group differences in perspectives, backgrounds, interests, and needs.

### SEPI Minor ELOs

1. Understand and conceptualize a range of contemporary issues in SET policy, the factors that drive SET innovation and the way it is accomplished, and the role of the public sector in SET and its processes.

2. Identify, analyze, and navigate complex modern challenges at the intersection of the policy, science, engineering, and technology worlds using interdisciplinary perspectives and methods.

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3. Apply effective communication skills to develop, propose, and advocate for innovative, evidence-based policies to both public- and private-sector decision makers.

## Citizenship for a Just and Diverse World Theme Goals and ELOs

**Goals:**

1. Successful students will analyze an important topic or idea at a more advanced and in-depth level than in the Foundations component. [Note: In this context, "advanced" refers to courses that are e.g., synthetic, rely on research or cutting-edge findings, or deeply engage with the subject matter, among other possibilities.]

2. Successful students will integrate approaches to the theme by making connections to out-of-classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in future.

3. Successful students will explore and analyze a range of perspectives on local, national, or global citizenship and apply the knowledge, skills, and dispositions that constitute citizenship.

4. Successful students will examine notions of justice amid difference and analyze and critique how these interact with historically and socially constructed ideas of citizenship and membership within society, both within the United States and around the world.

This course fosters an integrative approach to the Citizenship GE theme by engaging students in an advanced examination of citizenship, justice, and diversity through the interdisciplinary lens of Science, Engineering, and Technology Policy (SETP). In developing knowledge and skills of how SET and SETP are used as a means of strengthening citizenship and justice, students are able to:

1.1 Engage in critical and logical thinking about the topic or idea of citizenship for a just and diverse world.

1.2 Engage in an advanced, in-depth, scholarly exploration of the topic or idea of citizenship for a just and diverse world.

2.1 Identify, describe and synthesize approaches or experiences as they apply to citizenship for a just and diverse world.

2.2 Demonstrate a developing sense of self as a learner through reflection, self-assessment and creative work, building on prior experiences to respond to new and challenging contexts.

3.1 Describe and analyze a range of perspectives on what constitutes citizenship and how it differs across political, cultural, national, global and/or historical communities.

3.2 Identify, reflect on and apply the knowledge, skills and dispositions required for intercultural competence as a global citizen.

4.1 Examine, critique and evaluate various expressions and implications of diversity, equity and inclusion, and explore a variety of lived experiences.

4.2 Analyze and critique the intersection of concepts of justice, difference, citizenship, and how these interact with cultural traditions, structures of power and/or advocacy for social change.

# Course Materials and Technology

## Required Materials

There is no textbook for this course. All materials (e.g., readings, videos, podcasts) are posted and accessible

through the course CarmenCanvas website, making it essential that you regularly access and engage with the site. Additional readings and media (e.g., free *New York Times* subscription) will be available through OSU Libraries.

## Menu of Pre-Approved Texts

Each student will choose a book from this list to read over the course of the semester. Each of these books represent a case study of a historical event or lived experience that was fundamentally intertwined with science, engineering, and technology policy. You will have several opportunities to reflect on the connections between the subject matter of the book and course concepts.

All of these texts are available through OSU Libraries or the Libby free e-lending library.

- Skloot, Rebecca (2011): The Immortal Life of Henrietta Lacks
- Ball, Philip (2013). Serving the Reich: The Struggle for the Soul of Physics under Hitler
- Lizhi, Fang (2016). The Most Wanted Man in China: My Journey from Scientist to Enemy of the State  (translated by Perry Link)
- Paul, Richard and Steven Moss (2016). We Could Not Fail: The First African Americans in the Space Program
- Brynjolfsson, Erik and Andrew McAfee (2016). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies
- Eubanks, Virginia (2018). Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor
- O'Mara, Margaret (2019). The Code: Silicon Valley and the Remaking of America
- Holmes, Jamie (2020). 12 Seconds of Silence: How a Team of Inventors, Tinkerers, and Spies Took Down a Nazi Superweapon

## Technology

This course requires a computer (current Mac (MacOS) or PC (Windows 10) with stable internet connection, webcam, speakers, and microphone) and BuckeyePass on a mobile device (smartphone or tablet) to use for authentication. If you do not have access to the technology you need to succeed in this class, review options for technology and internet access at go.osu.edu/student-tech-access.

For help with your password, university email, CarmenCanvas, or any other technology issues, questions or requests, contact the IT Service Desk, which offers 24-hour support, seven days a week: https://it.osu.edu/students

# Grading and Evaluation

## Course Overview

As a research-oriented survey course in public affairs, this course develops skills essential for a career as a policy scientist; i.e., a mediator and integrator of knowledge and action, having "knowledge *of* the policy process and of the relevance of knowledge *in* the process" (Lasswell 1970, p 4).

The first 3-week segment of the course establishes foundational knowledge: What is the Science, Engineering, and Technology Policy [SETP] landscape? What are the mechanisms by which policy influences or addresses science and engineering? How can science and engineering shape policy? How and why does policy change? What are the policy sciences and what are the central methods of policy research? Students complete a set of knowledge assessments on the material to demonstrate their readiness for: a) deeper engagement with the themes of technology, citizenship and justice, and b) the conduct and presentation of original policy research.

In segments 2, 3, and 4 (weeks 4-12), students work in groups, during class and outside class via Microsoft Teams or other collaboration platforms, to conduct an original SET policy research project and produce three strategic policy communication deliverables (described below). Students develop their original research questions from current SETP issues that reflect critical challenges of the time, utilizing primary sources and novel data collection. Examples from 2020-22 include global pandemic response, climate-driven wildfires in Latin America, Australia, and the U.S., the cybersecurity implications of 5G rollout in developed economies, building public interest and investment in space exploration, investing in the hydrogen grid for sustainable energy, and addressing carcinogens in period care products. Coursework covers the disciplinary research methodologies (i.e., issue, stakeholder, policy, and market analysis) and skills (i.e., strategic communication, complex systems thinking) that are essential to carrying out the project and creating the deliverables.

The team-based original research project provides students with practice applying foundational SETP knowledge and carrying out policy research aimed at affecting public action by:

**Systematically defining a SETP problem.** Each student independently identifies a public problem and carries out an issue analysis to develop a rigorous problem statement. Crafting an effective, research-based issue brief is an essential skill of the policy scientist.

**Shifting popular opinion.** These deliverables explore the role of media in shaping public perceptions of policy issues. After working together to choose a specific problem based on their problem statements, each team collaborates to revise and expand their issue analysis and carry out a stakeholder analysis of the problem, synthesizing these analyses into an expanded issue brief. In addition, students choose to: (1) record a short podcast in the Digital Union recording studio; (2) create a compelling infographic or visualization of the policy issue; (3) write a persuasive op-ed; or (4) create a social media campaign. The audience for these deliverables is a defined segment of the general public.

**Directly engaging legislators.** These deliverables emulate the role of think tanks, non-governmental organizations (NGOs), and grassroots organizations and advocates in influencing policymakers. Teams revisit and revise their issue and stakeholder analyses and extend their research by carrying out a policy analysis. They synthesize these analyses into a policy brief. Additionally, each team chooses to: (1) create and deliver a video or an oral briefing to an imagined legislator/staff at the Ohio Statehouse or US Congress; or (2) create a funding package for delivery at either the state or federal legislature level that outlines, as an example, a budgetary roadmap for funding the development of a new technology or a risk mitigation strategy. The audience for these deliverables is a member of Congress and their staff.

**Catalyzing private sector activity.** These deliverables delve into the private sector's role in shaping policy. Teams revisit and revise their issue, stakeholder, and policy analyses and extend their research by carrying out a market analysis for a specific private or non-profit organization that engages in activity relevant to the issue. They synthesize these analyses into a policy report (i.e., a longer, more detailed version of the policy brief). Students also choose to: (1) create a communication strategy for a private sector organization that promotes a policy agenda; (2) create an investment pitch for an emerging technology that could solve a policy challenge; or (3) make the case with data visualization for the long-term benefits of mitigating adverse consequences of a technology. The audience for these deliverables is a private or non-profit sector executive and their board.

The final course segment (weeks 13-15) will focus on exploring career journeys in the SETP domain and fostering the development of personal frameworks for supporting and making ethical decisions based on diverse perspectives of citizenship and justice. Guests and readings will showcase individuals working in the public science, engineering, and technology realm. Course discussions and a close reading of one of a pre-approved list of case studies in the field provide the basis for two reflection essays submitted via Carmen. In these essays, students have the opportunity to reflect on and synthesize what they have learned from their original research activities and course materials, including how technologies, their contexts, and their use interact to produce a range of consequences, both intended and unintended.

Throughout the semester, participation and engagement are assessed through in-class activities, polls, and written reflections.

**Detailed descriptions, prompts, and deadlines for all course deliverables can be found on the CarmenCanvas site.**

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## How Your Grade is Calculated

| Assignment | Points | Assignment Type |
|---|---|---|
| **Intro & interest discussion post** | 25 | Individual |
| **Participation & Engagement** | 100 | Individual |
| **Knowledge assessment I *** | 25 | Individual |
| **Knowledge assessment II *** | 50 | Individual |
| **Knowledge assessment III *** | 75 | Individual |
| **Problem Statement** | 75 | Individual |
| **Shifting Public Opinion deliverables *** | 125 | Team/group |
| **Legislator Engagement deliverables *** | 125 | Team/group |
| **Private Sector Pitch materials *** | 125 | Team/group |
| **Peer & Self-Assessment** | 100 | Individual |
| **Reflection Essay 1** | 100 | Individual |
| **Reflection Essay 2** | 100 | Individual |

*\* Opportunity for revision/resubmission*

## Grading Scale

93–100: A
90–92.9: A-
87–89.9: B+
83–86.9: B

80–82.9: B-
77–79.9: C+
73–76.9: C
70–72.9: C-

67–69.9: D+
60–66.9: D
Below 60: E

# Course Schedule

Refer to the CarmenCanvas course for up-to-date due dates.

Should in-person classes be canceled, I will notify you as to which alternative methods of teaching will be offered to ensure continuity of instruction for this class. Communication will be via CarmenCanvas.

| Week | Date | Topic | Assignment / Activity |
|---|---|---|---|
| **Segment 1: Principles of Science & Engineering in the Public Interest** | | | |
| 1 | Tuesday | Welcome & Introduction<br>**Institutions in STEP Landscape** | Green jobs booming[1]<br>*Pair introduction activity* |

| | Thursday | Institutions (cont)<br><br>Science & Citizenship<br>Engineering & Government<br>Technology & Policy | Foreword to The Endless Frontier[2]<br>Daniel Gross interview on history of STEP[3]<br>S&T and National Defense[4]<br><br>*Pair STEP roadmap activity*<br><br>**Intro & interest discussion post**<br><br>**Knowledge assessment I (institutions)** |
|---|---|---|---|
| 2 | Tuesday | **How Policy Process Influences STEP** | S&T Policymaking[5]<br>The Legislative Process[6] |
| | Thursday | Policy Process (cont) | The Federal Budget Process[7]<br>The Congressional Appropriations Process[8]<br><br>When Robot and Crow Saved East St. Louis[9]<br><br>*In-class reflection (Individual)*<br><br>**Knowledge assessment II (process)** |
| 3 | Tuesday | **The Policy Sciences: Research Methods & Tools**<br>- Issue analysis<br>- Stakeholder analysis<br>- Policy analysis<br>- Market analysis | The…Policy Sciences[10]<br>Kranzberg's Laws[11]<br><br>*Small group activity: budgeting, R&D, and the citizen-workforce* |
| | Thursday | Policy Research Methods (cont): Issue Analysis and writing problem statements | Research Question & Problem Statements[12]<br><br>Woman on the Moon[13]<br><br>*In-class reflection (Individual)*<br><br>**Knowledge assessment III (research methods)** |
| **Segment 2: Fundamentals of Strategic Policy Communication** | | | |
| 4 | Tuesday | **Team deliverables, choosing topics**<br><br><u>Issue 1</u>: The promise, power, and danger of ubiquitous AI | AI Freaks Me Out[14]<br>Synthetic Humanity: AI & What's At Stake[15]<br><br>*In-class reflection (Individual)* |
| | Thursday | **The basic tasks of science communication, issue framing & analysis** | The Democratization of Science[16]<br>Science Communications[17]<br><br>**Knowledge assessment revisions (optional)**<br><br>*Select book for semester*<br>*Select topic, sort into teams* |

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| 5 | Tuesday | **Overview of policy communication; Stakeholder analysis and shifting popular opinion**<br><br>Issue 2: ChatGPT as knowledgeable or conversant? AI chatbots, honesty, and misinformation | Stakeholder Analysis[18]<br>Wicked Problems[19]<br><br>*In-class reflection (Individual)* |
|---|---|---|---|
| | Thursday | Public opinion (cont) | Bad beliefs – ethics of misinformation[20]<br><br>**Problem Statement (issue analysis) due**<br><br>*Team workshop: Issue identification & naming audiences* |
| 6 | Tuesday | **Accounting for human cognition**<br><br>Issue 3: Bias in our STE: data, algorithms, decision-making | What are Heuristics?[21]<br>12 common biases[22]<br><br>*Team workshop: Public audience characteristics* |
| | Thursday | Human cognition (cont) | Cognitive Bias Codex[23]<br>What to do about Bias in data?[24]<br><br>*Team workshop: Priming and anchoring your public audience*<br><br>*Yourbias.is activity (Individual)* |
| 7 | Tuesday | **Team Presentations on Shifting Popular Opinion** | **Team Deliverable 1 (issue & stakeholder analysis) due** |
| | Thursday | **Systems thinking & the innovation mindset**<br><br>Issue 4: What does "smart" mean and who benefits from a "smart" society? | Overview of Systems Thinking[25]<br><br>*Team workshop: Mapping your system*<br><br>Smart Enough Cities webinar[26] |
| **Segment 3: Legislative Engagement** | | | |
| 8 | Tuesday | **Policy Analysis & Engaging with legislators**<br><br>Issue 5: Citizenship, privacy, human surveillance through data | Policy Analysis[27]<br>The 'And' Method[28]<br><br>Revisit: S&T Policymaking[29] & Science Communications[30]<br><br>*Team workshop: Legislator ID, characteristics* |
| | Thursday | **Complex Adaptive Systems**: Where unintended consequences come from | Overview of Complex Adaptive Systems[31]<br>Bunge's System Model for Complexity[32]<br><br>*Team workshop: Framing, navigating for legislative audience* |
| 9 | Tuesday | **Policy Resistance** | Complexity Explained[33] |

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|---|---|---|---|
| | | Issue 6: Sustainability, clean transit, equity & justice | Learning from Evidence in a Complex World[34] *Group activity: Traffic simulation* |
| | Thursday | **Team Presentations on Engaging Legislators** | **Team Deliverable 2 (issue, stakeholder & policy analysis) due** The MIT Beer Distribution Game[35] *Discussion post on the Beer Game* |
| 10 | | *Spring Break* | |
| **Segment 4: Spurring Action in the Private Sector** | | | |
| 11 | Tuesday | **Catalyzing Private Sector Activity: Market analysis and crafting a value proposition** Issue 7: Digital profiles, virtual social experiences | Market Research and Competitive Analysis[36] What is Human-Centered Design?[37] *Team workshop: Private sector ID, characteristics* |
| | Thursday | Private sector (cont) | Revisit: The Endless Frontier[38] **Reflection Essay 1** *Team workshop: Applying human-centered design principles* |
| 12 | Tuesday | **How to do/ think about the future** Issue 8: Futurism, technologism | Guest speaker: David Staley (History) Film: *Sight* |
| | Thursday | Designing for the future (cont) | *Team workshop: Refining innovation pitch* |
| **Segment 5: Exploration on Technology's Impact and Individual Crossroads, Choice** | | | |
| 13 | Tuesday | **Team Presentations on Catalyzing the Private Sector** | **Team Deliverable 3 (issue, stakeholder, policy & market analysis) due** |
| | Thursday | **Reflections on STEP as a career; the citizen-workforce** Data science for the public | Guest speaker: Dr. Samantha Howe, Ohio Department of Medicaid |
| 14 | Tuesday | **Biotechnology, organic technology, and the body** Issue 9: Prenatal imaging | Guest speaker: Prof. David Staley (History) Film: *Gattaca* |
| | Thursday | More on the body, tech, and privacy | *The Borg, Data, & Isaac Debate Autonomy activity* |
| 15 | Tuesday | **Reflections:** on technology's impact | The State Machine[39] |

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|---|---|---|---|
| | | on individuals, choice<br>Issue 10: National or personal security? | *In-class reflection (Individual)* |
| | Thursday | Reflections: on technology's societal impact, unintended consequences | *Final team workshop: Finishing touches and wrap-up* |
| **Final** | Official exam day | | **Reflection Essay 2**<br>**Peer & Self-Assessment**<br>**Full team portfolio of research & communications materials due** |
| | TBD | **Innovation in the Public Interest Research Day** | |

# University Academic Policies

Refer to **https://oaa.osu.edu/academic-policies** for academic policies, including student rights and responsibilities related to the following

**Accessibility**: Arrange for accommodations if you anticipate barriers to your learning based on a disability.

**Safe learning environment**: Know the university's commitments to an environment free from discrimination or harassment, and find resources for reporting or finding support.

**Academic integrity**: Understand your rights and responsibilities related to academic integrity and review the university's processes for addressing claims of academic misconduct.

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/**.

# Course Policies

## Attendance and Participation Expectations

**Attendance and participation are required.** If you have a situation that might cause you to miss class, please notify in writing and discuss with the Instructor immediately.

**Teamwork is required for the successful completion of the course, and team-assignment is a privilege**. This interdisciplinary course is a team-based learning experience designed to engage and leverage perspectives from multiple disciplines and lived-experiences. In keeping with our goal of promoting professional work standards, individuals' behavior and teamwork are monitored by the instructor. The instructor will intervene when conduct is deemed detrimental to a team's progress or damaging to another individual's learning or sense of belonging or value. Possible interventions include instructors' providing one-on-one coaching or group coaching, or an individual's losing the privilege to continue on a team. Loss of team-assignment will result in a failing grade in the course.

## Late Assignments and Making Up Work

Please refer to CarmenCanvas for due dates. Due dates are set to help you stay on pace and to allow timely feedback that will help you complete subsequent assignments.

Extensions or modified deadlines will be granted for family emergencies, religious observances, or unanticipated/unavoidable work-related contingencies, provided the instructor receive**s** such requests before the applicable deadline. Extensions will automatically be granted in the case of *force majeure* events including natural disasters or other Acts of God. However, in such cases, we will attempt to collaborate online using video conferencing or other tools and will adjust deliverables' deadlines as appropriate.

## Copyright

The materials used in connection with this course, including those created by the instructor or classmates, may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

# Your Mental Health and Well-Being Matter

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 your ability to participate in daily activities. Whether or not you are engaged in distance learning, the Office of Student Life has numerous resources and services available to you at no charge to help you address those concerns.

If you find yourself feeling isolated, anxious or overwhelmed, on-demand mental health resources (go.osu.edu/ccsondemand) are available from Ohio State University's Student Life Counseling and Consultation Service (CCS). You can reach an on-call counselor when CCS is closed at 614- 292-5766. 24-hour emergency help is available through the National Suicide Prevention Lifeline website (suicidepreventionlifeline.org) or calling 1-800-273-8255(TALK). The Ohio State Wellness app (go.osu.edu/wellnessapp) is also a great resource.

For students in recovery or seeking recovery from substance use disorders, learn more about support on campus by visiting the Collegiate Recovery Community. For students facing food insecurity, learn more about the free on-campus food pantry by visiting the Buckeye Food Alliance.  For students interested in speaking with a peer to learn more about campus resources, call the Buckeye Peer Access Line. For students interested in meeting with a peer and setting holistic wellness goals, learn more about Wellness Coaching.

Please see additional mental health and well-being resources under the "Resources" module on Carmen.

# The Glenn College Values Diversity

The Glenn College is committed to nurturing a diverse and inclusive environment for our students, faculty, staff, and guests that celebrates the fundamental value and dignity of everyone by recognizing differences and supporting individuality. We are dedicated to creating a safe space and promoting civil discourse that acknowledges and embraces diverse perspectives on issues and challenges that affect our community.

**Ohio State will have an environment free from Harassment, Discrimination, and Sexual Misconduct.** The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual

misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.  To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity at: the online reporting form at equity.osu.edu; or call 614-247-5838 or TTY 614-688-8605; or email equity@osu.edu.

Our inclusive environment allows for religious expression. Students requesting accommodations based on faith, religious or a spiritual belief system in regard to examinations, other academic requirements or absences, are required to provide the instructor with written notice of specific dates for which the student requests alternative accommodations at the earliest possible date. For more information about religious accommodations at Ohio State, visit odi.osu.edu/religious-accommodations.

# Disability Services Statement

Accommodation Policy

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; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue

# COVID Process SLDS Statement

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services. 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- 3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

# Land Acknowledgement

We would like to acknowledge the land that The Ohio State University occupies is the ancestral and contemporary territory of the Shawnee, Potawatomi, Delaware, Miami, Peoria, Seneca, Wyandotte, Ojibwe and Cherokee peoples. Specifically, the university resides on land ceded in the 1795 Treaty of Greeneville and the forced removal of tribes through the Indian Removal Act of 1830. As a land grant institution, we want to honor the resiliency of these tribal nations and recognize the historical contexts that has and continues to affect the Indigenous peoples of this land.

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[1] Boon, Chirstopher and Karen C. Seto (Jan 5, 2023). "Green jobs are booming, but too few employees have sustainability skills to fill them – here are 4 ways to close the gap." *The Conversation.*

[2] Bush, Vannevar (1945) *The Endless Frontier (75th Anniversary Edition)* or online https://www.nsf.gov/about/history/EndlessFrontier_w.pdf

[3] ~10min reading of Interview Transcript: Daniel Gross, 3 December 2020. *Wartime Innovation: Lessons from the Office of Scientific R&D*, https://www.aaas.org/news/wartime-innovation-lessons-office-scientific-rd

[4] 1h 3m Audio/Video: *What Science and Technology Owe the National Defense*, moderated event recording https://www.newamerica.org/future-tense/events/online-what-science-and-technology-owe-national-defense/

[5] 38page PDF document: Stine, Deborah (2009). Science and Technology Policymaking: A Primer. Also online https://fas.org/sgp/crs/misc/RL34454.pdf, Congressional Research Service, May 27, 2009

[6] 30min 30s Video: The Legislative Process: Overview https://www.congress.gov/legislative-process

[7] 4-page Website article and PDF: The Federal Budget Process 101 by Matt Hourihan, American Association for the Advancement of Science https://www.aaas.org/news/federal-budget-process-101

[8] 20-page PDF document: The Congressional Appropriations Process: An Introduction, Congressional Research Service, November 30, 2016 (https://crsreports.congress.gov/product/pdf/R/R42388)

[9] Pages 49-67 Short Story: "When Robot and Crow Saved East St. Louis," *Future Tense Fiction: Stories of Tomorrow,* 2019. Also available online at https://slate.com/technology/2018/12/annalee-newitz-short-story-when-robot-and-crow-saved-east-st-louis.html

[10] Lasswell, H.D. The emerging conception of the policy sciences. *Policy Sci* **1**, 3–14 (1970). https://doi.org/10.1007/BF00145189

[11] Mims, Christopher. November 26, 2017. "The Six Laws of Technology Everyone Should Know," in *The Wall Street Journal.* *https://www.proquest.com/docview/1968162634?accountid=9783&parentSessionId=nz0nUxLCe88Rm%2FPk1MpF7SfaO5YfEby2Rwv1PKWNTQE%3D*

[12] Bryman, Alan (2007). The Research Question in Social Research: What is its Role?, *International Journal of Social Research Methodology, 10*:1, 5-20, DOI: 10.1080/13645570600655282 Optional supplement: https://www.isixsigma.com/getting-started/how-to-write-an-effective-problem-statement/

[13] 13:29m Video: CBS *60 Minutes* NASA's New Race to Put a Woman on the Moon, aired March 7, 2021.

https://youtu.be/IijMSgCZV_4

[14] Lieu, Ted (Jan 23, 2023). I'm a Congressman Who Codes. AI Freaks Me Out. *The New York Times.* https://www.nytimes.com/2023/01/23/opinion/ted-lieu-ai-chatgpt-congress.html?smid=url-share

[15] Synthetic Humanity (Feb 16, 2023). Synthetic Humanity: AI & What's At Stake. Center for Humane Technology. https://www.humanetech.com/podcast/synthetic-humanity-ai-whats-at-stake

[16] 5-page PDF article: Zember, Christopher, April 13, 2016: "The Democratization of Science Ushers in a New World Order". Also online https://warontherocks.com/2016/04/the-democratization-of-science-ushers-in-a-new-world-order/

[17] 20-page PDF document: Suhay, Cloyd, Heath, and Nash (20). Recommended Practices for Science Communications with Policymakers. Also online https://www.american.edu/spa/scicomm/upload/recommended-practices-booklet_v17-digital.pdf

[18] Brugha, Ruairi & Zsuzsa Varvasovszky (2000). Stakeholder analysis: a review. *Health Policy and Planning 15*(3): 239-246. https://doi.org/10.1093/heapol/15.3.239
Optional supplement: https://www.indeed.com/career-advice/career-development/stakeholder-analysis

[19] O'Byrne, Ian. (Dec 17, 2022). Wicked Problems. https://wiobyrne.com/wicked-problems/

[20] Torcello, Lawrence (2023). Bad beliefs: Misinformation is factually wrong – but is it ethnically wrong, too? *The Conversation.* https://theconversation.com/bad-beliefs-misinformation-is-factually-wrong-but-is-it-ethically-wrong-too-196551?utm_medium=email&utm_campaign=Latest%20from%20The%20Conversation%20for%20February%2016%202023%20-%202545825579&utm_content=Latest%20from%20The%20Conversation%20for%20February%2016%202023%20-%202545825579+CID_e5bfa9d25afa5f199ff0ec373b6695a9&utm_source=campaign_monitor_us&utm_term=Bad%20beliefs%20Misinformation%20is%20factually%20wrong%20%20but%20is%20it%20ethically%20wrong%20too

[21] Frimodig, Benjamin (2022). What Are Heuristics? https://www.simp lypsychology.org/what-is-a-heuristic.html

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