

**Syllabus**  
**Engineers and Public Policy**  
**EGN 6933**

**Section (Class No.): EPP (29549)**

**Academic Term: Spring 2023**

**1. Instructor**

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- d. Office hours: in-person or zoom Thursday 4:00 – 5:00 pm.  
Join Zoom Meeting  
<https://us04web.zoom.us/j/75021515335?pwd=5vVglWmGNmEkTBsaLjQuQigYimusIN.1>  
Meeting ID: 750 2151 5335  
Passcode: 2DcTdb
- e. Web site: [e-Learning @ UF](#)
- f. No teaching assistant
- g. Course communications: Instructor accessible during office hours, by email, and by zoom.

**2. Course Description:** *Engineers and Public Policy* introduces students to the fundamentals of public policy, its basic theories and definitions, its practical application, and the processes of policymaking and policy analysis. The course helps the engineer develop into a societal change-maker along several dimensions including public safety, environment, public health, and leadership.

**3. Credit hours:** 3

**4. Course Prerequisites/Corequisites:** None.

**5. Course Objectives:** This course is offered with in-class instruction but will include online sessions of case analysis with public policy practitioners. Its main goal is to prepare the student for various career choices whether for a formal career in government, private sector enterprises, or Non-Governmental Organizations (NGOs) and civic society. The course objectives are summarized below. Students completing the course successfully will:

- Acquire basic theories in public policy, and understand basic definitions with practical applications as to *what is public policy* and *how it affects us* as individuals and as communities,
- Synthesize engineering education, professional experience, and community involvement, by learning about *frameworks* for effective policymaking,

- Learn how policymaking processes are identified, analyzed, and driven, taking into consideration the responsibilities of public action,
- Develop a practical view of the relationship between engineering and public policy, and how this combination contributes a positive change to society,
- Understand different types of policies including incentive-based vs. enforcement policies, and connect them to practical applications across engineering disciplines,
- Prepare for a career in public life at a city, state, or federal level, and assume potentially a leadership role in society,
- Be able to analyze case studies drawn from various engineering disciplines.

**6. Material and supply Fees:** none.

**7. Professional Component (ABET):** Not applicable as course is not specific to a major under ABET purview.

**8. Relation to Program Outcomes (ABET):** Course is not specific to a major under ABET purview. However, ABET course learning outcomes relevant to student learning outcomes are (3), (4), (5), and (7). The table below illustrates the correspondence with ABET requirements.

Course Learning Outcome	Relevance to ABET Criterion 3, per Engineering Accreditation Commission Student Outcomes (SOs)
	1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
	2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
✓ -	3) an ability to communicate effectively with a range of audiences
✓ -	4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
✓ -	5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
	6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
✓ -	7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

**9. Textbooks and software.** The assigned textbook is:

- Title: An Introduction to the Policy Process – Theories, Concepts, and Models of Public Policy Making
- Authors: T. A. Birkland
- Publication Date and Edition: 2019, 5th Ed., Routledge.
- ISBN numbers:  
978-1138495609 (Hardcover)  
978-1138495609 (ePDF)  
978-1138495616 (Paperback)

Students are expected to perform the required research online as they complete their assignments. A list of reference books is provided below to help students through assignments. It is recommended to acquire the list or to have access to its items in a timely manner. Assigned reading outlines will be provided in class. Readings include book chapters, journal and conference papers, policy notes, policy proposals, and case studies.

Title: Basic Methods of Policy Analysis and Planning  
Authors: C. V. Patton, D. S. Sawicki, J. J. Clark  
Publication Date and Edition: 2013, 3<sup>rd</sup> Ed.  
ISBN: 9780137495092

Title: Public Policy Analysis – An Introduction  
Authors: W. N. Dunn  
Publication Date and Edition: 2007, 4<sup>th</sup> Ed.  
ISBN: 9780136155546

Title: Understanding Public Policies – Theories and Issues  
Authors: P. Cairney  
Publication Date and Edition: 2012.  
ISBN: 9780230229709

Title: Public Policy – Perspectives and Choices  
Authors: C. L. Cochran, E. F. Malone  
Publication Date and Edition: 2005, 3<sup>rd</sup> Ed.  
ISBN: 1588263754 pb

Title: Handbook of Public Policy Analysis  
Authors: F. Fischer, G. J. Miller, M. S. Sidney  
Publication Date and Edition: 2007  
ISBN: 9781574445619

Additional assigned readings will be given in class and will be electronically available at no cost to UF students through the University e-library system.

**10. Recommended Materials.** In addition to references provided in Section 9 above, recommended readings will be provided throughout the semester to benefit students who are willing to expand their professional knowledge beyond the basic course requirements.

## 11. Course Schedule:

- a. Sessions: Every Thursday, Periods 10 and 11 (5:10 pm – 7:05 pm), WERT 370.
- b. Office hours:
  - i. Thursday, 4:00-5:00 pm.
  - ii. By appointment; in-person or zoom.

The 3 credit-hour graduate course will be delivered in a hybrid format with weekly synchronous 2-hour periods held Periods 10-11 on Thursdays. The class sessions will consist of lecture overviews by the instructor, case study discussions or workshops facilitated by the instructor, student presentations, quizzes, and/or other class activities. Students will also work asynchronously to complete specific weekly actions to meet course content requirements through instructions provided the Canvas course management system.

Per UF guidelines, the course equates to 2.5 hours of equivalent weekly “contact periods” (50 minutes per period). The UF definition assumes that students may spend a minimum of 6 additional hours (2 hours per credit hour) outside of the weekly equivalent contact time in completing the course requirements.

The general outline of main topics expected to be covered in each module and key activities corresponding to each module are summarized below. The actual availability and due dates for assignments will be both announced in class and posted in the Canvas course management system.

Session	Module	Topic	Assignment	Due dates
S-1 Jan 12	Mod. 1 – Basic Definition and Concepts	Introduction – Strategic context of public policy, and Definitions	None.	
S-2 Jan 19	Mod. 1	Theories in Public Policy and Governance.	Essay #1 Relationship between Engineering and Public Policy.	Jan 26
S-3 Jan 26	Mod. 1	Types of Public Policies. Role of the private sector and the private citizen. Policy originators, designers, and influencers.	Essay #2 Incentive-Based Policies.	Feb 2
S-4 Feb 2	Mod. 2 – Policy Analysis and Evaluation	Introducing Evaluation Criteria for Policy Analysis. <i>Cr1 – Scientific/Engineering.</i> <i>Cr2 – Economic.</i>	Essay #3 The Policy-Making Process	Feb 9
S-5 Feb 9	Mod. 2	Evaluation Criteria for Policy Analysis. <i>Cr3 – Societal, Political.</i> <i>Cr2 – Ethical.</i>	Read: Case #1. The Big Dig – Part I Civil and Transportation Context	Feb 16
S-6 Feb 16	Mod. 2	Case Discussion and Analysis: Case #1	Read: Case #2. The Big Dig – Part II Public Policies undergirding the multiyear program	Feb 23
S-7 Feb 23	Mod. 2	Case Discussion and Analysis: Case #2	Read: Case #3.	Mar 9

			Florida Coastal Management Program	
S-8 Mar 2	Mod. 3 – Policymaking	Types of Policymaking Processes.  <b>Quiz #1. Mar 2.</b>		
S-9 Mar 9	Mod. 3 Developing Alternatives, Decision- Rules	Case Discussion and Analysis: Case #3  Roles and Responsibilities in policymaking. Preparing a Policy Proposal. Soliciting [and processing] feedback.	Read: Case #4. California Fighting Plastic Pollution	Mar 23
Mar 11 – Mar 18	<b>SPRING BREAK</b>			
S-10 Mar 23	Mod. 4 – Policy Implementati on and Monitoring	Case Discussion and Analysis: Case #4  Collective vs. Individual Rationality. Policy Rating Systems for Decision- Support.  Policy Failures and Learning Lessons	Read: Case #5. Public Transportation and Reduction of Carbon Footprint – Is Florida a Candidate State?  Read: Case #6A. Devastating Results of Policy Failures – The Port of Beirut Blast. Case #6B. Engineers in Emergency Response and Disaster Relief	Apr 6
S-11 Mar 30		<b>Quiz #2. Mar 23.</b>		
S-12 Apr 6	Mod. 4	Policy Monitoring and Limitations.  Correlation with Country’s Developmental Stage.  Case Discussion and Analysis: Case #5 Case #6A – 6B	Finalize your projects – Team rehearsals	Apr 13 and Apr 20
S-13 Apr 13	Team Presentations	Project Presentations Discussion & Feedback.	Groups 1 - 4	
S-14 Apr 20	Team Presentations	Project Presentations Discussion & Feedback  <b>Course Recap.</b>	Groups 5 - 7	
Apr 27 - Apr 28	<b>READING PERIOD</b>	No classes No assignments due		
Apr 29 - May 5	<b>FINAL EXAMS</b>	Course Final Exam as scheduled by Registrar		

## 12. Policies and Class Expectations:

### **In-Class lectures with emphasis on attendance and participation.**

Lectures will be given in-person at the assigned room for the course. Full attendance is expected, and participation is an important part of the learning experience. Attendance and participation are graded. Video or audio-recording may not substitute for student attendance. In case there is interest in video- or audio-recording of class lectures, and in case consent is

granted by participants, then the purpose for which these recordings may be used are strictly for personal educational use. Students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

The teaching style in *Engineers and Public Policy* encourages all students to participate and express themselves. Since participation is part of the performance evaluation of the student, recordings and publication<sup>1</sup> of recordings without permission of the instructor are prohibited<sup>2</sup>.

### **The learning environment in class**

The learning environment in *Engineers and Public Policy* is intended to be professional, courteous, and respectful. The instructor is always willing to provide students with the corresponding subject matter expertise, professional experience, and judgment to accomplish course objectives and maximize student learning. The instructor is open to suggestions to continually improve the course.

To promote an understanding and application of this course content, students will be required to complete an Individual Public Policy Brief on selected cases. The PPB assists students in applying key competencies related to course content. The PPB is a requirement and a key deliverable for completion of the course. More about the PPB can be discussed during class sessions and will hopefully trigger a constructive discussion.

The course instructor has no ability to address or resolve technology issues related to the Canvas course management system. If a student believes that an issue of this nature was responsible for an event, such as a late individual or team submittal or some malfunction during a quiz, then it is that student’s responsibility to discuss the issue with the UF HELP Desk (352-392-4357), obtain documentation from them about the issue, and follow-up with the instructor upon the supported conclusion that a Canvas issue was in fact the cause of such event. The instructor will make time extensions for students having these or other legitimate reasons (for example, a documented health issue) for a late submittal, material accessibility issues, etc.

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<sup>1</sup> To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services.

<sup>2</sup> This provision is intended to provide in the classroom an ambiance of open discussion whereby students feel comfortable expressing themselves with no pressure. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

## Other Policies and Expectations

**Teams:** Depending on enrollments, some of the assignments (including presentations that may be required) will be team-based. Students may opt to self-assign to a team formed in Canvas by the instructor (normally consisting of 2 - 3 students per team depending on class enrollment), within the prescribed period (to be announced). At that time, the instructor will randomly assign the other students (who did not self-assign) into teams.

**Quizzes and Briefs:** Quizzes will be open-book, open-note. UF Honor Code provisions apply. *Quizzes* will be completed in-person in a designated classroom, in the presence of the instructor or a proctor. Quiz text and questions will be made available over a specified time window made available on Canvas, at the end of which students will submit their quiz electronically through Canvas. No make-up quizzes will be available, subject to [UF Attendance Policies](#).

*Briefs* are short assignments that consist of composing a *policy essay* and will be available for prescribed periods of time as will be announced. Three assignments, in the form of briefs or policy essays, as well as reading assignments for in-class case analysis, are listed in the Table in Section 11 of this syllabus with their release and due dates. Each assignment will include instructions for preparation:

- Assignments in the form of briefs will be evaluated against rubrics made available in Canvas. Following instructions for such specific assignments is highly recommended to avoid penalties which may be applied (about 10%).
- Reading assignments in preparation for in-class case analysis are required. They will allow students to answer questions during class participation and demonstrate understanding of the policy issues at hand and their implications. The instructor may ask for a written submission.
- Assignments will cumulatively count within the grade percentage as listed in the Table in Section 13 of this syllabus. No late Assignments will be accepted, subject to [UF attendance policies](#).
- Expectations about Quality of Work: Effective written communication is an important part of being an engineer, engineering leader, policymaker, and professional. Students are expected to produce assignment submittals that reflect a collegiate or working professional level in terms of compositional structure and correct grammar usage. Expectations for all assignment submittals are outlined below:
  - ✓ Students will be responsible for producing high-quality assignment “deliverables” that they would submit to an employer, or to a public administration.
  - ✓ Submittals are expected to conform to good practice in developing sentences and paragraphs (such as composing complete sentences, presenting one thought per sentence that supports the paragraph topic, delineating one topic per paragraph, using consistent font and coherent structure, etc.). Long text blocks lumping multiple topics, or long paragraphs made of a single sentence, must not be used.
  - ✓ Submittals that contain noticeable misspelled words, incomplete sentences or similar glitches will be considered professionally subpar and subject to a minimum 10% grade penalty, in addition to grade penalties for not following assignment instructions.

- ✓ Team-based submittals reflect contributions, endorsed by all participating team members, and therefore quality is a shared responsibility among team members. In finalizing the submittal, remember that there is no “I” in teamwork (unless the question asks for individual team member responses).
- ✓ Reference listings are required where applicable, subject to a minimum 10% grade penalty. (In addition to grade penalties for other quality-based reasons.)

**Projects and Status Reports:** Working in groups of 2 to 3 students, the project will consist of developing a policy proposal on a selected topic. The proposal could be about *enacting a new policy* or *amending an existing one*. Students will be asked to submit a one-page *topic statement of purpose* to the instructor on or before **February 7, 2023**, for review and approval.

Students are then encouraged to submit a bi-weekly status report, starting **February 16, 2023**, emailed every other Thursday, about their progress on their project. Status reports will earn bonus points and will help students receive feedback towards team progress.

- The instructor will sample project Status Reports to evaluate against the associated rubric starting mid-semester, at his/her discretion. The instructor will not announce ahead of time which Status Reports will be evaluated against the rubric.
- The final report is expected to contain:
  - Abstract
  - Introduction
  - Policy Objectives
  - Literature Review
  - Scope of Work (including the analysis/rationale leading to the Scope)
  - “Text” of the proposed policy
  - Process that the team recommends and Implementation Plan
  - Mechanism to evaluate and revise the policy
  - Conclusions
  - References
- The final presentation is expected to have:
  - PowerPoint file reflecting the final report above in a presentation and discussion format
  - Articulation of the key points
  - A page reserved for audience Q&A and feedback

**13. Evaluation of Grades:** Weightings of each course component for determination of final course grades are indicated below:

Components	Weighting Percentage of Final Grade
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Class Attendance and Participation	20%
Quizzes (up to 2 at 15%) and Briefs (10%)	25%
Project (Report and Presentation)	30%
Final Exam	25%
Total	100%

#### 14. Grading Policy:

The final course grade (as a total percentage rounded to the nearest tenths of a digit) will be compared against the following grade scale:

A = 90.0 or above	C = 70.0 - 72.9
A- = 87.0 - 89.9	C- = 67.0 - 69.9
B+ = 83.0 - 86.9	D+ = 63.0 - 66.9
B = 80.0 - 82.9	D = 60.0 - 62.9
B- = 77.0 - 79.9	D- = 57.0 - 59.9
C+ = 73.0 - 76.9	E = 56.9 or below

More information on UF grading policy may be found at:

[UF Graduate Catalog](#)  
[Grades and Grading Policies](#)

#### 15. Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

#### 16. Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

#### 17. University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor

and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://sccr.dso.ufl.edu/process/student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### **18. Commitment to a Safe and Inclusive Learning Environment**

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Jennifer Nappo, Director of Human Resources, 352-392-0904, [jpennacc@ufl.edu](mailto:jpennacc@ufl.edu)
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, [taylor@eng.ufl.edu](mailto:taylor@eng.ufl.edu)
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, [nishida@eng.ufl.edu](mailto:nishida@eng.ufl.edu)

### **19. Software Use**

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

### **20. Student Privacy**

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

### **21. Campus Resources:**

#### Health and Wellness

#### **U Matter, We Care:**

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

**Counseling and Wellness Center:** <https://counseling.ufl.edu>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

**Sexual Discrimination, Harassment, Assault, or Violence**

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, [title-ix@ufl.edu](mailto:title-ix@ufl.edu)

**Sexual Assault Recovery Services (SARS)**

Student Health Care Center, 392-1161.

**University Police Department** at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

*Academic Resources*

**E-learning technical support**, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.

**Career Connections Center**, Reitz Union, 392-1601. Career assistance and counseling; <https://career.ufl.edu>.

**Library Support**, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

**Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <https://teachingcenter.ufl.edu/>.

**Writing Studio**, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <https://writing.ufl.edu/writing-studio/>.

**Student Complaints Campus:** <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>; <https://care.dso.ufl.edu>.

**On-Line Students Complaints:** <https://distance.ufl.edu/state-authorization-status/#student-complaint>.