Successful and rapid development of solar energy requires the training of a highly skilled technical workforce that is also well versed in the socio-economic (e.g., social, economic, behavioral, policy) and commercial aspects of solar energy. The Solar Energy Policy Workshop provides practical policy experience for the science master’s students in the Solar Energy Engineering & Commercialization program.

The workshop builds on technical work carried out in the program’s required courses, providing an integrative experience that requires students to synthesize knowledge gained in prior coursework and apply it to real-world policy problems and settings. By blending exposure to national science and technology policy officials and nationally recognized solar experts, the workshop both advances student learning beyond that possible in the classroom while encouraging students to expand their abilities to connect theoretical and practical insights.

The Solar Energy Policy Workshop explores the relationships among science, policy, and societal outcomes in a place where many important decisions about these things are made – Washington, DC. During the one week course, students will meet and interact with the people who fund, regulate, shape, critique, publicize and study solar energy and science, including congressional staffers, funding agency officers, lobbyists, regulators, journalists, academics, museum curators, and others. The program will take place in locations throughout the Washington, DC area, allowing participants to experience many facets of the Nation’s Capitol. During the workshop, students will live in dormitories at American University – walking distance to the ASU DC office and a metro ride away from all the major sites in DC.

The primary component of the program focuses on solar science and technology policy leaders throughout the District of Columbia. We have asked presenters to limit their opening comments to fifteen minutes, leaving plenty of time for conversation. This opportunity, of course, comes with a significant responsibility. The success of the course will rest on students’ ability to ask probing questions and explore the subtler facets of policy.

Course Objectives

- Provide focused opportunities for students to learn to apply technical information from their coursework to real-world solar policy problems.
- Provide exciting opportunities for students to learn from national policy leaders and nationally recognized experts in solar science and technology policy about the fast-paced world of federal policy making.
• Provide an immersion experience that encompasses the components necessary to work on creative solutions to some of today’s most complex challenges.
• Provide training on how to conduct efficient policy research and proper verbal communication.

Learning Outcomes
• Students will be able to apply knowledge and skills acquired in this class to relevant solar policy issues.
• Students will be able to conduct rapid and effective policy research on complex solar energy issues that consider science, technology, and society.
• Students will be able to present themselves, their skills, and their work effectively to a variety of science and technology policy audiences in informal and formal contexts.

Course Exercises
Students will participate in a number of exercises that enable them to apply their knowledge in diverse ways:
• Prior to the workshop, students will develop, research, and write a brief (2000-2500 word) research paper on a solar energy issue. This initial draft is due May 6th. Comments will be returned to you by May 15th.
• On the first day of the workshop, students will present their research in a concise, 5-minute presentation without the use of Powerpoint or other aids.
• After the workshop, students will expand on their initial research paper and submit a 3500-4000 word comprehensive research paper on their chosen solar energy issue. This final draft is due May 30th.

Course Grading
Overall performance in the course will be assessed using four elements:

(1) Engagement and participation during interactions with policy officials (50%): for this portion of their grade, students will be expected to have read any preliminary materials, to ask appropriate, insightful questions, and to actively participate in discussions; in addition, they will be evaluated on their ability to synthesize and apply knowledge of science policy concepts during their interactions with science policy professionals and scholars;
(2) Preparation of an initial version of the research paper (15%);
(3) Simple presentation of research paper work to the workshop participants (10%);
(4) Completion of the final research paper after receiving feedback on the initial version (25%).

Students who satisfactorily prepare for daily discussions and complete the major projects will receive a (Y) satisfactory grade. Inappropriate behavior, inadequate preparation, or incomplete projects will result in a loss of credit for relevant portions of the grade and may be grounds for failing the course.

Specific Details on Writing Assignments and Due Dates
The major academic work for the course will be to write, present, and rewrite a brief research paper. The paper will allow students to explore in a more in-depth and thorough manner one of the themes of the course, and the experience of being in Washington, DC. There are three main parts to this assignment:
(1) **Outline (April 21st, 2017, 11:59 p.m.):** You will submit a **one-page prospectus** of your paper that includes a brief description of your topic, an explanation of how you will approach that argument, and the resources you will be using. You want to do this preparatory assignment well because you will receive helpful feedback on your ideas and arguments. You should choose a topic that you are really interested in. This is your opportunity to study what you are most excited about. It can be about a particular policy, from the local to the global, or a study of a particular country’s solar policy, or a program that promotes solar that you find interesting, etc. These can be historically-focused, in the present, or a future policy that is being pursued.

(2) **Initial paper (May 15 2017, 11:59 PM MST):** This 2000-2500 word paper should be sent as an e-mail attachment (preferably in a Word document format: .doc or .docx) to Dr. Richter. It is worth 15% of the course grade. The first version should not be a draft, but rather a completed paper that is readable, clear, and well supported with evidence. It should not simply be a review of a topic or area of study, but rather should have a sound thesis and well articulated argument. Your paper should have an introduction explaining the point and scope of the paper, and should be well-researched and have appropriate citations (at least 5 at this point). This is an opportunity to study an area of interest related to solar policy in an international, national, regional, local, or comparative context.

(3) **Presentation (May 22, 2017, in class):** Once the first version of the research paper is completed, students will be asked to present their work to the rest of the class. Presentations will be scheduled on the first day of the trip. The presentations will not be complicated. Students will have five minutes to present and no Powerpoint presentations will be allowed. The presentation is a chance to share what was learned from the research and writing process with the rest of the class. The presentation will be worth 10% of the final grade and students will be judged on the way they communicate their ideas and the way they handle questions. It is also an opportunity to get feedback from your peers.

(4) **Research paper (June 3, 2017, 11:59 PM MST):** Students will be asked to develop their initial paper into a longer and more detailed research paper. This 3500-4000 word version of the paper is longer because much more will be known about the chosen topic. By this time, students will have feedback on their paper and feedback from fellow students during their presentation, and be able to further redirect their research towards their chosen topic. The trip will provide a chance to explore the topic in ways that simply are not possible at ASU. Students will be able to see some of the issues they have studied first-hand, as well as have the opportunity to ask the policy professionals they meet for information that is directly relevant to their project. This final paper should be submitted by e-mail to Dr. Richter by **June 3**, and will be worth 25% of the grade.

**Incompletes**

A mark of "I" (incomplete) is given by the instructor when a student is otherwise doing acceptable work but is unable to complete the course because of illness or other conditions beyond their control. Students are required to arrange with the instructor for the completion of the course requirements. The arrangement must be recorded using the form at http://students.asu.edu/forms/incomplete-grade-request. Students should be proactive and discuss this with their instructor before the end of the course.

**Student Standards**
Students are required to read and act in accordance with university and Arizona Board of Regents policies, including: The ABOR Code of Conduct: Arizona Board of Regents Policies 5-301 through 5-308: http://www.azregents.edu/policymanual/default.aspx.

Student Support and Disability Accommodations
ASU offers support services through Counseling (http://students.asu.edu/counseling), the Student Success Center (https://studentsuccess.asu.edu/), and the Disability Resource Center (http://www.asu.edu/studentaffairs/ed/drc/). If a student is in need of special arrangements, we will do all we can to help, based on the recommendations of these services. For the sake of equity for all students, we cannot make any accommodations without formal guidance from these services.

Academic Integrity Statement
Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. Academic dishonesty includes borrowing ideas without proper citation, copying others’ work (including information posted on the internet), and failing to turn in individual work for group projects. The student should be aware that if he/she follows an argument closely, even if it is not directly quoted, he/she must provide a citation to the publication, including the author, date, and page number. If the student directly quotes a source, he/she must use quotation marks and provide the same sort of citation for each quoted sentence or phrase. The student may discuss the research paper with other students, however, all writing that the student turns in must be done independently. If the student has questions about acceptability of an assignment, he/she should consult with the instructor in advance of turning in an assignment. If a student fails to meet the standards of academic integrity in any of the criteria listed on the university policy website, sanctions will be imposed by the instructor, school, and/or dean. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see http://provost.asu.edu/academicintegrity.

This syllabus is subject to further change or revision, as needed, to best realize the educational goals of the course. Necessary revisions will be announced with fair prior notice.