Portland State
Center for Public Service

Registration is Now Open for this Popular Course:

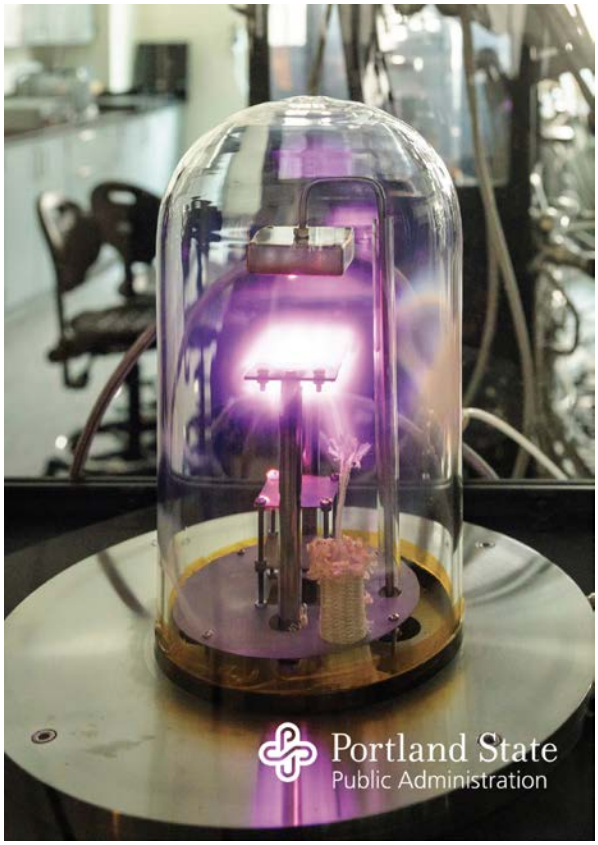
PA 573: The Smart Grid and Sustainable Communities

Available for Graduate Credit or Professional Development Certificate of Completion
You can take this course in person, stream each session live on your computer in real time, or view recordings of any session at your convenience

NOTE: In response to state and university policies and recommendations to encourage social distancing to support containment of the coronavirus, PSU has moved all its courses to remote delivery through Mid-April (at least). As a result, this course will be offered via live-stream. It will also be recorded for those who prefer later viewing

Spring Term: Tuesday, March 31 - June 9, from 6:40pm to 9:20pm
Portland State University, (room not yet assigned) or on Your Computer.
Registration for Professional Development participants will be accepted through April 18th

Portland State University's Center for Public Service is pleased to announce that its popular and widely praised course, **The Smart Grid for Sustainable Communities,** is back after a two-year absence**.** This innovative interdisciplinary course is taught by a faculty team of academic and private sector specialists, supported by expert guest speakers.



The course explores a set of emerging concepts, technologies, applications and business models that are in the process of transforming the nation's century-old, centralized power grid into a more decentralized and climate, consumer, and renewable energy friendly "Smart Grid." These concepts, technologies, and models hold the promise of a significant new paradigm for the generation, use and delivery of electric power that is more efficient, sustainable, robust, flexible, and environmentally sound, and that encourages a much higher level of consumer participation and control.

It is designed to serve three core audiences:

- **Graduate students** from a variety of programs interested in receiving graduate credit

from PSU's College of Urban and Public Affairs;
- **Mid-career professionals** interested in advancing their careers and receiving special Certificates of Completion from PSU's Center for Public Service; and
- Students pursuing PSU's new **Graduate Certificate in Energy Policy and Management**, for which PA573 is one of the **Focal Area Courses**.

All three audiences benefit from each other's presence in class.

Since we address the latest innovations in technologies, concepts, and business and regulatory models intended to advance a cleaner and more sustainable energy future, each of the six previous course editions were substantially different from their predecessors. All four Northwest governors, the Secretary of Energy, and other energy educators and experts have praised earlier editions of this course for their path-breaking features; we anticipate a similar response to a newest Edition 7.0. All course editions offer a cross-disciplinary approach, deepening individual areas of expertise in the context of teamwork. They incorporate lectures, active learning strategies, individual and group projects, class presentations from the faculty and guest speakers, and optional class field trips. For more information see the **Course Fact Sheet**.

Edition 7.0 will continue of this tradition of innovation. Topics will include:
- An introduction to the existing grid and the grid transformation process that is currently underway;
- The emergence of new (and some say "disruptive") technologies and financing approaches, the resulting calls for new business and regulatory models associated with the "utility death spiral", and their relationship to the Northwest's energy profile;
- How grid modernization can enhance the value and effectiveness of wind, solar and other valuable but intermittent renewable energy resources;
- Key energy policy issues, challenges and opportunities that have emerged or are on the horizon as a result of this grid transformation;
- California's role as a hub for energy innovation;
- New strategies to support the integration of more wind, solar and other cleaner but more intermittent and distributed forms of energy;
- The emerging roles of the Energy Imbalance Market and new approaches to distribution system operations and planning;
- Challenges and opportunities associated with "Internet of Things", communications standards & interoperability, and cybersecurity;
- Grid defection, solar technologies, and net metering policies;
- New technologies and approaches to energy storage;
- The role of microgrids and "community solar" strategies;
- The benefits of energy system resilience to address earthquakes, tsunamis, and other natural disasters;
- Emerging and next generation technologies and approaches.

The course will conclude with a small Public Forum during which student teams will present

their recommendations to their "clients" and community leaders.

Our **multidisciplinary faculty team**, **Dr. Hal Nelson** and **Mr. Mark Osborn**, will be supported by national and regional experts who will join us as **guest speakers.** In addition, we will form **small group student teams** that will be apply this knowledge by collaborating on **"real world" projects** that explore if and how the Smart Grid and related technologies and approaches can support sustainable development and a cleaner energy future. Each student team will be supported by the faculty and by **expert advisory teams** that have expertise that is relevant to the student projects. This year's guest speakers and advisory team members are currently being identified and recruited. However, we can provide a sense of the exceptional quality of this year's guest presenters and student team advisors by providing a list of individuals who have participated in those roles during the six previous editions of this course. In addition, **Jeff Hammarlund**, the course's co-founder and faculty lead for all previous course editions, has agreed to come out of retirement and return as a guest speaker and informal adviser.

Professional development students can choose to get as deeply involved in the "real world" team projects as they want. While they can expect to benefit the most if they participate, they are also welcomed to simply attend class sessions and listen to the presentations from faculty members, the expert advisory teams, and the guest speakers.

Do you live outside the Portland metro area or expect to be out of town for a couple of class sessions? We've got you covered through our **Distance Learning options**.

Are you an attorney interested in receiving Continuing Legal Education Credit through the Oregon State Bar? We've got you covered as well.

For more information on:

- This year's faculty team: **Dr. Hal Nelson** & **Mr. Mark Osborn.**
- The draft course syllabus: **click here.**
- The syllabus for our Winter Term Northwest Energy Policy course (PA 567): **click here.**
- Distance Learning options that allow class participation from anywhere: **click here.**
- Registration for the Graduate Student option**:** **click here.** And for the Professional Development option: **click here.**
- Course texts and other readings: **click here.**
- Examples of previous course speakers and expert advisors: **click here.**
- The Course Fact Sheet, that describes the origins, approach, value, and results of this course: **click here.**

If you have additional questions, contact Josh Metzler, Programs Coordinator, 503-725-5190 or jmetzler@pdx.edu. If you have questions on course content, contact Dr. Hal Nelson, lead faculty, 503-725-3251 or hnelson@pdx.edu.