

Course Introduction

Welcome to URBAN 582/IPM 506: Energy Systems

This course provides content on energy infrastructure and energy-related permitting. The energy focus is mostly about electrical energy infrastructure, production and use. The role of the planner and manager in site selection, permitting, and some of the design, and construction issues with emphasis on renewable energy production. "Scoping" software will be used for wind and solar PV projects. This is not a course that deals with specific plant construction issues such as scheduling and estimating. However, the concepts covered will help a consultant, utility employee or construction manager to be informed about these types of projects including (1) energy production and needs including recent trends, (2) energy and plant terminology, (3) planning and scoping tools, (4) introduction to all the major types of electrical production and transmission.

The course is taught by Dr. Tim Larson who is an emeritus faculty member in the Department of Civil and Environmental Engineering at the University of Washington.

The **weekly content** has ((1) primary lectures, and (2) optional reading resources. The lectures and reading resources are broadly linked. It is best to think of the readings as an expansion of your knowledge along with providing substantial detail. The **lectures** provide overviews of specific topics within each week. When possible, they reflect information about energy projects via a case study format. For all lectures, I attempt to provide up-to-date content--but as you likely know--energy related developments and projects are continuously moving and changing. The **optional reading resources** vary widely in content but all provide additional insight to each week's major topics. If an optional resource web page link refuses to open, click on the link at the top of the error message page to open the link.

All of the weekly **Discussions** need to be posted by **the specified due date** and it is important to do so. There are reminders in each week's module of assignments that are due that week. You will be able to see posted discussions from other students **only after** you have posted your own.

There is also a **General Class Discussion** forum available to all students for general comments and questions. Please do not post your specific weekly discussion assignments directly on this forum.

The **Projects** are based on use of the SAM software (free from the National Renewable Energy Laboratory) and the AFLEET software (free from the Argonne National Laboratory). SAM is a system which is described as a techno-economic model to facilitate decision-making for project managers and engineers, financial and policy analysts, technology developers and researchers.

I will review each Discussion and assign points although we expect most will be fine. The projects will be assessed via comments within Canvas. You will be notified via Canvas whenever comments/grades are posted.