Department: 05 Building Services Engineering, Paper and Packaging Technology and Print and Media Technology

Course title: Benchmarking and Assessment of Building Energy Performance

Hours per week (SWS): 4

Number of ECTS credits: 4

Course objective: An introduction and study of building energy assessment principles and protocols for existing commercial buildings. Course topics include techniques of energy measurement and verification, IEQ parameter identification and measurement, energy metric comparison and analysis, and energy auditing, applied in the context of a building disclosure, rating, and labeling program.

Prerequisites: Thermodynamics, Heat Transfer, Knowledge of building mechanical and electrical systems

Recommended reading:
- ASHRAE Procedures for Commercial Building Energy Audits, 2nd edition
- ASHRAE Standard 100-2015 Energy Efficiency in Existing Buildings

Teaching methods: lecture and examples

Assessment methods: 90 min final exam

Language of instruction: English

Name of lecturer: Dr. Jennifer Mott

Email: jpeuker@calpoly.edu

Link

Course content:
1. Review of building mechanical, electrical, and lighting systems
2. Introduction to building energy benchmarking and assessment
3. Preliminary Energy Use Analysis (PEA)
4. Measuring and Monitoring building performance
5. Walk through analysis
6. Indoor Environment Quality (IEQ)
7. Energy Efficiency Measures: Building envelope and Lighting

Remarks