

4.430 Daylighting



Learning objectives

- ▶ Provide tools for efficient integration of daylighting issues in the design process
 - Identify factors involved in a (day)lighting situation
 - Predict critical issues
 - Determine quantities with adequate terminology / units
 - Select and apply the appropriate evaluation method
 - Produce a diagnostic of the (day)lighting conditions
 - Propose relevant (advanced) daylighting strategies and appropriate electric lighting systems
 - Extract information from catalogues / research literature

Course contents

▶ Fundamentals of lighting

- Benefits, issues, availability of daylighting
- Solar radiation, sun course
- Photometry and daylighting metrics
- Visual comfort
- Electric lighting
- Color perception

Course contents

- ▶ **Fundamentals of lighting**
 - Benefits, issues, availability of daylighting
 - Solar radiation, sun course
 - Photometry and daylighting metrics
 - Visual comfort
 - Electric lighting
 - Color perception
- ▶ **Advanced strategies and design tools**
 - Design and assessment tools
 - Advanced lighting control, complex windows

Assignments

- ▶ Participation and homework 30%
 - 6 problem sets, reading assignments
 - site visits and analyses
- ▶ In-class quiz 20%
 - on fundamentals
 - October 17, 1h30'
- ▶ Design project 50%
 - 3 parts: diagnostic, concept, proposal
 - teams of 2-3, table critiques
 - final presentation (10-15') on Dec 5 and Dec 7
 - written report (~10 pages) due Dec 12