CATALOGUE DESCRIPTION
Principles of lighting design with focus on integration of electric illumination and space. Design for lighting systems, calculations, and available systems and sources tested through models and drawings.

INSTRUCTOR
Ihab Elzeyadi, Ph.D. - Assistant Professor
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office hours: Wed. 10:00 – Noon, or by appointment. (sign-up sheet on door)

CREDITS:
(3 cr.) hours, counts as one of two required ECS courses for the Interior Architecture program.

CRN:
492: 12370, 592: 12382

PREREQUISITES:
Architecture or Interior Architecture students who completed 24 credits of design studios.

MEETING TIME
Thursdays 6:00-8:50 PM, Lawrence 206.

REQUIRED TEXT
Additional readings and books are placed on course reserve at AAA library.

ADDITIONAL REFERENCES
See the attached list of Bibliography.
OVERVIEW

This course will build on an existing fundamental understanding of the behavior of light, perception of the visual environment, and electric lighting systems. The goal of the course is to acquire lighting design skills that provide a quality luminous environment using electric lighting, and its integration with daylighting, as a material that provides form and sensory qualities to spaces. The vehicle for this will be a series of design projects, topical lectures, and lighting design workshops. This will be a seminar format course requiring the active participation of all students in lectures, discussion sessions, readings, and project presentations. There will be a series of design investigations, lighting case studies, and design projects during the term, each one will be taken through a defined design process including: development of lighting design concepts, lighting systems integration, lamp and luminaire specifications; lighting calculations; and, representation/presentation of spaces with light.

INSTRUCTIONAL METHODOLOGY

Iarc 4/592 is an advanced level seminar/workshop course requiring participation in lectures, collaboration on team projects, understanding of concepts and principles via required readings, participation in workshop activities, and class topical presentations. This class uses a hands-on problem based learning pedagogy to understand the principles and techniques of designing with light as a material. Lectures and guest presentations will expand the topics in the required readings and provide different lighting design approaches.

Peer and team teaching between students is viewed as being an essential part of the class, and is as important as teaching by the instructor and guest lecturers. Class meetings include a variety of communication and project development formats including: individual lectures, design workshops, crits, pin-ups, reviews, in-class discussions, lab sessions, and site visits.

LEARNING OBJECTIVES

- Lighting precedents studies as tools for research and spatial programming
- Designing with electric light as a form and material in space
- Light sources, light distribution, and electric lighting programming
- Understanding the implications of electric lighting on place making, spatial ordering, health, and human activities in indoor spaces
- Principle of schematic lighting design and energy codes
- Qualitative and quantitative lighting design tools

EVALUATION

Performance in Iarc 4/592 will be either graded or Pass/No pass. For Iarc 491, PASS requires minimum equivalent grade of C-, for Iarc 592, PASS requires minimum equivalent grade of B-

- Projects (60%) 3 projects distributed throughout the term
- Final Project (25%) Revisions and articulation of the three projects following feedback into a final report, a final class presentation, and a web document
- Participation (15%) Includes attendance, participation in lectures and labs, completion of all workshop activities and presentations

Grading system: 98-100% (A+), 93-97% (A), 90-92% (A-), 88-89% (B+), 83-87% (B), 80-82% (B-), etc. All project assignments are due at the beginning of class, unless otherwise announced. Assignments will be accepted a week late with a 25% of the grade/week deducted. Projects submitted two weeks late will not be accepted.
REQUIREMENTS & CONDUCT

Course projects and homework assignments typically consist of both problem-based research investigation and design assignments. Some of these assignments will require calculations, sketch exercises, observations, measurements using hand-held equipment, and model construction that apply lighting distribution and analysis principles. All projects are done in teams of two, producing a final web document. Analysis of data may require using MS Excel, Photoshop, FormZ and web-authoring applications.

All Iarch 4/592-participants are expected to:

- participate actively in ALL lectures/seminars discussions
- be persistent and thoughtful in design explorations and execute projects with care.
- be responsive to comments about their work made by the instructor, guest critics, and peers.
- explore alternatives based on instructor’s feedback and make revisions and refinements to their designs.
- study assigned readings and explore their implications to design problems/projects.
- use drawing, sketching, 3-D modeling, and computer graphics as tools for design explorations.
- complete all assignments and projects on time with their team mate.
- unexcused absences are not permitted. Students with two or more unexcused absences will need to see the instructor before returning back to the class. Excused absences (such as illness or personal emergency) must be reported to the instructor PRIOR to the missed class. Verification of illness should be obtained from Student Health Services or your physician.
- use of cell phones is prohibited during lecture and workshops. Students are required to shut-off cell phones throughout the duration of the class period except during intermediate lectures’ break.

STUDENTS WITH SPECIAL NEEDS

If you have a documented disability or special needs, and anticipate requiring accommodation in this course, please meet with me this week to make arrangements to facilitate your participation in all class activities.

ACADEMIC HONESTY

Students should be familiar with the university policies regarding academic integrity and consequences of dishonest conduct. All work should be your own and all sources should be cited. Questions about how specific assignments should be handled with respect to collaborative work, citations, or any other issues can be raised in class.

SCHEDULE

See attached schedule