

Course Syllabus
IARC 492/592
CRN 13047/13057
Tuesday, Thursday 6:00pm-7:20pm, LA 206
Office Hours: Tuesday 2:00pm – 4:00pm, ONYX BRIDGE 181

ELECTRIC LIGHTING

Dr. Siobhan Rockcastle, Assistant Professor of Architecture

INTRODUCTION

This course offers a comprehensive introduction to electric lighting from the physics of light, lamp technology, and luminaire specification to integrated lighting design. To develop a comprehensive understanding of the luminous environment, students will complete a series of analysis and design exercises, including the design/fabrication of a luminaire as well as the integrated design of a retail space. These exercises will utilize a mix of physical and digital tools to measure, test, and represent design schemes. Course content will include the history of lamp technology, the technical specification of electric sources and luminaires, the relationship between color/transmission/distribution and space, and approaches for integrated lighting design.

PREREQUISITES:

ARCH 484/584 or IARC 484/584; ARCH 492/592; permission of instructor

LOGISTICS

This course will meet twice a week in seminar format, with lectures, presentations, discussions, design critiques, and working sessions that include hands-on learning exercises. Assigned readings will be made available via course reserve with additional resources available in the Baker lighting Lab. Graded or P/NP.

EVALUATION

Students will be evaluated using the following breakdown:

Attendance*	10%
Reading Journal (R1-R10 w/ each entry worth 4%)	40%
Term Project: <ul style="list-style-type: none">• P1 (15%)• P2 (20%)• P3 (15%)	50%
Final Project for the 4-credit Advanced Technical Elective**	100%

**Two or more unexcused absences (doctors note required to be excused) will count in an automatic incomplete of this course. If you have a scheduling conflict that you know of in advance, please contact the Professor.*

SCHEDULE

	Date	TOPIC	FORMAT	DUE
1	09/25	Course Introduction	lecture	-
	09/27	Introduction to Quality Lighting	Lecture	R1
2	10/02	Lighting Fundamentals	Lecture	R2
	10/04	Light Sources	Lecture	R3
3	10/09	Energy & the Environment / Intro to P1	Lecture	R4
	10/11	Luminaire Design	Lecture	R5
4	10/16	Light Quantities	Lecture/workshop	R6
	10/18	Lighting Controls	Lecture/workshop	R7
5	10/23	Present P1	Group presentations	P1
	10/25	Present P1 /Intro to P2	Group presentations	-
6	10/30	Lighting Design Process	Lecture	R8
	11/01	Lighting and Human Health	Lecture	R9
7	11/06	Integrated Lighting Design	Lecture	R10
	11/08	Next Generation Lighting / Intro to P3	Lecture	-
8	11/13	P2 Showcase	Group Presentations	P2
	11/15	Working Session / Intro to P4**	Working Session	-
9	11/20	Research in Electric Lighting	Lecture	Reading Journal
	11/22	Thanksgiving – No Class	-	-
10	11/27	Review Week - No Class	-	-
	11/29	Review Week - No Class	-	-
11	12/04	No Class	Submit P3	P3
	12/06	No Class	Submit P4	P4**

***P4 is only relevant for those taking the advanced technical elective credit*

READING JOURNAL (R1-R10)

The reading journal will account for 40% of your final grade (submitted individually), with each reading response worth 4%. The professor will post all readings on Canvas (at least one class session before the due date). Each reading will be accompanied by a set of questions,

which must be answered (typed or hand written) and brought to class on the posted deadline for discussion. All reading responses must be submitted in a bound journal (3-ring binder, notebook, or folder) on 11/20, before Thanksgiving Break. Individual responses will not be graded for each deadline, but may be checked occasionally to ensure completion. The professor may call on students during class to solicit their response to questions.

PROJECTS (P1-P4)

This course will include a term-long project (in teams of 3-4), broken into 3 parts (4 parts for those taking the advanced technical elective credit). Each project phase introduction (P1-P4) and due date is noted in the schedule. Late submissions are subject to a per day penalty. Projects submitted more than 4 days late will received no credit.

READINGS

Weekly readings will be posted on Canvas in PDF format. Required will be taken from:

Winchip, Susan. *Fundamentals of Lighting (2nd Edition)*. New York: Fairchild Books, 2011.

Additional Recommended Readings & References will be taken from:

Banham, Reyner. *Architecture of the Well-Tempered Environment (2nd Edition)*. Chicago: University of Chicago Press, 1984.

Marvin, Carolyn. *When Old Technologies Were New: Thinking About Electric Communication in the Late Nineteenth Century*. Oxford: Oxford University Press, 1990.

Fiel, Charlotte and Peter Fiel. *1000 Lights*. Koln: Taschen. 2015.

Sibthorp, Fletcher and Scala Quin. *Lighting: 20th Century Classics*. London: New Holland Publishers, 2012.

AFFIRMATION OF COMMUNITY STANDARDS

(<http://policies.uoregon.edu/ch1affirmation.html>): The University of Oregon community is dedicated to the advancement of knowledge and the development of integrity. In order to thrive and excel, this community must preserve the freedom of thought and expression of all its members... A culture of respect that honors the rights, safety, dignity and worth of every individual is essential to preserve such freedom...

ACADEMIC HONESTY

All work submitted in this course must be your own and produced exclusively for this course. The use of sources (ideas, quotations, paraphrases) must be properly acknowledged and documented. For the consequences of academic dishonesty refer to the Schedule of Classes published quarterly. Violations will be taken seriously and are noted on student disciplinary records. If you are in doubt regarding any of this, please consult the professor.

DISABILITY

“The University of Oregon is working to create inclusive learning environments. If there are aspects of the instruction or design of this course that result in barriers to your participation, please notify the instructors as soon as possible. You may also wish to contact Disability Services in 164 Oregon Hall at 346-1155 or disabsrv@uoregon.edu” If a student has a documented disability and anticipates needing accommodations in this course, please make arrangements to meet with the instructor in the first week of the term. Please request that the Counselor for Students with Disabilities send a letter verifying the disability.