

COURSE DATA

ARCE 330 | ARC 330 | Architectural Lighting (On Light and Lighting)
Spring 2019
3-credit units

FACULTY

Claudia Kappl Joy, Lecturer, Dipl.Ing.Arch., Mag. Lighting Design, IALD, IESNA
claudia@cll-conceptlightinglab.com
office hours *by appointment*

ASSOCIATED FACULTY

Trevor Cordivari, MArch, Jr. Assoc. IALD
trevor@cll-conceptlightinglab.com
office hours *by appointment*

Siri Beidler Trumble, Architect, AIA, Jr. Assoc. IALD
siri@cll-conceptlightinglab.com
office hours *by appointment*

CRITERIA

FULFILLMENT

This course is an elective

PREREQUISITES

This course is designed to be independent yet related to other courses

ENROLLMENT

This course is limited to 30 students; undergraduates may take this course by permission of instructor, etc.

CONTACT

3:30 – 6:00pm Thursdays

WEB + D2L

This course will be supported over D2L

COST + TRAVEL

Site Visit 1: Phoenix Central Library OR Taliesin West – Transportation Cost (Shared), estimated but not limited to \$ 10.00-50.00/ea.

Site Visit 2: Mirror Lab / Biosphere II – Cost, estimated but not limited to \$10.00-15.00/ea

Site Visit 3: SMOCA / MOCA Phoenix - Transportation Cost (Shared), estimated but not limited to \$ 15.00-60.00/ea.

Site Visit 4: World View / KUAT Studios – Transportation Cost (Shared), estimated but not limited to \$5.00 - \$10.00/ea

Site Visit 5: CLL Studio– Transportation Cost (Shared), estimated but not limited to \$ 3/ea.

Project 4: Modelling Material for Physical Study, estimated but not limited to \$ 20.00-50.00

Project 5: Lighting Material for Making a Lamp, estimated but not limited to \$ 50.00-100.00.

COURSE CONTENT

CATALOGUE DESCRIPTION

'WHAT is LIGHT' lies at the base of this course, which will discuss its many ways – from ephemeral and poetic qualities to scientific reality.

COURSE DESCRIPTION

This course discusses and references Light and Lighting in its various and often also unreconcilable ways – from its physical, optic and scientific realities and occurrences in Nature and Culture to the very Human Condition of perceiving, reading and interpreting its

appearances. The course will touch on Theory, History and Culture, Physics and Optics. We will learn how to measure and calculate quantifiable aspects, analyze daylighting and electrical lighting, see and discuss the latest technology in the form of lamps and applications. The class asks Students to synthesize and apply this information and understanding in short design and build exercises.

LEARNING OUTCOMES

This course will provide a broad education necessary to understand lighting in a global, economic, environmental, and societal context. Students should receive a knowledge of contemporary lighting issues and methods, developing an ability to design and conduct experiments, as well as analyze and interpret data.

After taking this course, students should be able to:

1. Observe Light and Narrate a Journal Entry.
2. Analyze where the Light in a Painting or Piece of Art is coming from and describe its effect (in preparation for environmental lighting analysis).
3. Record Lighting through, and learn to collect data (measurement).
4. Document Lighting through a collection of Experiences/Appearances (document via image or film).
5. Capture and Control Light by choosing from a limited pool of resources to make a Lamp (craft).
6. Recreate a professional photo taken of space – reconstruct, capture, record, present (analyze, compose, plan, coordinate, record, present, articulate).
7. Architectural/Engineering Collaboration via an architectural Project. This is an exercise to gain understanding of lighting process, from design intent through construction documents. The student will make a model, tell a story, narrate intent, communicate an idea, and develop a proposal for a client, provider/representative, designer/fabricator, consultant/engineer, or builder.

STRUCTURE AND ORGANIZATION

This is a module-based course taught by a team of instructors having specialized expertise in architecture and lighting. Classes are held on a regular weekly schedule. Projects and assignments are described below, under the heading WEIGHT. Instructors will have unique teaching pedagogies, but generally the course is about discovery and learning through experiences and creations.

COURSE OBJECTIVES

During this course, students will:

1. design and conduct lighting experiments that realize a design intention;
2. analyze and interpret data collected from existing installation or projects; and
3. technically document a lighting installation based on the above.

COURSE COMPONENTS + CRITERIA OF EVALUATION

This course is designed to achieve the objectives and outcomes indicated. Because architecture is an art as well as a science, and because every student and student-group present new challenges in the teaching of design, instructors may add, alter, or modify assignments, criteria, or project weights in order to adapt to evolving circumstances that are inherent in the practice of Architecture, and also to evaluate students' abilities to make such adaptations. The Instructor will notify the students in advance of such changes; students for their part will notify the professor within one week of such notification if the proposed changes will cause undue hardship. Students acknowledge the dynamic nature of this course.

The graded components of this course and their criteria of evaluation are currently anticipated to be as follows, but are subject to change as set forth above:

TEXTS

See Recommended and Required Texts on the following Page under REFERENCES

PROJECTS

Coursework, Related Reading and Study Assignments will follow the Course Module Structure and will be assigned via D2L according to the Schedule

COLLABORATION

Projects in this course will entail collaborative components wherein students should develop an ability to function on multidisciplinary teams and communicate effectively. Collaboration activities will include the definition of goals and problems together as a team, identification of team rules and values, and practice of working transparently and taking responsibility. Collaborative components will be evaluated by both the faculty and the students. Each student will evaluate his/her own contribution to the team effort, as well as the contribution made by each member of the team. The evaluative criteria will be outlined in each project statement.

WEIGHT

The Course Components are forecast to be:

PROJECTS

01: Observe – Document (a lighting condition)	10
02: Articulate – Narrate (a lighting situation)	10
03: Record – Interpret (take a photo/film)	15
04: Design a Fixture – Create a Scene	15
05: Plan – Document, Coordinate	<u>15</u>
subtotal, Projects	65

TEXTS	10
JOURNAL	15
COLLABORATION	<u>10</u>
Total	100%

REFERENCES

REQUIRED

- Augé, Marc. *Non-places*. London: Verso, 2011.
- Badger, Emily. "In the shadows of booming cities, a tension between sunlight and prosperity." *The Washington Post*, May 4th, 2015.
- Banham, Reyner. *The Architecture of the Well-tempered Environment*. London: Architectural Pr., 2009
- Böhme, Gernot, and Anna-Chr Engels-Schwarzpaul. *Atmospheric Architectures: The Aesthetics of Felt Spaces*. London: Bloomsbury Visual Arts, 2018.
- Crary, Jonathan. *24/7: Late Capitalism and the Ends of Sleep*. New York: Verso, 2014.
- Ejhed, Jan. *Window Typology*. Ljuslaboratoriet KTH-Syd Campus Haninge, 2004.
- Gibson, James J. *The Senses Considered as Perceptual Systems*. Greenwood Press, Westport, CT, 1983.
- Heschong, Lisa. *Thermal delight in architecture*. Cambridge, MA: MIT Press, 1979.
- *Light and Human Health: An Overview of the Impact of Optical Radiation on Visual, Circadian, Neuroendocrine, and Neurobehavioral Responses*. New York: Illuminating Engineering Society of North America, 2008.
- Kahn, Louis I. *Silence and Light*. Tokyo: A U, 1973.
- Kelly, Richard, and Dietrich Neumann. *The Structure of Light: Richard Kelly and the Illumination of Modern Architecture: Yale School of Architecture Gallery, August 23-October 2, 2010*. New Haven, CT: Yale School of Architecture, 2010.

- Koolhaas, Rem. *Junkspace*. Notting Hill Editions.
- Pallasmaa, Juhani. "Dwelling in Light: Tactile, Emotive and Life-Enhancing Light." Compiled by Simon Schubert. Daylight & Architecture, August 2016, 4-13.
- Rogers, Adam. "The Science of Why No One Agrees on the Color of This Dress." *Wired*. June 03, 2017. Accessed February 12, 2019. <https://www.wired.com/2015/02/science-one-agrees-color-dress/>.
- Schivelbusch, Wolfgang. *Disenchanted Night*. Berg, 1988.
- Tanizaki, Jun'ichirō. *In praise of shadows*. New Haven, Conn: Leete's Island Books. 1977.
- Virilio, Paul, and Julie Rose. *Open Sky*. London: Verso, 2008.
- Weschler, Lawrence, Robert Irwin, and David Hockney. *Seeing Is Forgetting the Name of the Thing One Sees: Over Thirty Years of Conversations with Robert Irwin*. Berkeley: University of California Press, 2009.
- Wild, Peter. *John C. Van Dyke: The Desert*. Boise, ID: Boise State University, 1988.
- Zardini, Mirko. *Sense of the City an Alternative Approach to Urbanism*. Lars Muller Publishers, 2006.

GENERAL

- Lechner, Norbert. 2001. *Heating, cooling, lighting: design methods for architects*. New York: Wiley.
- Ramos, Elisa Valero. *Light in architecture: the intangible material*. Newcastle upon Tyne: RIBA Publishing, 2015.
- Watzke, Megan K., and Kimberly K. Arcand. *Light: the visible spectrum and beyond*. New York, NY: Black Dog & Leventhal Publishers, 2015
- Zajonc, Arthur. *Catching the light: the entwined history of light and mind*. New York: Bantam Books, 1993.

SEMESTER SCHEDULE

A course calendar is attached to this syllabus

POLICIES + STATEMENTS

GRADING

Evaluations will be distributed at intervals during the semester and will indicate performance according to the stated criteria of evaluation. Students are expected to use this system to monitor and adjust their performance and to seek additional support from the professor, as appropriate. Evaluations will be based primarily on student's work, rather than effort expended. Students are expected to acquire knowledge and skill, not merely endeavor to do so.

CHANGE

By its very nature, the practice of architecture requires an ability to adapt to change, both by responding to unforeseen events in the delivery of services and in the revision of the work. Because an ability to adapt and embrace change is an essential skill in our profession, it may be considered in evaluations for this course.

LATE WORK

Work submitted after the deadline will be graded one or more letter grades below what would have been awarded had the work been submitted on time, appropriate to the length of delay and the importance of the assignment, at the Instructor's discretion.

INCOMPLETE WORK

Work submitted that is incomplete will be graded one or more letter grades below what would have been awarded had the work been complete, appropriate to the extent of incompleteness and the importance of the assignment, at the Instructor's discretion.

GRADING SCALE

Grades will be defined as follows:

scale	undergraduate criteria
A (90-100)	Excellence in most areas of evaluation, high competence in others.
B (80 to <90)	High Competence in most areas of evaluation, competence in others.
C (70 to <80)	Fulfilled all course requirements with competence. (Competence: the answering of all requirements; adequate fitness, ability, capacity; sufficient for the purpose.)
D (60 to <70)	Less than competent work in one or more areas of evaluation. One or more requirements lacking and/or sub-standard quality.
E (0 to <60)	Substantially incomplete work and/or work of an unsatisfactory quality.
Incomplete	Work left incomplete at the end of the semester <i>due to circumstances beyond the student's control</i> .

GRADE APPEAL

Students who believe they have been unfairly graded should follow the multi-step procedure outlined in the CAPLA Grade Appeal:

ATTENDANCE

Students are required to attend all classes for their duration. Upon the 2nd unexcused Absence (whether in part or for a session's entirety), the final grade will be lowered by 5% per each unexcused absence.

The UA's policy concerning Class Attendance, Participation, and Administrative Drops:

<http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>

EXCEPTIONS

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable:

<http://policy.arizona.edu/human-resources/religious-accommodation-policy>.

Observances pre-approved by the UA Dean of Students will be honored, as listed at:

<http://uhap.web.arizona.edu/policy/appointed-personnel/7.04.02>

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored:

<https://deanofstudents.arizona.edu/absences>

EXCUSED ABSENCE

The Instructor may grant an Excused Absence for an outside educational opportunity at the request of the Director or another instructor. Students granted an Excused Absence remain responsible for turning in work on time, even if due on the excused date, as well as getting all information and assignments covered during an Excused Absence. An Excused Absence does not count against the number of Absences specified above.

EMERGENCY ABSENCE

The Instructor may grant an Emergency Absence for bona fide events outside the control of a student, such as sudden serious illness, bodily harm, or other emergency.

written excuse

Emergency Absences must be certified by a professional in writing, such as doctor's excuses, police reports, or evidence of funeral. Written evidence must be submitted by the student within two weeks of the event and must include the certifying professional's contact information. Faculty or staff may verify the legitimacy of the source but may not inquire into the student's related personal information.

validity

"Immediate Family" is limited to parents, children, stepchildren, siblings, and cohabitating partners and spouses. To qualify as an Emergency Absence, the illness or event must be an actual emergency (i.e., events that require immediate attention); otherwise it will be treated as a standard Absence. Scheduled doctor consultations do not qualify.

make-up work

Students granted an Emergency Absence remain responsible for turning in all work as well as obtaining all information and assignments covered in their absence. At the Instructor's discretion, the student may be granted extended deadlines appropriate to the impact of the event. Instructors are not obliged to grant Emergency Absences if the period missed makes it unlikely for the student to be able to achieve a competent level of accomplishment consistent with expectations for the rest of the class; in such cases students are advised to drop the course or seek a medical withdrawal.

DOCUMENTATION STANDARDS

A professional standard in contract documents insures that every page indicates sufficient information to link it to its host set and, similarly, every drawing provides sufficient metadata that it is clearly linked to its dataset. In keeping with this data standard, documentation in this course will comply with the following standards:

ARCHIVE DOCUMENTATION

Work shall be submitted for this course that demonstrates both the learning objectives and the final project(s), as requested by the professor. Digital files shall be submitted in the following naming convention:

ARCEXXX_YYYYS_category_Lastname_F

where

ARCEXXX is the course number, e.g., ARCE330;

YYYYS is the year and semester (F/S/SUM), e.g., 2019S;

category is the assignment type or drawing type, e.g., SitePlan, LongitudinalSection3, Homework4; and

Lastname_F is the student's last name and first initial

CLASSROOM BEHAVIOR + STUDIO CULTURE

As a condition of enrollment, students agree to abide by the standards set forth in the Student Code of Conduct:

<http://azregents.asu.edu/trc/Policy Manual/5-308-Student Code of Conduct.pdf>

The use of cell phones, pagers, electronic devices or other materials unrelated to course specific activities are not permitted during course hours; neither are unauthorized discussions amongst students or other disturbances.

All electronic media are limited to narrowcasting (headsets) at all times, set to a volume that is not audible to others. Per the University policy, non-assist animals are forbidden from University buildings.

Students are responsible for checking their UA email and course D2L sites Monday-Friday, at least once every twenty-four hours, for communications from the Professor.

ACADEMIC POLICIES

Academic policies can be found in The University of Arizona General Academic Catalog:

<http://catalog.arizona.edu/allcats.html>

along with the UA Final Exam Regulations:

<https://www.registrar.arizona.edu/courses/final-examination-regulations-and-information>

and Final Exam Schedule:

<http://www.registrar.arizona.edu/schedules/finals.htm>

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies:

<http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete>

<http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal>

ACADEMIC INTEGRITY

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog:

<http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>

INCLUSIVE EXCELLENCE

This course will follow the UA diversity initiative designed to create a welcoming environment for all.

<http://diversity.arizona.edu/>

NONDISCRIMINATION + ANTI-HARASSMENT

Students are encouraged to express well-formed opinions and their reasons there for. They are expected to create a tolerant and open environment where such opinions can be expressed without bullying or discrimination. The University is committed to creating and maintaining an environment free of discrimination:

<http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

ELECTIVE NAME AND PRONOUN USE

This course sponsors an educational environment of inclusion and mutual respect, including elective gender pronoun use and self-identification; rosters indicating such choices will be updated throughout the semester, upon student request.

PLAGIARISM

The practice of taking someone else's work or ideas and passing them off as one's own is known as plagiarism and is a serious violation of academic and professional ethics. The consequences for plagiarism are severe, including a failing grade for the course, suspension, or expulsion from the University per the UA policy on plagiarism:

<http://deanofstudents.arizona.edu/codeofacademicintegrity>

TESTING: In any testing situation, whether graded or not, students shall not refer to outside resources (whether printed materials, such as books and journals, texts, Internet, e-mail, Google, instant messaging, or other resources) unless explicitly instructed to do so by the professor of record. Students operating digital devices in testing situations when not authorized to do so shall be assumed to be cheating.

CITATION: Plagiarism applies to professional and public works, as well as to the work produced by peers. Students shall be assiduous in citing the work of others, whether in copying a graphic, either in part or in total, in quoting a text, or in building upon ideas, designs, or forms. Citation is used to give credit to the original author and to allow others to identify and trace source material.

Building upon the work of others is an inevitable part of learning and inherent to scholarship; hence it is an acceptable practice as long as the original sources are properly cited. Textual citations should follow the *Chicago Manual of Style*. Citations of buildings and other designed works should include both a) project and b) source information:

- a) project citation: the work's name or title, its location, the name of its designer(s), and the date designed (or, if built, constructed).

- b) source citation: the source from which the information or illustration of the work was obtained formatted according to the Notes and Bibliography format specified in the *Chicago Manual of Style*:

http://www.chicagomanualofstyle.org/tools_citationguide.html

PRODUCTION: Using the labor of others, whether paid or freely given, offers the beneficiary an unfair advantage relative to peers and is prohibited unless expressly authorized in writing by the professor(s) of record.

COPYRIGHT

Materials in this course may be copyrighted. They are intended for use only by students registered and enrolled in the course and are only for instructional activities associated with and for the duration of the course. They may not be retained in another medium or disseminated, including being uploaded to file-sharing sites on the internet or elsewhere, without the written permission of the instructor. They are provided in compliance with the provisions of the Teach Act:

<http://www.copyright.com/Services/copyrighoncampus/basics/teach.html>.

Students should refer to University copyright polities:

<http://www.library.arizona.edu/help/tutorials/copyright/index.html>

THREATENING BEHAVIOR

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself:

<http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>

ACCESSIBILITY AND ACCOMMODATIONS

Universal Design is the obligation of every architect and should be a quality of every environment. It is also the University's goal that learning experiences be accessible. Students who anticipate or experience physical or academic barriers based on disability, should discuss them with the Instructor; students are encouraged to explore possible accommodations with the Disability Resources Center (520-621-3268).

<http://drc.arizona.edu/instructors/syllabus-statement>

RETENTION OF WORK

The School of Architecture may retain samples of student work produced in this course as part of the accreditation process of the National Architectural Accrediting Board, Inc. (NAAB) or other University purposes. This may include models, mock-ups, prints, and other physical documents. Students will be notified of work that needs to be retained and shall submit those to the Archivist or the Instructor, as determined by the Instructor, before grades will be released. After accreditation review, the owners of the retained work will be given the opportunity to reclaim it at their own expense (at the name and email address affixed to the product by the student at the time of submittal) for up to 30 days after notification. By contributing work students aid the School in certifying its work, which is essential to the standing and reputation of the institution, for which the Faculty is grateful.

end of syllabus

TEMPLATE VERSION: 2018.09.12