INTRODUCTION TO THE COURSE

Catalog Description: Provides and understanding of architectural lighting design. Fundamental principles of light, vision and perception, visual comfort and performance, daylight and electric light sources, systems and luminaries, electrical and lighting codes, and lighting design for a variety of applications. Emphasis on energy-efficient design strategies, system integration and occupant comfort. Prerequisites: ABS 331 and ABS 332 or equivalent.

Emphasis on daylighting as an architectural design determinant; concepts, techniques, methodology, experiments and case studies.

OBJECTIVES

- Understand and use daylight as an architectural determinant.
- Explore daylighting influences on building occupants.
- Understand the impact of natural lighting strategies on building energy efficiency and on sustainable design.
- Integrate natural and artificial illumination systems within building design.
- Become familiar with calculation procedures for predicting daylight performance within buildings.
- Simulate natural lighting conditions through use of architectural models or computer analysis.

THE CLASS

Students should come to class prepared for the discussion of the day regardless of whether the instructor or students are responsible for the discussion. Bring textbooks, handouts and other items listed for the specific class period. Reading assignments should be read prior to the day of discussion. Since this class is in a seminar format, students will be expected to participate and/or lead discussions. Since the class is small, we will work on as informal of basis as required for our objectives. All discussion sessions are planned to be interactive, with students assuming responsibility for an active role! Some field work or site visits may be involved.

The class is scheduled to meet on Thursdays from 11:30 to 2:20 in SOA 114. A portion of this class time will be used for discussion of topics for the week; other times will be used for field and laboratory work and for individual or team meetings with the instructor.
Attendance is required and record of attendance will be kept by the instructor as a measure of attitude and involvement. The record will be a consideration when final grades are assigned. Absences from the class should be discussed with the instructor prior to the class date, if possible.

The course syllabus and schedule will be provided in hard copy form on the first day of class. Additionally, the course syllabus, schedule and assignments will be available by the second week of class on the following web site: http://www.unlv.edu/faculty2/kroel/.

**TEXT AND REFERENCE MATERIAL**

1. Numerous reading materials; books on reserve in the Library.
2. Individual reading, research, and fieldwork.

**ASSIGNMENTS**

Assignments and due dates are noted on your syllabus. The breakdown for grading purposes is outlined below, under GRADING. After reviewing the overview of the assignments below, I want to encourage each of you to have a clear focus that helps you coordinate your assignments. For example, if you decide your design guide will be on new, innovative sidelighting active daylighting strategies I would want to see each of your other assignments be on projects that have those, or similar strategies. We will discuss this in depth. Your assignments are:

1) A case study analysis of a building of your choice outside of Las Vegas. (Minimum of ten page written paper, visuals and PowerPoint™ or web-page based presentation to the class). Library and web research-based.

2) A study of daylighting in an existing building in the Las Vegas or a geographically close area - you will be evaluating the quantitative and qualitative characteristics of the space through digital photography and field measurements, modeling, field surveys, etc. (Minimum of ten page paper, visuals and PowerPoint™ or web page presentation of the results and brief presentation to the class). You may work with me to individualize the approach and content of this presentation, based on your prior experiences with daylighting. For example, some may have worked with daylighting models before, others with computer modeling, field documentation, etc. I don’t want you repeating previous experiences, so we will customize as needed!

3) Development of a design guide on a specialized aspect of daylighting design; topic selected by the student in consultation with the instructor. (Minimum of ten page paper, visuals and PowerPoint™ or web page presentation of the results and brief presentation to the class).

4) Weekly readings (minimum of two per week) identified by each student. Be prepared to share comments about your readings during class each week. Maintain a database to share with all students at the end of the semester. The class should agree on a common database format → see notes below. We will combine all data at the end of semester so everyone has the data file.

Each of these assignments is intended to reinforce the course objectives and should allow you a great deal of individual choice in your focus or direction for the class. Each assignment will have a brief problem statement outlining requirements and general information. **Reading assignments are outlined on the syllabus; these**
assignments should be supplemented with more in-depth research and readings by the student (see #4 above). Do not rely solely on web-based sources. While you will have a number of these referenced within the class, please be aware that the instructor knows that the sites are creditable and reliable. Many sites are not creditable, or at least are sloppy, in their documentation of material. The instructor may frequently recommend possible sources for these in-depth readings; the student should also be prepared to share sources with other classmates. All class sessions will, in part, be group discussion format.

CITING AND REFERENCING SOURCES

You must correctly credit and cite sources that you use for any of your work. If you are unsure about the process, make sure you attend a UNLV Library session on library and web research and how to correctly cite sources!!! I would suggest you use the APA Publications Manual (http://www.apastyle.org/). It is a straight forward approach to style. Others are certainly fine to use; simply indicate to me which style manual you choose to follow. See the section below on academic integrity under UNLV Policies.

I encourage all graduate students to use a bibliographic citation database manager (or develop your own) during their graduate studies. UNLV has Refworks available for your use (https://www.refworks.com/RWSingle/login.asp?WNCLang=false). After much trial and error, I have found Endnote™ to be my choice and one that is relatively inexpensive. The web site for Endnote™ is: www.endnote.com. You can download a trial version and look for beginning of semester specials on price. The current version is “9” and it is available in “MAC” and “PC” versions; files are easily transportable to the opposite version. It is also great for maintaining a photographic image database! I tend to upgrade every other version.

ABS 731 GRADING

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GRADUATE LECTURE AND SEMINAR COURSE GRADING

The following standards supplement the Grading System for Graduate Students as listed in the current Graduate Catalog.

A Superior: Represents comprehensive excellence. Not only does the work fulfill all requirements in an excellent and professional manner but goes beyond the given requirements aiming at standards higher than requested. The student is an active and engaged participant in all class activities; intellectual progress and development have been demonstrated by the timely preparation of thoughtful work on a regular basis. This work is of a quality that is instructive to the teacher and exemplary to the rest of the class and sets a standard for the exercise and/or the course.
B Above Average: Represents work that can be distinguished as being of truly “good” quality. The work is free of significant flaws, is comprehensive in scope and exceeds all minimum requirements. The student is an active and engaged participant in all class activities; intellectual progress and development have been demonstrated by the timely preparation of work on a regular basis. This work is of a quality that is exemplary for the exercise and/or the course.

C Average: Represents satisfactory and average performance. The work is free of major design flaws and is recognizable as coherent architecture. Intellectual progress and development have been demonstrated by the timely preparation of work on a regular basis. The student and instructor can take “satisfaction” in the average resolution of the design exercise.

A “C” is not passing work at the graduate level; all graduate students must attain a minimum grade of “B-” or higher in order to progress towards completion of the degree. Courses in which a grade lower than a “B-” has been attained must be repeated.

Graduate Assistants must achieve a grade of “B” or higher in all courses in order to maintain their Assistantship (see the Graduate Catalog for more details).

I Incomplete: An Incomplete on a project can only be given in exceptional cases in which failure to complete the assignment is a result of illness or injury requiring a visit to a doctor, a death in the immediate family, military or legal obligations, or other equally serious reasons that can be documented in acceptable written form (such as medical records or legal notification). When possible, all outstanding circumstances that might impact the completion of a project should be brought to the instructor’s attention in advance of the class(es) that may be missed. In addition, documentation for excused absences must be provided no later than the third class meeting following the event or the absence(s) will be counted as unexcused and no Incomplete can be given. All incomplete work is subject to late penalties as per the instructor’s policy.

An Incomplete in a course is only given in exceptional cases where there is/was a serious excusable reason for not completing course requirements (see above). The quality of work in the course up to that point has been satisfactory and passing (see the Graduate Catalog for more details).

Instructors are permitted to assign + or – to grades. However, there is no grade of “A+” within these guidelines.

If, for any reason, you do not understand an assignment, it is your responsibility to see the instructor for clarification and assistance. All assignments must be completed to receive a passing grade in the class. All reserve reading assignments are in the Howe Library under the instructor's reserve list for this class.

Late assignments shall receive no more than 1/2 credit. Assignments will not be accepted if more than five weekdays late without permission of the instructor. When an official excuse exists (proven illness or family emergency), work will be graded without penalty.

UNLV POLICIES AND INFORMATION
“If you have a documented disability that requires assistance, you will need to go to Disability Services (DS) for coordination in your academic accommodations. DS is located within the Learning Enhancement Services Office in the Reynolds Student Services Center Complex (SSC), room 137. The DS phone number is 702.895.0866, or TDD 702.895.0652”. You may visit their website at www.unlv.edu/studentlife/disability/syllabus3.html.

“The University requires all members of the University Community to familiarize themselves and to follow copyright and fair use requirements. YOU ARE INDIVIDUALLY AND SOLELY RESPONSIBLE FOR VIOLATIONS OF COPYRIGHT AND FAIR USE LAWS. THE UNIVERSITY WILL NEITHER PROTECT NOR DEFEND YOU NOR ASSUME ANY RESPONSIBILITY FOR EMPLOYEE OR STUDENT VIOLATIONS OF FAIR USE LAWS. Violations of copyright laws could subject you to federal and state civil penalties and criminal liability as well as disciplinary action under University policies. To help familiarize yourself with copyright and fair use policies, the University encourages you to visit its copyright web page at: http://www.unlv.edu/committees/copyright/”.

“The University of Nevada, Las Vegas reserves the right to change class times, days, buildings, room numbers, instructors, fees, etc. where circumstances warrant such changes. It is the student’s responsibility to check with the department before the class begins to see if any changes have been made. The ONLINE COURSE LISTINGS on the UNLV web site are updated daily. Students are encouraged to check the web for additions, changes, and cancellations”.

“The University of Nevada, Las Vegas reserves the right to eliminate, cancel, phase out or reduce in size courses and/or programs for financial, curricular, or programmatic reasons”.

“As a general rule, a student missing a class or laboratory assignment because of observance of a religious holiday shall have the opportunity to make up missed work. Students must notify the instructor of anticipated absences by the last day of registration, January 24th, to be assured of this opportunity. The instructor may allow an additional week past this deadline. If allowed, the latter extension must have a clear deadline”. “Also, students who represent UNLV at any official extracurricular activity shall have the opportunity to make up assignments, but the student must provide official written notification to the instructor no less than one week prior to the missed class(es)”. For additional information consult the memo dated January 10, 2005 from the Provost on “The new semester”. For the School of Architecture, notification must be in writing and the instructor’s signature on the written notification shall serve as official approval for absences.

**In the School of Architecture, any student in any course who accumulates three or more unexcused absences will be sent a warning letter specifying a date by which (s)he must meet with the course instructor to discuss the reasons for the absences; if (s)he has not met with the course instructor by that date, the instructor will either initiate an administrative drop or assign a grade of F.**

**Cheating, Plagiarism, and Academic Dishonesty**

“The University is dedicated to learning by all members of the community. In responding to this dedication, the university demands a high level of scholarly behavior and academic honesty on the part of students, faculty, staff, and
administrators. While maintenance of an atmosphere of academic integrity is the responsibility of all, the faculty is principally responsible for enforcement of these standards”. Please consult the undergraduate catalog (p. 58-59) or the graduate catalog (p. 32) for detailed and clear discussions of implications of these issues.

Other UNLV policies and regulations are available at this web page: [http://registrar.unlv.edu/20032004Fall/Regulations.asp](http://registrar.unlv.edu/20032004Fall/Regulations.asp).

**LIBRARY SUPPORT**

The Architectural Studies Library, under the leadership of librarian Jeanne Brown, has extensive materials to support your class work in the School of Architecture.

Online guides in a variety of areas, including citation format, finding scholarly articles, researching Las Vegas information, etc. are at [http://www.library.unlv.edu/arch/instr/onlineinstruction.html](http://www.library.unlv.edu/arch/instr/onlineinstruction.html). In addition, the librarian is available to work with you one-on-one, or in groups, to identify resources on a topic.

Staff in the Architecture Studies Library are also available to work with you to find materials and to answer questions. You can ask at the service counter in the Architecture Studies Library, online at [http://www.library.unlv.edu/arch/archquestions.html](http://www.library.unlv.edu/arch/archquestions.html), or by calling 895-1959.

The University Libraries offer free, brief clinics and workshops to help you increase your research skills and save time searching. Bring your topic to a Research Clinic for in-depth, one-on-one consultation with a research expert, or attend one of our more structured workshops on topics such as finding books and articles, successful search strategies, or Internet research. Check out the schedule at [http://www.library.unlv.edu/inst/events.html](http://www.library.unlv.edu/inst/events.html) or call 895-2123 for more information.

**REQUIRED TEXT**


Readings from selected library and web-based sources.

**SUPPLEMENTARY BIBLIOGRAPHY - BOOKS**


Gainesville, Fla., Armed Forces-National Research Council Vision Committee Secretariat; Distributed by the Secretariat Armed Forces-National Research Council Committee on Vision.


At her christening, the princess, Little Daylight, receives a curse from a wicked fairy that she shall never see the sun until kissed by a prince.


Longmore, J. and Building Research Station (Great Britain) (1968). BRS daylight protractors. London, H.M.S.O.


At her christening, the princess, Little Daylight, receives a curse from a wicked fairy that she shall never see the sun until kissed by a prince.


Park, O. (1929). The measurement of daylight in the Chicago area and its ecological significance: iv, 165 l.


Contacting the Instructor

Make an appointment, see me before or after class or email me!
CHANGES TO SCHEDULE

The schedule is subject to change upon notification of the instructor! A revised schedule will be published with any significant changes. Student teams may require frequent field trips for work on the class projects.