Course Title: dsIT 108 Architectural Lighting Design

Units: 3 units, 3 hours per week

Faculty Web Page and MYSJSU Messaging:
Copies of the course materials such as the syllabus, major assignments, project handouts, etc. may be found on the faculty web page. You are responsible for regularly checking with the messaging system through MySJSU.

Course Description:
This Interior Design Specialization course provides an introduction to the effects of light on interior space, as well as to various lighting products and lighting systems. The course teaches the basics on lighting layout, lighting terminology and the lighting designers role in the lighting design process.

Student Learning Objectives:
SLO1. Students will learn about the lighting challenges for interior spaces and how to effectively meet them.

SLO2. Think critically. They will have the ability to make a comprehensive analysis and evaluation of the architectural lighting of an interior space.

SLO3. Apply lighting design principles to the conception and development of interior and exterior spaces, building elements, and / or components.

SLO4. Students will explore lighting fixture design and design and build a working decorative shade.
SLO5. Students will learn basic hand calculation methods to determine light levels in an area and at a specific point.

**Course Content Learning Outcomes:**
Upon successful completion of this course, students will be able to:

LO1. Apply the concepts of lighting design to the built environment.

LO2. Select and specify appropriate light fixtures and equipment including layout drawings and detailed product description.

LO3. Understand the basic properties of electric light through the application of different diffusing materials.

LO4. Use appropriate software such as Autocad to represent and analyze fixture design.

**Required Texts/Readings:**
Designing Light: The Art, Science, and Practice of Architectural Lighting Design by Jason Livingston

**Library Resources (liaison):**
The San Jose State University Library supports student access to information with in-person reference at the King Library Reference Desk and specialized support for Design online at http://libguides.sjsu.edu/design or by appointment with Librarian Rebecca Feind. She may be contacted at rebecca.feind@sjsu.edu or 808-2007.

**Required Materials:**
You will need a laptop and the software listed below:
Microsoft Word
CAD or Revit
Calculator with sin and cosin functions

Additionally, students will also be responsible for purchasing material as required for assignments. Materials may include high quality paper for print outs, ink, materials for model making and laser cutting, paper and professional printing services among other things.
**Administrative Policies and Classroom Protocol:**
Teaching is a two-way dialogue. Participation is expected at all class sessions and the student's presence throughout the entire class time is required. Whenever possible, the professor should be notified in advance of a student's inability to attend a class. In the event the professor is late for class, students are authorized to leave after a half hour wait. It is important to be on time and to be present. It is possible to produce “A” work in the class yet receive a lower grade due to poor class participation.

**If you miss a class:**
It is your responsibility to find out what you missed BEFORE the next class. Technical demos and lectures will not be repeated for students who miss a class. Projected critique dates will given to you in advance; however, in some instances these may change due to extenuating circumstances, and it is your responsibility to find out about any announcements made in class, by communicating with your classmates.

**Cell Phones:**
Students will turn their cell phones off or put them on vibrate mode while in class. They will not answer their phones in class. Students whose phones disrupt the course and do not stop when requested by the instructor will be referred to the Judicial Affairs Officer of the University.

**Computer Use:**
In the classroom, faculty allow students to use computers only for class-related activities. These include activities such as taking notes on the lecture underway, following the lecture on Web-based PowerPoint slides that the instructor has posted, and finding Web sites to which the instructor directs students at the time of the lecture. Students who use their computers for other activities or who abuse the equipment in any way, at a minimum, will be asked to leave the class and will lose participation points for the day, and, at a maximum, will be referred to the Judicial Affairs Officer of the University for disrupting the course. (Such referral can lead to suspension from the University.) Students are urged to report to their instructors computer use that they regard as inappropriate (i.e., used for activities that are not class related).

**Project Deadlines:**
Deadlines will be made available to you in class. Any work not turned in on the date it is due will not be graded unless arrangements have been made in advance. **Special circumstances** will be taken into consideration (e.g. Illness, court appearance, death of a relative.) All assignments must be completed and turned in to receive a passing grade for the class.
The instructor reserves the right to alter assignments and change project due dates with sufficient notice to the students.

**Dropping and Adding:**
Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic calendar web page located at http://www.sjsu.edu/academic_programs/calendars/academic_calendar/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

**Assignments and Grading:**
This course will be composed of a combination of in class lectures, quizzes, lighting design of a small conference room and one custom shade design assignment.

There will be a class critique of most assignments on its due date. Critiques will usually take up a whole class period. Participation in critiques is mandatory; rushing in towards the end of a critique with a piece you just finished will be considered non-participation in that critique and you will not be allowed to present your work. It is extremely important that you are awake, alert and fully involved in each critique for the entire class period.

Your final grade for this class will be based on class participation in lectures, successful completion of quizzes, lighting design of small retail area and the custom shade design.

**Grading Criteria:**

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<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>60%</td>
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<tr>
<td>Quizzes</td>
<td>20%</td>
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<tr>
<td>Class Participation</td>
<td>20%</td>
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</tbody>
</table>
Grading: All project grades will be assessed on a scale of 0-100.

The grading scale is as follows:

**Grading Percentage Breakdown:**

- 97-100 = A+
- 93-96  = A
- 90-92  = A-
- 87-89  = B+
- 83-86  = B
- 80-82  = B-
- 77-79  = C+
- 73-76  = C
- 70-72  = C-
- 67-69  = D+
- 63-66  = D
- 60-62  = D-
- 59 and below = F

- **A:** Excellent. Indicates work of a very high character; the highest grade given. This grade is reserved for work that shows leadership and inspiration, demonstrating significant insight developed to its fullest extent and presented with exquisite craftsmanship.
- **B:** Good. Indicates work that is definitely above average, though not of the highest quality. This work shows thorough exploration and development, and is well presented with good craftsmanship, but it may not rise to the highest level of excellence.
- **C:** Fair. Indicates work of average or medium character. Work in this category demonstrates complete fulfillment of the stated requirements and an understanding of the issues covered, but does not exceed the expectations of understanding, development, or execution.
- **D:** Pass. Indicate work below average and unsatisfactory. The lowest passing grade. Though work may meet the minimum requirements, it lacks depth, development or is unsatisfactorily crafted.
- **F:** Fail. Indicates work that the student knows so little of the subject that it must be repeated in order that credit may be received. Work in this category may be unfinished, unimaginative, underdeveloped or poorly executed, and shows minimal understanding of issues.
Emergency Phone Numbers:
Emergency: dial 911 (FROM A SCHOOL PHONE, NOT A CELLPHONE!)
Escort Service: dial 42222

University, College, or Department Policy Information:

a) Academic integrity statement (from Office of Judicial Affairs):
Your own commitment to learning, as evidenced by your enrollment at San José State University and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the Office of Judicial Affairs. The policy on academic integrity can be found at http://www2.sjsu.edu/senate/S04-12.pdf

b) Campus policy in compliance with the Americans with Disabilities Act:
If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability.

Academic Honesty:
Faculty will make every reasonable effort to foster honest academic conduct in their courses. They will secure examinations and their answers so that students cannot have prior access to them and proctor examinations to prevent students from copying or exchanging information. They will be on the alert for plagiarism. Faculty will provide additional information, ideally on the green sheet, about other unacceptable procedures in class work and examinations. Students who are caught cheating will be reported to the Judicial Affairs Officer of the University, as prescribed by Academic Senate Policy S04-12.

• "You are responsible for understanding the policies and procedures about add/drops, academic renewal, withdrawal, etc. found at http://www2.sjsu.edu/senate/S04-12.pdf
• Expectations about classroom behavior; see Academic Senate Policy S90-5 on Student Rights and Responsibilities.

• As appropriate to your particular class, a definition of plagiarism, such as that found on Judicial Affairs website at http://www2.sjsu.edu/senate/plagarismpolicies.htm

• “If you would like to include in your project any material you have submitted, or plan to submit, for another class, please note that SJSU’s Academic Integrity policy S04-12 requires approval by instructors.”

Student Technology Resources
Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include digital and VHS camcorders, VHS and Beta video players, 16 mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

Student Affairs
The Division of Student Affairs provides a wide variety of services – career development, health and wellness, campus life, leadership development, cross cultural experiences, disability resources, psychological counseling, student housing, recreation, and co-curricular events. If you are interested in learning more about the departments and opportunities and services, please visit http://www.sjsu.edu/studentaffairs/

Learning Assistance Resource Center
The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full academic potential and to inspire them to become independent learners. The Center’s tutors are trained and nationally certified by the College Reading and Learning Association (CRLA). They provide content-based tutoring in many lower division courses (some upper division) as well as writing and study skills assistance. Small group, individual, and drop-in tutoring are available. Please visit the LARC website for more information at http://www.sjsu.edu/larc/.
SJSU Writing Center
The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. The Writing Center website is located at http://www.sjsu.edu/writingcenter/about/staff/.

Peer Mentor Center
The Peer Mentor Center is located on the 1st floor of Clark Hall in the Academic Success Center. The Peer Mentor Center is staffed with Peer Mentors who excel in helping students manage university life, tackling problems that range from academic challenges to interpersonal struggles. On the road to graduation, Peer Mentors are navigators, offering “roadside assistance” to peers who feel a bit lost or simply need help mapping out the locations of campus resources. Peer Mentor services are free and available on a drop –in basis, no reservation required. The Peer Mentor Center website is located at http://www.sjsu.edu/muse/peermentor/
Course Schedule:
The instructor reserves the right to alter the course schedule and will provide sufficient notice to the students if assignment due dates change.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
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<tbody>
<tr>
<td>1</td>
<td>August 21</td>
<td>In class discussion: Introduction – syllabus review, lighting basics (how we see, vision and perception, four design elements of light, Richard Kelly’s (R.K. - 3 Forms of Lightplay), review assignments and material for quiz. Assignments: Due Aug. 28th: 1. Reading: Ch.3, 4 and 5 (related to this week’s discussion), Ch.2 + 6 (next week’s discussion) in preparation for Quiz #1. 2. Hand in two color printed examples each of Kelly's forms of lightplay along with a 5 to 10 sentence description of the lighting in each photo. Use template provided. 3. In addition to handing in your homework, email PDF’s of each example (using the template I provide you) to me before 2:30pm Aug. 28, 2015. 4. <strong>Title of PDF file should be: SJSU_dsIT108_RK_name of student.</strong></td>
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<td>2</td>
<td>August 28</td>
<td>In class discussion: Light and Shadow; Distribution and Direction of Light, Lighting Concept (Point, line, plane sources, interaction of light and materials, direction and glare), review assignments, review material for quiz. 1. Hand in Richard Kelly homework at the beginning of class 2. Quiz #1 (Ch 3,4,5) after handing in homework Assignments: Due September 4 1. Reading: Ch.7 + 8 2. Study for Quiz #2 (Ch 2,6) 3. Light and Materials: Hand in photographs of 10 different ways to light the same object/material to reveal the different</td>
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<td>Week</td>
<td>Date</td>
<td>Topics, Readings, Assignments, Deadlines</td>
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<td>3</td>
<td>September 4 (LAMP DAY)</td>
<td>characteristics of the object/material. Use template provided. Email PDF's of each photograph (using the template I provide you don’t send me photos that do not use the template) to me before 2:30 pm Sept. 4th, 2015. Title of file should be: SJSU_dsIT108_LM_name of student.</td>
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<td>In class discussion: Lamps (incandescent, gas discharge, LED, ballasts and transformers, Color Rendition Index, Kelvin Scale). 1. Hand in Light and Material homework before class begins 2. Quiz #2: (Ch 2, 6) – given at the beginning of class</td>
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<td>Assignments: Due September 11 1. Read Ch. 9. 2. Study for Quiz #3 (Ch 7, 8)</td>
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<td>4</td>
<td>September 11 (FIXTURE DAY)</td>
<td>In class discussion: Luminaires (Distribution, optical control, common luminaire types), coves, soffits, wall slots, wall washing, wall grazing, track assemblies and fixtures, luminous ceilings, review different diffusing materials, wall graze vs. wallwash, 1. Quiz #3 (Ch 7, 8) after handing in homework</td>
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<td>Assignments: Due September 18 1. Read Ch. 13 2. Study for Quiz #4. 3. Description of fixtures in room and hand render RCP and plan of room 4. Bring lamp catalogs, calculators with sine/cosine function, a device with AutoCAD or equivalent to draft in class</td>
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<td>5</td>
<td>September 18</td>
<td>In class discussion: Photometrics and Calculations, (Point Method of calculation, in-class walk thru of calculations) 1. Hand in rendering of room homework before class begins 2. Quiz #4 (chptr 9) – given at the beginning of class 3. Review homework assignment</td>
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<td>Week</td>
<td>Date</td>
<td>Topics, Readings, Assignments, Deadlines</td>
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| 6    | September 25 | Assignments: Due September 25  
1. Re-read Ch. 13  
2. Conference room assignment  
In class discussion: Photometrics and Calculations, (Point Method of calculation, in-class walk thru of calculations)  
• Walk thru homework assignment  
• HAND CALC-point method  
• HAND CALC-at an angle  
• Take light level readings around campus |
| 7    | October 2   | No class                                                                                                                                 |
| 8    | October 9   | Assignments: Due October 9  
1. No homework  
In class discussion: Design Process & Design Documentation; Installation Details (Project Phases, Reflected Ceiling Plans, Fixture Schedules, Fixture Cut Sheets, Coves, Soffits, Wall Slots, Wall Washing, Wall Grazing, Luminous Ceilings)  
• Review custom fixture design assignment requirements-hand out architects names  
• Review example of previous work  
• In-class research |
| 9    | October 16  | Assignments: Due October 16  
1. Arrive at Borden Lighting no later than 3:30pm  
Field trip - Borden Lighting custom fixture manufacturer tour |
|      |            | Assignments: Due October 23  
1. Sketch concept with supporting inspirational images for a desk crit.                                                             |
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<th>Week</th>
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<tr>
<td>10</td>
<td>October 23</td>
<td>In class discussion: desk critique: review custom fixture concept and scaled sketches</td>
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<td>(consider this your MID TERM)</td>
<td>Assignment: Due October 30:</td>
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<td>1. Continue to develop concept of custom fixture</td>
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<td>11</td>
<td>October 30</td>
<td>In class discussion: Sustainability and Codes; building, electrical and sustainability codes. Work on your custom light fixtures. Bring materials and/or sketches to discuss materials, size, etc in class.</td>
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<td>Assignment: Due November 6</td>
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<td>1. Study for Quiz #5 (Ch 14,15)</td>
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<td>2. Develop custom light fixture and drawings.</td>
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<tr>
<td>12</td>
<td>November 6</td>
<td>In class discussion: In-class work on your custom light fixtures. Bring materials and/or laptops to discuss materials, lamping, size, etc.</td>
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<td>1. Quiz #5 (Ch 14,15)</td>
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<td>2. Work on custom light fixture in class.</td>
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<td>Assignment: Due November 13</td>
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<tr>
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<td>1. Develop custom light fixture and drawings.</td>
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<tr>
<td>13</td>
<td>November 13</td>
<td>In class discussion: Review progress of custom fixture and drawings</td>
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<td>Assignment: Due November 20</td>
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<td>1. Build custom light fixture and finish drawings.</td>
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<td>14</td>
<td>November 20</td>
<td>In class discussion: Review progress of custom fixture and drawings</td>
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<td>Assignment: Due December 4</td>
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<td>1. Finish building custom light fixture and finish drawings.</td>
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<tr>
<td>15</td>
<td>November 27</td>
<td>Thanksgiving – No class</td>
</tr>
<tr>
<td>16</td>
<td>December 4</td>
<td>Final presentations</td>
</tr>
</tbody>
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