



**ATTACHMENT 5.**

**T6. COURSE SPECIFICATIONS  
(CS)**



هيئة تقويم التعليم  
Education Evaluation Commission

## Course Specifications

Institution: <i>ALYamamah University</i>	Date: <i>01/12/2018</i>
College/ Department : <i>College of Engineering and Architecture</i>	

### A. Course Identification and General Information

1. Course title and code: <i>Advanced lighting techniques – IAR 403</i>																				
2. Credit hours: <i>3</i>																				
3. Program(s) in which the course is offered. <i>Interior Architecture Program</i> (If general elective available in many programs indicate this rather than list programs)																				
4. Name of faculty member responsible for the course <i>Ms.Shaima K Alkathiri</i>																				
5. Level/year at which this course is offered: <i>4<sup>th</sup> year</i>																				
6. Pre-requisites for this course (if any): <i>IAR 303, 311,313</i>																				
7. Co-requisites for this course (if any): <i>IAR 401, 404</i>																				
8. Location if not on main campus: <i>Female campus</i>																				
9. Mode of Instruction (mark all that apply): <table><tr><td>a. Traditional classroom</td><td><input checked="" type="checkbox"/></td><td>What percentage?</td><td><input type="text" value="100%"/></td></tr><tr><td>b. blended (traditional and online)</td><td><input type="checkbox"/></td><td>What percentage?</td><td><input type="text"/></td></tr><tr><td>c. e-learning</td><td><input type="checkbox"/></td><td>What percentage?</td><td><input type="text"/></td></tr><tr><td>d. correspondence</td><td><input type="checkbox"/></td><td>What percentage?</td><td><input type="text"/></td></tr><tr><td>f. other</td><td><input type="checkbox"/></td><td>What percentage?</td><td><input type="text"/></td></tr></table> <p>Comments: <i>Different moods of instructions are applied whether on campus and off campus. Such as lectures, seminars, studio, one to one discussions, student -center based activities, project- based , research work , demonstration, ...etc . Off campus activities such field visits and educational trips. Adding to that Learning Management System LMS is applied and effective.</i></p>	a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>	b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>	c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>	d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>	f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>																	
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>																	
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>																	
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>																	
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>																	

## B Objectives

1. What is the main purpose for this course?

*Explore different interior lighting solutions and design techniques. Students gets the chance to analyze, study and design different layout of lights based on project's type and users needs.*

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

*Increase the use of digital software's that are specifically designed towards lighting design and explore in more details abilities of different renders plugins that are offered by different modeling programs.*

## C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

*This course will explore existing lighting conditions found in the local built environment and analyze the conditions that pertain to task function effectiveness and human behavior modification. Then, utilizing a number of lighting calculations and photometric measurements, new architectural lighting (day lighting and electrical lighting) techniques will be explored to improve upon the existing conditions.*

### 1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
<i>Course introduction &amp; intro to visual environment and lighting design</i>	<i>1</i>	<i>3</i>
<i>Exploring light's impact on built form, materials and spatial development</i>	<i>2</i>	<i>1</i>
<i>Principles of good lighting</i>	<i>2</i>	<i>1</i>
<i>Daylight (understanding natural lighting and structures)</i>	<i>3</i>	<i>1</i>
<i>Day lighting factors and principles of designing</i>	<i>3</i>	<i>1</i>
<i>Analysis of daylight within different sites (analysis per project's type)</i>	<i>4</i>	<i>1</i>
<i>Manipulation of natural light source within interior spaces</i>	<i>4</i>	<i>1</i>
<i>Daylight and electric light control</i>	<i>5</i>	<i>3</i>
<i>Impact of light designing on users' behavior in different projects</i>	<i>6</i>	<i>1</i>
<i>Photometric and photometer measurements</i>	<i>6</i>	<i>1</i>
<i>Artificial lighting</i>	<i>7</i>	<i>3</i>
<i>Bulbs and light fixtures designing</i>	<i>9</i>	<i>1</i>
<i>Manipulating man-made sources of light - Light symbols and working drawings techniques</i>	<i>9</i>	<i>1</i>

<i>Light design presentation techniques (showing the best and max of your design and layers)</i>	10	3
<i>Lighting treatments in Residential projects</i>	12	1
<i>Lighting treatments in Commercial projects</i>	13	1
<i>Lighting treatments in Retail projects</i>	13	1
<i>Lighting treatments in healthcare projects</i>	14	1
<i>Lighting treatments in educational projects</i>	14	1

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	15 2/week	0	30 2/week	0	0	45
	Actual	15	0	0	0	0	45
Credit	Planned	3	NA	NA	NA	NA	3
	Actual	3	NA	NA	NA	NA	3

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

**On the table below are the five NQF Learning Domains, numbered in the left column.**

**First**, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	<b>Knowledge</b>		
1.1	<i>Recognize technical drawings techniques for lighting</i>	<ul style="list-style-type: none"> <li>✓ Lectures</li> <li>✓ One to one class discussion</li> <li>✓ Research</li> </ul>	<b><i>Case study analysis and in-class discussion</i></b> was required from students to assess their ability of highlighting different lighting techniques in different projects.
1.2	<i>Describe advanced principles of natural and electrical lighting design</i>	<ul style="list-style-type: none"> <li>✓ Lectures</li> <li>✓ One to one class discussion</li> </ul>	<b><i>Lectures</i></b> : examples of lighting principles were displayed and discussed with students to

		✓ <i>Research</i>	<i>demonstrate the power of lighting in a design.</i> <b>Research</b> was required from students to assess their abilities in defining taught lighting principles.
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1	<i>Apply the techniques of natural lighting systems in interior spaces.</i>	<ul style="list-style-type: none"> <li>✓ <i>One to one discussion</i></li> <li>✓ <i>Demonstration projects</i></li> <li>✓ <i>Lectures</i></li> </ul>	<b>Design through modelling development</b> was required to assess students' abilities in designing around natural lighting systems.
2.2	<i>Develop skills and terminology necessary to make professional lighting decisions.</i>	<ul style="list-style-type: none"> <li>✓ <i>Exams (Midterm exam)</i></li> <li>✓ <i>One to one discussion</i></li> <li>✓ <i>Lectures</i></li> </ul>	<b>Midterm exam:</b> is required to measure students understanding of all given terminologies, light calculations and principles. <b>Lectures:</b> in every lecture and based on the topic new terminology is highlighted and defined with examples (in the first half of the course which was aiming at demonstrating interior lighting principles, terminologies and techniques and prior to designing stage which started after the Mid-term)
2.3	<i>Create suitable lighting designs based on a given space.</i>	✓ <i>Class task</i>	Students worked on designing lighting fixtures based on specific list of designs to measure their ability to select appropriate lighting designs with consideration towards the surroundings.
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.1	<i>Show ability to select most suitable light fixture design in relation to lighting layouts.</i>	<ul style="list-style-type: none"> <li>✓ <i>In-class practical quiz.</i></li> <li>✓ <i>Final project.</i></li> </ul>	<b>In-class practical quiz:</b> in class practical quiz ti students where they were required to establish light setting for night mood of a given room during daytime. <b>Final project:</b> Students were required to apply different lighting solutions to a beach house project showing the maximum use of daylighting & artificial lighting systems in relation to their own furniture layout and interior finishes selection.
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		

4.1	Question lighting solutions of projects around the world.	<ul style="list-style-type: none"> <li>✓ Research</li> <li>✓ In-class discussion.</li> <li>✓ Criticism and evaluation.</li> </ul>	<b>Case study analysis and in-class discussion</b> was required from students to assess their ability of highlighting different lighting techniques in different projects.
<b>5.0</b>	<b>Psychomotor</b>		
5.1	Producing 3D models and 2D drawings with professional presentation skills	<ul style="list-style-type: none"> <li>✓ Modeling assignment.</li> <li>✓ Drawings tasks to reflect their designs and suitable lighting layouts.</li> <li>✓ In-class tasks</li> </ul>	In Class activities, practical quiz and assignments all aims at testing students abilities to express their design decisions through different mediums.

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Attendance & in-class activities	From week 1-16	10%
2	Assignments	From week 1-16	30%
3	Written mid-term exam	Week 9	20%
4	Final project submission	Week 14	40%

#### D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Office hours are offered to students, 10 office hours per week dedicated to students. feedback and consultations are proceeded through LMS and emails.

#### E Learning Resources

##### 1. List Required Textbooks

- ✓ Gorden, Gary; Nuckolls, James L. Interior Lighting for Designers. Third Edition. New York, New York (USA): John Wiley & Sons, Inc., 1995. ISBN: 0-471-50970-1.
- ✓ Schiler, Marc. Simplified Design of Building Lighting. New York, New York (USA): John Wiley & Sons, Inc., 1992. ISBN: 0-471-53213-4.

##### 2. List Essential References Materials (Journals, Reports, etc.)

NA

##### 3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

- ✓ <https://www.dial.de/en/dialux/>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. NA

## F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)	
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	<i>Classrooms, laboratories for digital software application</i>
2. Technology resources (AV, data show, Smart Board, software, etc.)	<i>Data show for in class lecture</i>
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)	<i>Non</i>

## G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching	<ul style="list-style-type: none"> <li>✓ <i>University Student course exist survey online for obtaining Student Feedback on Effectiveness of Teaching</i></li> <li>✓ <i>Students surveys on CLO were distributed to students to measure their feedback on the overall content of the course.</i></li> </ul>
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department	<p>Questioner/ survey for term activities and their assessment to collect student feedback</p> <ul style="list-style-type: none"> <li>✓ <i>Class observation or peer review for the instructor to evaluate the teaching strategies.</i></li> <li>✓ <i>Informal feedback from students during the term through discussion and conversation.</i></li> </ul>
3. Processes for Improvement of Teaching	<ul style="list-style-type: none"> <li>✓ <i>Update list of text books related to the course.</i></li> <li>✓ <i>Highlight lights settings and solutions in pre-requisite course that are teaching students digital modeling software. Such as 3Dsmax, photoshop, sketchup and revit (all should cover different lighting techniques in different times of the day).</i></li> <li>✓ <i>Collaborative effort between instructors in other design course to test lighting solution on different designs.</i></li> </ul>

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- ✓ *Reviewing the standards of student achievement of the chairperson and dean for verifying and feedback.*

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- ✓ *Reviewing the course file including the results and the surveys through the Quality Assurance committee for periodically revision to decide any actions required or updates needed.*
- ✓ *Arranging students' exhibitions to evaluate their knowledge and abilities to deliver taught information to audience.*
- ✓ *Engage students in practical projects that shows the importance of lighting systems and its impact on the overall design and atmosphere.*

Name of Course Instructor *Shaima Khalid Alkathiri*

Signature: \_\_\_\_\_ Date Specification Completed: *01/12/2018*

Program Coordinator: \_\_\_\_\_

Signature: \_\_\_\_\_ Date Received: \_\_\_\_\_