المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: Al Yamamah University	Date: 6-1-2019
College/Department: College of Engineering and Architecture/ Architecture	

A. Course Identification and General Information

1. Course title and code: Computer-Aided Design (CAD)-2- and 3D CAD- IAR 212		
2. Credit hours: 2		
3. Program(s) in which the course is offered. Architecture		
4. Name of faculty member responsible for the course. Dr. Majdi Alkhresheh Ms. Zainab Alaithan		
5. Level/year at which this course is offered: 2nd Year		
6. Pre-requisites for this course (if any): IAR 202		
7. Co-requisites for this course (if any): N/A		
8. Location if not on main campus:		
9. Mode of Instruction (mark all that apply):		
a. traditional classroom	√	100%
b. blended (traditional and online)		
c. e-learning		
d. correspondence		
f. other		

Comments:

B Objectives

1. What is the main purpose for this course?

This course aims to help the students to understand the theoretical and practical issues related to computer applications in architecture and urban projects presentations. It introduces computer graphical techniques used in 3D representations, rendering, animation and other related operations. Also, it is set to familiarize the students with the appropriate digital tools and the terminology used in its application.

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)

Students are encouraged to experiment with different ways to represent their work, using different materials, and/ or experimenting with different drawings.

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

This course introduces different forms of digital representations typically used in architectural projects such as 3D models; computer generated images; animation; and sheet layout design. 3D modeling concepts (i.e., surface, solid, and Building Information Modeling BIM) are introduced and implemented using appropriate software and techniques. Rendering, animation, and printing concepts complements the set of design tools necessary for the

creative development of projects and communication with clients and consultants from different disciplines in architectural practice.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Course introduction and syllabus discussion	0.5	2.5
Introduction; The Basics of BIM	0.5	2.5
User Interface and Project Organization	1	5
The Basic Toolbox / Configuring Templates and Standards/	1	5
Working Multiplatform Modeling and Massing	1	5
Conceptual Design and Topography	1	5
Creating Walls and Curtain Walls	1	5
Modeling Floors, Ceilings, and Roofs	1	5
Creating Stairs and Railings	1	5
Families and Editing Families	1	5
Detailing and Annotation Viewing and rendering	1	5
Animation and Project Documenting and Exporting	1	5
Presentations Techniques	1	5
Project	3	15

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

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planed	15		60			75
	Actual	15		60			75
Credit	Planed	15		15			30
	Actual	15		15			30

3. Additional private study/learning hours expected for students per week. . Students are expected to practice the application and/or work on assignments for at least two hours a week.

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	**Knowledge**		

1.1	Recognize basic techniques of computerized drafting pertaining to two dimensional representations.	Lectures, Exercises	Quiz2
1.2	Recognize basic techniques of computerized modeling pertaining to three dimensional representations.	Lectures, Exercises	Quiz1
2.0	**Cognitive Skills**		
2.1	Construct two-dimensional drawings of architectural designs.	Lectures, Exercises	Midterm Exam, Final Exam
2.2	Construct three-dimensional models of architectural designs.	Lectures, Exercises	Midterm Exam, Final Exam
3.0	**Interpersonal Skills & Responsibility**		
3.1			
3.2			
4.0	**Communication, Information Technology, Numerical**		
4.1	Develop a complete project professionally	Project	Project
4.2			
5.0	**Psychomotor**		
5.1	N/A	N/A	N/A

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
	Quiz1	5	10%
	Quiz 2	13	10%
	Project	11	20%
	Mid-Term Exam	8	20%
	Final exam	16	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)

2 office hours per week dedicated to students. Office hours are posted on the office door. Types of feedback and consultations are proceeded through LMS and emails as well.

E Learning Resources

1. List Required Textbooks
   - James Vandezande, Eddy Krygiel, Mastering Autodesk Revit Architecture 2016: Autodesk Official
     - Press, John Wiley & Sons, 2015 ISBN: 1119044650, 9781119044659.

2. List Essential References Materials (Journals, Reports, etc.)
   - Panero, Julius; Zelnik, Martin. Time-Saver Standards for Interior Design and Space Planning. Second Edition. New York, New York (USA): McGraw-Hill Professional, 2001. ISBN-10: 0071346163.

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.
   - https://lms.yu.edu.sa/course/view.php?id=5397

• www.autodesk.com • www.bimopjects.com • www.revitcity.com • www.familit.com
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. N/A • Autodesk Revit Online Tutorials

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.) Computer labs with an individual computer assigned for each student, and the instructor.
2. Technology resources (AV, data show, Smart Board, software, etc.) Each computer should have Autodesk Revit, Adobe Acrobat Pro, Autodesk AutoCAD, and Pho-toshop. Each computer should have a monitor, keyboard, and a mouse. The lab should be installed with a projector connected to the instructor's computer.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) The lab should have internet connection

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching - Questionnaires on Student's course evaluations held online - Students' feedback and off-class chats. - Feedback from consequent courses of planning and design
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department Peer evaluation
3. Processes for Improvement of Teaching • Self-development for the instructor in teaching and learning through workshops and research to develop the methods and strategies of teaching • Collaborative efforts between instructors to update and improve the teaching, specially through coordinating with the related courses that are pre-requisite or co-requisite to make sure that the LO is delivered and all topics need to be covered are discussed already. • Update the textbook each few years to make sure that the course is following the most recent and updated material. • Developing the assessment methods for the CLO periodically according to any evaluation, feedback, any other new information that suggests an update in the methods.
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 assessment criterial and rubrics of evaluation with our colleagues within the department. • 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.
- Updating the course activities and tasks each term and connect them more with all co-requisite and related courses and compare results to make sure which types of activities are giving the best achievements.

Name of Course Instructor: Dr. Majdi Alkhresheh and Ms. Zainab Alaithan
Signature: _____ Date Specification Completed: 6-1-2019

Program Coordinator: Dr. Majdi Alkhresheh

Signature: _____ Date Received: _____