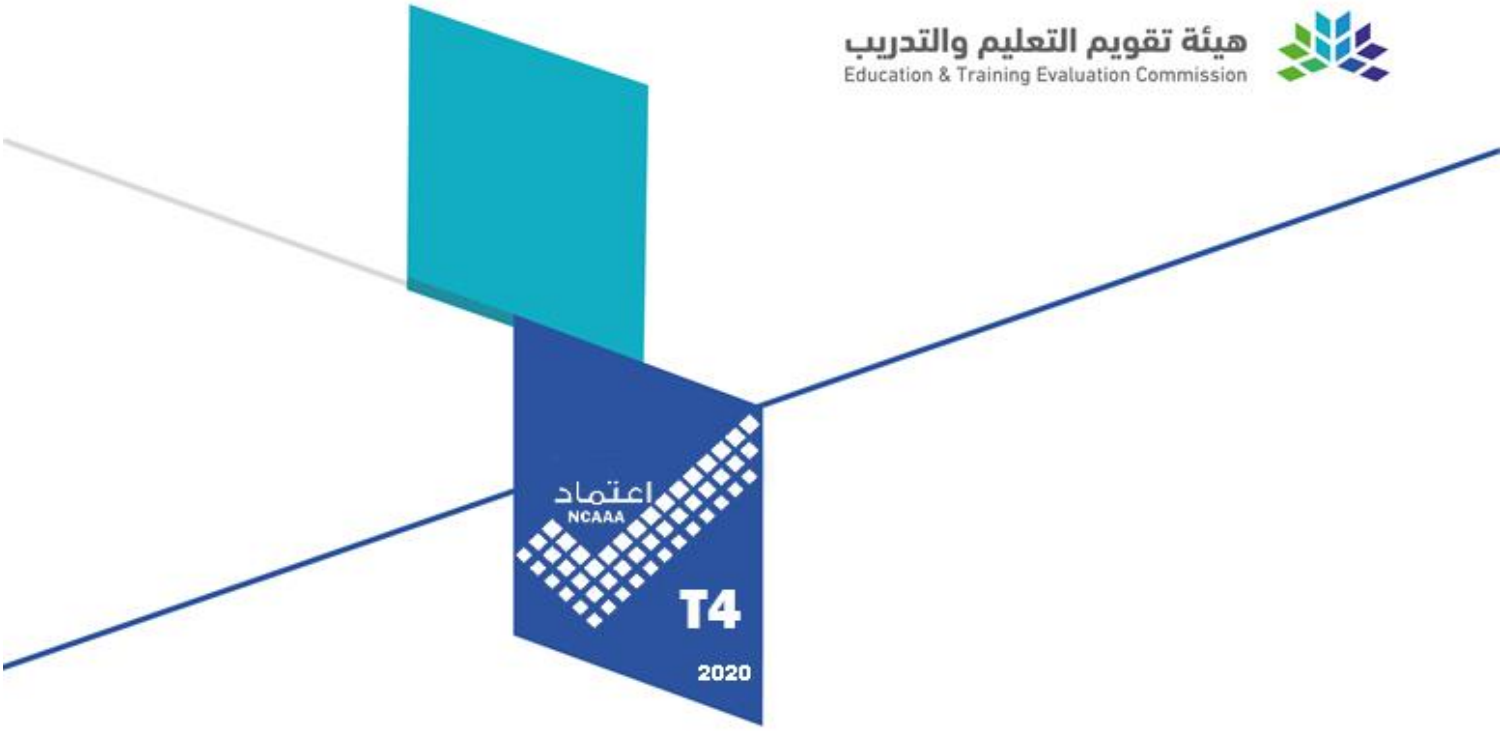
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Graduation Project
Course Code:	495 CNET-3
Program:	Bachelor in Computer and Network Engineering
Department:	Computer and Network Engineering
College:	Computer Science and Information Technology
Institution:	Jazan University

Table of Contents

A. Course Identification

1. Credit hours:	03 Hours
2. Course type	
a.	University ☐ College ☐ Department ☑ Others ☐
b.	Required ☑ Elective ☐
3. Level/year at which this course is offered:	Level-10 / Year-05
4. Pre-requisites for this course (if any)**:**	NA
5. Co-requisites for this course (if any)**:**	NA

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	-	-
2	**Blended**	39	39
3	**E-learning**	-	-
4	**Distance learning**	-	-
5	**Other**	-	-

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	11
2	**Laboratory/Studio**	22
3	**Tutorial**	-
4	**Supervisor Assessment & Final Examiners Assessment**	6
	Total	39

B. Course Objectives and Learning Outcomes

1. Course Description

Graduation project gives the opportunity to apply the theoretical and practical knowledge, and represents the student's experience in the area of computer and network engineering. Students get the chance to show how proficient they are in solving real world problems. Moreover, Graduation project gives the platform to do research and apply the academic skills in new trends. Students are needed to form teams and explore the requisites and requirements of the capstone project by doing research, reviews and analysis. Finally, students report the progress of their project by giving presentations and submitting deliverables related to the project.

2. Course Main Objective

i. Analyze the project statement and discover the most feasible solution to implement the project.
ii. Apply the current techniques, skills, and tools necessary for computing practices.
iii. Develop the intellectual abilities in scientific research and new technology.

iv. Demonstrate individual initiative or group responsibility.
v. Demonstrate the concepts, skills, awareness and sensitivity to the industries and communities.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	**Explain** various protocols and recent trends in the field of computer and network Engineering**.**	K3
1.2	**Describe** the process of Networking, Hardware and Software based projects and other relative fields.	K2
2	**Skills :**	
2.1	**Analyze** a specific problem and plan strategies for the solution.	S1
2.2	**Apply** the research methodology and technical skills of Computer and Networking Engineering to get the solution of the real world problem.	S2
2.3	**Apply** new knowledge as needed in computer & network engineering using appropriate learning strategies	S3
2.4	**Communicate** the quantitative dimensions of a problem, and present the solution to a range of audience.	S4
2.5	**Demonstrate** the project requirements and designs with stakeholders in standardized methods.	S5
3	**Values:**	
3.1	**Collaborate** on a team project to deliver an industry-strength application that will increase their ability to work towards accomplishing project goals as team members.	V1
3.2	**Demonstrate** the project at different levels to enhance professional skills.	V2

C. Course Content

No	Task	Contact Hours
1	PROJECT TITLE a. Project Title Selection b. Project Team Members	6
2	ACKNOWLEDGEMENTS	
3	ABSTRACT a. Keywords Specification	
4	INTRODUCTION TO PROJECT a. Introduction b. Problem Background c. Problem Solution d. Project Goals and Objectives e. Project Scope	

	g. Work Breakdown Structure & Gantt Chart	
5	PROJECT ANALYSIS a. Development Methodology b. Hardware Requirements Specification c. Software Requirements Specification	12
6	PROJECT DESIGN a. Architecture Design b. Data Flow Diagram c. Database Design	
7	PROJECT IMPLEMENTATION AND COMPLETION a. System Implementation b. Project Code c. Testing d. Real screen shots of the working project	15
8	CONCLUSION a. Summary b. Limitations and Future Work	
9	REFERENCES	
10	Supervisor Assessment and Thesis submission by students	
11	First Examiners Assessment, Final Examiners Assessment	6
Total		**39 Hours**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	**Explain** new various protocols and recent trends in the field of computer and network Engineering**.**	Literature review of research papers and projects.	First Examiners Assessment. Supervisor Assessment. Final Examiners Assessment.
1.2	**Describe** the process of Networking, Hardware and Software based projects and other relative fields.	Study of courses and Literature review in computer and networking engineering.	First Examiners Assessment. Supervisor Assessment. Final Examiners Assessment.
2.0	**Skills**		
2.1	**Analyze** a specific problem and plan strategies for the solution.	Providing online resources, literature surveys, studying	First Examiners Assessment.

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		similar system either onsite or online and discussion with students.	Supervisor Assessment. Final Examiners Assessment.
2.2	**Apply** the research methodology and technical skills of Computer and Networking Engineering to get the solution of the real world problem.	Students design and implementing the project but regular guidance and assistance is provided by Supervisors and Domain Experts.	First Examiners Assessment. Supervisor Assessment. Final Examiners Assessment.
2.3	**Apply** new knowledge as needed in computer & network engineering using appropriate learning strategies	Students implement the project with guidance and assistance of Supervisors and Domain Experts.	Supervisor Assessment. Final Examiners Assessment.
2.4	**Communicate** the quantitative dimensions of a problem, and present the solution to a range of audience.	Regular interactive meetings are held with the supervisor at weekly basis and discussions are held for collaboration among team members.	Supervisor Assessment. Final Examiners Assessment.
2.5	**Demonstrate** the project requirements and designs with stakeholders in standardized methods.	Literature surveys, studying similar systems implementing the project but regular guidance and assistance is provided by Supervisors and Domain Experts	First Examiners Assessment. Supervisor Assessment. Final Examiners Assessment.
3.0	**Values**		
3.1	**Collaborate** on a team project to deliver an industry-strength application that will increase their ability to work towards accomplishing project goals as team members.	Regular interactive meetings are held with the supervisor at weekly basis and discussions are held for collaboration among team members.	First Examiners Assessment. Supervisor Assessment. Final Examiners Assessment.
3.2	**Demonstrate** the project at different levels to enhance professional skills.	Assign the exercises related to Graduation Project in respective group.	Supervisor Assessment. Final Examiners Assessment.

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid Term Evaluation	8th	20 %
2	Pre- Presentation	12th	40 %
3	Final Presentation	13th	40 %

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Department have an arrangement for "Academic Counseling and Support" for each student by the department. The Department Coordinator nominates faculty members for "**Student Academic Advisory Committee"** every semester. These **"Academic Advisors"** are responsible for student counseling and advising to a group of fix number of students (around 10-15 students) and maintaining students' files. At the beginning of semester and at time of course registration all students take counseling from Academic Advisor according to his previous grades and coverage of pre-requisite course and follow-up.

In addition, students with GPA below than 2.00 are remained under deep observation and continuous meetings with respective course teachers about their performance are arranged to help and support the students. The course teacher is to be associated with this course provide a proper guidance for students who are looking to focus on their future career based on their intellectual interests, identify better opportunities related to this course and connections in their academic fields.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	NA
Essential References Materials	1. The Craft of Research, Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams, Joseph Bizup and William T. FitzGerald, 4th Edition, 2016, University of Chicago Press, ISBN-10: 022623973X, ISBN-13: 978-0226239736. 2. Manual for Writers of Research Papers, Theses, and Dissertations, Wayne C. Booth, Joseph M. Williams, 9th edition, 2018, University of Chicago Press, ISBN-10 : 022643057X, ISBN-13 : 978-0226430577 3. Data Communications and Networking with TCP/IP Protocol Suite6th Edition By Behrouz A. Forouzan Publisher : McGraw-Hill Education; 6th edition,2021, ISBN-10: 0078022096, ISBN-13: 978-0078022098 4. Introduction to Networks Companion Guide (CCNAv7), By Cisco Networking Academy, Published Jul 14, 2020 by Cisco Press, ISBN: 978-0-13-663366-2. 5. Introduction to Networks Labs and Study Guide (CCNAv7), ISBN: 978-0-13-663445-4, By Allan Johnson, Cisco Networking Academy, 2020 by Cisco Press.

	6. The Intel microprocessors architecture, programming, and interfacing, eighth edition, barry b. brey, pearson Prentice Hall ™ 2018. 7. Electronic Devices (Conventional Current Version), Thomas L. Floyd, 10th Edition, Pearson, 2018, ISBN-13: 978-0134414447, ISBN-10: 9780134414447 8. Cryptography And Network Security: Principles and practice, William Stallings, 7th Edition, Pearson Education,2017,ISBN 10:1-292-15858-1 9. CCNA 200-301 Official Cert Guide Library, By Cisco Network Academy, 2020 By Cisco press, ISBN: 978-1-58714-714-2 10. Computer & Internet Security: A Hands-on Approach, 2nd Edition, 2019 by Wenliang Du, ISBN-13:978-1733003933 11. An Introduction to Network Programming with Java, Jan Graba, 3rd Edition, Springer, 2013, ISBN-978-1447152538 12. Wireless Connectivity: An Intuitive and Fundamental Guide, Author: PetarPopovski, 2020,Print ISBN:9780470683996 13. Electronic Devices (Electron Flow Version), Thomas L Floyd, 10th edition, Pearson, 2018, ISBN-13: 9780137556755
Electronic Materials	1. http://www.soloscript.com/ 2. http://www.java2s.com/ 3. http://www. http://projectabstracts.com 4. http://www.dreamincode.net/ 5. http://www.w3schools.com/
Other Learning Materials	i. Microsoft Project ii. Microsoft Visio iii. Database tools iv. Network simulation tools (Cisco Packet Tracer, GNS3)

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Students can consult respective supervisors during office hours in their office.
Technology Resources (AV, data show, Smart Board, software, etc.)	No specific needs but may be required in case of a specific project.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Scanner, Printer and Projector are required to disperse of information.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Sufficiency of resources and facilities for students	Students	Course evaluation survey form
Effectiveness of teaching / learning process	Students / QAU / HoD	Course reports / result analysis

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Quality of learning Resources	Domain Experts	Meetings with the supervisors and project students.
Verifying standards of student achievement / evaluation	HoD / committee nominated by HoD	Project reports are randomly re-checked.
Achievement of course learning outcomes	Course Teachers / QAU	CLO assessment is done by the course coordinator in coordination with all project supervisors and graph of students result is prepared.

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council
Reference No.	
Date	