هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

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Course Code:	0291 عال
Program:	Cybersecurity
Department:	Applied Sciences
College:	Applied College
Institution:	Imam Mohammad Bin Saud Islamic University
Version:	1st version
Last Revision Date:	2023/11/15

Table of Contents:

A. General information about the course:

Course Identification					
1. Credit hours:	2 (1 Theory, 2 lab)				
2. Course type:					
a.	University ☐	College ☐	Department☒	Track☐	Others☐
b.	Required ☒	Elective☐			
3. Level/year at which this course is offered: 3rd Level					
4. Course general Description: The Graduation Project in Cybersecurity is a capstone course designed to provide students with an opportunity to apply the knowledge and skills acquired throughout their cybersecurity diploma program. Students will work on a substantial project or research topic related to cybersecurity, demonstrating their ability to analyze, design, implement, and evaluate solutions to real-world cybersecurity challenges. This course conducted under the general guidance of an approved faculty member. The course will allow the student to develop various skills, within a context that students will find relevant and engaging. Towards the end of the semester, the students should submit a project report and give a formal presentation.					
5. Pre-requirements for this course (if any): N/A					
6. Co- requirements for this course (if any): N/A					
7. Course Main Objective(s): The main objective of this course is to provide students with an opportunity to apply the knowledge and skills acquired throughout their cybersecurity diploma program. **By the end of the course, students will be able to:** 1. Formulate a comprehensive project proposal that addresses a significant cybersecurity issue or research question. 2. Apply relevant cybersecurity concepts, principles, and techniques to analyze, design, and develop a solution or research methodology. 3. Conduct in-depth research and critically analyze existing literature and practices related to the chosen project topic. 4. Implement and test the proposed solution or research methodology, considering cybersecurity best practices and ethical considerations. 5. Evaluate the effectiveness and impact of the project, considering relevant metrics and criteria. 6. Communicate project findings effectively through written reports and oral presentations.					

7. Apply project management fundamentals
8. Demonstrate professionalism, teamwork, and time management skills throughout the project duration. *(become familiar with teamwork :team size of 3 to 5 students)*

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom		
2.	E-learning		
3.	Hybrid • Traditional classroom • E-learning	36	100%
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	12
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	12
5.	Others (specify) Seminars: The course emphasises group work, guided by weekly face to face (or online) meetings with the advisor (group project supervisor)	12
	Total	36

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Identify a cybersecurity problem	٤1، ٤2، ٤5	Lectures, Class Discussions	Tutorials
1.2	Demonstrate in-depth knowledge and understanding of cybersecurity concepts, principles, and technologies.	٤1، ٤2، ٤5		
1.3	Familiarity with international and national regulations and systems related to cybersecurity.	٤1، ٤2، ٤4		

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.4	Develop robust project management techniques	ع1، ع2، ع5		
2.0	Skills			
2.1	Apply critical thinking and problem-solving skills to identify and address cybersecurity challenges.	م1، م2، م3	Seminars Class Discussions	Tutorials
2.2	Conduct independent research and analysis to propose innovative solutions in cybersecurity.	م1، م2، م3، م4، م7		
2.3	Provide a link to the practical experiences of industry professionals, showcasing the relevance of computer security in real-world scenarios.	م1، م2، م4، م6، م7		
2.4	Deliver plans clearly and concisely orally, visually and in a written form	م1، م2، م6، م7		
3.0	Values, autonomy, and responsibility			
3.1	Collaboration, teamwork, and professional ethics.	ق1	Class Discussions, Class Activity	Group Project Report
3.2	Take the responsibility for continuous learning, and self-development.	ق2		
3.3	Effective and efficient time management when applying acquired knowledge and skills.	ق3		

C. Course Content

No	List of Topics	Contact Hours

1.	• **Project Proposal Development:**
	  • Identifying a cybersecurity problem or research question with a clear problem statement, objectives, and methodology.
	  • Conducting a literature review and gap analysis
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	• Conducting a feasibility study and assessing the resources required.	
2.	• **Project Planning and Management:** • Project planning, including defining project milestones, tasks, and deliverables. • Risk assessment and mitigation strategies. • Project scheduling and time management.	6
3	• **Project Implementation and Testing** • Designing and developing the proposed solution or research methodology. • Implementing cybersecurity controls and measures. • Conducting testing, data collection, and analysis. • Iterative development and refinement. • Addressing security, privacy, and quality assurance considerations.	6
4	• **Project Documentation and Reporting:** • Writing technical reports and documentation following industry standards. • Creating project artifacts, such as design documents, user manuals, and system documentation. • Presenting project findings and results effectively	6
5	• **Project Evaluation and Documentation:** • Evaluating the effectiveness and impact of the project. • Assessing project outcomes against predefined metrics and criteria. • Documenting project findings, including lessons learned and recommendations. • Writing a comprehensive project report.	6
6	• **Project Presentation:** • Preparing and delivering a professional oral presentation. • Demonstrating effective communication skills. • Responding to questions and feedback.	4

Total	36

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	**Quizzes and Assignments**	2,5,7	30%
2.	**Project**	Week 5, 10	40%
3.	**Final Exam (Viva-voce)**	12	30%
7	**Total Marks**		100%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	N/A
Supportive References	N/A
Electronic Materials	Online resources will be provided during class lectures on LMS.
Other Learning Materials	N/A

2. Required Facilities and equipment

Items	Resources
Facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	classrooms
Technology equipment (projector, smart board, software)	Data show, internet, PC
Other equipment (depending on the nature of the specialty)	N/A

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Peer references – students.	1.Questionnaires and referendums approved by the department. 2.Peer evaluation of faculty members. 3.Review the results of the students' evaluation.
Effectiveness of students assessment	Peer references - program leaders - faculty members – students.	1.Questionnaires and referendums approved by the department. 2.Review course descriptions and course reports periodically. 3.Peer evaluation and periodic exchange of correction and scrutiny among fellow faculty members.

Assessment Areas/Issues	Assessor	Assessment Methods
		4.Review samples of students' work.
Quality of learning resources	Program leaders - faculty members - students	1.Questionnaires and referendums approved by the department. 2.Write-offs and monitoring.
The extent to which CLOs have been achieved	Program leaders - faculty members.	1.Review the course report. .
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	Department of Applied Sciences – Applied College
REFERENCE NO.	
DATE	