هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد
NCAAA

2024
TP-151

Program Specification

(Bachelor)

Program: **Cybersecurity**	
Program Code (as per Saudi university ranking): **061203**	
Qualification Level: Intermediate diploma	
Department: Applied Science	
College: Applied Collage	
Institution: Imam Muhammad Bin Saud Islamic University	
Program Specification: New ☐	updated* ☒
Last Review Date: 2024	

*Attach the previous version of the Program Specification.

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A. Program Identification and General Information

1. Program's Main Location :

Imam Muhammad Bin Saud Islamic University

2. Branches Offering the Program (if any):

Huraymila Branch

3. Partnerships with other parties (if any) and the nature of each:

None

4. Professions/jobs for which students are qualified

Information security Assistant

5. Relevant occupational/ Professional sectors:

- Network Support Assistant
- SOC Analyst (Level 1)
- Cybersecurity Technician
- Incident Response Assistant
- Network Security Assistant
- Information Security Assistant
- Data Protection Assistant
- IT Risk & Audit Assistant
- Junior Penetration Tester
- Digital Forensics Technician
- Cloud Security Technician
- Cybersecurity Trainer / Lab Assistant

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6. Major Tracks/Pathways (if any):

Major track/pathway	**Credit hours** (For each track)	**Professions/jobs** (For each track)
1. None	None	None

7. Exit Points/Awarded Degree (if any):

exit points/awarded degree	Credit hours
Intermediate Diploma in Cybersecurity	66

8. Total credit hours: (69)

B. Mission, Objectives, and Program Learning Outcomes

1. Program Mission:

The Cybersecurity Program seeks to prepare highly qualified and ethical graduates equipped with the knowledge, technical skills, and professional competencies necessary to protect information systems and digital infrastructures. The program aims to support the national objectives of the Kingdom's Vision 2030 by enhancing cybersecurity readiness, promoting innovation, and contributing to the development of a secure and sustainable digital environment in both the public and private sectors.

2. Program Goals:

-Prepare qualified graduates with essential knowledge and practical cybersecurity skills.
-Instill ethical and professional responsibility in cybersecurity practices.
-Enhance analytical and problem-solving abilities using modern technologies.
-Support national cybersecurity goals and Vision 2030 through skilled workforce development.
-Providing students with the ability to discover security vulnerabilities and potential risks faced by entities and sectors and analyze their strengths and weaknesses.
-Providing students with the ability to use cybersecurity techniques and tools to protect networks and systems and the applications and data they contain.

3. Program Learning Outcomes*

Knowledge and Understanding

K1	Demonstrate comprehensive understanding of the fundamental concepts, principles, and terminology of computer science and cybersecurity.
K2	Explain the essential theories and practices related to information security, data protection, and privacy.
K3	Identify and interpret national and international laws, standards, and regulatory frameworks governing cybersecurity and digital systems.

Skills

S1	Apply appropriate cybersecurity tools, techniques, and procedures to protect computer-based systems, networks, and data in alignment with organizational and national requirements.
S2	Perform risk assessment and incident analysis using quantitative and qualitative methods to identify, evaluate, and mitigate cybersecurity threats and vulnerabilities.
S3	Plan, manage, and execute information security projects and develop secure software solutions effectively and efficiently.
S4	Utilize research methods, analytical reasoning, and problem-solving techniques to address cybersecurity challenges and propose evidence-based solutions.

Values, Autonomy, and Responsibility

V1	Adhere to professional, ethical, legal, and social responsibilities in practicing cybersecurity and information protection.
V2	Demonstrate effective teamwork, leadership, communication, and self-management within multidisciplinary and multicultural environments.
V3	Exhibit professional conduct, empathy, and openness to diverse perspectives, contributing to a culture of integrity, collaboration, and global digital citizenship.

* Add a table for each track or exit Point (if any)

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	0	0	0%
	Elective	0	0	0%
College Requirements	Required	4	11	7%
	Elective	0	0	0%
Program Requirements	Required	14	43	28%
	Elective	5	6	3%
Capstone Course/Project		1	2	1%
Field Training/ Internship		1	4	2%
Residency year		0	0	0%
Others		0	0	0%
Total		25	66	100%

* Add a separate table for each track (if any).

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2. Program Courses

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	ENG0002	English2	Required	None	3	Collage
	NET0103	Network Fundamentals	Required	None	3	Program
	CYB0102	IT System Components	Required	None	3	Program
	CS0117	Computational Mathematics	Required	None	3	Program
	CS0115	Programmuing Fundamentals	Required	None	3	Program
	CYB0101	Information Security Fundamentals	Required	None	3	Program
Level 2	ENG0003	English3	Required	ENG0002	3	Collage
	CYB0104	Basic Cryptography	Required	CYB0101	3	Program
	CS0122	Programming1	Required	CS0115	3	Program
	CYB0105	Cybersecurity Design Principles	Required	CYB0101	3	Program
	NET0216	Network Security	Required	NET0103	3	Program
	CYB0209	Operating System Security	Required	NE0103	3	Program
	CS0132	Database Fundamentals	Elective	None	3	Program
	CS0207	Cloud Computing Essentials	Elective	None	3	Program
	CS0135	Web Programming and Design	Elective	None	3	Program
Level 3	ENG0105	English for workplace	Required	None	3	Collage
	SKL0102	Vocational Skills	Required	None	3	Collage
	CYB0201	Risk Management	Required	CYB0209	3	Program
	CYB0202	Cyber Threats	Required	CYB0101	3	Program
	CYB0211	Ethical Hacking	Required	CYB0202	3	Program
	CS0133	Programming in Python	Required	None	3	Program
	CYB0207	Software Security Development	Elective	None	3	Program
	CYB0208	Information Security Management	Elective	None	3	Program
Level 4	CYB0291	Graduation Project	Required	Finish 55 houres	2	Program
	CYB0294	Practical Training	Required	Finish 24 hours	4	Program

* Include additional levels (for three semesters option or if needed).

** Add a table for the courses of each track (if any)

3. Course Specifications:

Insert hyperlink for all course specifications using NCAAA template (T-104)

https://drive.google.com/drive/folders/1f0XxTulUymTCdKvIFE27M4khRg17uM6V?usp=drive_link

4. Program learning Outcomes Mapping Matrix:

Align the program learning outcomes with program courses' according to the following desired performance levels *(I = Introduced & P = Practiced & M = Mastered).*

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding				Skills				Values, Autonomy, and Responsibility		
	K1	K2	K3	---	S1	S2	S3	S4	V1	V2	V3
ENG0002				---							
NET0103	I	I	I	---	I	I	---	---	I	---	---
CYB0102	I	I	I	---	I	---	I	---	---	I	---
CS0117	I	----	I	---	I	I	I	I	I	---	---
CS0115	I	I	---	---	I	I	---	---	I	---	I
CYB0101	I	I	---	---	I	I	---	---	I	---	---
ENG0003				---							
CYB0104	P	P	P	---	P	P	P	---	---	---	P
CS0122	I	---	---	---	I	I	I	I	I	---	---
CYB0105	P	P	---	---	P	P	---	---	P	---	---
NET0216	P	P	---	---	P	P	---	---	P	---	---
CYB0209	P	P	P	---	P	P	---	---	---	P	P
CS0132	I	I	---	---	I	I	I	---	I	I	I
CS0207	P	P	P	---	P	P	---	---	P	---	P
CS0135	I	---	I	---	---	I	I	I	I	---	---
ENG0105				---							
SKL0102				---							
CYB0201	I	I	I	---	I	I	---	I	---	---	---
CYB0202	I	I	I	---	I	I	---	---	I	I	I
CYB0211	I	---	---	---	I	I	I	---	---	---	---
CS0133	I	---	---	---	I	I	---	---	I	I	I
CYB0207	I	I	---	---	I	I	---	---	---	---	I
CYB0208	I	I	---	---	I	I	---	---	---	---	I
CYB0291	M	M	---	---	---	---	M	M	M	M	M
CYB0294	---	---	---	---	M	M	M	M	M	M	M

* Add a separate table for each track (if any).

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5. Teaching and learning strategies applied to achieve program learning outcomes.

Describe teaching and learning strategies and curricular and extra-curricular activities adopted to achieve the Program's learning outcomes in all areas.

-Lectures and interactive discussions
-Practical laboratory sessions and simulations
-Project-based learning (PBL)
-Problem-based learning (case studies and real scenarios)
-Workshops and professional seminars
-Guest lectures from industry and government experts
-Collaborative and team-based learning activities
-Blended learning using digital platforms and LMS
-Self-directed and independent learning
-Field training and supervised internships
-Applied research and innovation projects
-Cybersecurity competitions and awareness campaigns
-Continuous feedback and reflective learning
-Ethical and professional practice development activities

6. Assessment Methods for program learning outcomes.

Describe assessment methods (Direct and Indirect) that can be used to measure the achievement of program learning outcomes in all areas.

The Program should devise a plan for assessing Program Learning Outcomes (all learning outcomes should be assessed at least twice in the bachelor program's cycle and once in other degrees).

-Quizzes, midterm, and final examinations
-Laboratory performance evaluations and practical tests
-Individual and group projects
-Case study analysis and problem-solving assessments
-Capstone or graduation project evaluation
-Oral presentations and technical reports
-Instructor observations and continuous assessment
-Internship (field training) performance reports and supervisor evaluations
-Student portfolios and reflective journals
-Peer and self-assessment activities
-Participation in cybersecurity competitions and applied tasks
-Surveys and feedback for indirect assessment of learning outcomes

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D. Student Admission and Support:

1. Student Admission Requirements

Students should have successfully completed high school or an equivalent qualification from a recognized educational institution.

2. Guidance and Orientation Programs for New Students

(Include only the exceptional needs offered to the students of the Program that differ from those provided at the institutional level).

Besides Applied College handbook, each new student receives the student guide handbook.

3. Student Counseling Services

(Academic, professional, psychological, and social)
(Include only the exceptional needs offered to the students of the Program that differ from those provided at the institutional level).

-Academic advising and study plan guidance
-Orientation programs for new students
-Continuous academic performance monitoring
-Career counseling and employment preparation support
-Psychological and social counseling services
-Workshops on time management, study skills, and stress management
-Counseling for low-achieving students and academic probation support
-Guidance for gifted and talented students
-Counseling for students with disabilities and special needs
-Peer mentoring and student support groups
-Access to online counseling and e-advisory services
-Coordination with student affairs for extracurricular and personal development activities.

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4. Special Support

(Low achievers, disabled, gifted, and talented students).

-Individual academic advising and tailored learning plans.
-Early intervention and progress monitoring for at-risk students.
-Accessible facilities and resources for students with disabilities.
-Psychological and social support through the Deanship of Student Affairs.
-Flexible assessments for students with special circumstances.
-Confidential counseling and continuous academic follow-up.

E. Faculty and Administrative Staff:

1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professor	N/A	-----	-----	-----	-----	-----
Associate Professor	N/A	-----	-----	-----	-----	-----
Assistant Professor	Computer Science.	Cybersecurity, Information Security. Information Technology	-----	3	3	6
Lecturer	Computer Science.	Cybersecurity, Information Security. Information Technology	-----	4	6	10
Teaching Assistant	Computer Science.	Cybersecurity, Information Security. Information Technology	-----	2	3	5
Technicians and Laboratory Assistants	N/A	-----	-----	-----	-----	-----
Administrative and Supportive Staff	N/A	-----	-----	-----	-----	-----
Others (specify)	N/A	-----	-----	-----	-----	-----

F. Learning Resources, Facilities, and Equipment:

1. Learning Resources

Learning resources required by the Program (textbooks, references, e-learning resources, web-based resources, etc.)

-Approved and up-to-date textbooks and reference materials covering core areas such as computer networks, operating systems, cryptography, and cybersecurity management.
-E-learning resources available through the university's Learning Management System (LMS) providing lecture notes, recorded sessions, and online assessments.
-Digital libraries and databases (IEEE, Springer, ACM, Elsevier) for access to current research and publications in cybersecurity and information technology.
-Web-based cybersecurity simulation tools and virtual labs for hands-on training in network security, penetration testing, and incident response.
-Open-source software and platforms (e.g., Wireshark, Kali Linux, Metasploit, VirtualBox) for lab exercises and applied learning.
-Institutional repositories and online tutorials supporting continuous learning and self-development.

2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

-Dedicated computer and cybersecurity laboratories equipped with high-performance PCs, secured network infrastructure, and simulation environments.
-Virtual training platforms and servers for ethical hacking, malware analysis, and network defense exercises.
-Smart classrooms with multimedia systems, projectors, and high-speed internet access to support interactive and blended learning.
-Access to the university central library, providing textbooks, e-books, journals, and specialized cybersecurity references.
-Group study and discussion rooms to support collaborative learning and project work.
-Secure storage and isolated test networks to safely conduct cybersecurity experiments.
-Facilities for students with disabilities, ensuring accessibility and inclusive learning.
-Faculty offices and meeting rooms for advising, consultation, and mentoring sessions.

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3. Procedures to ensure a healthy and safe learning environment

(According to the nature of the Program)

-All faculty, staff, and students comply with university safety and cybersecurity policies.
-Safety orientation and lab-use training are provided at the start of each semester.
-Cybersecurity labs operate on secure, isolated networks to prevent data breaches.
-Regular maintenance and inspection ensure safe and reliable equipment operation.
-Emergency plans, first aid kits, and fire safety equipment are available in all facilities.
-Workstations meet ergonomic and health standards to support safe computer use.
-Reporting systems allow quick response to any safety or security incident.

G. Program Quality Assurance:

1. Program Quality Assurance System

Provide a link to the quality assurance manual.

https://units.imamu.edu.sa/deanships/Quality/Pages/default.asp

2. Procedures to Monitor Quality of Courses Taught by other Departments

-Course specifications and reports are reviewed annually by the program and quality committees.
-Feedback from students, course coordinators, and external reviewers is collected to assess teaching effectiveness and content relevance.
-The program committee communicates regularly with departments offering shared courses to ensure alignment with program outcomes and academic standards.
-Modifications and recommendations are documented and reported through the college quality committee.

3. Procedures Used to Ensure the Consistency between Main Campus and Branches (including male and female sections).

-Unified course specifications, learning outcomes, and assessments are applied across all campuses.
-Academic committees coordinate implementation and evaluation through regular meetings.
-Course materials and exams are standardized via the Learning Management System (LMS).
-The college quality committee monitors performance to maintain consistency and fairness.

4. Assessment Plan for Program Learning Outcomes (PLOs),

-The program follows a structured two-year assessment cycle covering all Program Learning Outcomes (PLOs).
-Direct assessment methods include course reports, capstone evaluations, and internship performance.
-Indirect methods include student and alumni surveys, employer feedback, and advisory board input.
-Results are reviewed annually to enhance the curriculum and ensure continuous program improvement

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5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Leadership	Collage leaders	University Regulations	End of academic year
Teaching & Assessment	Students, Graduates, Alumni	Surveys	End of semester
CLOs	Students, Graduates	Surveys	End of semester
PLOs	Faculty, Employers, Graduates	Direct assessment and Surveys	End of academic year
Learning Resources	Faculty, Students	Surveys	End of academic year
Curriculum	Students, Graduates, Alumni, Independent reviewers, external and internal examiner.	Surveys, Audit and assessment (Independent reviewers, external and internal examiner.).	End of academic year
Quality Assurance process	Independent reviewer	Audit and assessment	End of academic year
KPIs	Independent reviewer	Audit and assessment	End of academic year

Evaluation Areas/Aspects: e.g., leadership, effectiveness of teaching & assessment, learning resources, services, partnerships, etc.

Evaluation Sources: students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, etc.

Evaluation Methods: e.g., Surveys, interviews, visits, etc.

Evaluation Time: e.g., beginning of semesters, end of the academic year, etc.

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6. Program KPIs*

The period to achieve the target (1447) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-P-01	Percentage of achieved indicators of the program operational plan Objectives.	100%	Statistics	Annually
2	KPI-P-02	Students' Evaluation of quality of learning experiences in the program	4.5	Questionnaire	Every Semester
3	KPI-P-03	Students' evaluation of the quality of the courses.	4.5	Questionnaire	Every Semester
4	KPI-P-04	Completion rate	65%	Statistics	Annually
5	KPI-P-05	First-year students retention rate	100%	Statistics	Annually
6	KPI-P-07	Graduates’ employability and enrolment in postgraduate programs	100%	Statistics	Annually
7	KPI-P-08	Average number of students in the class	25	Statistics	Every Semester
8	KPI-P-09	Employers' evaluation of the program graduates proficiency	4	Questionnaire	Every Semester
9	KPI-P-10	Students' satisfaction with the offered services	4.5	Questionnaire	Every Semester
10	KPI-P-11	Ratio of Students to teaching Staff.	1:10	Statistics	Annually
11	KPI-P-12	Percentage of teaching staff distribution	50%	Statistics	Annually
12	KPI-P-13	Proportion of teaching staff leaving the program	0%	Statistics	Annually

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No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
13	KPI-P-14	Percentage of publications of faculty members	70%	Statistics	Annually
14	KPI-P-15	Rate of published research per faculty member	3	Statistics	Annually
15	KPI-P-16	Citations rate in refereed journals per faculty member	3	Statistics	Annually
16	KPI-P-17	Satisfaction of beneficiaries with the learning resources	4.5	Questionnaire	Annually

*including KPIs required by NCAAA

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H. Specification Approval Data:

Council / Committee	
Reference No.	
Date	