Course Specification

(Postgraduate Programs)

Course Title: Forensic Biology
Course Code: BIO 6101
Program: Executive Master of Forensic Science
Department: Biology and Chemistry
College: Science
Institution: Imam Mohammad Ibn Saud Islamic University
Version: 1
Last Revision Date: 29 September 2024

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A. General information about the course:

1. Course Identification:

1. Credit hours: 3 (3 lectures, 0 laboratories, 0 tutorials)					
2. Course type					
A.	☐University	☐College	☒ Program	☐Track	
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (Level 1 l Year 1)					
4. Course General Description:					
This course covers different disciplines in forensic science including crime scene investigation, fingerprints, firearms, trace evidence and drugs. Emphasis is placed on the theory and practice techniques of biological principles applied to forensic science, including sample recovery and handling, analytical techniques, DNA profile comparison, quality control and quality assurance. Population genetics employed during the statistical evaluation of data is covered. The course is structured to allow individuals with and without biological training to participate.					
5. Pre-requirements for this course (if any)**:**					
None					
6. Co-requirements for this course (if any)**:**					
None					
7. Course Main Objective(s):					
At the end of the course, the students will be familiar with the fundamentals of various disciplines in forensic science, with an emphasis on forensic biology.					

2. Teaching Mode: (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	E-learning	-	-
3	Hybrid • Traditional classroom	-	-

No	Mode of Instruction	Contact Hours	Percentage
	• E-learning		
4	Distance learning	-	-

3. Contact Hours: (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	45
2.	**Laboratory/Studio**	-
3.	**Field**	-
4.	**Tutorial**	-
5.	**Others (specify)……**	-
	Total	45

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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Describe and discuss the essential facts, concepts and principles of chemistry, biology and physics that are required to assist with or support a forensic investigation	K1, K2	Interactive Lecture Discussion and Dialogue Mind Maps Concept Maps Standard Method Inductive Method Self-Learning Cooperative Learning Field Visits	Written tests Class discussion questions Class assignments Homework Short research/reports Summaries Presentations
1.2	Outline and use appropriate practical, presentational and statistical methods	K1, K3	Interactive Lecture Discussion and Dialogue Mind Maps Concept Maps Standard Method Inductive Method Self-Learning Cooperative	Written tests Class discussion questions Class assignments Homework Short research/repor

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			Learning Field Visits	ts Summaries Presentations
1.3	List and discuss methods of acquiring, interpreting and analyzing both numerical and observational data	K1, K4	Interactive Lecture Discussion and Dialogue Mind Maps Concept Maps Standard Method Inductive Method Self-Learning Cooperative Learning Field Visits	Written tests Class discussion questions Class assignments Homework Short research/reports Summaries Presentations
2.0	**Skills**			
2.1	Analyze, interpret and evaluate data from a variety of sources	S1	Practical Application Microteaching Modeling and Simulation Project-Based Learning Discovery Learning Collaborative Learning	Observation / Rating Scales Practical Tests Self-Assessment Peer Assessment
2.2	Develop critical skills in the interpretation of scientific knowledge and data	S1, S2	Practical Application Microteaching Modeling and Simulation Project-Based Learning Discovery Learning Collaborative Learning	Observation / Rating Scales Practical Tests Self-Assessment Peer Assessment
2.3	Explain effectively in written, graphical and oral formats	S3, S4	Practical Application Microteaching Modeling and Simulation Project-Based	Observation / Rating Scales Practical Tests Self-Assessment Peer

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			Learning Discovery Learning Collaborative Learning	Assessment
3.0	**Values, autonomy, and responsibility**			
3.1	Appraise investigating work independently and integrate with a collaborated group, using IT to acquire, analyze, and communicate information	V1	Modeling Dialogue and discussion Self-learning Collaborative learning	Observation Self-assessment Peer assessment Achievement file
3.2	Show effective capabilities in own professional groups and make decisions, enhance society's quality, and contribute to its advancement	V2	Modeling Dialogue and discussion Self-learning Collaborative learning	Observation Self-assessment Peer assessment Achievement file

C. Course Content:

No	List of Topics	Contact Hours
1.	Introduction to Forensic Science	3
2.	Physical evidence	2
3.	Glass and Soil	2
4.	Organic Analysis & Inorganic Analysis	2
5.	Trace evidence - Hairs, Fibers and Paint	2
6.	Drugs	3
7.	Forensic Toxicology	3
8.	Forensic Aspects of Fire investigation & Forensic Investigations of Explosions	2
9.	Fingerprint processing and comparison	3
10	Document Examination, Computer Forensics	2
11.	Bloodstain Pattern analysis	2

12.	Crime scene and Evidence Processing	2
13.	Crime scene reconstruction	2
14.	Introduction to Forensic Serology	3
15.	Introduction to Forensic Serology-blood	2
16.	Presumptive testing for blood	3
17.	Introduction to Forensic Serology – Semen	2
18.	Presumptive testing for Semen	2
19.	The Future of Forensics	3
Total		**45**

D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes, oral test, oral presentation, group project, essay, and Attendance	During the semester	30%
2.	Midterm Exam	8th week	30%
3.	Final Exam	16th week	40%

*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	An Introduction to Forensic Science, Richard Saferstein, 13th Edition, Pearson, 2021, ISBN-13: 9780137542512. Fundamentals of Forensic Science, Houck, M.M. & Siegel, JA; 3rd Edition, Academic Press, London, 2015. ISBN-13 : 978-0128000373
Supportive References	None
Electronic Materials	None
Other Learning Materials	None

2. Educational and Research Facilities and Equipment Required:

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classrooms and Laboratories
Technology equipment (Projector, smart board, software)	Projector and Smart board

Items	Resources
Other equipment (Depending on the nature of the specialty)	Forensic Science-related instruments, including safety cabinet, centrifuges, incubators, thermal cyclers, trans-illuminators, gel electrophoresis apparatus

F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Direct
Effectiveness of students' assessment	Program Leaders	Direct
Quality of learning resources	Peer Reviewer	Indirect
The extent to which CLOs have been achieved	Program Leaders	Direct
Other	-	-

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval Data:

COUNCIL /COMMITTEE	**Department of Biology Council**
REFERENCE NO.	**Meeting No. 6**
DATE	**29/9/2024**