

Iraqi University of Science / College of Science
جامعة العلوم العراقية / كلية العلوم



First Cycle – Bachelor’s Degree (B.Sc.) Department of
forensic Sciences
College of Sciences



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1. **Mission & Vision Statement**

Vision Statement

Our vision is to inspire new forensic scientists to search for the truth through science and shape the future of the field using new knowledge and innovation. The forensic academic staff of the (Iraqi University of Science) University believes that students come to understand the discipline of forensic through a combination of course work, laboratory experiences, research, and fieldwork. The combination of instructional methods leads students to a balanced understanding of the scientific methods used by biologists to make observations, develop insights and create theories about the living organisms that populate our planet. Small class sizes within the biology program foster a close working relationship between academic staff and students in an informal and nurturing atmosphere.

Mission Statement

This program aims to (1) provide exemplary forensic science education in Criminalistics, including DNA identification analysis, at the graduate level; (2) select students who have successfully completed an undergraduate science degree with a strong GPA and who aspire to become the future forensic scientists in the various forensic science laboratories; and (3) develop in these select students the skill necessary for working in this profession including ethics, integrity, the ability to devise innovative methods and techniques and the capacity to integrate new technology. This comprehensive program incorporates

a unique curriculum that balances breadth and depth of study through scholarly coursework which incorporates the logic and workings of the criminal justice system. In depth coursework covers the theoretical underpinnings of the biological and physical sciences as used in the collection, analysis, interpretation, reporting, and testimony of evidence.

2. Program Specification

| | | | |
|------------------------|-----------------------|------------------------------|-----------|
| Programme code: | BSc-FOR | ECTS | 240 |
| Duration: | 4 levels, 8 Semesters | Method of Attendance: | Full Time |

FORENSIC student is a wonderfully wide-ranging subject, and Leeds, with one of the IRAQ's' largest and most diverse forensic teaching groups, is well equipped to deliver. The emphasis of the programme is the whole organism to which everything is related, be it the molecules that form proteins or communities of organisms in an ecosystem. The degree is popular - –or some it's'the breadth of the subject that appeals, for others it's'a path to specialization. All students have the opportunity to transfer onto our specialist degrees in Genetics, chemistry, and Ecology at the end of the first year.

Level 1 exposes students to the fundamentals of Biology, suitable for progression to all programmes within the biology programme group. Programme-specific core topics are covered at Level 2 preparing for research-led subject specialist modules at Levels 3 and 4. A Leeds Biology graduate is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At Levels 2, 3 and 4 students are free to choose more than half of their module credits with the proviso a range of modules are selected that reflect the complexity of life forms from molecules, through organisms, both plants and animals, to populations to ensure the breadth of knowledge expected of a graduate with a biology degree.

The research ethos is developed and fostered from the start via practicals, which are either embedded in lecture modules or taught in dedicated practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students must pass in order to progress into Level 2, and optional field courses in Levels 2, 3 and 4. At Level 4 all students carry out an independent research project, which may be a xx credit library or data analysis project, or a xx credit field or laboratory based project.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. library use and presentation skills, followed by assessed exercises, e.g. essays and talks, as opportunities to practice these skills in a subject-specific context.

International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

3. Program Goals

1. To provide a comprehensive education in forensic that stresses scientific reasoning and problem solving across the spectrum of disciplines within forensic
2. Show understanding of the role of physical forensic methods in forensic practice.
3. Demonstrate knowledge of the primary evidence types, their transfer and persistence.
4. Demonstrate understanding of emerging developments in forensic science.
5. Consider a broad range of forensic techniques to determine the examination strategy, sequencing, and probative value.
6. . Demonstrate understanding of quality standards in respect of scene examination.

4. Student Learning Outcomes

1-While all toxicology addresses the adverse effects that agents have on living organisms, clinical and medical toxicology play unique roles not often encountered in traditional toxicology practice or research.

2-The subset of toxicology focus on the immediate needs of patients suspected of being poisoned.

3-The toxicology require extensive knowledge of diseases and etiology as well as a thorough understanding of the effects of potential poisons, both of which are commonly used to make diagnoses.

4- medical toxicologists must consider three points—the substance involved, the toxic response, and the mechanism by which it occurs—in order to determine the best treatment options for each patient.

5- introduce participants to the basics of clinical and medical toxicology along with new and old tools that may be used by the clinical toxicologist.

Outcome 1

Identification of Complex Relationships

Graduates will be able to illustrate the structure and function of cellular components and explain how they interact in a living cell.

Outcome 2

Oral and Written Communication

Graduates will be able to formally communicate the results of biological investigations using both oral and written communication skills.

Outcome 3

Laboratory and Field Studies

Graduates will be able to perform laboratory experiments and field studies, by using scientific equipment and computer technology while observing appropriate safety protocols.

Outcome 4

Scientific Knowledge

Graduates will be able to demonstrate a balanced concept of how scientific knowledge develops, including the historical development of foundational theories and laws and the nature of science.

Outcome 5

Data Analyses

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.

Outcome 6

Critical Thinking

Graduates will be able to use critical-thinking and problem-solving skills to develop a research project and/or paper.

5. Academic Staff

- 1- Prof. Dr. Basima Mohsin sarhan | Prof. in inorganic chemistry | Prof.
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- 2- Asst. Prof. Majed Hassan Karbon | Prof in Chemistry Biochemistry | prof.
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- 5- Mohammed Hameed abdulhasan | MSc.in Medical Instrumentation | Assistant Lecture
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- 6- Dr. Mohammed Abdulfatah A.Rahman | PhD. in Molecular Genetics| Lecturer
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- 7- Hiba qahtan abduljabbar | MSc.in Computer Science Data Security | Assistant Lecture
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- 8- Marwa Jassim Abbood | MSc.in Specialization Criminal Law | Assistant Lecture
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- 9- Hamza Yasser Salman | | MSc.in Mathematics Differential Equations | Assistant Lecture
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6. Credits, Grading and GPA

Credits

(Iraqi University of Science) is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

| GRADING SCHEME | | | | |
|--|------------------|---------------------|-----------|---------------------------------------|
| مخطط الدرجات | | | | |
| Group | Grade | التقدير | Marks (%) | Definition |
| Success Group (50 - 100) | A - Excellent | امتياز | 90 – 100 | Outstanding Performance |
| | B - Very Good | جيد جدا | 80 – 89 | Above average with some errors |
| | C - Good | جيد | 70 – 79 | Sound work with notable errors |
| | D - Satisfactory | متوسط | 60 – 69 | Fair but with major shortcomings |
| | E - Sufficient | مقبول | 50 – 59 | Work meets minimum criteria |
| Fail Group (0 – 49) | FX – Fail | راسب - قيد المعالجة | (45-49) | More work required but credit awarded |
| | F – Fail | راسب | (0-44) | Considerable amount of work required |
| Note: | | | | |
| Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above. | | | | |

Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

CGPA of a 4-year B.Sc. degree:

$$CGPA = [(1st^{th} \text{ module score} \times ECTS) + (2nd^{th} \text{ module score} \times ECTS) + \dots] / 240$$

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|--------------------------------|------|-------|------|------|-------------|
| FOR1104 | General Biology 1 | 86 | 89 | 7.00 | C | |
| FOR1105 | General Chemistry | 90 | 85 | 7.00 | C | |
| kus1102 | Basics of computer science | 58 | 17 | 3.00 | C | |
| kus1101 | mathematics | 72 | 53 | 5.00 | S | |
| KUS1103 | Democracy and human rights | 44 | 6 | 2.00 | B | |
| FOR1106 | Principles of forensic science | 72 | 78 | 6.00 | B | |

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|--------|---|------|-------|------|------|-------------------|
| FOR007 | General Biology 2 | 100 | 75 | 7.00 | C | General Biology 1 |
| FOR008 | Organic Chemistry | 100 | 75 | 7.00 | C | General Chemistry |
| FOR011 | Languages / English | 58 | 17 | 3.00 | C | |
| KUS012 | General Physics | 100 | 75 | 7.00 | S | |
| KUS010 | Languages / Arabic | 58 | 17 | 3.00 | B | |
| FOR009 | Legal regulation of the criminal expert | 58 | 17 | 3.00 | B | |

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|--------|------------------------|------|-------|------|------|-------------|
| FOR013 | Biochemistry | 86 | 64 | 6.00 | C | |
| FOR114 | Genetics | 86 | 64 | 6.00 | C | |
| FOR015 | Anatomy and physiology | 86 | 64 | 6.00 | C | |

| | | | | | | |
|--------|--------------------------------------|----|----|------|---|--|
| FOR016 | fluids Secretions and vital | 86 | 64 | 6.00 | C | |
| FOR017 | forensic applications Statistics and | 42 | 33 | 3.00 | B | |
| FOR018 | crime since | 42 | 33 | 3.00 | B | |

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|--------|--|------|-------|------|------|-------------|
| FOR119 | Biology Molecular | 86 | 89 | 7.00 | C | |
| FOR120 | Analytical Chemistry | 86 | 89 | 7.00 | C | |
| FOR021 | Laboratory equipment and techniques | 86 | 64 | 6.00 | S | |
| FOR022 | applications Forensic computer | 58 | 17 | 3.00 | C | |
| FOR023 | criminal investigation Investigation and | 72 | 28 | 4.00 | B | |
| FOR124 | English language 1 | 44 | 31 | 3.00 | B | |

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|--------|---|------|-------|------|------|-------------|
| FOR125 | Molecular application | 100 | 75 | 7.00 | C | |
| FOR126 | Analytical Chemistry | 100 | 75 | 7.00 | C | |
| FOR027 | Forensic chemistry | 72 | 53 | 5.00 | C | |
| FOR028 | Chemical and microscopic detection methods | 72 | 53 | 5.00 | C | |
| FOR029 | Introduction to explosive materials and booby traps | 44 | 31 | 3.00 | S | |
| FOR130 | English language | 30 | 45 | 3.00 | B | |

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|--------|--|------|-------|------|------|-------------|
| FOR131 | Introduction to toxins and drugs | 86 | 89 | 7.00 | C | |
| FOR032 | The effects of criminal evidence | 58 | 42 | 4.00 | C | |
| FOR033 | Criminal insects | 86 | 89 | 7.00 | C | |
| FOR034 | Genetic statistical analysis and databases | 58 | 42 | 4.00 | C | |
| FOR035 | Inks and dyes and their warnings | 72 | 28 | 4.00 | S | |
| FOR036 | tissue , haier and fibers science | 58 | 42 | 4.00 | S | |

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|--------|--|------|-------|------|------|-------------|
| FOR037 | enviromental toxins and distrial pollution | 86 | 89 | 7.00 | C | |
| FOR038 | identify difintion tools | 86 | 89 | 7.00 | C | |
| FOR039 | bioinformatics | 86 | 89 | 7.00 | C | |
| FOR040 | Basics of fingerprint analysis and fonts | 86 | 64 | 6.00 | C | |
| FOR141 | english language | 44 | 31 | 3.00 | B | |
| FOR037 | enviromental toxins and distrial pollution | 86 | 89 | 7.00 | C | |

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|--------|---|------|-------|------|------|-------------|
| FOR042 | Principles of Medical jurisprudence | 114 | 86 | 8.00 | C | |
| FOR043 | Identity Definition Tool and Fingerprints | 114 | 86 | 8.00 | C | |
| FOR044 | Ethics of scientific research | 44 | 56 | 4.00 | S | |
| FOR045 | Cybercrime | 72 | 78 | 6.00 | B | |

| | | | | | | |
|--------|-------------------------------------|-----|----|------|---|--|
| FOR046 | Graduation project | 86 | 14 | 4.00 | B | |
| FOR042 | Principles of Medical jurisprudence | 114 | 86 | 8.00 | C | |

8. Contact

Program Manager:

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