



Course Syllabus
According to JORDAN National Qualification
Framework (JNQF)

Course Name: Training

Course Number: 11014292

General Course Information:

| | |
|---|---|
| Course title | Practical chemical training |
| Course number | 11014292 |
| Credit hours | 3 (135 hrs. practical (9 hrs. per week) |
| Education type | Face-to-Face |
| Prerequisites/corequisites | Pass 90 hours successfully |
| Academic Program | Chemistry |
| Program code | 01 |
| Faculty | Science |
| Department | Chemistry |
| Level of course | 4 th year |
| Academic year /semester | 2022/2023- First semester |
| Awarded qualification | Bachelor's degree in chemistry |
| Other department(s) involved in teaching the course | None |
| Language of instruction | English |
| Date of production/revision | 16/10/2022 |

Course Coordinator:

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| Coordinator's name | Dr. Manal Alkhabbas |
| Office No | 4231 |
| Office Phone extension number | 2510 |
| Office Hours | 11-12 Sun, Tue, and Thu, 11-12:30 Mon and Wed. |
| Email | manal.khabbas@iu.edu.jo |

Other Instructors:

| | |
|-------------------------------|--|
| Instructor name | |
| Office No | |
| Office Phone extension number | |
| Office Hours | |
| Email | |

Course Description (English/Arabic):

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|---------|---|
| English | Training in an organization that adopts chemical analysis such as factories of cement, potash, phosphate, petroleum refinery.... etc, pharmaceutical companies, and water companies where the student spend 135 training hours. Student is evaluated by the trainerr. |
| Arabic | التدريب في مؤسسة تتبنى التحليل الكيميائي مثل مصانع الاسمنت والبوتاس والفوسفات وتكرير البترول.... إلخ ، شركات الأدوية وشركات المياه حيث يقضي الطالب 135 ساعة تدريب. يتم تقييم الطالب من قبل المدرب. |

Textbook: Author(s), Title, Publisher, Edition, Year, Book website.

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References: *Author(s), Title, Publisher, Edition, Year, Book website.*

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Course Educational Objectives (CEOs):

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|-----------|---|
| | By the end of this course, the student should be fully aware of: |
| 1. | Perform different types of chemical analysis. |
| 2. | Understanding of laboratory procedures, including health and safety, and scientific methods |
| 3. | Develop communication, interpersonal and other critical skills in the job interview process. |

Intended Learning Outcomes (ILO's):

| | Subject Intended learning outcomes (ILOs) describe what students are expected to know and be able to do at the end of the course. These outcomes are related to the knowledge, skill and competence that students acquire: | Relationship to CEOs | Contribution to PLOs | Bloom Taxonomy Levels* | Descriptors** |
|-----------|---|-----------------------------|-----------------------------|-------------------------------|----------------------|
| A | Knowledge and Understanding: | | | | |
| A1 | | | | | |
| B | Intellectual skills: | | | | |
| B1 | | | | | |
| C | Subject specific skills: | | | | |
| C1 | Student be able to apply safety laboratory techniques | 2 | 11 | Application | S |
| C2 | Students will be able to clearly communicate the results of scientific work in oral, written, and electronic formats | 3 | 7 | Synthesis | S |
| D | Transferable skills: | | | | |
| D1 | Student be able to master quantitative and qualitative analysis in chemistry | 1 | 5 | Application | C |
| D2 | Student be able to master using different types of chemical instruments analysis | 1, 2 | 5 | Application | C |
| D3 | Student be able to work in team. | 3 | 6 | Application | C |

***Bloom Taxonomy Levels**

| Level # | 1 | 2 | 3 | 4 | 5 | 6 |
|------------|-----------|---------------|-------------|----------|------------|-----------|
| Level Name | Knowledge | Comprehension | Application | Analysis | Evaluation | Synthesis |

**** Descriptor (National Qualification Framework Descriptors): K : Knowledge, S: Skill, C: Competency.**

Program Learning Outcome (PLOs):

| Program Learning Outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills, and behaviours that students acquire as they progress through the program. A graduate of the () program will demonstrate: | | Descriptors** | | |
|--|--|---------------|---|---|
| | | K | S | C |
| 1. | Describe the fundamental scientific principles and theories across the four subfields of chemistry (Organic, inorganic, analytical and physical). | x | | |
| 2. | Identify and confirm chemical compounds structures as well as determine chemical composition. | x | | |
| 3. | Establish and concludes mechanisms of physical and chemical processes in addition to the ability of mastering qualitative and quantitative determination. | | | x |
| 4. | Solve the scientific problems using different mechanisms and procedures based on critical thinking. | | x | |
| 5. | Conduct scientific experiments in chemistry. | | | x |
| 6. | Commitment and interest in lifelong learning, and collaborate effectively with other people in a team. | | | x |
| 7. | Prepare logical, organized and concise written reports, and oral and poster presentations that effectively communicate chemical content to other scientists. | | x | |
| 8. | Commitment to the ethical principles of chemical research. | | | x |
| 9. | Find information about chemistry through databases and information | | x | |
| 10. | Evaluation of calculations in chemistry experiments and information analysis using computer software. | | | x |
| 11. | Demonstrate safety laboratory techniques. | | x | |

**** Descriptors according to the national qualifications framework (K: knowledge, S: skill, C: Competency)**

Weekly Schedule (please choose the type of teaching)

☒ **Face to Face**

☐ **Hybrid (2 Lectures Face – To - Face +1 Lecture Asynchronous)**

☐ **Hybrid (1 Lectures Face – To - Face +1 Lecture Asynchronous)**

☐ **Online (2 Lectures Synchronous +1 lecture Asynchronous)**

| Week | Laboratory Training | Ach. ILOs | Ach. PLOs | Descriptors** |
|------|---------------------|---------------|-------------|---------------|
| 1. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |

| | | | | |
|-----|------------------|---------------|-------------|---------|
| 2. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 3. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 4. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 5. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 6. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 7. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 8. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 9. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 10. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 11. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 12. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 13. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 14. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 15. | Training 9 Hours | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |
| 16. | Oral Final Exam | 1, 2, 3, 4, 5 | 5, 6, 7, 11 | K, S, C |

* K: Knowledge, S: Skills, C: Competency

Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

Practice Labs

Reports

Representation

Course Policies:

A- Attendance policies:

The maximum allowed absences is 15% of the lectures.

B- Absences from exams and handing in assignments on time:

Midterm exam can be retaken based on approval of excuse by the instructor's discretion.

Not handing assignment on time will incur penalties.

C- Academic Health and safety procedures

D- Honesty policy regarding cheating, plagiarism, and misbehaviour:

Cheating, plagiarism, misbehaviour will result in zero grade and further disciplinary actions may be taken.

E- Grading policy:

- All homework is to be posted online through the e-learning system.
- Exams will be marked within 72 hours and the marked exam papers will be handed to the students.
- Online Activities (Course Videos, Practice labs, Discussion Forums, Quizzes) **20%**
- Midterm **30%**
- Final Exam **50%**

F- Available university services that support achievement in the course: **E-Learning Platform, Labs, Library.**



Required equipment:

- PC / Laptop with webcam and mic
- Internet Connection
- Access to the IU E-Learning Platform at: <https://elearn.iu.edu.jo/>
- E-learning plan
- Satisfaction questionnaires for online and face-to-face learning
- Software for e-learning
- Training

Assessment Tools implemented in the course:

- ✓ Final Exam
- ✓ Practice Labs
- ✓ Periodic reports for learning assessment

Responsible Persons and their Signatures:

| | | | |
|----------------------------------|-----------------|----------------|---|
| Course Coordinator | Manal Alkhabbas | Completed Date | 16/10/2022 |
| | | Signature |  |
| Received by (Department Head) | Manal Alkhabbas | Received Date | 16/10/2022 |
| | | Signature |  |