University of Technology

Bachelor’s level (First cycle)

Honors Bachelor's degree in Applied Physics

بكالوريوس العلوم التطبيقية - اختصاص الفيزياء التطبيقية

Table of Contents

1. Overview

This guide covers the study materials offered by the Applied Science/Applied Physics program to obtain a Bachelor's degree in Applied Physics. The program offers (40) subjects with (6000) total student load hours and 240 ECTs. Subject submission is based on the Bologna track.

نظرة عامة

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج العلوم التطبيقية/ الفيزياء التطبيقية للحصول على درجة بكالوريوس في علوم الفيزياء التطبيقية. يقدم البرنامج (40) مادة دراسية مع (6000) إجمالي ساعات حمل الطالب و٢٤٠ إجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على مسار بولونيا.

2. Undergraduate Courses 2023-2024

1

Code	Course/Module Title	ECTS	Semester
CLME111	Classical Mechanics I	8	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	2/1	93	107
Description			
To develop problem solving skills and understanding of classic mechanics theory through the application of techniques. To understand what is physics Science, Physical Quantity, unit systems, unit systems and dimensional Analysis.			

2

Code	Course/Module Title	ECTS	Semester
ELMA112	Electricity and Magnetism I	8	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	2/1	93	107

Description
To develop problem solving skills and understanding of Electric and magnetic circuits theory through the application of techniques. To understand how voltage , current and power from a given circuit. This course deals with the basic concept of Electric and magnetic circuits.

3

Code	Course/Module Title	ECTS	Semester
MATH113	Mathematics I	7	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	1	63	112
Description			
This courses aims to learn the basic principles of applied mathematics and Enable the student to use mathematics for the purpose of applying it in various scientific fields			

4

Code	Course/Module Title	ECTS	Semester
WORSH11	Workshops	2	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
	3	45	5
Description			
Preparing applied engineers in the field of engineering sciences who are distinguished by a high level of knowledge and technological creativity, in line with the strict standards adopted globally in quality assurance and academic accreditation of the corresponding engineering programs, while adhering to the ethics of the engineering profession. Enable the student to know and understand work systems, risks, and the factors surrounding them. Enable the student to know and understand theoretical principles in handicrafts and measurements.			

5

Code	Course/Module Title	ECTS	Semester

CHEM115	Chemistry	3	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	12
Description			
Introducing the student to the scientific principles of science theories. to develop problem-solving skills and understanding of general chemistry through the application of techniques. This course deals with the basic concept of general chemistry. This is the basic subject for all chemistry phenomena subject. teaching the student how to process to obtain results that are consistent with practical results. Introducing the student to how to build scientific theories in chemistry.			

6

Code	Course/Module Title	ECTS	Semester
HURI116	Human Rights	2	1
Lectures (hr/w)	**Lab./Prac./Tutor.**	**SSWL (hr/sem)**	**USSWL (hr/w)**
2		31	19
Description			
Developing and flourishing the human personality in its emotional, intellectual and social dimensions, and rooting in its sense of dignity, freedom, equality, social justice and democratic practice.Enhancing people's awareness - women and men - of their rights in a way that helps enable them to transform the principles of human rights into a social, economic, cultural and political reality, and raise their ability to defend, maintain and advance them at all levels. Strengthening the bonds of friendship and solidarity among peoples, enhancing respect for the rights of others, preserving cultural pluralism and diversity, flourishing national cultures for all groups and peoples, enriching the culture of dialogue and mutual tolerance, rejecting violence and terrorism, promoting non-violence and combating intolerance, and providing all people with strong immunity against hate speech. Promoting a culture of peace based on justice and respect for human rights, foremost of which is the right to self-determination, the right to resist occupation, and the democratization of international relations and the institutions of the international community, so as to reflect the common interests of humanity.			

7

Code	Course/Module Title	ECTS	Semester
CLME121	Classical Mechanics II	8	2
Lectures (hr/w)	**Lab./Prac./Tutor.**	**SSWL (hr/sem)**	**USSWL (hr/w)**
3	2/1	93	107
Description			
To develop problem solving skills and understanding of classic mechanics theory through the application of techniques. To understand what is physics Science, Physical Quantity, unit systems, unit systems and dimensional Analysis.			

8

Code	Course/Module Title	ECTS	Semester
ELMA122	Electricity and Magnetism II	8	2
Lectures (hr/w)	**Lab./Prac./Tutor.**	**SSWL (hr/sem)**	**USSWL (hr/w)**
3	2/1	93	107
Description			
To develop problem solving skills and understanding of Electric and magnetic circuits theory through the application of techniques. To understand how voltage , current and power from a given circuit. This course deals with the basic concept of Electric and magnetic circuits.			

9

Code	Course/Module Title	ECTS	Semester
MATH123	Mathematics II	7	2
Lectures (hr/w)	**Lab./Prac./Tutor.**	**SSWL (hr/sem)**	**USSWL (hr/w)**
3	1	63	112
Description			
This courses aims to learn the basic principles of applied mathematics and Enable the student to use mathematics for the purpose of applying it in various scientific fields			

10

Code	Course/Module Title	ECTS	Semester
WORSH11	Workshops	2	2
Lectures (hr/w)	**Lab./Prac./Tutor.**	**SSWL (hr/sem)**	**USSWL (hr/w)**
	3	45	5
Description			
Preparing applied engineers in the field of engineering sciences who are distinguished by a high level of knowledge and technological creativity, in line with the strict standards adopted globally in quality assurance and academic accreditation of the corresponding engineering programs, while adhering to the ethics of the engineering profession. Enable the student to know and understand work systems, risks, and the factors surrounding them. Enable the student to know and understand theoretical principles in handicrafts and measurements.			

11

Code	Course/Module Title	ECTS	Semester
COSC125	Computer Science	3	2
Lectures (hr/w)	**Lab./Prac./Tutor.**	**SSWL (hr/sem)**	**USSWL (hr/w)**
2	2	63	12
Description			
Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes and interactive tutorials			

12

Code	Course/Module Title	ECTS	Semester
ENLA126	English language	2	2
Lectures (hr/w)	**Lab./Prac./Tutor.**	**SSWL (hr/sem)**	**USSWL (hr/w)**
2		33	17

Description
This course aims to learn the principles of the English language by combining the best of traditional approaches - solid grammar and practice, vocabulary development, etc. - and newer approaches, such as communicative role-play and personalization.