

Alayen Iraqi University
جامعة العين العراقية



First Cycle – Bachelor's Degree (B.Sc.) – Laser & Optoelectronics Engineering

بكالوريوس - هندسة الليزر والالكترونيات البصرية



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1. Overview

This catalogue is about the courses (modules) given by the program of Laser & Optoelectronics Engineering to gain the Bachelor of engineering degree. The program delivers (57) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

نظرة عامة

يتناول هذا الدليل المقررات الدراسية (الوحدات التعليمية) التي يقدمها برنامج هندسة الليزر والإلكترونيات البصرية للحصول على درجة البكالوريوس في الهندسة.

يضم البرنامج 57 مقررًا بمجموع 6000 ساعة دراسية و 240 وحدة ECTS ويتم تنفيذ المقررات الدراسية وفقاً لـ نظام بولونيا (Bologna Process).

2. Undergraduate Courses 2025-2026

Module 1

Code	Course/Module Title	ECTS	Semester
URDEM	Democracy and Human Rights	2	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2		33	17
Description			
This module introduces students to the fundamental concepts of democracy and human rights and their importance in modern societies. It covers democratic systems, principles of freedom, equality, and the rule of law, as well as the role of civil and international institutions in protecting human rights. The course also explores the relationship between democracy and sustainable development, highlighting how respect for human rights contributes to social and political stability. Students are encouraged to critically analyze contemporary human rights issues through case studies and interactive discussions, fostering awareness, ethical responsibility, and active citizenship.			



Module 2

Code	Course/Module Title	ECTS	Semester
URCOM	Computer	3.0	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
1	B	48	27
Description			
This module provides a focused introduction to Computer, emphasizing core principles, essential terminology, and engineering applications relevant to the Laser & Optoelectronics Engineering program. Students will explore theoretical foundations alongside practical perspectives to develop problem-solving, modeling, and analytical skills. Through lectures, guided exercises, and formative tasks, the course supports competence in interpreting specifications, evaluating performance, and communicating technical findings. Realistic examples and case-based prompts encourage connections between theory and practice while highlighting ethical and safety considerations. By the end of the module, learners will be able to explain key concepts, apply appropriate methods to well-defined problems, and reflect on limitations and trade-offs in design choices.			

Module 3

Code	Course/Module Title	ECTS	Semester
DRAW110	Engineering Drawing	7.0	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	B	108	67
Description			
This module provides a focused introduction to Engineering Drawing, emphasizing core principles, essential terminology, and engineering applications relevant to the Laser & Optoelectronics Engineering program. Students will explore theoretical foundations alongside practical perspectives to develop problem-solving, modeling, and analytical skills. Through lectures, guided exercises, and formative tasks, the course supports competence in interpreting specifications, evaluating performance, and communicating technical findings. Realistic examples and case-based prompts encourage connections between theory and practice while highlighting ethical and safety considerations. By the end of the module, learners will be able to explain key concepts, apply appropriate methods to well-defined problems, and reflect on limitations and trade-offs in design choices.			

Module 4

Code	Course/Module Title	ECTS	Semester
PHYS111	Physics	5.0	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	B	63	62



Description
This module provides a focused introduction to Physics, emphasizing core principles, essential terminology, and engineering applications relevant to the Laser & Optoelectronics Engineering program. Students will explore theoretical foundations alongside practical perspectives to develop problem-solving, modeling, and analytical skills. Through lectures, guided exercises, and formative tasks, the course supports competence in interpreting specifications, evaluating performance, and communicating technical findings. Realistic examples and case-based prompts encourage connections between theory and practice while highlighting ethical and safety considerations. By the end of the module, learners will be able to explain key concepts, apply appropriate methods to well-defined problems, and reflect on limitations and trade-offs in design choices.

Module 5

Code	Course/Module Title	ECTS	Semester
MATH110	Mathematics	6.0	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
3	B	63	87
Description			
This module provides a focused introduction to Mathematics, emphasizing core principles, essential terminology, and engineering applications relevant to the Laser & Optoelectronics Engineering program. Students will explore theoretical foundations alongside practical perspectives to develop problem-solving, modeling, and analytical skills. Through lectures, guided exercises, and formative tasks, the course supports competence in interpreting specifications, evaluating performance, and communicating technical findings. Realistic examples and case-based prompts encourage connections between theory and practice while highlighting ethical and safety considerations. By the end of the module, learners will be able to explain key concepts, apply appropriate methods to well-defined problems, and reflect on limitations and trade-offs in design choices.			

Module 6

Code	Course/Module Title	ECTS	Semester
LAER110	DC Electrical Circuits	5.0	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	C	93	32
Description			
This module provides a focused introduction to DC Electrical Circuits, emphasizing core principles, essential terminology, and engineering applications relevant to the Laser & Optoelectronics Engineering program. Students will explore theoretical foundations alongside practical perspectives to develop problem-solving, modeling, and analytical skills. Through lectures, guided exercises, and formative tasks, the course supports competence in interpreting specifications, evaluating performance, and			



communicating technical findings. Realistic examples and case-based prompts encourage connections between theory and practice while highlighting ethical and safety considerations. By the end of the module, learners will be able to explain key concepts, apply appropriate methods to well-defined problems, and reflect on limitations and trade-offs in design choices.

Module 7

Code	Course/Module Title	ECTS	Semester
LAER111	Laser Sciences	2.0	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	33	17
Description			
This module provides a focused introduction to Laser Sciences, emphasizing core principles, essential terminology, and engineering applications relevant to the Laser & Optoelectronics Engineering program. Students will explore theoretical foundations alongside practical perspectives to develop problem-solving, modeling, and analytical skills. Through lectures, guided exercises, and formative tasks, the course supports competence in interpreting specifications, evaluating performance, and communicating technical findings. Realistic examples and case-based prompts encourage connections between theory and practice while highlighting ethical and safety considerations. By the end of the module, learners will be able to explain key concepts, apply appropriate methods to well-defined problems, and reflect on limitations and trade-offs in design choices.			

Module 8

Code	Course/Module Title	ECTS	Semester
URENG1	English Language	2.0	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	B	33	17
Description			
This module offers a structured introduction to English Language, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			



Module 9

Code	Course/Module Title	ECTS	Semester
URARA	Arabic Language	2.0	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	B	33	17
Description			
This module offers a structured introduction to Arabic Language, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 10

Code	Course/Module Title	ECTS	Semester
MATH120	Fundamentals of Engineering Mathematics	6.0	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
3	B	63	87
Description			
This module offers a structured introduction to Fundamentals of Engineering Mathematics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 11

Code	Course/Module Title	ECTS	Semester
LAER120	AC Electrical Circuits	6.0	2



Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	C	108	42
Description			
This module offers a structured introduction to AC Electrical Circuits, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 12

Code	Course/Module Title	ECTS	Semester
LAER121	Geometrical Optics	3.0	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	33	42
Description			
This module offers a structured introduction to Geometrical Optics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 13

Code	Course/Module Title	ECTS	Semester
LAER122	Mechanical Engineering	6.0	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	C	93	57



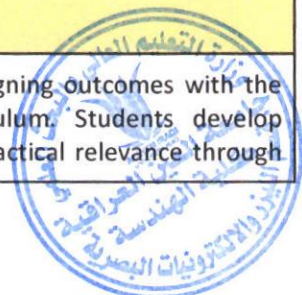
Description
This module offers a structured introduction to Mechanical Engineering, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 14

Code	Course/Module Title	ECTS	Semester
LAER123	Software Engineering	3.0	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	12
Description			
This module offers a structured introduction to Software Engineering, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 15

Code	Course/Module Title	ECTS	Semester
WORK120	Workshop Technology	2.0	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
	B	48	2
Description			
This module offers a structured introduction to Workshop Technology, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through			



guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 16

Code	Course/Module Title	ECTS	Semester
URBRC	Ba'ath Regime Crimes	2.0	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	B	33	17
Description			
This module offers a structured introduction to Ba'ath Regime Crimes, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 17

Code	Course/Module Title	ECTS	Semester
MANG210	Principles of Management	2.0	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	S	33	17
Description			
This module offers a structured introduction to Principles of Management, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through			



guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 18

Code	Course/Module Title	ECTS	Semester
URENG2	New Headway Plus Pre-Intermediate	2.0	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	B	33	17
Description			
This module offers a structured introduction to New Headway Plus Pre-Intermediate, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 19

Code	Course/Module Title	ECTS	Semester
MATH210	Engineering Mathematics	6.0	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
3	B	63	87
Description			
This module offers a structured introduction to Engineering Mathematics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through			



guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 20

Code	Course/Module Title	ECTS	Semester
LAER210	Fundamentals of Electronic Devices	6.0	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
3	C	108	42
Description			
This module offers a structured introduction to Fundamentals of Electronic Devices, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 21

Code	Course/Module Title	ECTS	Semester
LAER211	Electromagnetic Fields	6.0	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	C	93	57
Description			
This module offers a structured introduction to Electromagnetic Fields, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through			



guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 22

Code	Course/Module Title	ECTS	Semester
LAER212	Materials Science	6.0	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	C	93	57
Description			
This module offers a structured introduction to Materials Science, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 23

Code	Course/Module Title	ECTS	Semester
STAT220	Engineering Statistics	5.0	C
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	B	33	92
Description			
This module offers a structured introduction to Engineering Statistics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application			



scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 24

Code	Course/Module Title	ECTS	Semester
MATH220	Analytic Mathematics	6.0	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
3	B	63	87
Description			
This module offers a structured introduction to Analytic Mathematics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 25

Code	Course/Module Title	ECTS	Semester
LAER220	Electronic Circuits	5.0	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	93	32
Description			
This module offers a structured introduction to Electronic Circuits, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on			



safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 26

Code	Course/Module Title	ECTS	Semester
LAER221	Digital Combinational Systems	4.0	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	93	7
Description			
This module offers a structured introduction to Digital Combinational Systems, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 27

Code	Course/Module Title	ECTS	Semester
LAER222	Laser Physics	5.0	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	C	93	32
Description			
This module offers a structured introduction to Laser Physics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution			



strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 28

Code	Course/Module Title	ECTS	Semester
URARA2	Arabic Language 2	2.0	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	B	33	17
Description			
This module offers a structured introduction to Arabic Language 2, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 29

Code	Course/Module Title	ECTS	Semester
URCOM2	Computer 2	3.0	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
1	B	48	27
Description			
This module offers a structured introduction to Computer 2, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			



Module 30

Code	Course/Module Title	ECTS	Semester
LAER310	Engineering and Numerical Analysis	7.0	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	B	93	82
Description			
This module offers a structured introduction to Engineering and Numerical Analysis, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 31

Code	Course/Module Title	ECTS	Semester
LAER311	Quantum Mechanics	3.0	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	48	27
Description			
This module offers a structured introduction to Quantum Mechanics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			



Module 32

Code	Course/Module Title	ECTS	Semester
LAER312	Optoelectronics	3.0	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	33	42
Description			
This module offers a structured introduction to Optoelectronics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 33

Code	Course/Module Title	ECTS	Semester
LAER313	Digital Sequential Systems	5.0	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	93	32
Description			
This module offers a structured introduction to Digital Sequential Systems, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			



Module 34

Code	Course/Module Title	ECTS	Semester
LAER314	Nonlinear Optics	5.0	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	62
Description			
This module offers a structured introduction to Nonlinear Optics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 35

Code	Course/Module Title	ECTS	Semester
LAER315	Industrial Laser Applications	5.0	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	78	47
Description			
This module offers a structured introduction to Industrial Laser Applications, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts,			



apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 36

Code	Course/Module Title	ECTS	Semester
LAER316	Laser Safety	2.0	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	33	17
Description			
This module offers a structured introduction to Laser Safety, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 37

Code	Course/Module Title	ECTS	Semester
LAER320	Medical Laser Applications	4.0	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
3	C	48	52
Description			
This module offers a structured introduction to Medical Laser Applications, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting			



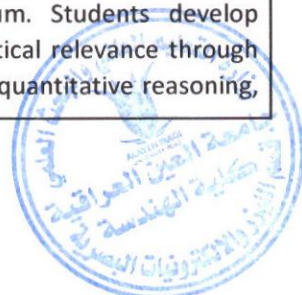
appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 38

Code	Course/Module Title	ECTS	Semester
LAER321	Spectroscopy	4.0	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	37
Description			
This module offers a structured introduction to Spectroscopy, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 39

Code	Course/Module Title	ECTS	Semester
LAER322	Optical Systems Design	5.0	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	62
Description			
This module offers a structured introduction to Optical Systems Design, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning,			



and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 40

Code	Course/Module Title	ECTS	Semester
LAER323	Communications Theory and Networks	6.0	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	C	93	57
Description			
This module offers a structured introduction to Communications Theory and Networks, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 41

Code	Course/Module Title	ECTS	Semester
LAER324	Computer Architecture	7.0	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	C	123	52
Description			
This module offers a structured introduction to Computer Architecture, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning,			



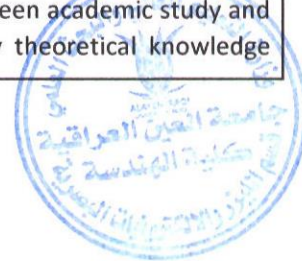
and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 42

Code	Course/Module Title	ECTS	Semester
LAER325	Wave Propagation	4.0	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	48	52
Description			
This module offers a structured introduction to Wave Propagation, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 43

Code	Course/Module Title	ECTS	Semester
TRAN#90	Summer Training		6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
Description			
This module provides students with practical training experience in industrial, governmental, or professional institutions outside the university. It aims to bridge the gap between academic study and real-world engineering practice. During the training period, students apply theoretical knowledge			



gained in previous semesters to solve practical problems, operate modern equipment, and observe workplace procedures and safety standards. Emphasis is placed on teamwork, communication, time management, and professional ethics. Students are required to document their daily activities, reflect on the skills acquired, and prepare a comprehensive report summarizing their contributions and learning outcomes. Upon completion, students should be able to demonstrate applied technical competence, professional responsibility, and an understanding of the organizational environment related to their engineering specialization.

Module 44

Code	Course/Module Title	ECTS	Semester
CERPRO1	Project 1	4.0	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
	C	63	37
Description			
This module introduces students to the first phase of their graduation project, undertaken during the seventh semester of the Laser & Optoelectronics Engineering program. It focuses on identifying, formulating, and planning an engineering problem that reflects real-world applications within the student's specialization. Under the supervision of academic staff, students are guided to conduct literature reviews, define project objectives, develop initial designs or simulations, and prepare detailed work plans for implementation in Project 2. Emphasis is placed on independent learning, critical thinking, teamwork, ethical conduct, and effective communication. Students are required to produce a comprehensive proposal report and deliver an oral presentation outlining the project's motivation, methodology, expected outcomes, and timeline. By the end of the module, learners will demonstrate their ability to integrate theoretical knowledge, apply research and design methods, and prepare for the practical realization of their engineering project in the subsequent semester.			

Module 45

Code	Course/Module Title	ECTS	Semester
LAER410	Laser Power Supply	5.0	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	62
Description			
This module offers a structured introduction to Laser Power Supply, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures.			



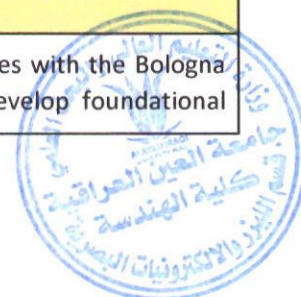
and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 46

Code	Course/Module Title	ECTS	Semester
LAER411	Laser Detection Systems	6.0	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	87
Description			
This module offers a structured introduction to Laser Detection Systems, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 47

Code	Course/Module Title	ECTS	Semester
LAER412	Control Theory	4.0	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	48	52
Description			
This module offers a structured introduction to Control Theory, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational			



knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.

Module 48

Code	Course/Module Title	ECTS	Semester
LAER413	Optical Fibers	5.0	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	62
Description			
This module offers a structured introduction to Optical Fibers, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 49

Code	Course/Module Title	ECTS	Semester
LAER414	Elective I	3.0	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	E	33	42
Description			



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Module 50

Code	Course/Module Title	ECTS	Semester
LAER415	Elective II	3.0	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	E	33	42
Description			

Module 51

Code	Course/Module Title	ECTS	Semester
CERPRO2	Project 2	4.0	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
	C	63	37
Description			
This module represents the second and final phase of the graduation project undertaken during the eighth semester of the Laser & Optoelectronics Engineering program. Building on the proposal and preliminary design developed in Project 1, students proceed to the full implementation, testing, and validation of their engineering solutions. Working under academic supervision, they apply design methodologies, hardware and software tools, and experimental techniques to realize their project objectives. Emphasis is placed on innovation, problem solving, data analysis, and technical documentation. Students are required to prepare a detailed final report that includes system design, implementation procedures, results, discussion, and conclusions, along with an oral defense before an academic committee. The module fosters professionalism, project management, teamwork, and adherence to ethical and safety standards. By the end of the module, learners will demonstrate the ability to integrate theory with practice, critically evaluate performance outcomes, and effectively communicate engineering results consistent with international academic and professional expectations.			

Module 52



Code	Course/Module Title	ECTS	Semester
LAER420	Laser Design Technology	6.0	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	87
Description			
This module offers a structured introduction to Laser Design Technology, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 53

Code	Course/Module Title	ECTS	Semester
LAER421	Digital Image Processing	5.0	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	78	47
Description			
This module offers a structured introduction to Digital Image Processing, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 54



Code	Course/Module Title	ECTS	Semester
LAER422	Control Engineering	5.0	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	78	47
Description			
This module offers a structured introduction to Control Engineering, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 55

Code	Course/Module Title	ECTS	Semester
LAER423	Optical Communications	6.0	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	C	63	87
Description			
This module offers a structured introduction to Optical Communications, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

Module 56



Code	Course/Module Title	ECTS	Semester
LAER424	Elective III	3.0	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	E	33	42
Description			

Module 57

Code	Course/Module Title	ECTS	Semester
URPET	Professional Ethics	1.0	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
1	B	18	7
Description			
This module offers a structured introduction to Professional Ethics, aligning outcomes with the Bologna Process and the Laser & Optoelectronics Engineering curriculum. Students develop foundational knowledge, technical vocabulary, and an understanding of practical relevance through guided lectures and formative tasks. Emphasis is placed on problem framing, quantitative reasoning, and concise technical communication. Core themes include principles, methods, and typical application scenarios, supported by illustrative examples and short analytic exercises. Students are encouraged to reflect on safety, ethics, and quality standards when interpreting specifications and selecting appropriate solution strategies. By the end of the module, learners will be able to explain key concepts, apply suitable tools to well-defined problems, and justify design choices with reference to performance and constraints.			

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