Study plan for:
B.Sc. Mechatronics
Specialization: Photonic Engineering

Faculty of Mechatronics

Study plan for reference only; may be subject to change.

Semester 1

Course	Lecture (hours)	Tutorial (hours)	Labs (hours)	Pojects (hours)	ECTS
Physical Education and Sports		30			
Patents and Intelectual Property	30				2
Optics and Photonics Applications	30		15		3
Calculus I	30	45			7
Algebra and Geometry	15	30			4
Engineering Graphics	15	30			2
Materials	30				2
Computer Science I	30	30			6
Engineering Physics	30	30			4
Total ECTS					30

Semester 2

Course	Lecture (hours)	Tutorial (hours)	Labs (hours)	Pojects (hours)	ECTS
Physical Education and Sports		30			
Economics	30				2
Elective Lecture 1/Virtual and Augmented Reality	30				3
Calculus II	30	30			5
Engineering Graphics - CAD				30	2
Computer Science II	15	15			5
Mechanics I i II	45	45			6
Mechanics of Structures I	30	15			4
Electric Circuits I	30	15			3
Total ECTS					30

Semester 3

Course	Lecture (hours)	Tutorial (hours)	Labs (hours)	Pojects (hours)	ECTS
Physical Education and Sports		30			0
Foreign Language		60			4
Elective Lecture 2/Introduction to MEMS	30				3
Calculus III	15	30			6
Mechanics of Structures II	15	15			4
Manufacturing Technology I	30				4
Fine Machine Design I	15			30	3
Electric Circuits II			30		3
Basics of Automation and Control I	30	15			4
Total ECTS					31

Semester 4

Course	Lecture (hours)	Tutorial (hours)	Labs (hours)	Pojects (hours)	ECTS
Physical Education and Sports		30			
Foreign Language		60			4
Elective Lecture 3/Photographic techniques in image acqusition	30				3
Elective Lecture 4 /Enterpreneurship	30				3
Optomechatronics	30		30		5
Electronics I	15	15			2
Electronics II			15		1
Fine Machine Design II	15	15			3
Manufacturing Technology			30		2
Metrology	30		30		4
Total ECTS					27

Semester 5

Course	Lecture (hours)	Tutorial (hours)	Labs (hours)	Pojects (hours)	ECTS
Physical Education and Sports		30			0
Foreign Language		60			4
Marketing	30				2
Elective Lecture 5/ Electric	30				2

Metrology					
Elective Lecture 6 /Fundamentals of Semiconductor Technologies	30				2
Fluid Mechanics	30	15			4
Optoelectronics Material	15		15		2
Fundamentals of Photonics	45		15		5
Instrumental Optics I	30	30			5
Fine Machine Design III	15	15			3
Optical Fiber Technology	30		15		4
Total ECTS					33

Semester 6

Course	Lecture (hours)	Tutorial (hours)	Labs (hours)	Pojects (hours)	ECTS
Elective Lecture 7 /Academic Writing	30				2
Technology of Optoelectronics Devices	15		15		2
Instrumental Optics II			30		3
Laser Techniques	30		15		4
Programming o Photonics Devices	15	15		15	4
Design of Optical Systems	15			15	4
Mechanical Design of Photonic Devices	30			15	4
Interim project					5
Total ECTS					28

Semester 7

Course	Lecture (hours)	Tutorial (hours)	Labs (hours)	Pojects (hours)	ECTS
Elective Lecture 8	30				2
Digital Image Processing	30		15	15	4
Photonics Systems and Devices 3L	45		15		4
Opto-numerical Methods and Testing	30		30		4
Diploma seminar		30			2
Work on diploma thesis					15
Total ECTS					31