

دليل المواد الدراسية 2025 - 2026 | Modules Catalogue

**URUK University**  
جامعة اوروك



***Sixth Cycle – Bachelor's Degree (B.Sc.) –  
Department of Medical Instrumentation  
Techniques Engineering***

بكالوريوس - قسم هندسة تقنيات الاجهزة الطبية



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### 1. Overview

This catalogue is about the courses (modules) given by the program of Medical Instrumentations Techniques Engineering to gain the Bachelor of Science degree. The program delivers (xx) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

### 2. Undergraduate Modules 2025-2026

Module	Module 1
Code	MITE1101
Course/Module Title	Fundamental of Electrical Engineering DC
ECTS	6
Semester	1
Class (hr./w)	3
Lect./Lab./Pr./Tutor	4
SSWL (hr./sem.)	79
USSWL (hr./w)	71
Description	This course covers the basic concepts and principles of electrical networks and their applications. Students gain a comprehensive understanding of Electrical Engineering, including symbols, units, Ohm's law, methods and theories of network analysis, Delta-y transformations, circuit analysis. Topics include: DC networks (Kirchhoff's laws), conversion of delta-shaped connected resistors to Y and vice versa, power sources in parallel conduction, methods, and theories of circuit analysis, alternating current generation, sinusoidal current, average and effective values of current and voltages, radial diagrams, instantaneous and average power in alternating current, relative and apparent power, transition circuits, transition RC circuit, thr.ee-phase system, and magnetic circuits.

<b>Module</b>	Module 2
<b>Code</b>	MITE1102
<b>Course/Module Title</b>	Computer Applications (IC3)
<b>ECTS</b>	3
<b>Semester</b>	1
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr. /Tutor</b>	4
<b>SSWL (hr./sem.)</b>	49
<b>USSWL (hr./w)</b>	26
<b>Description</b>	
<p>This module provides a foundation in computer hardware, software, operating systems, and peripherals. It covers understanding operating systems, computer hardware, power options, and utilizing the control panel. Learners will explore software types, Microsoft Office (Word, Excel, Power Point and Outlook), and popular applications like G-Suite (Docs, Sheets, Slides, Gmail, Calendar).</p>	

<b>Module</b>	Module 3
<b>Code</b>	MITE1103
<b>Course/Module Title</b>	Differential Mathematics
<b>ECTS</b>	5
<b>Semester</b>	1
<b>Class (hr./w)</b>	3
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	78
<b>USSWL (hr./w)</b>	47
<b>Description</b>	
<p>Differential mathematics is a branch of calculus that focuses on the concept of differentiation. It involves finding rates of change, slopes of curves, and optimizing functions. Differential equations are used to model various phenomena and solve problems in fields such as physics, and engineering.</p>	

<b>Module</b>	Module 4
<b>Code</b>	MITE1104
<b>Course/Module Title</b>	Engineering Drawing
<b>ECTS</b>	5
<b>Semester</b>	1
<b>Class (hr./w)</b>	
<b>Lect./Lab./Pr./Tutor</b>	4
<b>SSWL (hr./sem.)</b>	63
<b>USSWL (hr./w)</b>	62
<b>Description</b>	
<p>This course teaches engineering drawing fundamentals and AutoCAD usage, covering menus, toolbars, commands, and dimensioning techniques. Students learn to create accurate drawings following engineering drawing conventions and apply them in AutoCAD. They also explore the valuable utilities offered by AutoCAD for engineering drawing and study orthogonal projection in both traditional geometry and AutoCAD.</p>	

<b>Module</b>	Module 5
<b>Code</b>	MITE1105
<b>Course/Module Title</b>	Democracy and Human Rights
<b>ECTS</b>	2
<b>Semester</b>	1
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	1
<b>SSWL (hr./sem.)</b>	33
<b>USSWL (hr./w)</b>	17
<b>Description</b>	
This course provides a comprehensive understanding of democracy as a way of life, its relationship with freedom, different public freedoms, and the traits, advantages, elements, and forms of democracy. It also covers election procedures and potential manipulation, Iraq's election laws, the development of democracy, constitutional and legal rights, human rights, and fostering a culture of dialogue and acceptance.	

<b>Module</b>	Module 6
<b>Code</b>	MITE1106
<b>Course/Module Title</b>	English Language (Beginner Level)
<b>ECTS</b>	2
<b>Semester</b>	1
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	1
<b>SSWL (hr./sem.)</b>	33
<b>USSWL (hr./w)</b>	17
<b>Description</b>	
The beginner English language course introduces essential language skills for beginners. It covers basic grammar, vocabulary, listening, speaking, reading, and writing exercises. The course focuses on developing foundational English proficiency and building confidence in using English in everyday situations.	

<b>Module</b>	Module 7
<b>Code</b>	MITE1107
<b>Course/Module Title</b>	Medical chemistry
<b>ECTS</b>	7
<b>Semester</b>	1
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	1
<b>SSWL (hr./sem.)</b>	94
<b>USSWL (hr./w)</b>	31
<b>Description</b>	
<p>This course represents an introduction to the principles of chemistry, the definition of matter, systems of units of measurement, how to write chemical formulas and reaction equations and balance them for later use in mathematical calculations, in addition to the various ways to express the concentration of a substance and the decomposition constants of acids, bases, and poorly soluble salts as the theoretical basis for the qualitative and quantitative analysis of the Pr.tical approach. Moreover, focus on statistical treatments of the results of analyzes or to assess the efficiency of an analytical device or method.</p> <p>In addition to studying the interrelationship between chemistry and physics and the consequent laws, it also aims to study the states of matter and methods of conversion from one state to another with the properties of each of them and what is looking at the conversion of energy into work or vice versa, as well as the study of heat resulting from chemical reactions. The various working principles and components of devices used for analytical purposes in chemistry, with a focus on spectrophotometers</p>	

<b>Module</b>	Module 8
<b>Code</b>	MITE1201
<b>Course/Module Title</b>	Medical Physics
<b>ECTS</b>	5
<b>Semester</b>	2
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	64
<b>USSWL (hr./w)</b>	61
<b>Description</b>	
<p>This module provides physics background for medical instrumentation engineers, covering forces in the body, physics of the skeleton, energy, work, and power. It explores the physics behind organ functions like respiratory, urinary, and cardiovascular systems, and introduces related instruments. It also includes the physics of hearing and highlights radiation therapy.</p>	

<b>Module</b>	Module 9
<b>Code</b>	MITE1202
<b>Course/Module Title</b>	Fundamentals of Electrical Engineering (AC)
<b>ECTS</b>	6
<b>Semester</b>	2
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	79
<b>USSWL (hr./w)</b>	71
<b>Description</b>	
This module provides a foundation in AC circuit theory, covering voltage, current, power calculations, and Kirchhoff's laws. It includes analysis of AC circuits, network theorems, and sinusoidal waveforms	

<b>Module</b>	Module 10
<b>Code</b>	MITE1203
<b>Course/Module Title</b>	Mechanics
<b>ECTS</b>	4
<b>Semester</b>	2
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	1
<b>SSWL (hr./sem.)</b>	48
<b>USSWL (hr./w)</b>	52
<b>Description</b>	
This module covered the fundamental concepts and principles of mechanics, and their applications in statics loads. Students comprehensively understand mechanics, including their forces, result of force, stress and strain, moment of force, friction, bending force, selective of materials, welding joint, and load distribution in trusses and bridge. They learn mechanical design, development, and various mechanical tests. Topics include mechanics/statics basics, mechanical properties, and mechanical test of materials.	

<b>Module</b>	Module 11
<b>Code</b>	MITE1204
<b>Course/Module Title</b>	Integral Mathematics
<b>ECTS</b>	5
<b>Semester</b>	2
<b>Class (hr./w)</b>	3
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	78
<b>USSWL (hr./w)</b>	47
<b>Description</b>	
Integral mathematics is a branch of calculus that deals with the concept of integration. It involves finding the area under curves, calculating accumulated quantities, and solving differential equations. Integrals are used to analyze continuous functions and provide a framework for solving a wide range of mathematical and real-world problems.	

<b>Module</b>	Module 12
<b>Code</b>	MITE1205
<b>Course/Module Title</b>	Engineering Workshops
<b>ECTS</b>	5
<b>Semester</b>	2
<b>Class (hr./w)</b>	1
<b>Lect./Lab./Pr./Tutor</b>	4
<b>SSWL (hr./sem.)</b>	63
<b>USSWL (hr./w)</b>	62
<b>Description</b>	
The Mechanical, Electrical and Electronic Workshop module aims to provide students with hands-on experience and theoretical knowledge in mechanical and electrical engineering. Overall, this module aims to provide students with Practical skills and a theoretical understanding of Mechanical, Electrical and Electronic engineering, enabling them to work with machinery, manipulate metals, and work with electronic components and circuits.	

<b>Module</b>	Module 13
<b>Code</b>	MITE1206
<b>Course/Module Title</b>	Arabic Language
<b>ECTS</b>	2
<b>Semester</b>	2
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	1
<b>SSWL (hr./sem.)</b>	33
<b>USSWL (hr./w)</b>	17
<b>Description</b>	
The course introduces the basic rules of the Arabic language, which can be used in the academic environment. The module involves teaching the concept of the Arabic language as a tool and means of communication between individuals. Introducing the student to the method of forming sentences using the tools of the Arabic language. Enabling the student to write using correct and basic linguistic and grammatical rules and their scientific applications.	

<b>Module</b>	Module 14
<b>Code</b>	MITE1207
<b>Course/Module Title</b>	Computer Programming and Applications I
<b>ECTS</b>	3
<b>Semester</b>	2
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	4
<b>SSWL (hr./sem.)</b>	49
<b>USSWL (hr./w)</b>	26
<b>Description</b>	
The course aims to introduce fundamental problem-solving and programming skills using C++, focusing on logic design, syntax, functions, and debugging	

<b>Module</b>	Module 15
<b>Code</b>	MITE2101
<b>Course/Module Title</b>	Laboratory Medical Instrumentation I
<b>ECTS</b>	6
<b>Semester</b>	3
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	106
<b>Description</b>	
<p>This module covers the fundamental concepts and principles of medical instrumentation. The topics explained in this module: Definition of medical instruments, Introduction to medical instruments and Classification of medical instrumentation. Explain the Design of hospitals and the design of operating rooms. One of the most important topics is Patient Safety. Medical Laboratory Instruments and Tools. Calibration of Medical Laboratory Instruments. Introduction to Balance. Balance and their types. Wax bath and Water bath.</p>	

<b>Module</b>	Module 16
<b>Code</b>	MITE2102
<b>Course/Module Title</b>	Electronics Circuits I
<b>ECTS</b>	6
<b>Semester</b>	3
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	106
<b>Description</b>	
<p>This module covers various topics related to electrical circuits and semiconductor devices. Students learn about sinusoidal excitation, semiconductor materials, diode applications, bipolar junction transistors (BJTs), DC biasing of BJTs, field-effect transistors (FETs) and MOSFETs, FET biasing, BJT AC analysis, and small-signal AC analysis of BJT amplifiers. The module equips students with the knowledge and skills to design and analyze electronic circuits and devices.</p>	

<b>Module</b>	Module 17
<b>Code</b>	MITE2103
<b>Course/Module Title</b>	Electrical Machines
<b>ECTS</b>	5
<b>Semester</b>	3
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	76
<b>Description</b>	
<p>This course covers the basic concepts and principles of electricity technology and its applications. Where students understand and help them know the types of transformers, their applications, and designs, as well as the designs of electrical machines such as generators and motors, with direct current and alternating current and their components. It also deals with the methods of finding the appropriate design for the places used and their applications in medical devices and the results of mathematical quantities in designs through solving mathematical and mathematical problems for various applications. The students were also able to develop their capabilities in dealing with electrical parts in medical devices and methods of checking, maintaining, and repairing them.</p>	

<b>Module</b>	Module 18
<b>Code</b>	MITE2104
<b>Course/Module Title</b>	Engineering Mathematics
<b>ECTS</b>	5
<b>Semester</b>	3
<b>Class (hr./w)</b>	3
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	73
<b>USSWL (hr./w)</b>	77
<b>Description</b>	
<p>Engineering mathematics is the application of mathematical principles and techniques to solve engineering problems. It encompasses various mathematical topics, including calculus, differential equations, linear algebra, probability theory, and numerical methods. Engineering mathematics provides a foundation for analyzing and designing engineering systems, from structures to electrical circuits.</p>	

<b>Module</b>	Module 19
<b>Code</b>	MITE2105
<b>Course/Module Title</b>	Anatomy & Physiology
<b>ECTS</b>	5
<b>Semester</b>	3
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	76
<b>Description</b>	
<p>In this course, the student is prepared to study and understand medical devices by explaining the physiological changes, especially the electrical ones, that occur when the body various organs perform their function and their relationship to the devices used to measure and diagnose various phenomena and diseases. Moreover, the module prepares the student to study and understand medical devices by clarifying the physiological changes, especially the electrical ones, that occur when the body various organs perform their function and their relationship to the devices used to measure and diagnose various phenomena and diseases.</p>	

<b>Module</b>	Module 20
<b>Code</b>	MITE2106
<b>Course/Module Title</b>	Computer Programming and Applications (MATLAB-beginner)
<b>ECTS</b>	3
<b>Semester</b>	3
<b>Class (hr./w)</b>	1
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	46
<b>USSWL (hr./w)</b>	44
<b>Description</b>	
<p>This module covers the fundamental concepts of MATLAB programming language environment. The students will understand and learn how to use MATLAB as an effective programming language to solve different mathematical and engineering problems as well as using plotting functions and design projects using codes or GUI. Students will acquire the knowledge of basic MATLAB syntax such as: variables, input, output, vectors, matrices, functions, plotting, and GUI, and these topics will be illustrated using some examples. The students will gain the necessary skills to design and implement appropriate algorithms that solve problems dealing with different mathematical and engineering applications.</p>	

<b>Module</b>	Module 21
<b>Code</b>	MITE2201
<b>Course/Module Title</b>	Electronics Circuits II
<b>ECTS</b>	6
<b>Semester</b>	4
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	106
<b>Description</b>	
The Electronics Circuits II course delves into advanced concepts in electronic circuits. Topics covered include amplifiers, oscillators, feedback systems, filters, and analog integrated circuits. Students learn to analyze, design, and optimize complex electronic circuits for applications in communication systems, audio amplification, and signal processing, furthering their understanding of electronic circuit theory and Practical implementation.	

<b>Module</b>	Module 22
<b>Code</b>	MITE2202
<b>Course/Module Title</b>	Laboratory Medical Instrumentation II
<b>ECTS</b>	6
<b>Semester</b>	4
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	106
<b>Description</b>	
This module covers the fundamental concepts and principles of medical instruments and their classification. The main topics: introduction to the laboratory Design and part from laboratory devices like centrifuges, the definition of microscopes, and Types of Microscopes. Polymerase chain reaction (pcr), definition of Laboratory incubators, types of Laboratory Incubators, ovens, and their medical application. Autoclave and its medical application. Water distillation, definition of the Rehabilitation System. Classification of Medical Rehabilitation System.	

<b>Module</b>	Module 23
<b>Code</b>	MITE2203
<b>Course/Module Title</b>	Digital Electronics
<b>ECTS</b>	5
<b>Semester</b>	4
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	76
<b>Description</b>	
<p>This module covers the basic concepts and fundamental principles of digital electronic circuits. The students understand comprehensively the applications of digital electronic circuits; including the work principles of medical instruments, which include these digital circuits. Furthermore, they can learn how to design, to develop, and to maintain these instruments. The subject of digital electronic circuits covers numbers of systems, digital codes, arithmetical processes, flip-flop circuits and arithmetical circuits. In addition, students learn designing of electronic counters and their work principles, shift-registers, and conversion process from digital to analog.</p>	

<b>Module</b>	Module 24
<b>Code</b>	MITE2204
<b>Course/Module Title</b>	Clinical Chemistry Instrumentation
<b>ECTS</b>	5
<b>Semester</b>	4
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	60
<b>USSWL (hr./w)</b>	90
<b>Description</b>	
<p>This module covers the introduction of clinical chemistry and studies the chemical and biochemical mechanism of the human body in relation to disease. Students comprehensively understand clinical chemistry instrumentation: spectrophotometer types, Auto-analyzer types, Electrophoresis, Elisa, Body mass index. They learn to explain their principal work, operation, maintenance, and faults. Topics include protein, fats, minerals, enzymes, and their importance in the human body. They understand the immunology concept and their effects on the human body.</p>	

<b>Module</b>	Module 25
<b>Code</b>	MITE2205
<b>Course/Module Title</b>	Biomedical Transducers and Sensors
<b>ECTS</b>	5
<b>Semester</b>	4
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	60
<b>USSWL (hr./w)</b>	90
<b>Description</b>	
<p>The Biomedical Transducers and Sensors course explores the principles and applications of transducers and sensors in the biomedical field. Topics covered include sensor technologies, signal conditioning, measurement techniques, and the interface between sensors and biological systems. Students learn to select, design, and analyze biomedical sensors for accurate and reliable data acquisition in healthcare and research settings.</p>	

<b>Module</b>	Module 26
<b>Code</b>	MITE2206
<b>Course/Module Title</b>	English Language (Intermediate Level)
<b>ECTS</b>	3
<b>Semester</b>	4
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	1
<b>SSWL (hr./sem.)</b>	45
<b>USSWL (hr./w)</b>	45
<b>Description</b>	
<p>The intermediate English language course, based on the New Headway Plus, develops language skills at an intermediate level. It covers grammar, vocabulary, listening, speaking, reading, and writing exercises. The course emphasizes building a solid foundation in English communication, comprehension, and expression, fostering confidence in everyday conversations and interactions.</p>	

<b>Module</b>	Module 27
<b>Code</b>	MITE3101
<b>Course/Module Title</b>	Medical Diagnostic Instrumentation I
<b>ECTS</b>	7
<b>Semester</b>	5
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	136
<b>Description</b>	
<p>This module covers the fundamental concepts and principles of many medical diagnostic equipment and instrumentations that are used in hospitals and clinics. Students will understand the different parts of medical diagnostic instrumentation and the idea behind these parts as well as their operation. The student will be able to get the necessary knowledge to diagnose faults, manage repairs, and propose alternatives in emergencies. Covers a wide range of devices including ECG, EEG, VCG, and others. Also introduces measurement and analysis techniques.</p>	

<b>Module</b>	Module 28
<b>Code</b>	MITE3102
<b>Course/Module Title</b>	Microprocessor
<b>ECTS</b>	6
<b>Semester</b>	5
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	4
<b>SSWL (hr./sem.)</b>	88
<b>USSWL (hr./w)</b>	92
<b>Description</b>	
<p>This module covers the fundamental concepts and principles of microprocessors and their applications. Students learn to design, develop, and program microprocessor-based systems, including I/O interfacing, instruction sets, timing, and memory architecture.</p>	

<b>Module</b>	Module 29
<b>Code</b>	MITE3103
<b>Course/Module Title</b>	Electromagnetic Fields
<b>ECTS</b>	6
<b>Semester</b>	5
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	106
<b>Description</b>	
<p>The electromagnetic fields course explores electrostatics, magnetostatics, electromagnetic waves, Maxwell's equations, and their application in engineering problems such as telecommunications, antennas, and electromagnetic compatibility.</p>	

<b>Module</b>	Module 30
<b>Code</b>	MITE3104
<b>Course/Module Title</b>	Signals and systems
<b>ECTS</b>	4
<b>Semester</b>	5
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	60
<b>USSWL (hr./w)</b>	60
<b>Description</b>	
<p>The signals and systems course introduces fundamental concepts and mathematical tools for analyzing continuous and discrete-time signals and systems. Topics covered include signal representation, Fourier analysis, convolution, Laplace and Z-transforms, and system characterization. The course focuses on understanding the behavior and properties of signals and systems in both time and frequency domains.</p>	

<b>Module</b>	Module 31
<b>Code</b>	MITE3105
<b>Course/Module Title</b>	Computer Programming and Applications (C++ programming)
<b>ECTS</b>	4
<b>Semester</b>	5
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	60
<b>USSWL (hr./w)</b>	60
<b>Description</b>	
<p>This module introduces beginners to computer programming and applications using the C++ programming language. Students learn the basics of C++ syntax, data types, control structures, functions, and object-oriented programming concepts. They gain hands-on experience through coding exercises and projects to develop Practical programming skills and problem-solving abilities.</p>	

<b>Module</b>	Module 32
<b>Code</b>	MITE3106
<b>Course/Module Title</b>	English Language (Advanced Level)
<b>ECTS</b>	3
<b>Semester</b>	5
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	1
<b>SSWL (hr./sem.)</b>	45
<b>USSWL (hr./w)</b>	45
<b>Description</b>	
<p>The advanced English language course enhances language proficiency at an advanced level. It covers complex grammar structures, vocabulary expansion, idiomatic expressions, and advanced reading and writing skills. The course focuses on improving fluency, accuracy, and communication abilities in English.</p>	

<b>Module</b>	Module 33
<b>Code</b>	MITE3201
<b>Course/Module Title</b>	Medical Diagnostic Instrumentation II
<b>ECTS</b>	7
<b>Semester</b>	6
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	136
<b>Description</b>	
Covers modern imaging systems, telemedicine technologies, and performance analysis of diagnostic equipment. Includes X-ray, CT, MRI, ultrasound, and thermal imaging systems.	

<b>Module</b>	Module 34
<b>Code</b>	MITE3202
<b>Course/Module Title</b>	Medical Electronic Systems
<b>ECTS</b>	6
<b>Semester</b>	6
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	106
<b>Description</b>	
Explores principles, technologies, and design of electronic systems in healthcare. Topics include amplifiers, filters, data acquisition, and regulatory compliance.	

<b>Module</b>	Module 35
<b>Code</b>	MITE3203
<b>Course/Module Title</b>	Medical Communication Systems
<b>ECTS</b>	6
<b>Semester</b>	6
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	2
<b>SSWL (hr./sem.)</b>	60
<b>USSWL (hr./w)</b>	120
<b>Description</b>	
Covers communication techniques such as public speaking, business writing, and nonverbal skills for professional healthcare interaction.	

<b>Module</b>	Module 36
<b>Code</b>	MITE3204
<b>Course/Module Title</b>	Power Electronics
<b>ECTS</b>	5
<b>Semester</b>	6
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	3
<b>SSWL (hr./sem.)</b>	74
<b>USSWL (hr./w)</b>	76
<b>Description</b>	
Topics include rectifiers, inverters, UPS, converters, and switch-mode power supplies. Covers application in various biomedical devices.	

<b>Module</b>	Module 37
<b>Code</b>	MITE3205
<b>Course/Module Title</b>	Project I
<b>ECTS</b>	3
<b>Semester</b>	6
<b>Class (hr./w)</b>	1
<b>Lect./Lab./Pr./Tutor</b>	1
<b>SSWL (hr./sem.)</b>	60
<b>USSWL (hr./w)</b>	90
<b>Description</b>	
Students define and plan a solution to a biomedical problem. Emphasis on teamwork, critical thinking, and design documentation.	

<b>Module</b>	Module 38
<b>Code</b>	MITE3206
<b>Course/Module Title</b>	Project Management
<b>ECTS</b>	3
<b>Semester</b>	6
<b>Class (hr./w)</b>	2
<b>Lect./Lab./Pr./Tutor</b>	
<b>SSWL (hr./sem.)</b>	45
<b>USSWL (hr./w)</b>	45
<b>Description</b>	
Covers planning, scheduling, cost estimation, and feasibility for medical engineering projects using international standards.	

### 3. Contact

#### ***Program Manager:***

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