BIOMEDICAL ENGINEERING

CLASS: L-8
DURATION: 3 YEARS
ECTS Credits: 180
SUMMARY

The Biomedical Engineering Bachelor’s Degree Course is entirely taught in English and is designed to train professionals able to function in various rapidly evolving fields in Biomedical Engineering. The Degree Course uses engineering principles and technologies to describe, understand and solve problems in the fields of medicine and biology. The curriculum has been developed through close collaboration between the Departmental Faculties of Engineering and Medicine and Surgery of our University.

PROFESSIONAL SKILLS

_ At the core of the course lay the fundamentals of engineering such as electronics, transport phenomena and measurements. In addition, we provide a solid foundation in mathematics and basic sciences whilst also providing some basic medical knowledge, such as Physiology and Anatomy.
_ These teachings are complemented by specific bio-engineering skills such as bioengineering and biomechanics courses, software tools for analysis of physiological data and specific training for for developing wearable devices.
_ Some of our teachings are delivered alongside Medical students to favour disciplinary cross-contamination.
_ Throughout the course students acquire the tools and methodologies necessary to solve complex bioengineering problems.
_ In addition, there is a focus on humanities for bioengineering essential for understanding and developing new technologies for bio-medical applications.
_ We aim at training well-rounded professionals able to solve problems and develop new technologies in bioengineering.

EMPLOYMENT OPPORTUNITIES

The degree fully qualifies students to become Junior Biomedical Engineers. Graduates in Biomedical Engineering can work in companies that operate in the production of medical devices, equipment and systems, biomaterials, in vitro medical diagnostic devices and active implantable medical devices. Biomedical Engineering graduates will also be able to work in healthcare facilities and/or in companies that provide global services in the testing of electromedical devices and in the management of (preventive and corrective) maintenance of the aforementioned equipment, and in the commercial sector of electromedical device companies. They may also be included in multifunctional teams within hospitals and healthcare facilities in collaboration with healthcare professionals.
We are committed to guiding our students from admissions to graduation day step by step.
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<thead>
<tr>
<th>1st YEAR</th>
<th>2nd YEAR</th>
<th>3rd YEAR</th>
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<tbody>
<tr>
<td>INTEGRATED COURSE</td>
<td>ECTS</td>
<td>INTEGRATED COURSE</td>
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<tr>
<td>Fundamentals of Computer Science</td>
<td>10</td>
<td>Advanced Physics</td>
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<tr>
<td>Mathematics</td>
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<td>Mathematics II</td>
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<tr>
<td>Chemistry</td>
<td>7</td>
<td>Probability and Statistics</td>
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<tr>
<td>General Physics - Physics Part I</td>
<td>7</td>
<td>Healthcare Information Systems and Telemedicine</td>
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<td>General Physics - Physics Part II</td>
<td>5</td>
<td>Electrotechnics</td>
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<tr>
<td>Economics and Management</td>
<td>6</td>
<td>Fundamentals of Electronics</td>
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<tr>
<td>General English/Italian</td>
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<td>Mechanics of Solids</td>
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<tr>
<td>Humanities for Bioengineering</td>
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<td>Transport Phenomena and Termodynamics</td>
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<td>The History of Biomedical Engineering in Twelve Machines</td>
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<td>Technical English/Italian</td>
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<tr>
<td>Physiology</td>
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<td>Humanities for Bioengineering</td>
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<tr>
<td>Anatomy</td>
<td>4</td>
<td>Fundamentals of Anthropology and Ethics</td>
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*** EXAMS TO BE CHOSEN BY THE STUDENT FOR A TOTAL OF 12 ECTS

| Biomechatronics and Biomaterials | 6 |
| Healthcare Robotics | 6 |
| AI and Data Mining | 6 |
| Biomedical Research and Innovation Management and Assessment | 6 |
| Laboratory fo Measurements | 6 |
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Welcome
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