# CURRICULUM OF CLINICAL ENGINEERING PROGRAM

# Curriculum of Clinical Engineering Program

| Competence fields | Module | No. | CP | Hours | G1 | | | G2 | | | G3 | | | G4 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S 10 | S 11 |
| | | | | | CP | CP | CP | CP | CP | CP | CP | CP | CP | CP | CP |
| **Mathematics and natural sciences 25.5 CPs** | Advanced Mathematics | 1 | 10 | 160 | 6 | 4 | | | | | | | | | |
| | Probability Theory and Mathematical Statistics | 2 | 2 | 32 | | | | 2 | | | | | | | |
| | Linear Algebra | 3 | 2 | 32 | | | | 2 | | | | | | | |
| | College Physics | 4 | 2 | 32 | | 2 | | | | | | | | | |
| | College Physics Experiment | 5 | 0.5 | 16 | | 1 | | | | | | | | | |
| | Normal Anatomy and Physiology | 6 | 4 | 64 | | | | 4 | | | | | | | |
| | Foundation of Disease | 7 | 2 | 32 | | | | | 2 | | | | | | |
| | Principles and Applications of Medical Statistics | 8 | 3 | 48 | | | | | | | 3 | | | | |
| **Foreign Languages 16 CPs** | College English | 9 | 16 | 256 | 4 | 4 | | 4 | 4 | | | | | | |
| **Informatics 5 CPs** | C Program Design | 10 | 3 | 48 | | 3 | | | | | | | | | |
| | Literature Retrieval Course | 11 | 2 | 32 | | | | | 2 | | | | | | |
| **Professional Basics 27CPs** | Circuit Theory | 12 | 3 | 48 | | 3 | | | | | | | | | |
| | Mechanical Drawing | 13 | 4 | 64 | 4 | | | | | | | | | | |
| | Engineering Mechanics | 14 | 2 | 32 | 2 | | | | | | | | | | |
| | Foundation of Mechanical Designing | 15 | 3 | 48 | | | | 3 | | | | | | | |
| | Analog Electronic Technology | 16 | 4 | 64 | | | | 4 | | | | | | | |
| | Digital Electronic Technology | 17 | 3 | 48 | | | | | 3 | | | | | | |
| | Microcontroller Principles and Applications | 18 | 3 | 48 | | | | | | | 3 | | | | |
| | Clinical Engineering Introduction | 19 | 2 | 32 | | | 1 | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Comprehensive Practice of Mechanical Drawing | 20 | 1 | 32 | | | 1 | | | | | | | | |
| | Comprehensive Experiment of Analog Electronic Technology | 21 | 1 | 32 | | | | | | 1 | | | | | |
| | Comprehensive Experiment of Digital Electronic Technology | 22 | 1 | 32 | | | | | | 1 | | | | | |
| **Core Professional Courses 17.5 CPs** | Medical Electrical Safety Engineering | 23 | 3 | 48 | | | | | 3 | | | | | | |
| | Medical Electrical Safety Training | 24 | 1 | 32 | | | | | | 1 | | | | | |
| | Clinical Engineering Creativity | 25 | 1 | 32 | | | | | | 1 | | | | | |
| | Biomedical Materials | 26 | 2 | 32 | | | | | | | 2 | | | | |
| | Therapeutic Equipment Technology | 27 | 3 | 48 | | | | | | | | 3 | | | |
| | Principle and Applications of Life Support Equipment | 28 | 3 | 48 | | | | | | | | 3 | | | |
| | Biomedical Detection Technology | 29 | 3 | 48 | | | | | | | 3 | | | | |
| | Clinical Skills | 30 | 1.5 | 48 | | | | | | | | 3 | | | |
| **Professional Electives 10 CPs** | Hydraulic and Pneumatic Technology | 31 | 2 | 32 | | | | | | | 2 | | | | |
| | Introduction to Medical Device Regulation Science | 32 | 2 | 32 | | | | | | | 2 | | | | |
| | Medical Imaging Equipment | 33 | 2 | 32 | | | | | | | 2 | | | | |
| | Advanced Clinical Engineering | 34 | 2 | 32 | | | | | | | 2 | | | | |
| | Biomedical Optics | 35 | 2 | 32 | | | | | | | | 2 | | | |
| | Principles of Medical Imaging | 36 | 2 | 32 | | | | | | | | 2 | | | |
| | Mathematical Modeling | 37 | 2 | 32 | | | | | | | | 2 | | | |
| | Fundamentals and Applications of MATLAB | 38 | 2 | 32 | | | | | | | | | | 2 | |
| | Technical English for Clinical Engineering | 39 | 2 | 32 | | | | | | | | | | 2 | |
| **Transdisciplinary Expansion Electives 4 CPs** | Medical Ethics | 40 | 2 | 32 | 2 | | | | | | | | | | |
| | Introduction to Big Data | 41 | 2 | 32 | | | | 2 | | | | | | | |
| | Intelligent Medical | 42 | 2 | 32 | | | | | | | | | | 2 | |

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| | Robot | | | | | | | | | | | | | |
| | Internet and Information Security | 43 | 2 | 32 | | | | | | | | | 2 | |
| General Studies 43 CPs | Ethics and Rule of Law | 44 | 3 | 48 | | 3 | | | | | | | | |
| | Outline of Modern Chinese History | 45 | 3 | 48 | 3 | | | | | | | | | |
| | Basic Principles of Marxism | 46 | 3 | 48 | | | | 3 | | | | | | |
| | Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics | 47 | 3 | 48 | | | | | 3 | | | | | |
| | Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era | 48 | 3 | 32 | | | | | 2 | | | | | |
| | Situation and Policy | 49 | 2 | 32 | 0.5 | 0.5 | | 0.5 | 0.5 | | | | | |
| | Military Theory | 50 | 2 | 36 | | | / | | | | | | | |
| | Military Skill | 51 | 2 | 2 W | | | 2 W | | | | | | | |
| | Physical Education | 52 | 5 | 144 | 2 | 2 | | 2 | 2 | | 0.5 | | 0.5 | |
| | Mental Health Education for University Students | 53 | 2 | 32 | | 2 | | | | | | | | |
| | Career Planning and Employment Guidance | 54 | 1 | 16 | | | | 0.25 | 0.25 | | 0.25 | 0.25 | | |
| | Medicine and Humanity | 55 | 2 | 32 | | | | | | | 2 | | | |
| | Public Elective Courses | 56 | 6 | 96 | 1 | 1 | | 1 | 1 | | 1 | 1 | | |
| | Social Practice | 57 | 2 | 128 | | | | | 2 | | | | | |
| | Labor Education | 58 | 2 | 32 | | | | | | | | | | |
| | Innovation and Entrepreneurship | 59 | 2 | 64 | | | | | | | | | | |
| Experiments and Practice 4 CPs | Medical Internship | 60 | 4 | 4 W | | | | | | | | 4 W | | |
| Undergraduate Graduation Project 8 CPs | Bachelor Thesis | 61 | 8 | 16W | | | | | | | | | | 8 |
| **CP SUM = 172** | **CP PER SEMESTER** | | | | **24.5** | **25.5** | **2** | **27.75** | **24.75** | **4** | **22.75** | **16.25** | **8.5** | **8** | **24.5** |

(Note: CP-Credit Point, G-Grade, S-Semester, L-Lecture, P-Practice, W-Week)