

**Faculty of Mechanical, Maritime and Materials Engineering**

**STUDY PROGRAM IN MSC BIOMEDICAL ENGINEERING 2019-2020**

[Track I: Musculoskeletal Biomechanics](https://www.tudelft.nl/onderwijs/opleidingen/masters/bme/msc-biomedical-engineering/msc-programme/track-i-musculoskeletal-biomechanics/) (MB)

Student name:       Study number:       Preliminary education:

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| HOMOLOGATION COURSES (IF NECESSARY) 1) | | | |  |
|  | Course code | Course name | 3-6 EC | Q x |
|  | ET3604LR | Electronic Circuits | 3 | 1 |
|  | WB1631-15 | Sterkteleer | 6 | 2 |
|  | WB1135 | Dynamica | 6 | 3 |
|  | WB2235 | Signaalanalyse | 6 | 3 |
|  | CSE2510 | Machine Learning | 5 | 1 |
| 1st YEAR BME - OBLIGATORY COURSES | | | |  |
|  | Course code | Course name | 14 EC | Q x |
|  | BM41055 | Anatomy & Physiol. (only for students with tech. background) 2) | 4 | 1, 2 |
|  |  |  | 4 |  |
|  | BM41065 | Medical Technology I & Healthcare Systems | 5 | 1, 2 |
|  | WM1402TU | Ethics of Healthcare Technologies | 5 | 4 |
| 1st YEAR [BME-MB - Track obligatory courses](javascript:_n(20562);) | | | |  |
|  | Course code | Course name | 25 EC | Q x |
|  | BM41040 | Neuromechanics & Motor Control | 5 | 3, 4 |
|  | BM41090 | Computational Mechanics of Tissues & Cells | 6 | 3, 4 |
|  | ME41045 | Tissue Biomechanics of Bone, Cartilage & Tendon | 3 | 1 |
|  | ME41065 | System Identification & Parameter Estimation | 7 | 1, 2 |
|  | ME41085 | Biomechatronics | 4 | 3, 4 |
| 1st YEAR [BME-MB - Three additional courses from the following list are obligatory](javascript:_n(20563);) | | | |  |
| Select | Course code | Course name | 9-14 EC | Q x |
|  | BM41035 | Biomaterials | 4 | 2 |
|  | BM41155 | 3D printing | 4 | 3 |
|  | ME41035 | Special Topics in Sports Engineering | 3 | 4 |
|  | ME41055 | Multibody Dynamics B | 4 | 3, 4 |
|  | ME41070 | The Human Controller | 3 | 4 |
|  | ME41080 | Man-Machine Systems | 4 | 2, 3 |
|  | SC42000 | Control Systems Design (select SC42000 or SC42015) | 3 | 1 |
|  | SC42015 | Control System Design intensive (select SC42000 or SC42015) | 6 | 1 |
| Subtotal EC | | |  |  |

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| 2nd YEAR BME - OBLIGATORY COURSES | | | |  |
|  | Course code | Course name | 60 | Q x |
|  |  | Select 15 EC elective courses on next page 4) | 15 3) | - |
|  | BM51015 | Internship | 1 |
|  | 3mE4040TU | Joint Interdiciplinary Project | 1 |
|  | BM51010 | BME Literature Research | 10 | 2 |
|  | BM51035 | BME MSc-Thesis | 35 | 3, 4 |
|  | Total BME courses | |  |  |

1. If you follow a homologation course, select one of these courses.
2. If you have a background in Biology, Biomedical Engineering/Technology, Biomedical Sciences, Clinical Technology, Human Movements Sciences, Medical Natural Sciences, Medicine or Veterinary Medicine, you are not allowed to follow course BM41055. Instead, choose any other course.
3. One to select.
4. When you select this option, choose your electives from the next page.

Student name:       Study number:

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| Subtotal EC page 1 | | |  |  |
| Recommended free elective courses | | | |  |
| Select | Course code | Course name | EC | Q |
|  | BM41060 | Physiology and Engineering | 3 | 4 |
|  | BM41070 | Medical Device Prototyping (limited capacity) | 6 | 3, 4 |
|  | ME41095 | Bio-inspired Design | 4 | 1, 2 |
|  | ME46085 | Mechatronic System Design | 4 | 2 |
|  | ME41005 | Human and Robot Locomotion | 3 | 4 |
|  | SC42090 | Robot Motion Planning and Control | 3 | 3 |
|  | SC42095 | Digital Control | 3 | 2 |
|  | CIE4353 | Continuum Mechanics | 6 | 1, 2 |
|  | CIE5123 | Introduction to the Finite Element Method | 4 | 3 |
|  | CIE5142 | Computational Methods in Non-linear Solid Mechanics | 3 | 1 |
|  | EE4C01 | Profile Orientation and Academic Skills | 3 | 1, 2 |
|  | EE4C03 | Statistical Digital Signal Processing | 5 | 1 |
|  | EE4C08 | Measurement and Instrumentation | 5 | 1 |
|  | EE4520 | Analog CMOS Design I | 3 | 2 |
|  | EE4585 | Semiconductor Device Physics | 5 | 2 |
|  | ET4252 | Analogue IC Design | 4 | 3 |
|  | ET4260 | Microsystem Integration | 4 | 4 |
|  | ET4277 | Microelectronics Reliability | 4 | 3 |
|  | ET4289 | Integrated Circuits and MEMS Technology | 4 | 3 |
|  | ET4386 | Estimation and Detection | 5 | 2 |
|  | ID4010 | Design Theory and Methodology | 3 | 1 |
| VU HMS |  | Applied Biomechanics | 6 |  |
| VU HMS |  | 3D kinematics | 3 |  |
| VU HMS |  | Electromyography | 3 |  |
| LUMC | BM41025 | Surgery for Engineers | 2 |  |
| EUR | BM41080 | General Course on Disorders of Environment & Interior | 6 |  |
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| Total EC | | |  |  |

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| Name of Mastertrack Coordinator: | Prof.dr. DirkJan Veeger | Date: |  |

Signature: Signature student: Examination board:

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**Please fill out the Form digitally and send it to** [**SPA-3mE@tudelft.nl**](mailto:SPA-3mE@tudelft.nl)

(Make sure the Form is signed by your track coordinator)

**Note**: Handwritten Forms will not be handled!

Please send also a signed copy of this Form to the Master Coordinator, Dr.ir. I. Apachitei, coordinator-BME-3mE@tudelft.nl