Curriculum schedule

Study programme
M.Sc. Human Technology in Sports and Medicine (M.Sc. TSM)

Examination regulations by:
2007/04/01 in its respectively valid version

Valid for:
Students who started winter term semester 2014/15

Version:
June 2014

<table>
<thead>
<tr>
<th>Module</th>
<th>SRS</th>
<th>Courses (type of class)</th>
<th>SHW</th>
<th>CP/WLH</th>
</tr>
</thead>
</table>
| TSM1   | 1.  | Basics I – Mathematics & Physics  
1.1 Seminar: Mathematics and physics (SE)  
1.2 Tutorial: Mathematics and physics (TUT) | 4   | 6/180  |
| TSM2   | 1.  | Basics II – Biomechanics  
2.1 Seminar: Biomechanics (SE)  
2.2 Seminar: Mechanobiology (SE)  
2.3 Seminar: Ergonomy (SE)  
2.4 Tutorial: Biomechanics and Mechanobiology (TUT) | 8   | 10/300 |
| TSM3   | 1.  | Basics III – Data management & analysis  
3.1 Seminar: Data management/programming (SE)  
3.2 Seminar: Advanced statistics (SE)  
3.3 Tutorial: Data management/programming (TUT) | 6   | 8/240  |
| TSM4   | 1.  | Basics IV – Material & construction  
4.1 Seminar: Materials and construction (SE)  
4.2 Tutorial: Materials and construction (TUT) | 4   | 6/180  |
| TSM5   | 2.  | Technology I - Orthopaedic technologies (orthopaedic aids, prostheses, orthoses, exo skeletons, robots, joint replacements)  
5.1 Seminar: Orthopaedic aids (SE)  
5.2 Seminar: Joint replacements and implants (SE) | 4   | 6/180  |
| TSM6   | 2.  | Technology II - Footwear, apparel and playing surfaces  
6.1 Seminar: Footwear and playing surfaces (sports and rehabilitation)(SE)  
6.2 Seminar: Apparel (sports and rehabilitation) (SE)  
6.3 Seminar: Management (SE) | 6   | 6/180  |
| TSM7   | 2.  | Technology III - Sports equipment and instrumentation  
7.1 Seminar: Instrumentation technology (SE)  
7.2 Seminar: Sports and rehabilitation equipment (SE) | 4   | 6/180  |
| TSM8   | 2.  | Technology IV - Modeling and simulation  
8.1 Seminar: Multi body modeling (SE)  
8.2 Seminar: Finite element modeling (SE) | 4   | 6/180  |
| TSM9   | 2.  | Technology V - Performance diagnostics in sports, medicine and rehabilitation  
9.1 Seminar: Biomechanical and physiological diagnostics (SE)  
9.2 Tutorial: Biomedical diagnostics (TUT) | 4   | 6/180  |
| TSM10  | 3.  | Research methods and application  
10.1 Seminar: Ethics, technology and research in humans (SE)  
10.2 Seminar: Research methods (SE) | 4   | 6/180  |
| TSM11  | 3.  | Project I - Sports technology project – applied research methods  
11.1-I Seminar: Applied research methods (SE)  
11.2-I Project: Sports technology  
OR  
Project II - Technology in medicine project – applied research methods  
11.1-II Seminar: Applied research methods (SE)  
11.2-II Project: Medical technology | 8   | 12/360 |
| TSM12  | 3.  | Internship (> 12 weeks) | 12/360 |
| TSM13  | 4.  | Master Thesis  
13.1 Seminar: Scientific paper writing (SE)  
13.2 Thesis | 2   | 30/900 |
| Total  |     |                         | 58  | 120/3600 |

Abbreviations: TSM = Human Technology in Sports and Medicine, SRS = subject-related semester, SHW = semester hours per week, CP = credit points, WLH = workload hours, LEC = lecture, SE = seminar, TUT = exercise/tutorial, FT = field trip

Comments: The specifications regarding the academic performances and examination results as well as the attendance requirements are listed in the module handbook.  
A credit point corresponds to a workload of 30 hours, which can be achieved by attendance of lectures, seminars and courses as well as by means of self-study (e.g. preparatory- and follow-up work, tutorials etc.).

Subject to modifications