

<b>Module name</b> Cell Biology and Physiology for Medical Technology I					
<b>Module nr.</b> 18-mt-1021	<b>Credit points</b> 3 CP	<b>Workload</b> 90 h	<b>Self study</b> 45 h	<b>Module duration</b> 1 Term	<b>Module cycle</b> Winter term
<b>Language</b> German			<b>Module owner</b> Prof. Dr. Ingrid Fleming		
<b>1</b>	<b>Teaching content</b> This module deals with biological, biochemical and physiological principles that form the basis for the application of engineering methods to living systems in medicine and dentistry. The basics of terminology, cell biology, biochemistry and physiology as well as the principles of physiological and biochemical processes in the human body are taught. In this specific course, basic processes of neuro-, muscle- and cardiovascular physiology are in focus. In parallel, the students are presented with analytical and simple diagnostic procedures linked with common metabolic and organ-specific diseases. Within the framework of the courses, pathophysiological changes leading to common diseases will be presented and discussed to provide a direct link to the clinical situation.				
<b>2</b>	<b>Learning objectives</b> Students who have successfully completed this module can understand the biological, biochemical and physiological relationships and apply these to the development and evaluation of biomedical diagnostic and therapeutic systems. Furthermore, due to their understanding of cellular and molecular biological processes acquired in this module, students should be prepared to discuss medical content with medical professionals and laypersons as well as to understand basic biomedical literature.				
<b>3</b>	<b>Recommended prerequisites for participation</b>				
<b>4</b>	<b>Form of examination</b> Module exam: <ul style="list-style-type: none"> <li>Module exam (Technical examination, Examination, Duration: 90 Min., Default RS)</li> </ul>				
<b>5</b>	<b>Prerequisite for the award of credit points</b> Passing the final module examination				
<b>6</b>	<b>Grading</b> Module exam: <ul style="list-style-type: none"> <li>Module exam (Technical examination, Examination, Weighting: 100 %)</li> </ul>				
<b>7</b>	<b>Usability of the module</b>				
<b>8</b>	<b>Grade bonus compliant to §25 (2)</b>				
<b>9</b>	<b>References</b> Menche: Biologie Anatomie und Physiologie, Elsevier-Verlag Accompanying materials				
<b>Courses</b>					
	<b>Course Nr.</b> 18-mt-1021-iv	<b>Course name</b> Cell Biology and Physiology for Medical Technology I			
	<b>Instructor</b> Prof. Dr. Ingrid Fleming			<b>Type</b> Integrated course	<b>SWS</b> 3