

Faculty	Faculty 5 Nature and Engineering, Department 2 (Biology ISTAB)
Course Title	Proteomics (protein biochemistry)
Number of ECTS credits	6
Hours per week (SWS)	4
Semester	Spring/summer: Master
Course objective	Purification, separation and identification of proteins with modern technologies like 2D-SDS PAGE and PMF.
Prerequisites	Basic understanding of protein biochemistry
Recommended reading	Standard textbooks on proteins. Internet (Google, ChatGPT, YouTube channels, etc. with keywords: 1D and 2D SDS-PAGE, peptide mass fingerprinting, protein extraction, purification and separation, MALDI-ToF MS, protein concentration estimation, gel staining methods).
Teaching methods	Practical lab work (3 to 4 weeks with 4 days practical work per week)
Assessment methods	Written examination at the end of the module, work with laboratory journals, preparation of "publication-ready" illustrations.
Language of instruction	English (German)
Name of lecturer and Contact	<u>Prof. Dr. Ingo Grunwald</u> <u>i.grunwald@hs-bremen.de</u>
Link	<a href="https://www.hs-bremen.de/studieren/studiengang/internationaler-studiengang-technische-und-angewandte-biologie-m-sc/">https://www.hs-bremen.de/studieren/studiengang/internationaler-studiengang-technische-und-angewandte-biologie-m-sc/</a>
Course content	<p>Overview of topics and methods of proteome analytics</p> <ul style="list-style-type: none"> <li>▪ Basic concepts on the structure and composition of proteins</li> <li>▪ Analytical methods of protein biochemistry</li> <li>▪ Basics of scientific work in the field of protein biochemistry</li> </ul>