

<b>Molecular Diagnostics</b>					
<b>Kennnummer</b>	<b>Workload</b> 180 Std.	<b>Credits/LP</b> 6	<b>Studiensemester</b> 1	<b>Häufigkeit des Angebots</b> Jedes Semester	<b>Dauer</b> 1 Semester
<b>1</b>	<b>Lehrveranstaltungen</b>	<b>Sprache</b>	<b>Kontaktzeit</b>	<b>Selbststudium</b>	<b>Geplante Gruppengröße</b>
	a) Biomarkers in Diagnostics	a) English	a) 22,5 Std.	a) 67,5 Std.	a) 15
	b) Immunological Techniques	b) English	b) 22,5 Std.	b) 67,5 Std.	b) 15
<b>2</b>	<p><b>Lernergebnisse/Kompetenzen</b></p> <p>After successful participation in the module the students ...</p> <p><b>Analyse (4)</b></p> <p>... apply selected high-throughput methods to quantify potential biomarkers                      ... describe methods of genomics, transcriptomics, proteomics and metabolomics                      ... distinguish between current methods in immunology                      ... justify the use of different diagnostic methods                      ... use immunological methods to determine immunological parameters                      ... evaluate aspects of biomarker patents</p> <p><b>Evaluation / Bewertung (6)</b></p> <p>... compare different applications of biomarkers                      ... select suitable methods for biomarker identification and development                      ... evaluate literature results</p>				
<b>3</b>	<p><b>Inhalte</b></p> <p>a) Methods in biomarker research and immunology, Examples of DNA/RNA sequencing and transcriptomics, proteomics, metabolomics and immunology, theoretical approaches and regulations for biomarker identification and validation, current applications of biomarkers in diagnosis and prognosis as well as for patient stratification and therapy control, analysis of practical case studies</p> <p>b) Immunological methods, immunological methods in diagnosis and prognosis, as well as patient stratification and therapy control, analysis of practical case studies</p>				
<b>4</b>	<p><b>Lehrformen</b></p> <p>a) Vorlesung</p> <p>b) Vorlesung</p>				

<b>5</b>	<b>Teilnahmevoraussetzungen</b> Knowledge in biology, molecular biology, biochemistry and instrumental analytics
<b>6</b>	<b>Prüfungsformen</b> a) Prüfungsleistung 1sbK (Klausur) (3 LP) b) Prüfungsleistung 1K (Klausur) (3 LP)
<b>7</b>	<b>Verwendung des Moduls</b> Precision Medicine Diagnostics M.Sc. (PMD)
<b>8</b>	<b>Modulbeauftragte/r und hauptamtlich Lehrende</b> Prof. Dr. Hans-Peter Deigner (Modulverantwortliche/r) Prof. Dr. Hans-Peter Deigner (Dozent/in)
<b>9</b>	<b>Literatur</b> a) Biomarkers: In Medicine, Drug Discovery, and Environmental Health. John Wiley & Sons 2010, Editor(s): Vishal S. Vaidya, Joseph V. Bonventre, Lottspeich, Engels (Hrsg.) (2006), Bioanalytik, Spektrum Verlag, 2.Aufl. b) Carl A. Burtis et al. (2012), Tietz Textbook of Clinical Chemistry and Molecular Diagnostics, Elsevier, 5. Aufl. Lela Buckingham and Maribeth L. Flaws (2007), Molecular Diagnostics: Fundamentals, Methods and Clinical Applications, F.A. Davis Company.