

Title of Module (English):	Research Design and Statistics
Title of Module (German):	Versuchsplanung und Statistik
Degree Programme:	Bachelor of Science "Human Movement in Sports and Exercise"

1	Module Number: 4	Status: <input checked="" type="checkbox"/> Mandatory Module <input type="checkbox"/> Elective Module
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2	Frequency: <input type="checkbox"/> Every semester <input type="checkbox"/> Every winter semester <input checked="" type="checkbox"/> Every summer semester	Duration: <input type="checkbox"/> 1 semester <input checked="" type="checkbox"/> 2 semesters	Semester: 2-3	CP: 11	Workload (h): 330
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3	Module Structure:						
	No.	Type	Course	Status (mandatory/ elective)	CP	Attendance (h + SWS⁷)	Individual Study Time (h)
	1	L	Basic Introduction to Research methods and Statistics	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	3	30 (2 SWS)	60
	2	S	Basic Project in Applied Data Acquisition and Analysis	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	2	15 (1 SWS)	45
	3	S	SPSS Tutorial	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	2	30 (2 SWS)	30
	4	S	Interpretation Methods in Statistics	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	2	30 (2 SWS)	30
	5	S	Advanced Project in Applied Data Acquisition and Analysis	<input checked="" type="checkbox"/> m <input type="checkbox"/> e	2	15 (1 SWS)	45

4	<p>Content of Module:</p> <p>Basic knowledge of research methods (experimental design, statistic quality criteria) and statistics (probability theory, descriptive and inferential statistics) will be imparted within the lecture. In "Interpretation Methods in Statistics", students will learn to use different complex statistical strategies to test for differences (e.g. inferential statistics/structure analyses, general linear models [GLM] and others) as well as for correlations (reliability analyses, correlation and regression analyses). The "SPSS Tutorial" will provide basic practical experiences with the software and allow the application of statistical tests to real data sets. Additional experimental designs as well as the realization of own research projects including data acquisition, data analysis, and interpretation within a research report are the subject of the basic and advanced projects in "Applied Data Acquisition and Analysis".</p>
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5	<p>Learning Outcomes:</p> <p>The students acquire the necessary skills and knowledge to perform all steps of a research project in a self-guided manner. Whereas the basic project operates in a more constrained framework in which the embedding of the statistical background knowledge into the actual research context can be retraced by the students, the advanced project increases the level of independence and self-organization. The module builds on the basic communication, writing, and presenting skills introduced in Module 1 and develops them further in a research context.</p>
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6	<p>Options within the Module:</p> <p>None</p>
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7	<p>Type of Examination:</p> <p><input type="checkbox"/> Final Module Examination <input type="checkbox"/> Module Examination <input checked="" type="checkbox"/> Component Examinations</p>
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8	Degree-Relevant Examination(s):
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⁷ SWS (Semesterwochenstunden) = hours of instruction per week

	Number and form (e.g. written examination, oral examination); assigned to course no. ⁸ :	Duration or length	Weighting of grade for module grade in %
	Written Examination in Basic Introduction to Research Methods and Statistics	60 min	65%
	Written documentation of project	20 pages	35%
9	Required Coursework: Number and form; assigned to course no.:		Duration or length
	Short and extensive coursework is necessary for the preparation, realization, and post-processing of courses. Short and extensive coursework includes e.g. protocols (approx. 1–2 pages) and written/oral assignments (approx. 10 pages/10–15 minutes), respectively. The type of coursework will be announced at the beginning of the course. Duration and extent of coursework will be oriented towards the underlying workload.		
10	Requirements for Obtaining Credits (CP): The credit points of the module are awarded when the entire module, i.e. all degree-relevant examinations and all required coursework, has been completed successfully.		
11	Weighting of Module Grade in Calculation of Final Overall Grade: 6%		
12	Admission to Module: Successful completion of M1 and M2 is strongly recommended but not mandatory.		
13	Attendance: In all courses, 100% participation is recommended. However, in the seminars, 80% attendance is necessary because personal guidance and feedback when handling data can only be given within class.		
14	This Module is also an Element of the Following Degree Programmes: --		
15	Module Coordinator: Prof. Dr. B. Strauss	Faculty: FB07	
16	Additional Information: Courses 1, 2, and 3 are offered in the first semester of the module. Courses 4 and 5 are offered in the second semester of the module. All seminars are in English. All reading and writing assignments will be in English, as well as all exams and presentations.		

⁸ Not applicable to final module examination