

1	<b>Module name</b>	<b>Applied Data Science in Medicine &amp; Psychology (ADS);</b> Minor Computer Science for Psychologists	<b>5 ECTS</b>
2	Lectures and seminars	SS – Lecture: <b>Applied Data Science in Medicine &amp; Psychology</b> (2 SWS) SS – Exercise: <b>Applied Data Science in Medicine &amp; Psychology</b> (2 SWS)	2,5 ECTS  2,5 ECTS
3	Lecturers	Prof. Dr. Nicolas Rohleder Prof. Dr. Bjoern Eskofier Luca Abel Veronika Ringgold	

4	<b>Module coordinator</b>	Prof. Dr. Bjoern Eskofier, Prof. Dr. Nicolas Rohleder	
5	<b>Contents</b>	<p>The interdisciplinary module „Applied Data Science in Medicine &amp; Psychology“ covers basic statistical knowledge and hands-on Python exercises. We will start with relevant knowledge from both disciplines (statistics and programming), which will allow you to analyze your data more efficiently. Since this is a course for students from many different disciplines (life sciences, psychology, medical engineering, etc.) we will gradually build up your knowledge which will allow you to cover more complex ideas as we move through the course.</p> <p>Our goal is to provide you with the necessary knowledge, skills, and tools for future projects, such as theses, and to prepare those of you who wish to pursue a career in science. This course will also complement the seminars „Digital Health Psychology“ and „Digitalization in Clinical Psychology“, as prior knowledge of Python and data analysis will enhance the benefit of both seminars for you.</p>	
6	<b>Learning objectives and skills</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>- Develop a programming mindset</li> <li>- Gain an understanding of research data management</li> <li>- Acquire basic python coding skills</li> <li>- Gain a basic understanding of inference statistic</li> <li>- Can load, manipulate, analyze, and visualize data</li> <li>- Understand basics of machine learning</li> </ul>	
7	<b>Prerequisites</b>	None	
8	<b>Integration in curriculum</b>	–	

9	<b>Module compatibility</b>	B.Sc. and M.Sc. Psychology, minor subject
10	<b>Course and examination achievements</b>	Examination, 60 minutes
11	<b>Grading procedure</b>	ungraded
12	<b>Module frequency</b>	Summer semester
13	<b>Workload in clock hours</b>	Contact hours: 60 h Independent study: 90 h
14	<b>Module duration</b>	1 Semester
15	<b>Teaching and examination language</b>	English
16	<b>Bibliography</b>	–

17	<b>Module name</b>	<b>Best Practices in Open Science (BPOS)</b> Minor Computer Science for Psychologists	<b>5 ECTS</b>
18	Lectures and seminars	WS – Lecture: <b>Best Practices in Open Science (BPOS)</b> (2 SWS) WS – Exercise: <b>Best Practices in Open Science (BPOS)</b> (2 SWS)	2,5 ECTS 2,5 ECTS
19	Lecturers	Prof. Dr. Nicolas Rohleder Prof. Dr. Bjoern Eskofier Luca Abel Veronika Ringgold	

20	<b>Module coordinator</b>	Prof. Dr. Bjoern Eskofier, Prof. Dr. Nicolas Rohleder
21	<b>Contents</b>	<p>The interdisciplinary lecture and exercise „Best Practices in Open Science“ covers the topics that researchers and (young) scientists should know about the Open Science movement. We will start by explaining the importance of open and reproducible science and how researchers, institutions and the general public benefit from it. We will discuss the Pros and Cons as well as best and worst practices and case studies. After completing this course, students will have gained an overview over the steps to take for more accountability in their own research.</p> <p>Our goal is to provide you with the necessary knowledge, skills, and tools for future projects, such as theses, and to prepare those of you who wish to pursue a career in science.</p>
22	<b>Learning objectives and skills</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>- Gain an understanding of the importance of Open Science</li> <li>- Understand concepts such as open data, open access and reproducibility</li> <li>- Will know about best (and worst) practices</li> <li>- Acquire the relevant knowledge to make their own research more open</li> <li>- Can plan and pre-register a study as well as share (reproducible) code</li> </ul>
23	<b>Prerequisites</b>	None
24	<b>Integration in curriculum</b>	–

25	<b>Module compatibility</b>	B.Sc. and M.Sc. Psychology, minor subject
26	<b>Course and examination achievements</b>	Examination, 60 minutes
27	<b>Grading procedure</b>	ungraded
28	<b>Module frequency</b>	Winter semester
29	<b>Workload in clock hours</b>	Contact hours: 60 h Independent study: 90 h
30	<b>Module duration</b>	1 Semester
31	<b>Teaching and examination language</b>	English
32	<b>Bibliography</b>	–