Prerequisites (Learning Agreements) for the MSc in Bionics

All bachelors degrees are not created equal. Most students admitted to HSRW with undergraduate degrees from outside Germany will have been informed in writing by UniAssist and/or the university that they have been deemed to have completed 180 ECTS points and must therefore complete a *Learning Agreement* to make up 30 additional ECTS points during the course of their MSc studies, in order to graduate with the requisite total 300 ECTS points required by the Bologna Convention.

Curricula are designed under the ECTS system such that 30 ECTS points represents a full-time study load for one semester. This means that most students arriving from overseas will require four semesters to complete the MSc. Only those students arriving with full 210 ECTS degrees will realistically be able to complete the MSc in three semesters.

The Learning Agreement courses in bionics are intended to be completed before beginning the masters courses. They provide a solid basis in one of the specialisations of the bionics degree to ensure that incoming students can fully comprehend and benefit maximally from the material presented in the advanced courses. It makes very little sense to take the undergraduate courses after struggling through the more advanced masters courses!

The table below is divided into four sections, according to the specialisation the student has come to study and to the semester of first registration. The courses listed in black are required of all Learning Agreement students. If a student can demonstrate that the subject material covered in one of the listed courses has already been completed, then one of the orange courses will be substituted into the Learning Agreement. If the material from more than one black course has already been completed, then other courses may be substituted subject to the approval of the Director of Studies.

Robotics

Winter Start			**Summer Start**			
Code	**Module**	**CP**	**Code**	**Module**	**CP**	**Learning Content**
2725	Bioinspiration	5	SCB_EC.S3	Nat Hist & Bioinsp	3	Philosophy of bionics
SCB_4	Bionics 1 Biology	5	2724	Biomimetic Science	5	Biology
2726	Bionic Design	5	SCB_19	Biomimetics & Biomechanics	9	The moving animal
2010	Dynamics	5	2002	Numerical Mathematics	5	Basic dynamics/maths
2309	Object Oriented Programming	5	2311	Embedded Systems	5	Programming for hardware
2903	Controls	5	2902	System Theory and Controls	5	Control
2910	Robotics	5	2908	Multibody Dynamics	5	Mechatronic systems

Materials

Winter Start			**Summer Start**			
Code	**Module**	**CP**	**Code**	**Module**	**CP**	**Learning Content**
2725	Bioinspiration	5	SCB_EC.S3	Nat Hist & Bioinsp	3	Philosophy of bionics
SCB_4	Bionics 1 Biology	5	2724	Biomimetic Science	5	Biology
2726	Bionic Design	5	SCB_19	Biomimetics & Biomechanics	9	The moving animal
2005	Inorganic Chemistry	5	2103	Physical Chemistry	5	Fundamental chemistry
2107	Non-metallic Materials	5	2106	Metallic Materials and Testing	5	Materials testing
2104	Chemistry of Biopolymers	5	2111	Applied Materials and Corrosion	5	Advanced chemistry

WS 2019 Timetables

Robotics

	Mon	Tue	Wed	Thu	Fri
8-10		SCB_4	2903	2010	
10-12	2903	2010	2903		2309
12-14	2309	SCB_4			
14-16	~~2725~~*				2726
16-18	2010				2726

Materials

	Mon	Tue	Wed	Thu	Fri
8-10	2005	SCB_4	2107	2107	
10-12	2104	2107		2910	
12-14		SCB_4	2104		
14-16	2005	2005			2726
16-18	~~2725~~*				2726

2725 Bioinspiration is a travel study course which takes place on two weekends over the course of the semester. See moodle for more details.