Curriculum **Science Communication & Bionics** B.A. & BSc. INCLUDES THE FOLLOWING LEARNING OUTCOMES >>>	Learning Objectives **Communication Basics** (Knowledge) 1, 17	 **Science Basics** (Knowledge) 2, 17, 22-27	 **Communication Practice Skills** (Competencies) 4, 8, 9, 11, 13, 14, 18, 19, 29, 31	 **Strategy, Methods Reflection** (Competencies) 3, 4, 5, 6, 7, 11,12, 16, 19, 21, 28	 **Competitiveness, Entrepreneurship** (Capabilities) 11, 15, 21, 28, 29, 32, 34	 **Transferrable Skills, Diversification** (Capabilities) 10, 20, 29, 30, 33, 34	Qualification Profile **Institutional Communication, Marketing / PR**	 **Science Journalism, Publishing**	 **Science Advocate, Research Management**
History of Science & Technology	●●	●	●	●●	●	●●	●	●	●
Introduction to Science Communication	●●	●	●	●●	●●	●	●	●	●
Comparative International Media Studies	●●●		●	●●	●	●●	●	●●	
Communicating for Institutions	●●●		●●	●	●●	●	●●●		
Communication Clinic I	●●	●	●●●		●	●●	●	●	●
Bionics I	●	●●		●●●	●	●●	●	●	●
Physics of Locomotion		●●●		●●●	●	●●	●	●	●
Basics of Chemistry		●●●		●●●	●	●●	●	●	●
Mathematics I		●●●		●●●	●	●●	●	●	●
Political Communication	●●●		●	●●	●●	●	●●	●	
Public Engagement	●●●		●●	●	●●	●	●●●		
Print & Web, TV & Radio	●●●		●●●		●	●●	●	●●	
Interactive & Social Media	●●	●	●●	●	●●	●	●●	●	
Freelance Journalism	●●●		●●	●	●●●			●●●	
Communication Project I	●●	●	●●	●	●	●●	●	●	●
Mathematics II		●●●		●●●	●	●●	●	●	●
Biomedical Science	●	●●		●●●	●	●●	●	●	●
Physics of Sensing		●●●		●●●	●	●●	●	●	●
Risk & Crisis Communication	●●	●	●	●●	●●	●	●●	●	
Legal Frameworks of Media and PR	●●●		●	●●	●●	●	●●	●	
Innovative Online Formats, Apps, Serious Games	●●●		●●	●	●●	●	●●	●	
Entrepreneurial Journalism, Self-marketing	●●●		●●	●	●●●	●	●	●●	
Communication Clinic II	●●	●	●●●		●●	●	●	●●	

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Statistics in Communication Practise	●●	●	●●	●	●	●●	●	●●	
Bionics II		●●●		●●●	●	●●	●	●	●
Introduction to Engineering Design		●●●		●●●	●	●●	●	●	●
Corporate Communication Management	●●●		●●	●	●●	●	●●●		
Introduction to Behavioural Sciences	●	●●	●	●●	●	●●	●	●	●
Empirical Research Methodologies	●●	●	●	●●	●	●●	●	●	●
Global Economies	●●	●	●	●●	●	●	●	●	●
Communication Clinic III	●●	●	●●●		●●	●	●	●●	
Bionics III		●●●		●●●	●	●●	●	●	●
Fundamentals of Biomechanics		●●●		●●●	●	●●	●	●	●
Sustainability in Science and Industry & CSR	●●	●	●	●●	●	●●	●●	●	
Communicating ELSI	●●	●	●	●●	●	●●	●	●	●
Technology Assessment, Corporate Foresight	●●	●	●●	●	●●	●	●●	●	
Ecology & Conservation		●●●		●●●	●	●●	●	●	●
Communication Project II	●	●●	●●	●	●●	●	●	●	●
Bionics of Surfaces		●●●		●●●	●	●●	●	●	●
Ecology of Materials		●●●		●●●	●	●●	●	●	●
Semester Abroad / Work-Placement	●●	●	●	●●	●●	●	(●	●	●)
Practical Skills Application	●●	●	●●●		●●●		(●	●	●)
Scientific Methods	●	●●	●●	●	●●	●	●	●	●
Bachelor Thesis	●●	●		●●●	●●	●	(●	●	●)
Colloquium	●●	●	●	●●	●	●●	●	●	●

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Communication Design	●●●		●●	●	●	●●	●	●●	
Media Production Technologies	●●●		●●●		●	●●	●	●●	
Data Visualisation	●●	●	●●	●	●●	●	●	●	●
Fundamentals of Biotechnology		●●●		●●●	●	●●	●	●	●
Natural History and Bionic Inspiration	●	●●	●	●●●	●	●●	●	●	●
Theory in Bionic Engineering		●●●		●●●	●	●●		●	●●
Communicating Social Science and Humanities	●●	●	●●	●	●●	●	●	●	●
Intercultural Communication	●●●		●●	●	●	●●	●	●	●
Moderation Techniques	●●●		●●●		●●	●	●	●	●
Fundamentals of Electrical Engineering		●●●		●●●	●	●●	●	●	●
Materials in Biomimetics		●●●		●●●	●	●●		●	●●
Biothermodynamics and Architecture		●●●		●●●	●	●●		●	●●

How to read this table

Depending on their courses [**1st column**], students of *Science Communication & Bionics* gather different kinds of knowledge – sometimes more in the field of communication, sometimes more in natural sciences and engineering. The table shows 1-3 points for every course [**columns 2 and 3**]. These signify the proportion between COMM and STEM knowledge acquired, e.g. 2:1 or 3:0.

Based on this knowledge, the students gain certain competencies, which again can basically take two different forms: either a specific course focuses more on developing practical communication skills, almost in a 'crafts' sense [**4th column**], or it trains students more in taking strategic approaches, be it conceptually in communication management or by fostering their methodological understanding and reflective competence of putting science and innovation into context [**5th column**].

Some courses are aimed directly at the students' future employability. This awareness and capability to compete in media and communications [**6th column**] often requires a decent entrepreneurial capability to innovate, particularly in the context of rapidly changing media environments. Less concretely, other courses focus more on developing transferrable sills, including a basic understanding of all major scientific disciplines [**7th column**]. The students' job prospects will diversify, while preparing them to adapt to future changes in their work environment.

Depending on their individual set of courses, i.e. mostly on the choice of electives in taking either the B.A. or the B.Sc. pathway, our graduates will be particularly well qualified (i) for communicating science and innovation on behalf of an institution, e.g. as a press officer for a university, a technology marketing officer in almost every high-tech industry, a science spokesperson for an NGO, a curator or designer of exhibits in one of several hundred science museums and science centres, a consultant in a marketing agency specialised on innovation and technology [**8th column**]; (ii) for more independent journalistic professions, e.g. copy editors, staff-writers, radio moderators, tv producers and presenters, senior production assistants for science documentaries and tv shows, or even management positions in scholarly publishing [**9th column**]; (iii) for combining academic research with public engagement activities—'public scientists' or 'science advocates' as they are sometimes called, including positions in research management such as a Brussels- or Berlin-based liaison officer serving as an interface between his affiliation and its stakeholders, but also positions in science policy, technology and risk assessment, learned societies, associations of patients, etc. [**10th column**].

Knowledge, competencies and capabilities acquired in this course, will enable the graduates to reach senior positions on a management level comparatively soon. As the table shows, most courses actually address all the three job profiles more or less equally. This design of the course follows the fundamental goal of training 'hybrid' graduates who are prepared to succeed in different fields of science communication.

Learning outcomes as described in the SCB Diploma Supplement

(1) theoretical background from media studies, sociology and political communication
(2) theoretical background from natural sciences
(3) communication management and governance
(4) risk and crisis management
(5) event management and exhibitions
(6) CSR
(7) Corporate Foresight
(8) science / technology writing
(9) journalistic skills in other media, such as tv, radio, with a special focus on interactive and social media
(10) comparative knowledge about economies in different countries
(11) comparative knowledge about media systems in different countries
(12) comparative knowledge about political structures in different countries
(13) comparative knowledge about the legal frameworks of media and PR
(14) specialised programming an computing skills, such as data-journalism, java-script, audio- and video-editing
(15) entrepreneurial skills to also succeed on a free-lance basis
(16) the ability to take responsibility for public affairs and science advocacy activities in academic institutions, companies or NGOs
(17) knowledge about the history of science and technology
(18) planning and managing public engagement campaigns and citizen science projects
(19) communicating statistical data responsibly
(20) research methodologies for science communication and their application, including methods for project evaluation
(21) sensibility to take the particular responsibilities into account when communicating the ethical, legal and social implications of science and technology in society
(22) basic understanding of physics
(23) basic understanding of biology
(24) basic understanding of chemistry
(25) basic understanding of mathematics
(26) basic understanding of behavioural sciences
(27) in-depth knowledge in bionics, such as zoology, special materials and surfaces
(28) solving strategic communication challenges independently and discussing the decisions / results with other experts in the field
(29) organising work packages as well as projects
(30) awareness of operational and organisational influences on the success of his/her work
(31) using modern tools for communication
(32) advantageously using knowledge about the interdisciplinary structures of companies and academic institutions
(33) working in teams and projects
(34) communicating internationally, especially in intercultural environments