COURSE DESCRIPTION – ACADEMIC YEAR 2017/2018

Course title	**Presentation and Communication Skills G / I / P**
Course code	74020 (G) / 74005 (I) / 74019 (P)
Scientific sector	M-FIL/02
Degree	European Master's Program in Computational Logic (LM-18)
Semester	1
Year	2
Credits	4
Modular	Yes
University	UniBZ

Total lecturing hours	72
Total lab hours	36
Total exercise hours	--
Attendance	Not compulsory
Prerequisites	A mathematical modelling course.
Course page	https://ole.unibz.it/

Specific educational objectives	The course belongs to the type "ulteriori attività formative – ulteriori conoscenze linguistiche". The course is belongs to the mandatory part of the study program and its credits must be acquired by all the students. After completion of the course students are able to present and to discuss scientific achievements. The language module shall teach basics of the language of the country of the host university and the students shall acquire enough skills for coping with simple everyday challenges of communication in the language of their host country. The Research Methods module focuses on research paradigms such as design science, behaviour science or mathematical modelling across Engineering community, Information System community, and Computer Science community. It mainly focuses on the know-how in research, which includes empirical, mathematical, statistical and engineering methodologies. From the scientific perspective, this course will address how to explore the research challenges and how to conduct the research by using suitable research paradigms and methodologies. The language module can be chosen among the courses offered by the Language Centre in one of the official languages of the universities participating to the EMCL consortium. General English courses cannot be selected (knowledge of English is one of the admission requirements) however, specialised courses (e.g. English technical writing) can be attended. Details on the number of hours, teaching format and lecturer depends on the selected language course. Informations and availability can be found on the website of the University Language Centre.

Module 1	**Research Methods**
Module code	74020B (G) / 74005B (I) / 74019B (P)
Module scientific sector	M-FIL/02
Lecturer	Barbara Russo

Contact	Piazza Domenicani 3, Room 1.16, barbara.russo@unibz.it, 0471-016170
Scientific sector of lecturer	INF/01
Teaching language	English
Office hours	By previous appointment via e-mail.
Lecturing assistant (if any)	--
Office hours LA	--
Credits	2
Lecturing hours	18
Lab hours	--
Exercise hours	--
List of topics	• Research paradigms in information and computer sciences • Empirical methods • Mathematical methods • Engineering research • Modelling • Literature Review • Quantitative and Qualitative Research
Teaching format	Frontal lectures and discussion.

Module 2	**Language Course: German (G) / Italian (I) / Portuguese (P)**
Module code	74020A (G) / 74005A (I) / 74019A (P)
Module scientific sector	L-LIN/14 (G) / L-FIL-LET/12 (I) / L-LIN/09 (P)
Lecturer	Depends on the selected course
Contact	Depends on the selected course
Scientific sector of lecturer	--
Teaching language	German / Italian / Portuguese
Office hours	Depends on the selected course
Lecturing assistant (if any)	--
Office hours LA	--
Credits	2
Lecturing hours	Depends on the selected course
Lab hours	Depends on the selected course
Exercise hours	Depends on the selected course
List of topics	Depends on the selected course
Teaching format	Depends on the selected course

Learning outcomes	Knowledge and understanding: • Thoroughly understand the scientific method of investigation. • Understand methods of mathematics and of statistics that support Information Technology and its applications. Applying knowledge and understanding: • Be able to identify new application requirements and business opportunities in the field of systems based on data and knowledge. • Be able to identify new needs and business opportunities in the field of software technology and services. • Be able to understand and write documentation for technical, scientific reporting. Making judgments

	• Be able to plan and re-plan a technical project activity aimed at building an information system and to bring it to completion by meeting the defined deadlines and objectives. • Be able to identify reasonable work goals and estimate the resources required to achieve the objectives. Communication skills • Be able to present in a fixed time the content of a scientific / technical report in front of an audience also composed of non-specialists. • Be able to structure and prepare scientific and technical documentation describing project activities. • Ability to use an additional European language, using technical vocabulary, in oral and written forms Learning skills • Be able, in the context of a problem-solving activity, to extend even incomplete knowledge taking into account the objective of the project.

Assessment	Both parts of the course are evaluated on a pass/fail basis. Both need to be passed in order to obtain the credits for the course. • Individual research project report – covered in M1 • Written and/or oral language test (the assessment depends on the selected course) – covered in M2
Assessment language	English (Module 1) – German / Italian / Portuguese (Module 2)
Evaluation criteria and criteria for awarding marks	Research project: the project is mainly about letting the students choose a scientific topic related to their research interest or Master thesis or future PhD research. Based on the selected topic, they will set up a research plan. This research plan includes the knowledge they have learned in this course such as how to choose a/some suitable and rigorous research methods regarding certain research topic. Thus, they are able to apply and further understand the knowledge they have learned in this course. Each student will complete one project individually. They need to identify the research goals and plan the activities for their project. In this way, the ability of making judgments will be assessed. In the meantime, the students need to further learn the details of the research methods and discuss them in the class. That requires the ability of self-learning. Language course: the evaluation criteria depend on the selected course.

Required readings	**Module 1: Research Methods** • Bhattacherjee A., Social Science Research: Principles, Methods, and Practices, 2012, Open Free Textbook [pdf] • Hevner AR, et al. Design Science in Information Systems Research, 2004 [pdf] • Corbin, J. & Strauss, A. (2008). Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. 3rd ed., Thousand Oaks: Sage UNIBZ library code: MR 2000 C791(3)

	• C. Wohlin, P. Runeson, M. Höst, M. C. Ohlsson, B. Regnell and A. Wesslén, "Experimentation in Software Engineering", Springer, ISBN 978-3-642-29043-5, 2012
Supplementary readings	**Module 1: Research Methods** • Research articles provided during the course • Foundation of Qualitative Research in Education, Harvard Graduate School of Education http://isites.harvard.edu/icb/icb.do?keyword=qualitative&tabgroupid=icb.tabgroup117226 • Gerring J., Case study Research: Principles and Practices 2007 [UNIBZ Library: MR 2000 G378] • Nardi P., Doing Survey Research: A Guide to Quantitative Methods, 2006 [UNIBZ Library, MR 2400 N223 (2.06)] • Conference Proceedings of Design Science Research in Information Systems and Technology, 2009-2013 [accessible from UNIBZ on springer.com]