COURSE DESCRIPTION – ACADEMIC YEAR 2023/2024

Course title	**Entrepreneurial Software Engineering**
Course code	76089
Scientific sector	INF/01
Degree	Master in Software Engineering for Information Systems (LM-18)
Semester	2
Year	2
Credits	6
Modular	No

Total lecturing hours	20
Total exercise hours	40
Attendance	Attendance is not compulsory, but non-attending students are suggested to contact the lecturer at the start of the course to agree on the modalities of the independent study.
Prerequisites	Open-minded towards innovation and new IT technology, comfortable to work with high uncertainty, and willingness to collaborate with students of different backgrounds
Course page	MS Teams, https://leanstartup.bz

Specific educational objectives	The course belongs to the type "caratterizzanti – discipline informatiche". Lean Startup adopts a learning-by-doing style and is designed for acquiring both theoretical and practical skills and knowledge on processes of high-tech and software-intensive startups. The main educational objectives are: ● Evaluating a software business idea and constructing a corresponding business model. ● Conducting customer discovery and validation. ● Experimenting iterative product releasing and validating the results. ● Learning how to operate and make decisions in chaos with insufficient data.

Lecturer	Xiaofeng Wang
Contact LA	Office SER-I 1.07, xiaofeng.wang@unibz.it, tel. 0471 016181
Scientific sector of lecturer	INF/01
Teaching language	English
Office hours	During the lecture time span, Fridays from 9:00 to 11:00, arrange beforehand by email
Lecturing Assistant (if any)	--
Contact LA	--
Office hours LA	--
List of topics	● Nature and characteristics of software startups ● Problem and solution identification and validation ● Building minimum viable products ● Lean analytics and pivoting

	● Continuous retrospectives for startup team learning ● Scaling software startups
Teaching format	Team projects supported by frontal lectures

Learning outcomes	**Knowledge and understanding:** D1.3 To know in depth the scientific method of investigation applied to complex systems and innovative technologies that support information technology and its applications. **Applying knowledge and understanding:** D2.2 To be able to design and perform experimental analyses of information systems in order to acquire measures related to their behaviour and to evaluate experimental hypotheses in different fields of application, such as business, industrial or research; D2.4 To be able to define an innovative technical solution to an application problem that meets technical, functional and organisational constraints and requirements. **Making judgments:** D3.3 To be able to define work objectives compatible with the time and resources available; D3.4 To be able to reconcile the objectives of the project that are in conflict, to trade-off cost, resources, time, knowledge or risk; D3.5 To be able to work with large autonomy, also assuming responsibility for projects and structures. **Communication skills:** D4.1 To be able to present the contents of a scientific/technical report to an audience, including non-specialists, at a fixed time; D4.3 To be able to coordinate project teams and to identify activities to achieve project objectives; D4.6 To be able to carry out research and projects in collaborative manner. **Learning skills:** D5.2 To be able to keep up to date independently with developments in the most important areas of information technology; D5.3 In the context of a problem solving activity, to be able to extend knowledge, even if incomplete, taking into account the final objective of the project.

Assessment	For both attending and non-attending students: Project work and oral exam: ● Project work to apply the Lean Startup methodology in a startup project (70% of the mark, team score); ● Oral exam to test the understanding of theories and knowledge application skills, and verification of project results (30% of the mark, individual score).

	Note: Positive project result is necessary to attend the oral exam. Both parts of the results must be positive to pass the exam. In case of a positive mark, the project will count for all 3 regular exam sessions.
Assessment language	English
Assessment typology	Monocratic
Evaluation criteria and criteria for awarding marks	Evaluation criteria for project work: ● effective application of the Lean Startup methodology ● good teamwork ● innovativeness and quality of developed idea ● the soundness and quality of pitch presentation Evaluation criteria for oral exam: ● depth of understanding of the theory ● clarity of answers

Required readings	● E. Ries, The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses. Crown Business, 2011, p. 336. ● S. G. Blank, The Four Steps to the Epiphany: Successful Strategies for Products that Win. Cafepress.com. Other reading materials be published in the course websites. Subject Librarian: David Gebhardi, David.Gebhardi@unibz.it
Supplementary readings	Will be published on the course website.
Software used	Will be decided by the project teams.