MODELLO D (inglese)	
General Information	
Academic subject	Social Computing
Degree course	Computer Science (second-level degree in Computer Science)
Curriculum	Software and Services Engineering
ECTS credits	6
Compulsory attendance	No
Language	English

Subject teacher	Name Surname	Mail address	SSD
	Filippo Lanubile	filippo.lanubile@uniba.it	INF/01

ECTS credits details			
Basic teaching activities	Lectures	Tutorials and lab	

Class schedule	
Period	1st semester
Year	2nd
Type of class	Lecture- workshops

Time management	
Hours	62
Hours of lectures	32 (4 credits)
Tutorials and lab	30 (2 credits)

Academic calendar	
Class begins	06/10/2020
Class ends	10/01/2021

Syllabus	
Prerequisites/requirements	
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	*Knowledge and understanding* The students will know the foundations of Social Computing, that is systems in which users interact, directly or indirectly, with what they believe to be other users or other users' contributions. *Applying knowledge and understanding* The students will be able to apply analytics methods and tools to recognize social dynamics and put in relationship interaction traces and outcomes. *Making informed judgements and choices* The students will learn how to discover what are the factors behind successful collaboration and which ones are actionable. *Communicating knowledge and understanding* The students will learn how to communicate in teamwork through individual and collaborative exercises. *Capacities to continue learning* The students will be able to autonomously learn theoretical concepts and empirical evidence by reading research papers.

Contents	Lectures
	- (Part 1) Social computing: fundamentals and application areas
	  o Introduction to Social Computing
	  o Social Network Analysis
	  o Software solutions for reproducibility and replicability in science
	  o Sentiment analysis and emotion mining
	- (Part 2) Social computing meets software engineering: collaborative software engineering
	  o Collaborative tools for software development
	  o Version control systems: Git and GitHub Flow
	  o Agile development
	  o DevOps and Continuous Delivery
	  o DataOps and Continuous Delivery for Machine Learning
	  o Distributed software development
	  o Open source software communities
	
	Tutorials and Lab
	- Slack and Trello
	- Gephi
	- Colab, DVC
	- SentiStrength and Senti4SD
	- Git and GitHub
	- Gradle and Travis CI
	- Sim GSD
	- Open source guides by GitHub

Course program	
Bibliography	Part 1 - K. Crowston. Introduction to ACM Transactions on Social Computing. Trans. Soc. Comput. 1, 1, Article 1e (February 2018), DOI: 10.1145/3181713 - P. Zaphiris, C.S. Ang, A. Laghos (2012). Online Communities. In A. Sears & J. Jacko (Eds.), The Human-Computer Interaction Handbook. Lawrence Erlbaum & Associates, 2006 (available at https://www.scribd.com/document/140824708/Zaphiris-Ang-Laghos-2012-Online-Communities-The-Human-Computer-Interaction-Handbook) - R. Hanneman, M. Riddle. 2005. Introduction to social network methods. (available at http://faculty.ucr.edu/~hanneman). - Albert-Laszlo Barabasi. 2016. Network Science. Cambridge University Press, (available at http://networksciencebook.com/) - C. Potts, Sentiment Symposium Tutorial (available at http://sentiment.christopherpotts.net/lingstruc.html) Part 2 - M. Storey, A. Zagalsky, F. Filho L. Singer, D. German. 2016. How Social and Communication Channels Shape and Challenge a Participatory Culture in Software Development, IEEE Trans. on Software Engineering, DOI: 10.1109/TSE.2016.2584053

	- F. Lanubile, C. Ebert, R. Prikladnicki, A. Vizcaino, "Collaboration Tools for Global Software Engineering", IEEE Software, ISSN: 0740-7459, vol. 27, 2010, pp.52-55 DOI: 10.1109/MS.2010.39 - Scott Chacon and Ben Straub. Pro Git. 2nd Edition (2014). Apress (available at https://git-scm.com/book/en/v2) - S. Chacon. GitHub Flow (available at http://scottchacon.com/2011/08/31/githubflow.html) - C. Brindescu et al. 2014. How do centralized and distributed version control systems impact software changes? ICSE 2014, DOI: 10.1145/2568225.2568322 (available at http://dig.cs.illinois.edu/papers/ICSE14_Caius.pdf) - Manifesto for Agile Software Development (available at https://agilemanifesto.org/) - K. Schwaber, J. Sutherland. The Scrum Guide (available at www.scrumalliance.org/learn-about-scrum/the-scrum-guide) - C. Ebert, G. Gallardo, J. Hernantes and N. Serrano, "DevOps," in IEEE Software, vol. 33, no. 3, pp. 94-100, May-June 2016. doi: 10.1109/MS.2016.68 - M. Fowler. Continuous Delivery. (available at https://martinfowler.com/bliki/ContinuousDelivery.html) - The DataOps Manifesto (available at https://www.dataopsmanifesto.org/) - D. Sato. Continuous Delivery for Machine Learning (available at https://martinfowler.com/articles/cd4ml.html) - D. Smite, M. Kuhrmann and P. Keil (2014). Virtual Teams [Guest editors' introduction]. IEEE Software, 31(6), 41-46. DOI: 10.1109/MS.2014.149 - Open Source Guides (available at https://opensource.guide/)
Notes	Bibliography will be integrated with the slides available on the ADA platform.
Teaching methods	Lectures and tutorials supported by slides and demos.
Assessment methods (indicate at least the type written, oral, other)	Oral assessment: - presentations of recent research papers selected by the lecturer (for students regularly attending the course) - oral test, including questions about the course program (for students not regularly attending the course) Lab assessment: - tasks assigned and supervised by the lecturer (for students regularly attending the course) - a contribution (bug fixing, improvement, documentation, extension) submitted to an open source software project (for students not regularly attending the course)
Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are.	The students should know the concepts presented and discussed during classes and be familiar with the tools introduced in the tutorials and lab sessions.
Further information	