UNIVERSITÀ DI PISA

DIPARTIMENTO DI INGEGNERIA DELL'INFORMAZIONE

Dottorato di Ricerca in Ingegneria dell'Informazione

Doctoral Course

"Fundamentals of computer-aided drawing for Information Engineers"

Dr. Eng. Carmelo De Maria, PhD

Department of Ingegneria dell'Informazione, University of Pisa, Italy

Short Abstract: Engineering drawing is a fundamental skill in modern engineering practice and research: manual sketches, blueprints and 3D models allows to communicate ideas with colleagues and customers. Computer Aided Design (CAD) software facilitate the creation of complex 2D and 3D models, which can be the starting geometry for running a finite element analysis or directly fabricating a part with additive manufacturing technologies. Indeed, computer aided drawing has become an enabling tool in different engineering areas, and the Course aims at providing Information Engineer with fundamentals in this field, through frontal lessons and practical CAD sessions.

Course Contents in brief:

- the role of engineering drawing; manual sketch and computer aided design (CAD) (3h)
- use of CAD software: part design and assembling (12h)
- quotation and tolerances, with notes on manufacturing technologies (6h)
- introduction to machine elements (gear, bearing, screws, ...) (3h)

Total # of hours of lecture: 24

References:

[1] Visualization, Modeling, and Graphics for Engineering Design, Dennis K. Lieu and Sheryl Sorby, Nelson Education, 2017, ISBN-13: 978-1-4018-4249-9

[2] Handbook of manufacturing engineering and technology. Andrew Y.C. Nee. Springer, 2015. ISBN 978-1-4471-4669-8

CV of the Teacher

Carmelo De Maria is Assistant Professor of Bioengineering at the Department of Ingegneria dell'Informazione, University of Pisa, and affiliated with the Research Center "E. Piaggio". He is guest professor of bioengineering at Addis Ababa University, and member of the African Biomedical Engineering Consortium secretariat. His research interests are in the field of additive manufacturing/rapid prototyping technologies, with a particular focus in Biofabrication. He has several papers published in international scientific journals (over 50) and in 2016 he received the Young Investigator Award from the International Society for Biofabrication. De Maria is involved in the technical coordination of the UBORA EU project (GA 731053), the M-Era.NET project BIOMEMBRANE, and the Manunet project Kerapack.

Room and Schedule

Room: *Aula Riunioni del Dipartimento di Ingegneria dell'Informazione, Via G. Caruso 16, Pisa – Ground Floor*

Schedule:

8 lessons, 3h each, on Monday and Friday afternoon

- Wednesday 23rd January, 14:30 – 17:30
- Friday 25th January, 14:30 – 17:30
- Wednesday 30th January, 14:30 – 17:30
- Friday 1st February, 14:30 – 17:30
- Wednesday 6th February, 14:30 – 17:30
- Friday 8th February, 14:30 – 17:30
- Wednesday 13th February, 14:30 – 17:30
- Friday 15th February, 14:30 – 17:30