

Environmental & Quality Aspects in Design and Manufacturing Massimo Rudan & Gaetano D'Emma

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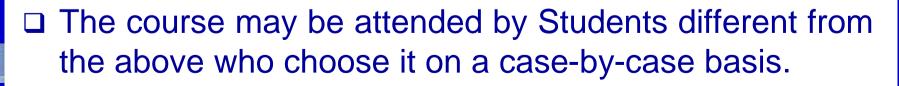
These slides will be made available in pdf format at the link entitled *Teaching Activity* of the website:

http://www.micro.deis.unibo.it/cgi-bin/user?rudan



TO WHOM IS THIS COURSE ADDRESSED?

- In the Academic year 2009–2010 the Students attending the course belong to the second year of the MASSET program. They acquire 6 credits in the subject Others - F type.
- In the Academic year 2010–2011 the Students attending the course will belong to the second year of the MASSET program (they acquire 6 credits in the subject Others - F type), and to the second year of the ECST program (they acquire 6 out of 9 credits in the subject Others - F type).







AIMS OF THE COURSE

- Environmental and Quality Aspects are driven by Standards, Directives, Guidelines and Models. The main learning-outcome is to know and to understand the key concepts behind them.
- To provide the fundamentals of Quality Management, Environment Management, Business Excellence and Project Management.
- To illustrate these elements on issues from electronics industry.





PREREQUISITES

Basic understanding of problems facing society, industry and business management.

□ Communication skills.

□ Ability to work in an international context.

Last, but not least...

□ Strong will to learn about

- > quality issues,
- business excellence and
- > project management !





STRUCTURE

□ This course is split into two modules.

□ Business Excellence and Project Management (40h), handeld by G. D'Emma, covers: > Quality, Environment and Business excellence, Project management and > Impact of business excellence on projects. □ Design and Manufacturing Aspects (20h), handeld by M. Rudan, covers: > Examples of applications of the above concepts to the manufacturing of integrated circuits.





SCHEDULE

□ The lessons in the agenda will be given in the period September 21 through December 18, 2009.

- The lessons will start on Wednesday, October 21 and end on Thursday, December 17, 2009.
- □ Therefore there is no lesson on
 - > September 24, 30,
 - > October 1, 7, 8, 14, 15.
- □ The schedule is:
 - > On Wednesdays 15–18 in classroom 5-2,
 - > On Thursdays 12–15 in classroom TS-02.





NOTES ON SCHEDULE

Few hours will be added to the schedule in November and December. In any case the total number of hours will not exceed 60.

□ The classrooms may be changed if necessary.

The agenda may also be changed if necessary. Hours may be swapped with those of other teachers.





EXAMS

□ The exams are written.

To register for the exam, it is necessary to use the electronic lists that will be made available on the website

https://uniwex.unibo.it

- The Students that have access to the e-lists are kindly asked to use this method only.
- The electronic lists will carry the indication of the meeting point for the examination scheduling.



CONTENTS (I)



- Quality, environment and business excellence
 - Quality control
 - > Total quality management systems
 - > Quality management systems
 - Environmental management systems
 - > Business excellence models
 - > Quality and excellence measurements and value

Project management

- Project management framework
- > Project management processes
- Project planning
- Risk management

Arces M. Rudan

G. D'Emma

CONTENTS (II)



Impact of business excellence on projects

- > Quality management in projects
- > Project management guideline
- Project management methods and tools
- > Project performance measurements
- > Project manager competencies
- Impact of quality and environment management on design and manufacturing
 - Production management and planning
 - Environmental aspects in electronics industry
 - > European directives in electronics industry





REFERENCES (I)

□ ISO 9000 series – Quality management systems

- ISO 10006 Quality Management Systems Guidelines for Quality Management in Projects
- □ ISO 14000 series Environmental management systems
- ISO 19011 Guidelines for quality and environmental management systems auditing.
- □ IEEE Computer Society IEEE Std 1490[™]-2003 Adoption of PMI Standard – A Guide to the Project Management Body of Knowledge.





REFERENCES (II)

Documentation from the European Foundation for Quality Management EFQM, www.efqm.org.

- Documentation from the International Project Management Association, IPMA, P.O. Box 1167, 3860 BD Nijkerk, The Netherlands, www.ipma.ch.
- European directive 2002/96/CE, "Waste Electrical and Electronic Equipment"

European directive 2002/95/CE "Restriction of Hazardous Substances"





REFERENCES (III)

□ The references listed above are generic.

- Other references pertinent to specific topics will be given during the lessons.
- Standards and guidelines (from ISO, IEEE, etc.) are protected by copyrights. Copies cannot be given to the Students. Original texts can be bought on the correspondent websites.
- Directives are usually free of charge and available on the web.



CONTACT



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M. Rudan

G. D'Emma

□ The official agenda for contacts is:

- > Wednesdays 14:00-15:00
- Thursdays 14:00-15:00
- It is advisable to ask for an appointment during a class, by calling or by sending a message.
- Massimo Rudan
 - > 051-20-93-016 (93-016 from internal phones)
 - > mrudan@arces.unibo.it
- Gaetano D'Emma
 - > 348-103-2122
 - > demma@csbi.eu