4th Year

Elective Courses

1 55000060 Corporate and Professional Communication
2 55000061 Corporate Social Responsibility
3 55000063 Leadership
4 55000068 Dynamic Web Development
5. 55000070 Computer Aided Design

55000060 – Business and Professional Communication Skills

CREDITS:	3 ECTS
DEPARTMENT:	Organization Engineering, Business Admnistration and Statistics(MAS)
COURSE COORDINATOR:	Mercedes Grijalvo Martín
TYPE:	
YEAR AND SEMESTER:	Elective

LIST OF TOPICS

MODULE 1. Introduction to the communication process

MODULE 2. Written communication

MODULE 3. Effective communication: design and presentations

MODULE 4. Intercultural communication and conflict resolution

RECOMMENDED COURSES OR KNOWLEDGE

RECOMMENDED PREVIOUS COURSES:

COURSE:

TOPIC:

RECOMMENDED PREVIOUS KNOWLEDGE OR   ABILITIES:

n/a

SPECIFIC OUTCOMES FOR THE COURSE

At the end of the course, the student will be able to communicate clearly and confidently, achieve objectives through effective communication, persuade and influence, and improve workplace relationships.

STUDENT OUTCOMES

• ABET_1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

• ABET_2. An ability to apply engineering design to produce solutions that meet specified needs with consideration fo public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

• ABET_3. An ability to communicate effectively with a range of   audiences

• ABET_5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

• ABET_6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions

• ABET_7. An ability to acquire and apply new knowledge as needed using appropriate learning strategies

BIBLIOGRAPHY

TEXT BOOKS

Say it with presentations (Revised and Expanded, 2006). Autor: Gene Zelazny. Editorial: Mc Graw Hill.

Say it with charts (4 ed., 2001). Autor: Gene Zelazny. Editorial: Mc Graw Hill.

Guide to managerial communication (7 ed, 2005). Autor: Mary Munter. Editorial: Prentice Hall.

OTHER MATERIALS

Case studies from Harvard Business Publishing Education platform

Notes available to students on Moodle platform

55000061 – CORPORATE SOCIAL RESPONSABILITY

CREDITS:	3 ECTS
DEPARTMENT:	Organization Engineering, Business Administration and Statistics
COURSE COORDINATOR:	Ana Moreno Romero
TYPE:	Competences
YEAR AND SEMESTER:	1° GIO or 4° GITI, GIQ, GIEN, GIO

LIST OF TOPICS

MODULE 1. CSR and society

MODULE 2. CSR and companies

MODULE 3. CSR and professionals

RECOMMENDED COURSES OR KNOWLEDGE

SPECIFIC OUTCOMES FOR THE COURSE

Corporate Social Responsibility is an issue that is gaining more importance every day both in society and in the company, becoming one of the important topics on the agenda of managers.

Through this course, the aim is to introduce to the students some of the main ideas of CSR, as well as to open their vision of such a complex issue from different areas, such as society, the company and the professionals themselves.

It is also intended to provoke reflection and debate on the different ways of applying what is seen in the theory, so that at the end of the course the student has been able to deepen, depending on their previous knowledge and interests, in the different CSR issues.

STUDENT OUTCOMES

• ABET_2. An ability to apply engineering design to produce solutions that meet specified needs with consideration fo public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
• ABET_3. An ability to communicate effectively with a range of audiences
• ABET_5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
• ABET_7. An ability to acquire and apply new knowledge as needed using appropriate learning strategies

BIBLIOGRAPHY

TEXT BOOKS

Moreno, A, Uriarte, L.M., Topa, G., 2009, La Responsabilidad Social Empresarial. Oportunidades estratégicas, organizativas y de recursos humanos, Pirámides.

OTHER MATERIALS

Resources at moodle

55000063 – LEADERSHIP

CREDITS:	3 ECTS
DEPARTMENT:	Organization Engineering, Business Admnistration and Statistics(MAS)
COURSE COORDINATOR:	GÓMEZ FRÍAS, VÍCTOR
TYPE:	
YEAR AND SEMESTER:	OPTIONAL, 4TH YEAR, 2nd SEMESTER

LIST OF TOPICS

1. Basis of leadership
1.1. What is a leader?
1.2. Characteristics of a leader
1.3. Leadership and management
2. Classical theories of leadership
2.1. Trait theory
2.2. Behavioral theories
3. Contingency Theories
3.1. Fiedler model
3.2. Hersey and Blanchard's Situational Leadership
3.3. Theory of the goal path
4. Inspirational Leadership
4.1. Transformational leadership
4.2. Transactional leadership
4.3. Visionary and charismatic leadership
5. Teamwork
5.1. Understand yourself
5.2. Understand others
5.3. Oral communication

RECOMMENDED COURSES OR KNOWLEDGE

- NONe

SPECIFIC OUTCOMES FOR THE COURSE

At the end of the course, the student will be able to (or will have ability for):

CG 10 - Creativity.
CG 3 - Apply the knowledge acquired to identify, formulate and solve problems in broad contexts, being able to integrate working in multidisciplinary teams
CG 5 - Communicate knowledge and conclusions, both orally and in writing, to specialized and non-specialized audiences clearly and unambiguously
CG 9 - Organization and planning of projects and human teams. Teamwork and leadership skills

STUDENT OUTCOMES

RA174 - Group presentation and discussion of results
RA37 - Define, analyze and optimize processes and tasks
RA167 - Plan the work to use the available time rationally and efficiently
RA68 - Foster the spirit of teamwork.
RA55 - Ability to use both general and technical vocabulary with precision

BIBLIOGRAPHY

TEXT BOOKS

Liderazgo. La esencia Bibliografía

Total Leadership: Be a better leader, have a Richer Life

Exploring Leadership: For college students who want to make a difference

OTHER MATERIALS

Harvard Business Review

55000068 – Dynamic Web Development

CREDITS:	3 ECTS
DEPARTMENT:	Control, Electrical and Electronics Engineering and Industrial Informatics (AEE)
COURSE COORDINATOR:	Angel Garcia Beltran
TYPE:	Competences
YEAR AND SEMESTER:	4th Year / Fall

LIST OF TOPICS

MODULE 1. Active Client Pages
Databases
XHTML5
Cascade Style Sheets
JavaScript
JQuery Library

RECOMMENDED COURSES OR KNOWLEDGE

RECOMMENDED PREVIOUS COURSES:

COURSE   Computer Science

MODULE 2. Active Server Pages
XAMP
PHP
MySQL

TOPIC: Programming Fundamentals

RECOMMENDED PREVIOUS KNOWLEDGE OR ABILITIES:

- Pre graduate mathematical knowledge and basic computer skills
- Familiarity with the basics of programming

SPECIFIC OUTCOMES FOR THE COURSE

At the end of the course, the student will be able to (or will have ability for):

- Define and describe the technologies used in Web Development
- Know the software tools to design and develop a web application
- Get the ability to implement a database web system

STUDENT OUTCOMES

- ABET_5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- ABET_6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions
- ABET_7. An ability to acquire and apply new knowledge as needed using appropriate learning strategies

BIBLIOGRAPHY

TEXT BOOKS

OTHER MATERIALS
- Documents and resources available in AulaWeb and other sources

55000070 – Computer Aided Design CAD

CREDITS:	**3 ECTS**
DEPARTMENT:	Mechanical Engineering
COURSE COORDINATOR:	Rosa María Scala Hernández-Vaquero
TYPE:	OPTIONAL
YEAR AND SEMESTER:	4th year 7th semester

LIST OF TOPICS

MODULE 1. Introduction to Solid-Edge. First steps.

MODULE 2. 3D model of a part

MODULE 3. Drafts according to Technical Drawing stardards

MODULE 4. Assemblies

MODULE 5. Additional concepts. Variables. Motors. Exploded views. Elaborate videos

RECOMMENDED COURSES OR KNOWLEDGE

RECOMMENDED PREVIOUS COURSES:

COURSE:

Technical Drawing

TOPIC:
Standards for Technical Drawing

RECOMMENDED PREVIOUS KNOWLEDGE OR ABILITIES:
Basic concepts of standards for drafts in technical drawing

SPECIFIC OUTCOMES FOR THE COURSE

At the end of the course, the student will be able to (or will have ability for):
- Manage different environments of a CAD program.
- Design a part.
- Design an assembly.
- Elaborate drafts for a part or an assembly according to Technical Drawing standards.
- Manage additional concepts like simulate a motion for an assembly or design using variables.

STUDENT OUTCOMES

• ABET_1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

• ABET_3. An ability to communicate effectively with a range of audiences

Course Syllabi. Elective (Profile I)

BIBLIOGRAPHY

TEXT BOOKS: No text books are needed

OTHER MATERIALS: Moodle, with PDF containing al information needed and tutorial videos specifically recorded for the subject with all the contents