

# Project Management and Soft Skills

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**Office Hours:**  
**Monday 4 – 6 pm**  
**(upon agreement!)**

**A.Y. 2016-17**  
**Credits: 3**

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# Learning Outcomes

The student will learn how to acquire the necessary skills to be a ***successful engineer***.

In particular, ***non-technical (a.k.a. soft) skills*** are discussed; among them, emphasis will be given to inductive/deductive/analytical/design ***reasoning***, to ***communication skills*** and ***employability***.

Moreover the student will learn how to use the basic tools of ***project management***, including GANTT and PERT diagrams, workpackage breakdown, project cost estimation, and relevant aspects.

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# 1. Success

# Success

## Goals, and a roadmap

# Success

**Goals, and a roadmap**

**Talent**

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## 2. Engineer

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# Engineer

**An attitude**

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# Engineer

**An attitude**

**A limit, and a strength**

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# 3. Soft Skills

# Soft Skills

Manpower Group released in 2015 the result of a survey on 40 000 Italian companies:

## Soft Skills for Talent

Limiting the analysis to ICT/Telecommunications companies, the survey shows that, according to their employees, talent depends on:

technical knowledge in **37%** of cases

soft skills and motivation in **63%** of cases

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# Soft Skills

Manpower Group released in 2015 the result of a survey on 40 000 Italian companies:

## Soft Skills for Talent

Extending to all companies, the survey shows that, according to their employees, talent depends on:

technical knowledge

in **30-45%** of cases

soft skills and motivation

in **55-70%** of cases

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# Soft Skills

A term often associated with a person's EQ (Emotional Intelligence Quotient).

It includes the cluster of personality traits, social graces, communication, language, personal habits, interpersonal skills, ability in managing people, leadership, etc., that characterize **relationships with other people**.

Soft skills contrast to **hard skills**, which are generally easily quantifiable and measurable (e.g. software knowledge, etc.).

Soft skills are **non-technical**.

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# Soft Skills / 0

- **Cognitive**
    - problem solving
    - creativity
    - ...
  - **Managerial**
    - multitasking
    - project management
    - ...
  - **Relational**
    - communication
    - leadership
    - team working
    - ...
  - **Personal**
    - adaptability
    - ...
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# Soft Skills / 1 (Dublin Descriptors)

Cycle descriptors adopted in 2005 as the Qualifications Framework of the European Higher Education Area.

They offer generic statements of typical expectations of achievements and abilities associated with awards that represent the end of each of a (Bologna) cycle or level.

A level descriptor includes the following five components:

- Knowledge and understanding
  - Applying knowledge and understanding
  - **Making judgements**
  - **Communication**
  - **Lifelong learning skills**
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# Soft Skills for Engineers / 2 (ABET)

- Ability to apply knowledge of math, science, and engineering
  - Ability to design and conduct experiments, analyse/interpret data
  - Ability to design a system, component, or process to meet req.s
  - **Ability to function within multi-disciplinary contexts**
  - **Ability to identify, formulate, and solve engineering problems**
  - **Understanding of professional ethical responsibility**
  - **Ability to communicate effectively**
  - **Ability to assess the impact of solutions in a societal context**
  - **Ability to engage in life-long learning**
  - **Knowledge of contemporary issues**
  - **Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice (including project management tools).**
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# Soft Skills for Engineers / 3

- **Inclination to team work**
  - **Inclination to timeliness and precision**
  - **Adaptability**
  - **Leadership**
  - **Ability to orient decisions in the short, medium and long term**
  - **Ability to find and maintain a job position (employability)**
  - **Ability to find and manage resources**
  - **Ability to estimate the cost of products, and processes**
  - **Ability to account for administrative and legal issues**
  - **...**
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## Soft Skills

**“We are looking for  
brilliant young people.  
Not necessarily good students.”**

*An experienced trainer.  
She trains toward entrepreneurship.*

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# Soft Skills

**“Hard skills are the foundation  
of a successful career.  
But soft skills are the cement.”**

***Dorothy Dalton.  
International Talent Management Strategist.***

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# Soft Skills

**Success**

**Talent**

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# Soft Skills

**Success**

**Talent**

**Self Awareness**

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# Soft Skills

**Success**

**Talent**

**Self Awareness**

**SWOT Analysis**

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# 4. Reasoning

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# Reasoning

**Tell me *how* you think,  
I'll tell you who you are**

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# Reasoning

**DIDA – Are you more prone to**

**Deductive reasoning,  
Inductive reasoning,  
Design, or  
Analysis**

**?**

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# 5. Communication Skills

# Communication Skills

## Written

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# Communication Skills

**Written**

**Oral**

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# Communication Skills

**Written**

**Oral**

**Gestural**

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# 6. Employability

# Employability

## How to find a job position

# Employability

**How to find a job position**

**How to maintain it!**

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# 7. Project Management

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# Project Management

## Projects

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# Project Management

## Projects

**Any Activity in Professional Life**

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# The Course: Syllabus

See file “PMSS – Syllabus”  
on instructor’s webpage:

[www.robertoverdone.org](http://www.robertoverdone.org)

- Courses
  - Project Management and Soft Skills
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# The Course: Syllabus

<b>Introduction</b>	<b>2</b>	
Test #1		
<b>Project Management</b>	<b>6</b>	
<b>On the Job</b>	<b>6</b>	
<hr/>		
<b>A 360 Degree Engineer</b>	<b>3</b>	} shorter?
<b>Sensing the World</b>	<b>3</b>	
<b>The Context</b>	<b>3</b>	
<b>How Many Engineers we have</b>	<b>3</b>	
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<b>Consolidating Concepts</b>	<b>7</b>	
Invited speakers		

# The Course: Material

Slides and templates  
on instructor's webpage:

[www.robertoverdone.org](http://www.robertoverdone.org)

- Courses
- Project Management and Soft Skills

Audio Records of classes

through shared *dropbox* folder – some of you to set it, and share  
with instructor and classmates

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# The Course: Exam

The student will undergo an oral exam. Prior to the date of the exam the student will deliver via email to the instructor:

- 1) a one page **report** of a freely selected lecture, following the template provided by the instructor
- 2) a three page **project proposal**, following the template provided by the instructor
- 3) A **SWOT analysis** related to his future career after graduation.
- 4) A **powerpoint presentation** in pitch style of the business idea identified, following the template provided by the instructor.

During the exam, all above items will be discussed orally.  
Team work (in groups) is appreciated.

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## Test #1

**Are you aware of yourself?**

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