Soft Skills Courses

The Courses presented below (offered in the Catalogue of the Courses of the Doctoral School in Information Engineering) are suggested to the PhD Students but the attendance does not give acquisition of useful credits.

1. Technology entrepreneurship and lean start up

Teacher: Adriano La Vopa

Email: adriano@smartangle.it


The course will follow the below schedule. Every module is divided in two sessions of 2 hours, by exception of the last module, which consists of two sessions of 3 hours and a third one which is the Dragons Den (2 hours):

<table>
<thead>
<tr>
<th>Module 1 session 1</th>
<th>Monday 04/02/2019</th>
<th>9.30-11.30</th>
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<tbody>
<tr>
<td>Module 1 session 2</td>
<td>Friday 08/02/2019</td>
<td>9.30-11.30</td>
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<tr>
<td>Module 2 session 1</td>
<td>Monday 11/02/2019</td>
<td>9.30-11.30</td>
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<tr>
<td>Module 2 session 2</td>
<td>Friday 15/02/2019</td>
<td>9.30-11.30</td>
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<tr>
<td>Module 3 session 1</td>
<td>Monday 18/02/2019</td>
<td>9.30-11.30</td>
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<td>Module 3 session 2</td>
<td>Friday 22/02/2019</td>
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<td>Module 4 session 1</td>
<td>Monday 25/02/2019</td>
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<tr>
<td>Module 4 session 2</td>
<td>Friday 01/03/2019</td>
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<tr>
<td>Module 4 Dragons Den</td>
<td>Friday 15/03/2019</td>
<td>9.30-11.30</td>
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Course requirements: familiarity with basic math.

Aim: The course aims to develop a set of entrepreneurial skills in order to bring a simple idea from the aha moment till a business model. Students will learn how to create a solid model of their business around an idea with such a potential. They will learn how to use some tools for creating their own business, how to get feedback from the market and how to pitch it to possible investors. Students will apply a learn by doing approach and will work on practical cases driven by their own motivation.

Background material: No background material is necessary. The course will be held in English.

Modules:

- **Module 1**: Business, what's this? [4 h module 2 sessions]
  In this module students will learn: how a company is governed: managers, board members, shareholders and stakeholders; some examples of businesses: start up, scale up, spin up, spin off, spin out; customer centricity versus product development; phases of company life.
• **Module 2:** Building a business? [4 h module 2 sessions]
  In this module students will learn: creating a business by means of strategic tools: Business Model Canvas and all its parts; concept of Minimum Viable Product (MVP); business metrics; Intellectual Property (IP), protection and importance.

• **Module 3:** Getting the money [4 h module 2 sessions]
  In this module students will learn: funding opportunities like crowdfunding; the equity funding; business angels and venture capital.

• **Module 4:** Role game [8 h module 2 sessions]
  - Creating a venture from students ideas: this module will consist of 6 hours that will be aiming to working on a business model, meeting the customers and creating an MVP concept to be launched on the market.
  - Dragons Den session: real case pitching of 2 hours in front of a panel that will decide or not to invest in your company.

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2. Python programming for Scientific Engineering

**Teacher:** Dr. Stefano Michieletto  
**e-mail:** michieletto@dei.unipd.it

**Timetable:** 20 hours. Class meets on Tuesday and Wednesday, 10:30 - 12:30. First lecture on Tuesday, November 20th, 2018. Room: DEI/D meeting room, Dept. of Information Engineering, DEI/D Building, 1st floor.

**Course requirements:** Backgrounds in computing with some object-oriented programming language: C++, Java, MATLAB, etc. If you are starting from scratch, please have a look at 3. or 4.

**Aim:** Python is an easy to learn and powerful programming language. Python is becoming more and more popular for scientific applications such as machine learning, integrate and interpolate numerical information, manipulate and transform data. The first objective of the course is to become familiar with Python syntax, environments and basic libraries. The learner will be guided in performing basic inferential data analyses and introduced to the application of common machine learning algorithms.

**Background material:** No background material is necessary. The course will be held in English.

**Modules:**

- **A Quick Tour of Python Language Syntax**
  - Python Basic Uses
  - What is different in Python?
• **Modules and Packages**
  - NumPy: Numerical Python
  - Pandas: Labeled Column-Oriented Data
  - Matplotlib: MATLAB-style scientific visualization
  - SciPy: Scientific Python

**References:**


   OReilly Media Inc. 2017.

   Online: https://aka.ms/BeginCodePython/downloads


5. L. Ramalho *Fluent Python*, OReilly Media Inc. 2015.

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3. **Building a Research Career: A Success Story**

**Instructor:** Professor Fabrizio Nestola, Department of Earth Sciences, Università di Padova  
**e-mail:** fabrizio.nestola@unipd.it

**Time table:** TBD. Room: TBD.

**Abstract:** Fabrizio Nestola, Full Professor in Mineralogy at the University of Padova, ERC Grant recipient, explains how to start planning a successful career as an academic or industrial researcher right from the beginning of the Ph.D.

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4. **International Funding Opportunities for Young Researchers**

**Instructor:** International Research Office, Università di Padova  
**e-mail:** international.research@unipd.it
**Time table:** TBD. Room: 318 DEI/G, Dept. of Information Engineering, DEI/G Building, 3rd floor.

**Abstract:** Presentation of the International Research Office. How to build an international career for junior researchers: examples of successful CVs in major international funding programs. Hunting for information and funding opportunities: Euraxess and Scival Funding research engines. Marie Skodowska-Curie (MSCA) program with focus on Individual Fellowships (IF) and Co-Funding of Regional, National and International Programmes (COFUND) actions. European Research Council (ERC) funding scheme with focus on Starting Grant (StG). Additional individual funding opportunities to build and support an international career. Writing an individual proposal for a post-doctoral position.

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**PhD Educational Week on Transferable Skills**

**Timetable:** TBD (sometimes in June 2019). Program: The final program will be available at the beginning of 2019. In the meantime, you may want to take a look at the program of PhDETSWeek 2018 (https://elearning.unipd.it/ufficiserviziapplicazioni/enrol/index.php?id=15, use your SSO credentials to authenticate and download the flyer).

**Aim:** the PhD Educational Week on Transferable Skills (PhDETSWeek) is a five-day event specifically conceived to help Ph.D. students to increase their soft-skills. Five main areas will be covered (one per day):

- Area 1 - Communication/Public Speaking
- Area 2 - Professional Development
- Area 3 - Entrepreneurship
- Area 4 - Personal Development
- Area 5 - Funding opportunities and writing skills