
Aspetos Profissionais e Sociais da Engenharia Informática
Licenciatura Engenharia Informática
3º ano, 2º semestre, 2023/2024
Rui L Aguiar, UA/IT

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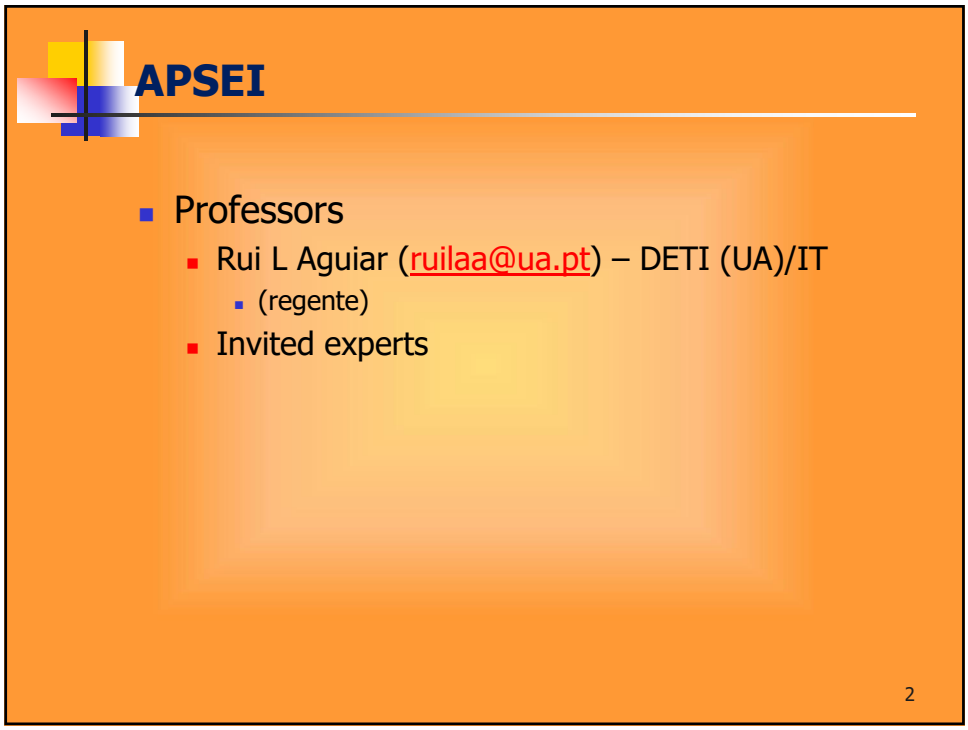
APSEI
Professors
Rui L Aguiar (ruilaa@ua.pt) – DETI (UA)/IT
(regente)
Invited experts
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Planning

- 14 weeks scheduled for theoretical/practical classes
  - Information in elearning…
    - Multiple changes to what is being expected
    - Classes with invited speakers
  - English language in slides

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Draft Program

Content order, date and session <u>will be adjusted weekly.</u>
Invited speakers will potentially force reorder of the classes.

Information in e-learning, updated regularly.

	15/fev	**Not used**
1	16/fev	Apresentação. Introdução à cadeira e ao seu funcionamento. Especificação do trabalho individual 1
	22/fev	2x Discussão sobre o trabalho individual 1
2	23/fev	Ecossistema de engenharia informática e comunicações.
	29/fev	**Not used** - deadline for delivery for W1
3	1/mar	PI, marcas, registos
		2x Discussão dos resultados do trabalho 1
	7/mar	2x Especificação do trabalho 2
4	8/mar	Open Source. Standards
	14/mar	**Probably not used:** Duvidas sobre o trabalho 2.
5	15/mar	AI: recomendações, bias
	21/mar	2x Discussao do trabalho 2
6	22/mar	cibersegurança
	4/abr	Full time: Apresentações sobre o trabalho 2
7	5/abr	GPDR
	11/abr	2x Especificação de Trabalho de grupo 3
8	12/abr	Impostos - finanças individuais e escolhas
	18/abr	2x Trabalho de grupo 3 - duvidas
9	19/abr	Redes e sistemas sociais
10	26/abr	Apresentações dos alunos sobre o trabalho 3 (?)
	9/mai	Especificação do trabalho de grupo final - PI (?)
11	10/mai	Redes e sistemas sociais: o valor da dimensão
	16/mai	2x Discussão sobre o trabalho de grupo final
12	17/mai	O dominio dos hyperscalers: o valor dos dados
	23/mai	Full time: Apresentações do trabalho final
13	24/mai	Apresentações do trabalho final
14	31/mai	Exame?

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Rules of the course

- No way one course provides you with all the information you need for becoming a successful engineer.
- Classes are oriented towards providing the scope of the topic.
- Course will be run under the understanding that you will look for added information along the topics
  - Books (some in elearning)
  - Material on Internet
  - Discussions with experienced professionals.

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Classes

- Classes will comprise
  - Expositions
  - Invited presentations
  - Practical examples
  - Discussions on the practical works
  - Times for the classes may change
    - Warnings on e-learning
    - Friday should always be used for EVERYONE.
    - Thursday Schedule will be not always used.
      - When used, the Schedule may be continuous between the two classes, for students to present their materials
      - "Discussion of results" is also a class with teaching material

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Evaluation criteria

- Five different evaluations moments:
  - Online test to be performed during classes: 25%
  - Individual practical work 1 : 10%
  - Group practical works 2 : 15%
  - Group practical work 3 : 20%
  - Group practical work 4 : 30%

Work	#	Deadline	Time	evaluation
1	(1)	29th Feb	14 (7) days	Report (individual)
2	(2)	4th Apr	28 days	Report
3	(2)	26th Apr (?)	14 days	Presentation + Handouts
4	(4-6)	23rd May	14 (?) days	Presentation + Report

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Organization

- All information to be displyed in e-learning
  - Announcements
  - Classes handoout
  - Practical works
  - Evaluation and grades
- Summaries in paco.

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Objectives

- The purpose of this discipline is to provide a general overview about the profession of an informatics engineeer and his relation with society.
- Overall perspective of different professional aspects of being an engineer in Informatics.
  - Students should be able to deal with the following aspects:
    - Possible social impacts of the use of informatic products and services.
    - Possible attitudes towards the challenges of the profession and its personal implications.

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Definitions

- Social:
  - *adjective*: social
    1. relating to society or its organization.
- Society:
  - *noun*: society
    1. the aggregate of people living together in a more or less ordered community

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Definitions

- Professional:
  - *adjective*: professional

    1. relating to or belonging to a profession.

    2. engaged in a specified activity as one's main paid occupation rather than as a pastime
- Informatics Engineering:
  - *South Europe:* engineering discipline most commonly known in English as Computer Science & Engineering.

    1. Both computer science (CS) and computer engineering (CE) *are tech-intensive fields oriented around computer and information systems*

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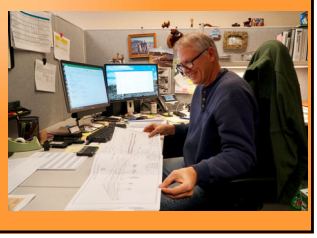
So, the scope is….



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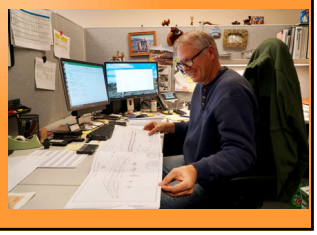
So, the scope is....



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So, the scope is....

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So, the scope is….

Technical aspects are often dominant on these situations – but also policy and values

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Lets talk about….

OpenAI

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ChatGPT

- Chat Generative Pre-trained Transformer
  - Chatbot, based on previous GPT-3 models
  - Started Nov 2022
  - Class of AI algorithm
    - Uses supervised + reinforcement learning
    - Human effort in pre-training
    - Used MS Azure for model development
    - RL ongoing based on users.
  - Qualities?
  - Limitations?

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Qualities? Problems/limitations?

(built in class with students)

Good

- Personalized responses
- Practical and Fast
- Free Tier
- Learning tool
- Image generator
- Supporting diferent programming languages
- Surrogate partner/ company/therapeut

Bad

- Hallucinations
- Copyright material (in training)
- Cannot run locally
- "Near-misses"
- Free tier is outdated
- "Heavy regulated" (?)
- Hard to train (impossible locally)
- Danger to some professions
- Implicit bias (… as the Internet)

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Assigment 1 – Part 1 - individual

Should students be allowed to use chatGPT in this course (APSEI)?

- If yes, should students be *expected* to use chatGPT?
- If yes, should students be *incentivized* to use chatGPT in which way?
- If no, why not?
- And can/should ***professors*** follow the same rules as the students?

NOTES:

- The important aspect is the application to APSEI. "Generic answers" are not welcomed.
- *There is another question in this assignment. The second part will be presented next week in the practical class*.
- Typical size expected: 4-8 A4 pages (total for both answers)
- **DEADLINE for both parts: 29th February**

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