UAB
Universitat Autònoma de Barcelona

2022/2023

Research Methods and Technology Transfer

Code: 43087
ECTS Credits: 6

Degree	Type	Year	Semester
4314099 Computer Vision	OB	0	2

Contact

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External teachers

Carlos David Esteban Nieto

David Merino

Joaquim Clara Rahola

Use of Languages

Principal working language: english (eng)

Prerequisites

Degree in Engineering, Maths, Physics or similar

Objectives and Contextualisation

Module Coordinator: David Merino

In Research and Technology transfer management, we introduce the students to the proper use of the tools at its disposal to carry out the research process in computer vision. The module covers the use of planning tools, location of meaningful information, literature review and statistical analysis of data. In addition, the module also provides content associated with technology transfer of research results to society. It introduces various forms of entrepreneurship, the development of business plans, financing, and the range of options available for the protection of research results.

Competences

- Accept responsibilities for information and knowledge management.
- Apply the research methodology, choose the techniques and information sources and organise the specific resources for research in the field of computer vision.
- Continue the learning process, to a large extent autonomously.
- Define and apply in detail the process of technology transfer for innovation in the field of computer vision.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Understand, analyse and synthesise advanced knowledge in the area, and put forward innovative ideas.

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- Work in multidisciplinary teams.

Learning Outcomes

1. Accept responsibilities for information and knowledge management.
2. Continue the learning process, to a large extent autonomously.
3. Identify the most appropriate procedure or tool for transferring research findings, and their protection and business plan.
4. Identify the product that can be transferred on the basis of research results.
5. Know the techniques for the statistical analysis of research results.
6. Plan a research project on the basis of a problem that has been formulated and a working hypothesis.
7. Prepare a complete review of the literature related to solving a formulated problem.
8. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
9. Understand, analyse and synthesise advanced knowledge in the area, and put forward innovative ideas.
10. Work in multidisciplinary teams.

Content

The course will be divided in 4 different topics, with specific activities that will be assessed at the end of each module. Essentially the syllabus will be:

- Entrepreneurship and business plan
    Presentation and Introduction
    Concepts
    Creative Process
    The Entrepreneur
    Idea + Team + Funding
    The Business Model
    The Lean Startup
    The Business Plan
    Funding
- Public funding of research projects
- Intellectual property: Patents, copyright and registered trademarks
- Tools associated to research: data analysis, project planification and the process of reviewing the state-of-the-art.

Methodology

The teaching methodology will be based in the continuous assessment of a set of activities that will be provided in the virtual campus. This is an activity based online course, where the student fix his own pace and he decides when he dedicates his time to the module. There are only specific deadlines for delivering the activities. Essentially the student will be provided by:

- A set of learning resources: video lectures, pdf documents and examples.
- Specific delivery instructions for each activity.

The student is supposed to visualize the video lectures and resources, and ask any doubt in the forum boards of the course. The active participation in the forum, asking questions, answering questions from other students and posting opinions in the open debates is highly recommended in the course.

The student will have academic tutors that will answer your questions in the forum boards, and they will guide him through the learning process. Many of the activities delivered will be corrected and appropriate feedback will be provided.

The nature of this course is very challenging, and one of the key competences in the module is the delivering of successful oral presentations. Students should prepare an appropriate environment to record themselves delivering oral presentations. The basic methodology of the course is learning practicing.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Autonomous			
Entrepreneurship: 1 Presentation and Introduction	1	0.04	1, 9, 10
Entrepreneurship: 2 Concepts	4	0.16	1, 9, 10
Entrepreneurship: 3 Creative Process	5	0.2	1, 9, 4, 8, 2, 10
Entrepreneurship: 4 The Entrepreneur	5	0.2	1, 9, 2, 10
Entrepreneurship: 5 Idea + Team + Funding	5	0.2	3, 4, 10
Entrepreneurship: 6 The Business Model	5	0.2	1, 6, 3, 10
Entrepreneurship: 7 The Lean Startup	5	0.2	6, 3
Entrepreneurship: 8 The Business Plan	5	0.2	1, 6, 10
Entrepreneurship: 9 Funding	5	0.2	3

Assessment

The final marks for this module will be computed with the following formula:

Final Mark = 0.4 x Entrepreneurship + 0.1 x Public Funding + 0.1 x Intellectual property + 0.2 x Data analysis + 0.1 x Project planning + 0.1 x Review of the state-of-the-art

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Data analysis	20%	10	0.4	5
Entrepreneurship: Deliverables	40%	50	2	1, 9, 6, 3, 4, 8, 2, 10
Intellectual property, patents, copyright and trademarks	10%	10	0.4	3, 4
Literature review and composition of the state-of-the-art	10%	20	0.8	7
Project planning	10%	10	0.4	6
Public Funding of Research Projects	10%	10	0.4	3

Bibliography

The materials located in space Classroom resources will help further the goals of the course.

The tutors will use the Message Board, which is classroom space communication, and will provide documents and other information to complement previous and explanatory videos on specific topics.

Software

None