COORDINATION PROCESS OF
LEARNING ACTIVITIES
PR/CL/001

INTERNATIONAL
CAMPUS OF
EXCELLENCE

POLITÉCNICA

E.T.S. de Ingenieros
Informaticos

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

103001023 - Strategic Management & Entrepreneurship

DEGREE PROGRAMME

10AM - Master Universitario En Ingenieria Del Software

ACADEMIC YEAR & SEMESTER

2023/24 - Semester 2

Index

Learning guide

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1. Description

1.1. Subject details

Name of the subject	103001023 - Strategic Management & Entrepreneurship
No of credits	4 ECTS
Type	Optional
Academic year ot the programme	First year
Semester of tuition	Semester 2
Tuition period	February-June
Tuition languages	English
Degree programme	10AM - Master Universitario en Ingenieria del Software
Centre	10 - Escuela Tecnica Superior De Ingenieros Informaticos
Academic year	2023-24

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Claudio Antonio Feijoo Gonzalez (Subject coordinator)		claudio.feijoo@upm.es	- -

* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

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3. Prior knowledge recommended to take the subject

3.1. Recommended (passed) subjects

The subject - recommended (passed), are not defined.

3.2. Other recommended learning outcomes

- Interest in entrepreneurship and / or innovation

4. Skills and learning outcomes *

4.1. Skills to be learned

CE13 - Tener una visión de los distintos aspectos específicos y emergentes de la ingeniería del software, y profundizar en algunos de ellos

CG1 - Que los estudiantes sepan aplicar los conocimientos adquiridos y su capacidad de resolución de problemas en entornos nuevos o poco conocidos dentro de contextos más amplios (o multidisciplinares) relacionados con su área de estudio (RD)

CG18 - Capacidad de trabajar y comunicarse también en contextos internacionales

CG3 - Que los estudiantes sepan comunicar sus conclusiones y los conocimientos y razones últimas que las sustentan a públicos especializados y no especializados de un modo claro y sin ambigüedades (RD)

CG9 - Aplicación de los métodos de resolución de problemas más recientes o innovadores y que puedan implicar el uso de otras disciplinas

4.2. Learning outcomes

RA57 - Exposición y defensa de la solución propuesta de un modo claro y sin ambigüedades ante un público especializado y no especializado.

RA25 - Communication skills in public SC13, SC14, CG3, CG18 S

RA97 - The student is expected to analyse, design and develop an open innovation project in a software-related company

RA26 - Group work skill SC13, SC14, CG17 A

RA95 - The student is expected to understand the basics of strategic management in a software-related company

RA94 - Students are expected to understand and be able to use a number of very practical methods to manage innovative and entrepreneurial projects and performance indicators as part of a company or organization strategy

RA98 - The student is expected to acquire practical knowledge on entreprenership techniques such as design thinking, value proposition and lean startup in the context of software-related company

RA22 - Observing capability SC13, SC14, CG10 C

RA21 - Listening capability SC13, SC14, CG10 A

RA23 - Time organization capability SC13, SC14 K

RA24 - Conflict solving capability SC13, SC14, CG18 C

RA27 - Negotiation skill SC13, SC14, CG18 C

RA36 - Posee dotes para liderar el cambio dentro de la organización

RA37 - Está capacitado para introducir mejoras en la organización

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

5. Brief description of the subject and syllabus

5.1. Brief description of the subject

Summary ? Course description

After completing the course, students are expected to understand and be able to use a number of very practical methods to manage innovative and entrepreneurial projects and performance indicators as part of a company or organization strategy.

This subject departs from the idea that the new methods originated in the entrepreneurial arena in the last decade can be extremely useful for managers as they allow to understand the customer better and from the start, rapidly adapting any theoretical project to realistic metrics, acknowledging the fact that innovation and business models are created in a learning process, and that innovation can be ?engineered? to increase the chances of success of any organization.

From a strategic perspective, organizations need to use new approaches to innovation and entrepreneurship to guarantee their competitive advantages in the mid to long term. Open innovation schemes or lean approaches to customers have become key elements of a renewed strategic management.

The course consists of several parts. It starts with an introduction to a revisited strategic management, including economic foundations and the increasingly relevant role of innovation and entrepreneurship. From here a number of cases and projects will be selected for the students to team work on them. All the projects will loosely follow the lean approach to innovation using methodologies such as creative thinking, value creation, ecosystem analysis, business model canvas and lean startup. It will also include practical sessions about other aspects of the strategic management with a view on (open) innovation and entrepreneurship such as the role of organizational structure, technology, communication, IPR and internationalization.

The course will emphasize the practical side of the tools and will introduce related key concepts on the innovation / entrepreneurial ecosystems with a particular focus on software-related companies.

During the course, students will team work in a practical project of their own that will be presented, discussed and evaluated in a final pitch session.
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Objectives and requirements

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This is a practical graduate-level course on tools and methodologies for strategic managers based on new developments in entrepreneurship and innovation.

There are three major objectives of this course: (i) to provide students with some conceptual and practical tools to improve their strategic management skills in particular on innovation-related projects and situations; (ii) to provide students with the general rationale and ordered logical steps when approaching innovation from a strategic management perspective; (iii) to provide hands-on knowledge on tools, methods and approaches to tap on innovation and entrepreneurship from the perspective of strategic management.

Students are recommended to enjoy practical interest in innovation and entrepreneurship. Ideally, they should have an innovation strategy for a company or organization of their own, although this is not a strict requisite since during first classes some cases will be provided for the students so they can choose.

Sessions will include work on projects to be developed and discussed during the classes. Therefore, it is highly recommendable to bring a laptop or tablet with basic applications (word processor, presentation software, spreadsheet) and Internet connection. Students are also requested to read the references assigned to each session and to provide results for the assignments.

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Programme & Schedule

NB: This is a tentative programme. The topics are indicative. Program might be modified depending on the interest of students about the subjects covered, on the level and depth of the discussion, and on the availability of the possible invited lecturers.

Session Time Subject

1 2h Introduction to the course. Presentation of students (background and motivation). Program, assignments and evaluation. Background: The increasing relevance of innovation and entrepreneurship.

2 2h What it is strategy? How to study strategy? The evolution of strategy. Economic foundations of strategy. The role of innovation and entrepreneurship in strategy

3 2h Individual work assignment

4 2h Economies of scale and scope. Sources of economies of scale and scope. Diseconomies of scale. The learning curve. Diversification.

5 2h Value network. Make vs. buy. Integration.

6 2h Innovation and Entrepreneurship ecosystem

7 2h Industry analysis. Competition and cooperation

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8 2h The role of innovation. Types of innovation. Open innovation.

9 2h Idea market. Team setting and assignment

10 2h Entrepreneurship: concepts

11 2h Cases in strategic management & entrepreneurship. Design thinking

12 2h Strategic positioning. Competitive advantage. Value creation.

13 2h DNA of a project.

14 2h Value proposition canvas

15 2h Testing & experimenting. Customer development. Validated learning. Minimum viable product. Product-market fit

16 2h Experiment board.

17 2h Business and lean model canvas in a strategic setting. Tools and methodologies for high-risk, high-uncertainty environments

18 2h Lean startup and open innovation

19 2h Engaging with startups to enhance corporate innovation. Corporation entrepreneurship

20 2h Information and value creation

21 2h Sustaining competitive advantage

22 2h Open science, open software and open standards. User innovation

23 2h Preparing the pitch: How to. Pre-mortem analysis. Beyond the pitch

24 4h Visits / Guest lectures / webinars / online events from incubators, accelerators and open innovation initiatives

25 4h Workshops (pitch) for presentation and discussion of results of workgroups projects

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5.2. Syllabus

1. Introduction to the course. Presentation of students (background and motivation). Program, assignments and evaluation. Background: The increasing relevance of innovation and entrepreneurship

2. What it is strategy? How to study strategy? The evolution of strategy. Economic foundations of strategy. The role of innovation and entrepreneurship in strategy

3. Individual work assignment

4. Economies of scale and scope. Sources of economies of scale and scope. Diseconomies of scale. The learning curve. Diversification

5. Value network. Make vs. buy. Integration

6. Innovation and Entrepreneurship ecosystem

7. Industry analysis. Competition and cooperation

8. The role of innovation. Types of innovation. Open innovation

9. Idea market. Team setting and assignment

10. Entrepreneurship: concepts

11. Cases in strategic management & entrepreneurship. Design thinking

12. Strategic positioning. Competitive advantage. Value creation

13. DNA of a project

14. Value proposition canvas

15. Testing & experimenting. Customer development. Validated learning. Minimum viable product. Product-market fit

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17. Business and lean model canvas in a strategic setting. Tools and methodologies for high-risk, high-uncertainty environments

18. Lean startup and open innovation

19. Engaging with startups to enhance corporate innovation. Corporation entrepreneurship

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21. Sustaining competitive advantage

22. Open science, open software and open standards. User innovation

23. Preparing the pitch: How to. Pre-mortem analysis. Beyond the pitch

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24. Visits / Guest lectures / webinars / online events from incubators, accelerators and open innovation initiatives

25. Workshops (pitch) for presentation and discussion of results of workgroups projects

6. Schedule

6.1. Subject schedule*

Week	Classroom activities	Laboratory activities	Distant / On-line	Assessment activities
1	**Regular session in the classroom** Duration: 03:00 Lecture			
2	**Regular session in the classroom** Duration: 03:00 Lecture			
3				**Individual assignment** Individual work Continuous assessment Presential Duration: 03:00
4	**Regular session in the classroom** Duration: 03:00 Lecture			
5	**Regular session in the classroom** Duration: 03:00 Lecture			
6	**Regular session in the classroom** Duration: 03:00 Cooperative activities			
7				**Teamwork assignment** Group presentation Continuous assessment Presential Duration: 03:00
8	**Regular session in the classroom** Duration: 03:00 Cooperative activities			
9	**Regular session in the classroom** Duration: 03:00 Cooperative activities			
10	**Regular session in the classroom** Duration: 03:00 Cooperative activities			
11	**Regular session in the classroom** Duration: 03:00 Cooperative activities			
12	**Visits / guest lectures** Duration: 03:00 Additional activities			

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13	**Regular session in the classroom** Duration: 03:00 Cooperative activities			
14	**Regular session in the classroom** Duration: 03:00 Cooperative activities			
15	**Regular session in the classroom** Duration: 03:00 Cooperative activities			
16	**Project Mentoring** Duration: 04:00 Additional activities			
17				**Pitch. Teamwork presentation** Group presentation Final examination Presential Duration: 04:00 **Participation and contributions during classes** Other assessment Continuous assessment Presential Duration: 01:00

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

* The schedule is based on an a priori planning of the subject; it might be modified during the academic year, especially considering the COVID19 evolution.

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7. Activities and assessment criteria

7.1. Assessment activities

7.1.1. Assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
3	Individual assignment	Individual work	Face-to-face	03:00	40%	6 / 10	CE13 CG9 CG18 CG1 CG3
7	Teamwork assignment	Group presentation	Face-to-face	03:00	20%	5 / 10	CE13 CG9 CG18 CG1 CG3
17	Participation and contributions during classes	Other assessment	Face-to-face	01:00	20%	5 / 10	CE13 CG9 CG18 CG1 CG3

7.1.2. Global examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
17	Pitch. Teamwork presentation	Group presentation	Face-to-face	04:00	20%	/ 10	CE13 CG9 CG18 CG1 CG3

7.1.3. Referred (re-sit) examination

Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills

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Compensation work - Just for the individual assignment and participation. Teamwork is not possible to be compensated	Individual work	Face-to-face	02:00	60%	6 / 10	CE13 CG9 CG18 CG1 CG3

7.2. Assessment criteria

Evaluation criteria

The evaluation will be based on the individual assignments and teamwork:

? Individual assignment / exam: 40%

? Teamwork (including pitch / online presentation): 40%

? Contributions / participation during classes: 20%

The criteria for evaluation will be:

? Understanding of the concepts explained

? Ability to apply them in an actual strategic setting

? Contributions to discussion

? Thinking outside the box

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8. Teaching resources

8.1. Teaching resources for the subject

Name	Type	Notes
Lecture Notes	Web resource	Notes for each session
[1] Economic Foundations of Strategy, Joseph T. Mahoney, Sage Publications Inc, 2005.	Bibliography	
[2] Osterwalder, A., Pigneur, Y., & Clark, T. (2010). Business model generation: A handbook for visionaries, game changers, and challengers. Hoboken. NJ: Wiley.	Bibliography	
[3] Blank, S., & Dorf, B. (2012). The startup owner's manual. K&S; Ranch	Bibliography	
[4] Ries, E. (2011). The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses. Random House LLC.	Bibliography	
[5] Besanko, D., Dranove, D., Shanley, M., Schaefer, S. (2017). Economics of strategy. Wiley, 7th Ed.	Bibliography	
[8] Chesbrough, H. (2020). Open innovation results. Going beyond the hype and getting down to business. Oxford: Oxford University Press.	Bibliography	

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9. Other information

9.1. Other information about the subject

The subject is related to digital governance and tranformation. Therefore has some connection with SDG 16 about promoting peaceful and inclusive societies, providing access to justice for all and building effective, accountable and inclusive institutions at all levels.