

Study Plan

School: Institute for Research and Advanced Train	ing
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Degree: Doctorate

Course: Agricultural and Environmental Sciences (cód. 538)

1st Year - 1st Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
	Thesis Project in Environment Sciences	*** TRANSLATE	6	Year	156
FIT11487D		ME: Ciências			
		Agrárias e do			
		Ambiente ***			
	Methods in Scientific Research	Agricultural Scien-	3	Semester	78
ERU11488D		ces			
	Research Methods in Environment Sciences	Environmental	3	Semester	78
PAO11489D		Sciences			
Thesis	·	•			

1st Year - 2nd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
	Seminar in Advance Studies in Agricultural Sciences I	Agricultural Scien-	3	Semester	78
ZOO11490D		ces			
	Seminar in Advance Studies in Environmental Sciences I	Environmental	3	Semester	78
PAO11491D		Sciences			
Thesis	·	•			

2nd Year - 3rd Semester							
Component code	Name	Scientific Area Field	ECTS	Duration	Hours		
Thesis							

2nd Year - 4th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
	Seminar in Advance Studies in Agricultural Sciences II	Agricultural Scien-	3	Semester	78
FIT11492D		ces			
	Seminar in Advance Studies in Environmental Sciences II	Environmental	3	Semester	78
PAO11493D		Sciences			
Thesis					

3rd Year - 5th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Thesis					

3rd Year - 6th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Thesis					



4th Year - 7th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
	Complementary Thesis Activities	Agricultural Scien-	6	Year	156
FIT11494D		ces			
Thesis					

4th Year - 8th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Thesis					

Conditions for obtaining the Degree:

*** TRANSLATE ME: Para aprovação na componente curricular é necessário a aprovação (através de avaliação ou creditação) das seguintes unidades curriculares: {\} newline

{\}newline
1° Ano - 1° e 2° Semestre $\{ \ \}$ newline
5 UC Obrigatórias num total de 18 ECTS
2º Ano - 3º e 4º Semestre
2 UC Obrigatórias num total de 6 Ects{\}newline
{ \ } newline
4 ² Ano - 7 ² e 8 ² Semestre{\} newline
Unidade curricular optativa num total de 6 Ects
$\{ \setminus \}$ newline

Para obtenção do grau, é necessário também a aprovação na Tese, com um total de 210 ECTS, a decorrer no 1º, 2º, 3º e 4º Ano. ***

Program Contents

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Thesis Project in Environment Sciences (FIT11487D)

The sy llabus of this curricular unit is designed to help the student understand and scientifically summarize his (her) research objectiv es and means needed to successfully carry it out. He should learn to rev ise and lay out the state of art related to his subject matter, and clearly enunciate the objectives of his (her) study, the hypothesis and the expected results. Included topics are: a) state of art of scientific knowledge; b) def inition of objectives of scientific research and experimental work; c) scientific experimental design and related statistical methods, methodology applied and ev aluation of the necessary means, tools and instruments to successfully carry out the experimental work (in close relationship with the curricular unit Research Methods); d) expected results; e) contingency plan according to expected constraints; f) thesis timetable; g) public presentation, defense and discussion of the thesis project.

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Methods in Scientific Research (ERU11488D)

Back Research Methods in Environment Sciences (PAO11489D)



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Seminar in Advance Studies in Agricultural Sciences I (ZOO11490D)

The unit of Seminars in Advanced Studies in Agricultural Sciences I, is based on a broad scientific

basis of education. The comprehensiveness and multidisciplinarity intended are achieved by

students attending seminars focused on advanced topics in the areas of agricultural and

environmental sciences and other scientific areas such as:

- 1 Advanced analytical techniques applied to different matrices (soil, water, food, plants, tissues
- ...);
- 2 Toxicology, food quality and food safety;
- 3 Information technology and electronics in agricultural production;
- 4 Bioinformatics: sequence analysis and applications;
- 5 Behavioral, stress and well-being in animal experimentation;
- 6 Ethics in Animal Research.
- 7- Flowering and frutification physiology
- 8 Phytopathology and biotechnology
- 9 Closed soilless cultivation systems

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Seminar in Advance Studies in Environmental Sciences I (PAO11491D)

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Seminar in Advance Studies in Agricultural Sciences II (FIT11492D)

The unit of Seminars in Adv anced Studies in Agricultural Sciences II, is based on a broad scientific basis of education. The comprehensiv eness and multidisciplinarity intended are achieved by students attending seminars focused on adv anced topics in the areas of agricultural and env ironmental sciences and other scientific areas such as:

- 1 Innov ation in f ood technology, materials, processes and products;
- 2 Adv ances in precision agriculture;
- 3 Energy balance in agricultural mechanization;
- 4 Plant genomics, methods and techniques;
- 5 Standardization of animal experiments;
- 6- Animal Models Organization and management in animal experiments



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Seminar in Advance Studies in Environmental Sciences II (PAO11493D)

The unit of Seminars in Adv anced Studies in Environmental Sciences II, is based on a broad scientific basis of education. The comprehensiv eness and multidisciplinarity intended are achieved by students attending seminars f ocused on adv anced topics in the areas of agricultural and environmental sciences and other scientific areas such as:

- 1 Env ironmental and ecological quality;
- 2 Fragmentation of landscape vs biodiversity;
- 3 Biomass, biof uels, and energy efficiency
- 4 Rural world multiagent and multiobjective decision
- 5 Phy togenetic resources conservation
- 6 -production sy stems that aim to increase efficiency and decrease the negative externalities.
- 7 Spatial modeling in ecology and env ironment

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Complementary Thesis Activities (FIT11494D)

The syllabus of this curricular unit is strongly related to the supervision and support of the doctoral students and envisages the achievement and development of the competencies described in the learning outcomes of this curricular unit.

The Complementary Thesis Activities may consist of the following: realization of advanced or short courses on subjects related either to their thesis work or the achievement of transferable skills ('softskills' such as Ethics in Science, Research and Entrepreneurship, Scientific Writing); participation in conferences organized by national or international experts; organization of seminars for the dissemination of their research results; participation in scientific meetings with the presentation of communications (oral or poster); collaboration in teaching activities related to their field of specialization; participation in the elaboration of research project proposals, and other adequate activities.