



AERES
UNIVERSITY OF
APPLIED SCIENCES
DROTEN

Course catalogue

European Engineer Degree Plant Production

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2023-2025

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1 Introduction

General information	
Code	EEDP
Title	EED Plant Production
Croho	34868
ISCED Code	0812
Cycle	First
Duration	1,5 years - 90 ECTS
Academic Year	2023-2025
Mode of study	Fulltime
Language of Instruction and exams / assessments	English
Title after graduation	Bachelor of Science
Brief description of the main focus of the programme	<p>In the rapidly changing floral and food industries around the world, there is an increasing demand for managers and advisors with extensive knowledge of innovative techniques in horticulture and plant breeding, as well as a good head for business. Our double bachelor's degree programme Plant Production prepares the student for an exciting career in marketing, business, consultancy or research in the international horticultural sector.</p> <p>This 3-semester programme will provide the student a comprehensive knowledge of plant production, including first-hand knowledge of practices in the Netherlands, one of the leading countries in horticulture and plant breeding in the EU. The programme will take root at Aeres UAS in Dronten (the Netherlands) with excursions to horticultural companies, training in entrepreneurial and innovation competencies and lectures on Corporate Social Responsibility (CSR) and Quality Management Systems (QMS).</p> <p>In the second semester, at Groupe ESA in Angers, France, the student will be attending lectures on genotyping, genetics, crop protection and plant pathology, and go on excursions to various companies in the region.</p> <p>Finally, in the third semester, the student will apply all this expertise during an individual internship and a thesis.</p>
Arrangements for academic guidance	The quality of the programme is continuously being monitored and the modules may be revised yearly if needed. In addition we have a board of advisors with professionals from the professional work field to ensure that the programme keeps on meeting the needs of the world of work.

2 EED Plant Production

2.1 Course Outline EED Plant Production 2023-2025

1st semester – period 1 + 2		Code	ECTS
Week 36, 2023 – week 5, 2024			
	International Plant Production Systems In this module you will learn more about high-tech plant production systems, crop management and labour organization. Besides you will learn more about quality management and how to apply this in a company in a sustainable way. You will design a plan with international aspects and give oral and written advise. This includes professional communication with a grower, gathering and analysing data and formulate advice which are consistent with the objectives of the grower.	HPPS	13
	International Strategic Innovations in Horticulture This module is designed to train students in entrepreneurship and innovative competences. Students will be taught the necessary professional skills to apply knowledge of high-tech plant production systems, financial management and strategic product- and business management. You will design a business plan with international aspects and give oral and written advise. This includes professional communication with a grower, gathering and analysing data and formulate advice which are consistent with the objectives of the grower.	HSIH	13
1st semester – period 2 + 2nd semester – part of period 3			
Week 47, 2023 – week 6, 2024			
	Applied Research In this module the students will specialize themselves in a specific subject related to horticultural cultivations.	ALRD	8
2nd semester: Week 9, 2024 – week 26, 2024			
(in Angers, France)			
	Courses Angers	HAEP	23
Second year: Week 29, 2024 – week 5, 2025			
	Company Placement Orientation on companies and professional tasks related to the field of work of Bachelors in horticulture management.	AEGWP	20
	Thesis Execution of an agriculture related and problem-solving research related to the present or future practice of horticulture.	AAFWi	10
Whole study period			
	Personal Development At Aeres UAS we not only focus on practical and theoretical knowledge but also on personal growth. In APL4ih we will reflect on student's development and prepare students for their professional life.	APL4i	3
	Total EC		90

2.2 Matrix of final qualifications and competences

The next matrix provides an overview of the various competences you will attain after finalizing the various modules of Plant Production.

EEDP	Year 1					
	1. HPPS	2. HSIH	3. HAEP	4. ALRD	5. APL4i	TOTAAL
Final Qualifications						
1. To acquire projects and give advice in the (international) agro business and food sector	X	X	X			3
2. To design and execute applied research			X	X		2
3. To prepare a strategic business plan		X				1
4. To purchases, develop and marketing of products and services		X				1
5. To translate and apply policies	X		X			2
6. To council and communicate on areas of cultivation and product	X		X			2
7. To manage projects, processes and people			X	X		2
8. To apply and secure quality systems within the agro chain	X					1
9. To act entrepreneurial and reflect		X			X	2
Aeres competences						
1. To show leadership capabilities			X		X	2
2. To cooperate	X		X		X	3
3. To present	X		X		X	3
4. To research	X		X	X	X	4
5. To innovate		X			X	2
6. To organize			X	X	X	3
7. To introspect				X	X	2
8. To enterprise		X			X	2
9. To endorse sustainable behaviour		X	X		X	3
10. To appreciate the global perspective	X				X	2

2.3 Schedule EED Plant Production 2023 - 2025

Week		Type	International 1,5 year bachelor programme 2023-2025	Activities
36	04 Sep	L0	Introduction week	HSIH + HPPS + APL4i
37	11 Sep	L1	Start classes	
38	18 Sep	L2		
39	25 Sep	L3		
40	02 Oct	L4		
41	09 Oct	L5		
42	16 Oct		Autumn break	
43	23 Oct	L6		
44	30 Oct	L7		
45	06 Nov	T1	Exams T1 + assessments	
46	13 Nov	T1	Exams T1 + assessments	Exam period T1
47	20 Nov	L1		HSIH + HPPS + APL4i + ALRD
48	27 Nov	L2		
49	04 Dec	L3	International Week Dronen	
50	11 Dec	L4		
51	18 Dec	L5		
52	25 Dec		Christmas break 26 Dec – 9 Jan	
01	01 Jan	**		
02	08 Jan	L6		
03	15 Jan	L7		
04	22 Jan	T2	Exams T2 + assessments	Exam period T2
05	29 Jan	T2	Exams T2 + assessments	
06	05 Feb	L0		
07	12 Feb	L1	Crash course Applied research Sign in for resit T3	ALRD
08	19 Feb	L2	Crash course Applied research	HAEP: Courses in Angers
09	26 Feb			
10	04 Mar			
11	11 Mar			
12	18 Mar			
13	25 Mar			
14	01 Apr			
15	08 Apr	T3	Exams T3 + resits T1 and T2	Exam period T3
16	15 Apr	T3	Exams T3 + resits T1 and T2	Exam period T3
	End of June		Finish courses in Angers	HAEP: Courses in Angers
29/32	15 July		Summer holidays (university closed 15 July – 1 Aug)	
	July – January		Start placement and thesis (a more detailed planning of the placement and thesis will be provided during the academic year)	AEGWP AAFwi APL4i
	January 2025		Finish placement, thesis and personal development	

3 Module and module descriptors

3.1 International Plant Production Systems (HPPS)

Module overview

International Plant Production Systems (HPPS)			
Coordinator:	MSM/ALJ	Credits:	13

Elements	ECTS	Name	Mode of Exam	Period	Literature
HPPS01	3	Assessment	Assessment	2	To be found in Canvas
HPPS02	2	Course High-tech Plant Production Systems	Written exam	1	To be found in study manual
HPPS03	2	Practical Training High-tech Plant Production Systems	Report (attendance compulsory)	1	To be found in study info on Canvas
HPPS04	2	Course Product quality and Postharvest	Written exam	2	To be found in Canvas
HPPS05	2	Practical training Product quality and Postharvest	Poster (compulsory attendance)	2	To be found in Canvas
HPPS06	2	Course Crop management and labour organization	Written exam	2	To be found in Canvas

Prerequisites:	Minimum of two year bachelor program in horticulture
Occupational task:	In this module you will learn more about high-tech plant production systems, crop management and labour organization. Besides you will learn more about quality management and how to apply this in a company in a sustainable way. You will design a plan with international aspects and give oral and written advise. This includes professional communication with a grower, gathering and analysing data and formulate advice which are consistent with the objectives of the grower.
Role:	Crop consultant
Working methods:	Lectures, practical trainings, excursions, assignment
Fields of knowledge:	Goals (the student):
2. Course High-tech Plant Production Systems	<ul style="list-style-type: none"> Can select the most appropriate plant production system for a given situation. Can explain the effect of (HPS of LED) assimilation lighting and greenhouse climate on crop development. Can explain the effects of different methods for fertigation and cultivation measures on crop development. Can explain how a grower can use data from crop monitoring to adjust crop development in a desired way.
3. Practical Training High-tech Plant Production Systems	<ul style="list-style-type: none"> Is able to monitor crop growth and crop development. Is able to calculate and prepare nutrient solutions for crops from liquid or solid fertilizers. Can operate automated systems for irrigation and climate management.
4. Course Product quality and Postharvest	<ul style="list-style-type: none"> Can describe in which way some companies implement quality oriented production in horticulture. Can describe the effect of different measures on postharvest product quality. Is able to analyse the factors influencing the quality of food during harvest, transport, storage and (industrial) processing.
5. Practical training Product quality and Postharvest	<ul style="list-style-type: none"> Can perform postharvest tests. Can collect and process quality data on flowers and vegetables. Can execute an audit on QMS and CSR.
6. Course Crop management and labour organization	<ul style="list-style-type: none"> Is able to prepare a labour planning. Is able to estimate labour costs. Is able to discuss with processes should be automatized. Can evaluate different aspects of corporate social responsibility which are applicable in horticulture.

Aeres competences:

- To cooperate
- To present
- To research
- To appreciate the global perspective

Final qualifications:

- 1. To acquire projects and give advice in the (international) agro business and food sector
- 5. To translate and apply policies
- 6. To council and communicate on areas of cultivation and product
- 8. To apply and secure quality systems within the agro chain

3.2 International Strategic Innovations in Horticulture (HSIH)

Module overview

International Strategic Innovations in Horticulture (HSIH)			
Coordinator:	BKW	Credits:	13

Parts	ECTS	Name	Examination	Exam in term	Literature
HSIH01	3	Assessment	Assessment	2	To be found in study info on Canvas
HSIH02	2	Course Strategic product management	Presentation	1	To be found in study info on Canvas
HSIH03	2	Course Strategic business management	Written exam	2	To be found in study info on Canvas
HSIH04	2	Course Financial management 1	Written exam	1	To be found in study info on Canvas
HSIH07	2	Course Financial management 2	Written exam	2	To be found in study manual
HSIH08	2	Course Export management and intercultural communication	Assignment	1	To be found in study manual

Prerequisites:	Minimum of two year bachelor program in horticulture
Professional task:	Design a business plan with international aspects and give oral and written advise. This includes professional communication with a grower, gathering and analysing data and formulate advice which are consistent with the objectives of the grower.
Role:	Agricultural extension officer/ Advisor/ Entrepreneur
Methods:	Lectures, practical trainings, excursion, group work
Fields of knowledge:	Goals (the student):
2. Course Strategic product management	<ul style="list-style-type: none"> Can apply innovation as a tool to improve current situation, either in technology, product or organisation. Is able to select the right product-market combinations. Can design a plan for the introduction of a new product / a product for a new market.
3. Course Strategic business management	<ul style="list-style-type: none"> Can develop a sector vision based on found historic developments and using appropriate strategic analyse techniques (e.g. DESTEP, Porter). Can design labour planning in the specific cultivations or company setting. Can explain the outline of main topics of (European) tax legislation which are important for agricultural entrepreneurs (e.g. income, turn-over- and transfer taxes). Is able to use knowledge about EU-agricultural policy in the planning of mid- and long term farm development.
4 + 7. Course Financial management 1 + 2	<ul style="list-style-type: none"> Is able to read a financial annual report of a company. Is able to analyse the financial situation of a horticultural company. Can give a substantiated judgment about the key figures of the company based on internal and external comparison and advise the entrepreneur on optimisation of this financial technical figures.
8. Course Export management and intercultural communication	<ul style="list-style-type: none"> Can explain implications of export in relation to (EU) regulations. Can map the currently applicable laws and regulations (legislation) for production. Can apply this legislation in an organisation. Can look at, analyse, and resolve problems from the perspective of cultural differences.
Aeres competences:	
<ul style="list-style-type: none"> To innovate To enterprise To endorse sustainable behaviour To appreciate the global perspective 	

Final qualifications:

- 1. To acquire projects and give advice in the (international) agro business and food sector
- 3. To prepare a strategic business plan
- 4. To purchases, develop and marketing of products and/or services
- 5. To translate and apply policies
- 9. To act entrepreneurial and reflect

3.3 Courses Angers EED Plant (HAEP)

Courses Angers EED Plant (HAEP)			
Coördinator:	DUM & J. Houlie	Credits:	23

Elements	ECTS	Name	Mode of Exam	Period	Literature
HAEP01	5	Project management	n.a.	June 2024 (Angers)	Information by Angers
HAEP02	2	Agricultural Advice	n.a.	June 2024 (Angers)	Information by Angers
HAEP03	16	Production Management & Technology	n.a.	June 2024 (Angers)	Information by Angers

Marks delivered by Groupe ESA

Entrance requirements:	n.a.
Professional task:	Being an advisor Executing practical research Being a specialist
Role:	Advisor, researcher, specialist
Methods:	Lectures, practical training, project work
Fields of expertise:	Learning objectives (the student):
	<ul style="list-style-type: none"> Information by Angers
Aeres competencies:	
<ul style="list-style-type: none"> To show leadership capabilities To cooperate To present To research To organize To endorse sustainable behavior 	
Final qualifications:	
<ol style="list-style-type: none"> To acquire projects and give advice in the (international) agro business and food sector To design and execute applied research To translate and apply policies To council and communicate on areas of cultivation and product To manage projects, processes and people 	

3.4 Applied Research (ALRD)

Module Overview

Applied Research (ALRD)			
Coordinator:	WED	credits:	8

Elements	ECTS	Name	Mode of Exam	Period	Literature
ALRD01	4	Learning tasks and assessment – research	Assessment	3	Learning guide + info Canvas
ALRD02	2	Statistics (including use of SPSS)	Training (assessed as part of the assessment).	3	Check learning guide + info Canvas
ALRD03	2	Research methods	Written Exam	2	Jong, de J, 2017, Effective strategies for academic writing, Coutinho, Bussum, ISBN: 978 90 469 0505 0 Baarda, B., 2014, Research. This is it!, Noordhoff Uitgevers B.V., ISBN: 9789001816964

Entrance requirements:	Basic knowledge about animal husbandry or plant production based upon enrolment in international programme
Professional task:	Developing a research protocol, data collection and analysis, reporting about research results
Role:	Researcher
Methods:	Learning tasks, classes, training, excursions /company visits
Fields of expertise:	Learning objectives (the student):
ALRD01	<ul style="list-style-type: none"> Is able to collect research data and information Is able to make a critical analysis of scientific papers Is able to develop a research project plan including a protocol Is able to analyse data and draw conclusions Is able to report about research results applicable for the target group
ALRD02	<ul style="list-style-type: none"> Is able to determine different types of variables (qualitative/quantitative, dependent/independent) Is able to formulate hypotheses Is able to analyse data using the appropriate statistical method Is able to draw conclusions using the outcome of statistical analysis
ALRD03	<ul style="list-style-type: none"> Is able to justify the relevance of a research topic Is able to formulate the main research question and related sub-questions Is able to design a research methodology that fits best the research question(s) Is able to write a research project plan
Aeres competencies	
To Research, To organise, To Introspect,	
Final qualifications:	
EED Plant:	
<ul style="list-style-type: none"> To design and execute applied research To manage projects, processes and people 	
EED livestock:	
<ul style="list-style-type: none"> To design and execute applied research To develop products and services and find markets for these products and services To inform specific target groups in an interactive way To manage projects, processes and people 	

3.5 Company Placement (AEGWP)

Module Overview

Company Placement (AEGWP)					
Coordinator:		TEJ		Credits:	
				20	
Element	ECTS	Name	Mode of Exam	Period	Literature
AEGWP01	20	EED Graduation Work Placement	Placement report	2	Work Placement Manual (available on Canvas)
Entrance requirements:		First semester and first part of second semester of current Aeres educational year.			
Professional task:		The EED graduation work placement is adapted to the chosen profile of the students, in this case management in the agrifood chain, (agri)business consultancy or research institutes. The activities as performed by the student during the work placement are in line with the chosen study programme. In the placement the student is expected to operate as a young professional within a job profile that matches the programme the student is in.			
Role:		Advisor, entrepreneur, researcher, junior project manager			
Methods:		Depending on the type of placement			
Fields of expertise:		Learning objectives (the student):			
Based on own choice		<ul style="list-style-type: none"> • obtains insight into the operational practice of the placement company, and into the place of the company in its environment. • carries out a practical assignment, in a self-responsible manner. This implies that placement coaching by the company will have the characteristics of general supervision. • effectively applies current methods of research methodology and interpretation techniques. • obtains insight into relevant professional activities and the accompanying requirements for Higher Education graduates, as formulated by the company and its environment. 'Relevant' means relevant to the course of which the placement is a part. • demonstrates that he/she is proficient in a number of professional skills and competencies, as required in the course programme the student can adapt or reformulate study goals on the basis of experiences in the training period. The student conforms to these individual learning goals, set either in advance or during the training period 			
Assessment:		<ol style="list-style-type: none"> 1) Assessment by the training company (company coach) as an indicator 2) Assessment by the Professional University (university coach), based on: <ul style="list-style-type: none"> • the in-company days • the three weekly reports • the final placement report 			
Aeres competencies:					
To be chosen by the student					
Final qualifications:					
Free, depending on the assignment					

3.5 Thesis Project (AAFWi)

Module Overview

Graduation Project (AAFWi)					
Thesis Project					
Coordinator:		MOS		Credits: 10	
Element	ECTS	Name	Mode of Exam	Period	Literature
AAFWi01	10	Thesis	Report + thesis seminar	1, 2, 3, 4	<ul style="list-style-type: none"> Jong, de, J., (2017). <i>Effective strategies for academic writing, the road towards essay, paper or thesis</i>. Bussum: Coutinho. ISBN 9789046905050 Baarda, B. (2020). <i>This is research</i> Groningen: Noordhoff uitgevers. ISBN: 9789001895464 <p>Suggestion for further reading:</p> <ul style="list-style-type: none"> Kumar, R. (2014). <i>Research methodology, A Step-by-Step Guide for Beginners</i>. Sage publications Ltd. ISBN: 9781446297827
Entrance requirements:		All research modules should have been completed with sufficient marks			
Professional task:		Research topic based on own choice			
Role:		Junior professional			
Methods:		Independent research			
Fields of expertise:		Learning objectives (the student):			
Based on own choice		<ul style="list-style-type: none"> Preparation for the work environment in which the student works on professional tasks. Is able to work on and show proof of 3-4 selected Aeres competencies, based on the student's own choice, on level 3 in a professional setting. 			
Aeres competencies:		Based on own choice for the graduation phase (level 3)			
Final qualifications:		Check curriculum overview and programme profile.			

3.6 Personal Development Horticulture (APL4i)

Module Overview

Personal development (APL4i)					
Coordinator:		TEJ		Credits: 3	
Elements	EC	Name	Exam	Period	Literature
APL4i01	1	Managing competences	Report	4	Syllabus APL4i
APL4i02	2	Professional Ethics	Class discussions & assignments	23	Syllabus APL4i
			Final report	23	
Entrance requirements:		To enter the 4 th year students should have obtained 170 ECTS credits at least, from the first three years of their studies and completed all of the personal development modules from year 1 to 3.			
Professional task:		Personal Development and self-reflection			
Role:		Junior professional			
Methods:		Training, class discussions, individual assignments.			
Fields of expertise:		Learning objectives (the student):			
Personal development		<ul style="list-style-type: none"> Reflects constantly on his or her own personal- and competency development, part of the lifelong learning paradigm. 			
Professional Ethics		<ul style="list-style-type: none"> is able to formulate an opinion on important and current aspects of the professional work environment, based on own experience and norms and values or that of others, while he or she is able to separate opinion from facts. can and is willing to openly discuss and exchange ideas with others on these kinds of topics. 			
Aeres competencies:					
<ul style="list-style-type: none"> To introspect: 8 out of 10 Aeres competencies must be at level 3 (highest level). Assessed by means of final report and meeting in which students show examples of situations where they worked on improving their competencies. The examples given are based on the goals students set at the beginning of the year and halfway through year. The examples are given using the STARR method and goals are formulated according to the SMART method. 					
Final qualifications:					
<ul style="list-style-type: none"> Management and development of own professional and personal attitude and skills Effective cooperation and communication in a multi-disciplinary, intercultural environment. 					
EED Plant:					
<ul style="list-style-type: none"> 9. To act entrepreneurial and reflect 					

Klik hier als u tekst wilt invoeren.

4 Examination and Assessment Regulations 2023 - 2025

The current course regulations are in conformity with the *Examenregeling Aeres UAS Dronten* and they represent the distinguishing features of the international courses at Aeres UAS. All courses comply with the key study and qualification objectives of the curricula from which they stem. These qualifications are assumed in the courses, and the learning objectives presented here are only the specific ones, not what is Bachelor generic.

The course regulations are published online. Use the following link to find the regulations:
<https://www.aereshogeschool.nl/over-aeres-hogeschool/publieke-verantwoording/onderwijs-en-examenregeling>.



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