



**AERES**  
UNIVERSITY OF  
APPLIED SCIENCES  
DROTEN

# **ECTS Information Package European Engineer Degree Plant Production**

**2018-2020**

# Content

<b>1</b>	<b>Outline EED Plant Production 2018-2020</b>	<b>1</b>
1.1	Course Outline EED Plant Production 2018-2020	1
1.2	Matrix of competences and minors	2
1.3	Schedule EED Plant Production	3
<b>2</b>	<b>Module and module descriptors</b>	<b>4</b>
2.1	Corporate social responsibility and Quality management systems (HCQH)	4
2.2	International Strategic Innovations in Horticulture (HISH)	6
2.3	Applied Research (ALRD)	8
2.4	Company Placement (AECPL)	9
2.5	Thesis (AETHS)	10
2.6	Personal Development Horticulture (APL4iH)	11
2.7	Courses Angers EED Plant (HAEP)	12
<b>3.</b>	<b>Examination and Assessment Regulations 2018-2019</b>	<b>13</b>

# 1 Outline EED Plant Production 2018-2020

## 1.1 Course Outline EED Plant Production 2018-2020

<b>1<sup>st</sup> semester: week 36, 2018 – week 5, 2019</b>		<b>Module</b>	<b>EC</b>
	<b>International CSR and QMS in Horticulture</b> In this module you will learn more about quality management and how to apply this in a company in a sustainable way. The module will provide the basis for an employee who is responsible for quality management and gives future entrepreneurs or employees insight in the way of thinking in quality management and social responsibility.	HCQH	13
	<b>International Strategic Innovations in Horticulture</b> 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.	HSIH	13
<b>1<sup>st</sup> + 2<sup>nd</sup> semester: week 47, 2018 – week 8, 2019</b>			
	<b>Applied Research (ALRD)</b> In this module the students will specialize themselves in a specific subject related to horticultural cultivations.	ALRD	8
<b>2<sup>nd</sup> semester: Week 9, 2019 – week 26, 2019 (in Angers, France)</b>			
	<b>Courses Angers</b>	HAEP	23
<b>Second year: Week 29, 2019 – week 4, 2020</b>			
	<b>Company Placement</b> Orientation on companies and professional tasks related to the field of work of Bachelors in Horticulture Management	AECPL	20
	<b>Thesis</b> Execution of an agriculture related and problem-solving research related to the present or future practice of Horticulture.	AETHS	10
<b>Whole study period</b>			
	<b>Personal Development</b> 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.	APL4ih	3
	<b>Total EC</b>		<b>90</b>

## 1.2 Matrix of competences and minors

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

EEDP	Year 1					
	1. HCQH	2. HSIH	3. HAEP	4. ALRD	5. APL4ih	TOTAAL
<b>Final Qualifications</b>						
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
<b>Aeres competences</b>						
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

### 1.3 Schedule EED Plant Production

week		week type	EED Plant Production 2018-2019	Activities
36	3 Sept	L0	Introduction week	HCQH + HSIH + APL4iH
37	10 Sept	L1	Start classes	
38	17 Sept	L2		
39	24 Sept	L3		
40	1 Oct	L4		
41	8 Oct	L5		
42	15 Oct	L6		
43	22 Oct	**	<b>Autumn break</b>	
44	29 Oct	L7		
45	5 Nov	T1	Exams	
46	12 Nov	T1	Exams	
47	19 Nov	L1		HCQH + HSIH + APL4iH + ALRD
48	26 Nov	L2		
49	3 Dec	L3		
50	10 Dec	L4		
51	17 Dec	L5		
52	24 Dec	**	<b>Christmas break</b>	
01	31 Dec	**	<b>Christmas break</b>	
02	7 Jan	L6		
03	14 Jan	L7		
04	21 Jan	T2	Exams + assessments	
05	28 Jan	T2	Exams + assessments	
06	4 Feb			ALRD
07	11 Feb	L1		
08	18 Feb	**	EED students Plant leave for the program in Angers at ESA	
09	25 Feb	L2	Program ESA	HAEP
..	..	L3		
..	..	L4		
..	..	L5 etc.		
29	15 July		Start Placement	AECPL
..	..			
48	25 Nov		Last week of Placement	AETHS
49	2 Dec		Come back week Dronnten – feedback on thesis	
52	23 Dec		<b>Christmas break</b>	
1	30 Dec		<b>Christmas break (start 2020)</b>	
2	6 Jan			
3	13 Jan			
4	20 Jan		<b>Thesis presentation in this week</b>	
5	27 Jan		<i>Meeting Exam Committee</i>	
X	X March		<b>Graduation Angers</b>	

## 2 Module and module descriptors

### 2.1 Corporate social responsibility and Quality management systems (HCQH)

#### Module overview

International CSR and QMS in Horticulture (HCQH) (Corporate social responsibility and Quality management systems)			
<b>Coordinator:</b>	H. Schilt (SCH)	<b>Credits:</b>	<b>13</b>

Parts	ECTS	Name	Examination	Exam in term	Literature
HCQH01	3	Assessment: QMS and/or CSR analysis for a company	Assessment (compulsory attendance)	2	To be found in Study manual
HCQH02	2	Course Statistics	Written exam	1	To be found in Study manual
HCQH03	2	Course QMS and CSR in horticulture	Written exam	2	To be found in Study manual
HCQH04	2	Course Export management and intercultural communication	Written exam	1	To be found in Study manual
HCQH05	2	Course Product quality and Postharvest	Written exam	2	To be found in Study manual
HCQH06	2	Practical training Product quality and Postharvest	Poster (compulsory attendance)	2	To be found in Study manual

<b>Prerequisites:</b>	Minimum of two year bachelor program in horticulture
<b>Occupational task:</b>	In this module you will learn more about quality management and how to apply this in a company in a sustainable way. The module will provide the basis for an employee who is responsible for quality management and gives future entrepreneurs or employees insight in the way of thinking in quality management and social responsibility.
<b>Role:</b>	Quality manager
<b>Working methods:</b>	Lectures, practical trainings, excursions, external audits and external assignment
<b>Fields of knowledge:</b>	<b>Goals (the student):</b>
2. Course Statistics	<ul style="list-style-type: none"> <li>Can explain and apply important basics and concepts of statistics.</li> </ul>
3. Course QMS and CSR in horticulture	<ul style="list-style-type: none"> <li>Can explain 'quality' and its importance in the sector.</li> <li>Is able to assess a company on aspects related to quality.</li> <li>Can analyse the chain and map quality requirements.</li> <li>Is able to identify surrounding factors of an organisation and incorporate these in an improvement plan.</li> <li>Is able to identify stakeholders interests and implement these in an improvement plan.</li> <li>Can apply fundamental requirements of food safety.</li> <li>Can explain quality management systems which are applicable in horticulture.</li> <li>Can evaluate different aspects of corporate social responsibility which are applicable in horticulture.</li> </ul>

4. Course Export management and intercultural communication	<ul style="list-style-type: none"> <li>• Can explain implications of export in relation to (EU) regulations.</li> <li>• Can map the currently applicable laws and regulations (legislation) for production.</li> <li>• Can apply this legislation in an organisation.</li> <li>• Can look at, analyses, and resolve problems from the perspective of cultural differences.</li> </ul>
5. Course Product quality and Postharvest	<ul style="list-style-type: none"> <li>• Can describe in which way some companies implement quality oriented production in horticulture.</li> <li>• Can describe the effect of different measures on postharvest product quality.</li> <li>• Is able to analyses the factors influencing the quality of food during harvest, transport, storage and (industrial) processing.</li> </ul>
6. Practical training Product quality and Postharvest	<ul style="list-style-type: none"> <li>• Can perform postharvest tests.</li> <li>• Can collect and process quality data on flowers and vegetables.</li> <li>• Can execute an audit on QMS and CSR.</li> </ul>
<b>Aeres competences:</b>	
<ul style="list-style-type: none"> <li>• To cooperate</li> <li>• To present</li> <li>• To research</li> <li>• To appreciate the global perspective</li> </ul>	
<b>Final qualifications:</b>	
<ul style="list-style-type: none"> <li>• 1. To acquire projects and give advice in the (international) agro business and food sector</li> <li>• 5. To translate and apply policies</li> <li>• 6. To council and communicate on areas of cultivation and product</li> <li>• 8. To apply and secure quality systems within the agro chain</li> </ul>	

## 2.2 International Strategic Innovations in Horticulture (HISH)

### Module overview

International Strategic Innovations in Horticulture (HSIH)			
<b>Coordinator:</b>	W. ter Beek (BKW)	<b>Credits:</b>	<b>13</b>

Parts	ECTS	Name	Examination	Exam in term	Literature
HSIH01	3	Assessment: Business plan and oral advice during consultancy meeting	Assessment (attendance compulsory)	2	To be found in study manual
HSIH02	2	Course Strategic product management	Presentation	1	To be found in study manual
HSIH03	2	Course Strategic business management	Written exam	2	To be found in study manual
HSIH04	2	Course Financial management	Written exam	2	To be found in study manual
HSIH05	2	Course High-tech Plant Production Systems	Written exam	2	To be found in study manual
HSIH06	2	Practical Training High-tech Plant Production Systems	Video clip (attendance compulsory)	2	To be found in study manual

<b>Prerequisites:</b>	Minimum of two year bachelor program in horticulture
<b>Professional task:</b>	Design a strategic 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.
<b>Role:</b>	Agricultural extension officer/ Advisor/ Entrepreneur
<b>Methods:</b>	Lectures, practical trainings, excursion, group work
<b>Fields of knowledge:</b>	<b>Goals (the student):</b>
2. Course Strategic product management	<ul style="list-style-type: none"> <li>• Can apply innovation as a tool to improve current situation, either in technology, product or organisation.</li> <li>• Is able to select the right product-market combinations.</li> <li>• Can design a plan for the introduction of a new product / a product for a new market.</li> </ul>
3. Course Strategic business management	<ul style="list-style-type: none"> <li>• Can develop a sector vision based on found historic developments and using appropriate strategic analyse techniques (e.g. DESTEP, Porter).</li> <li>• Can design labour planning in the specific cultivations or company setting.</li> <li>• 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).</li> <li>• Is able to use knowledge about EU-agricultural policy in the planning of mid- and long term farm development.</li> </ul>
4. Course Financial management	<ul style="list-style-type: none"> <li>• Is able to read a financial annual report of a company.</li> <li>• Is able to analyse the financial situation of a horticultural company.</li> <li>• 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.</li> </ul>
5. Course High-tech Plant Production Systems	<ul style="list-style-type: none"> <li>• Can select the most appropriate plant production system for a given situation.</li> <li>• Can explain the effect of (HPS of LED) assimilation lighting and greenhouse climate on crop development.</li> </ul>



	<ul style="list-style-type: none"> <li>• Can explain the effects of different methods for fertigation and cultivation measures on crop development.</li> <li>• Can explain how a grower can use data from crop monitoring to adjust crop development in a desired way.</li> </ul>
6. Practical Training High-tech Plant Production Systems	<ul style="list-style-type: none"> <li>• Is able to monitor crop growth and crop development.</li> <li>• Is able to calculate and prepare nutrient solutions for crops from liquid or solid fertilizers.</li> <li>• Can operate automated systems for irrigation and climate management.</li> </ul>
<b>Aeres competences:</b>	
<ul style="list-style-type: none"> <li>• To innovate</li> <li>• To enterprise</li> <li>• To endorse sustainable behaviour</li> </ul>	
<b>Final qualifications:</b>	
<ul style="list-style-type: none"> <li>• 1. To acquire projects and give advice in the (international) agro business and food sector</li> <li>• 3. To prepare a strategic business plan</li> <li>• 4. To purchases, develop and marketing of products and/or services</li> <li>• 9. To act entrepreneurial and reflect</li> </ul>	

## 2.3 Applied Research (ALRD)

### Module Overview

Applied Research (ALRD)			
<b>Coordinator:</b>	J.D. Westrik (WED)	<b>Credits:</b>	<b>8</b>

Module elements	ECTS	Name	Mode of Exam	Exam in Period	Literature
ALRD01	4	Learning tasks and assessment – research	Assessment	T3	Learning guide + info blackboard
ALRD02	2	Statistics (including use of SPSS)	Training	T3	Check module workbook
ALRD03	2	Research methods	Training	T2	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

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

## 2.4 Company Placement (AECPL)

### Module Overview AECPL

Company Placement (AECPL)					
<b>Coordinator:</b>		H. Schilt (SCH)		<b>Credits:</b>	
				20	
Module elements	EC	Name	Exam	Period (week)	Literature
AECPL	20	Company Placement	Assessment + Competence dossier	T2	Module book Company placement
<b>Entrance requirements:</b>	First semester and first part of second semester of current Aeres educational year.				
<b>Professional task:</b>	<ul style="list-style-type: none"> <li>the practical application of knowledge</li> <li>insight into their chosen area of study</li> <li>professional skills related to their chosen area of study</li> </ul>				
<b>Role:</b>	Advisor and Entrepreneur				
<b>Methods:</b>	Application				
<b>Fields of expertise:</b>	<b>Learning objectives (the student):</b>				
	<ul style="list-style-type: none"> <li>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.</li> <li>Effectively applies current methods of research methodology and interpretation techniques.</li> <li>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.</li> <li>Demonstrates that he/she is proficient in a number of professional skills, as required in the course programme.</li> <li>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.</li> </ul>				
<b>Assessment:</b>	Assessment by the Professional University (university coach), based on: <ul style="list-style-type: none"> <li>the in-company days (for students with placement in The Netherlands)</li> <li>the three weekly reports (the student will receive written feedback on these reports)</li> <li>the final placement report for university coach and company</li> </ul>				
<b>Aeres competences:</b>					
<ul style="list-style-type: none"> <li>To be chosen by student.</li> </ul>					

## 2.5 Thesis (AETHS)

### Module Overview

Thesis (AETHS)					
<b>Coordinator:</b>	ROH, SCH, TEJ			<b>Credits:</b>	<b>10</b>
<b>Module elements</b>	<b>EC</b>	<b>Name</b>	<b>Exam</b>	<b>Period (week)</b>	<b>Literature</b>
AETHS	10	Thesis	Thesis report	T2	Thesis manual
<b>Entrance requirements:</b>	Three years of study and/or relevant Bachelor for the specific programme				
<b>Professional task:</b>	<ul style="list-style-type: none"> <li>• Executing an assignment</li> <li>• Writing an academic research report (thesis)</li> <li>• Organising and presenting a seminar</li> </ul>				
<b>Role:</b>	Researcher				
<b>Methods:</b>	Desk research, field research, report writing, report presentation				
<b>Fields of expertise:</b>	<b>Learning objectives (the student is able to):</b>				
Research methods and techniques	<ul style="list-style-type: none"> <li>• Formulate and demarcate a research problem well</li> <li>• Identify a target group for which the research is relevant, and for which the outcome will apply</li> <li>• Synthesise previously acquired knowledge with new findings, or the adaptation of such knowledge to specific conditions</li> <li>• Demonstrate the applicability of the results</li> <li>• Formulate conclusions and recommendations for the selected target group</li> <li>• Write a research report according to the report writing rules</li> <li>• Orally present the research results in a structured and engaging manner</li> <li>• Adequately react in the discussion following the research results presentation</li> </ul>				
Assessment	Thesis report and thesis seminar (presentation)				
<b>Aeres competences:</b>	<ul style="list-style-type: none"> <li>• To be chosen by student.</li> </ul>				

## 2.6 Personal Development Horticulture (APL4iH)

### Module Overview

Personal development Horticulture (APL4iH)					
Coordinator:		I. van Meggelen (MEI)		Credits:	
				3	
Module elements	EC	Name	Exam	Period	Literature
APL4ih01	1	Managing competences	Report	2 (year 2)	Syllabus APL4ih
APL4ih02	2	Dutch horticultural experience	Assignment (attendance compulsory)	1 (year 1)	To be found in Study Manual
<b>Entrance requirements:</b>		Minimum of two year bachelor program in horticulture			
<b>Professional task:</b>		Personal Development and self-reflection			
<b>Role:</b>		Junior professional			
<b>Methods:</b>		Training, class discussions, individual assignments			
<b>Fields of expertise:</b>		<b>Learning objectives (the student):</b>			
Personal development		<ul style="list-style-type: none"> <li>Reflects constantly on his or her own personal- and competency development, part of the lifelong learning paradigm.</li> </ul>			
Dutch horticultural experience		<ul style="list-style-type: none"> <li>Is able to describe the Dutch horticultural sector.</li> </ul>			
<b>Aeres competences:</b>		<ul style="list-style-type: none"> <li><b>To introspect:</b> 8 out of 10 Aeres competences 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 competences. The examples given are based on the goals students set at the beginning of the year and halfway through the third and fourth year. The examples are given using the STARR method and goals are formulated according to the SMART method.</li> </ul>			
<b>Final qualifications:</b>		<ul style="list-style-type: none"> <li>7. To manage projects, processes and people</li> <li>9. To act entrepreneurial and reflect</li> </ul>			

## 2.7 Courses Angers EED Plant (HAEP)

### Module Overview

Courses Horticulture Angers EED Plant (HAEP)					
<b>Coordinator:</b>		B. Tijsseling (TIB) J. Houlie		<b>Credits:</b>	<b>23</b>
Module elements	EC	Name	Exam	Period	Literature
HAEP01	5	Project management	n.a.	June 2019 (Angers)	Information by Angers
HAEP02	2	Agricultural Advice	n.a.	June 2019 (Angers)	Information by Angers
HAEP03	16	Production Management & Technology	n.a.	June 2019 (Angers)	Information by Angers
<b>Entrance requirements:</b>	n.a.				
<b>Professional task:</b>	Being an advisor Executing practical research Being a specialist				
<b>Role:</b>	Advisor, researcher, specialist				
<b>Methods:</b>	Lectures, practical training, project work				
<b>Fields of expertise:</b>	<b>Learning objectives (the student):</b>				
	<ul style="list-style-type: none"> <li>Information by Angers</li> </ul>				
<b>Aeres competencies:</b>					
<ul style="list-style-type: none"> <li>To show leadership capabilities, to cooperate, to present, to research, to organize, to endorse sustainable behavior</li> </ul>					
<b>Final qualifications:</b>					
<ul style="list-style-type: none"> <li>To acquire projects and give advice in the (international) agro business and food sector</li> <li>To design and execute applied research</li> <li>To translate and apply policies</li> <li>To council and communicate on areas of cultivation and product</li> <li>To manage projects, processes and people</li> </ul>					

# 3. Examination and Assessment Regulations

## 2018-2019

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.areshogeschool.nl/over-aeres-hogeschool/publieke-verantwoording/onderwijs-en-examenregeling>.



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