



ERASMUS MUNDUS

## Synopsis



### → Objectives

Our goal is to form specialists able to develop and lead ecological projects throughout the world by providing them with a wide range of competences and a professional specialization in one of several leading fields of Ecology (Conservation, Toxicology, Functional ecosystem dynamics, and Evolutionary ecology).

### → Consortium

The "European Master in Applied Ecology" (EMAE) is an integrated Masters Programme designed by 4 Universities with a wide-range leadership in Ecology: the University of Poitiers (UP France, Co-ordinator), Christian Albrechts Universität in Kiel (CAU Germany), the University of Coimbra (UC Portugal) and the University of East Anglia in Norwich (UEA UK).

The EMAE consortium involved 5 non EU official partners: Universidade Federal do Rio Grande do Sul in Porto Alegre (UFRGS Brazil), Universidad San Francisco de Quito (USFQ Ecuador), University of Georgia in Athens (UGA USA), University of Adelaide (UA Australia) and University of Otago in Dunedin (UNZ New Zealand).

### → Contents

The duration of the programme is 2 years. During the first year, basic knowledge and skills are acquired in Poitiers and Norwich in the main fields of Ecology, from a functional approach of ecosystems to the ecological consequences of global change. Elective field training in Coimbra or Kiel completes the first year programme. The second year corresponds to the elective specialisation hosted by one of the EMAE partners in the following specializations: "Applied and Theoretical approaches in animal ecology and population biology" (Poitiers); "Advanced studies on dynamics and function of terrestrial and aquatic ecosystems" (Kiel); "Environmental quality & Ecotoxicology" (Coimbra) or "Environmental sciences & Conservation" (Norwich).

### → Organisation

Each year, between 15 and 25 students (Europeans and non Europeans) are welcomed in Poitiers where an integrative period and an introductory programme (from September to December) combine scientific courses and intensive language training (in French, German or Portuguese). From January to March, students attend a course programme in Environmental sciences in Norwich. From April to July, students are either in Coimbra or Kiel for a focused programme and field course. The second year, the year of specialization, is carried out in one of the four institutions (6-8 students). At the end of the curriculum, students are awarded in Poitiers and present their Masters project during a farewell congress open to the incoming students. The teaching language is mainly English although some parts are offered in French or Portuguese.

### → Degree-Awarding

The completion of the curriculum is rewarded by a multiple Master Degrees detailing both the interdisciplinary and specialized curriculum. A Diploma Supplement describing personal curriculum contents is delivered.

### → Tuition fees

The tuition fees amount to 8,000 Euros per year for non-European students and to 4,000 Euros for European students.

The fees **include** the admission fees for all the partner institutions, teaching and project fees and other organizational expenses. These fees **do not include** accommodation or personal and administrative expenses. An optional participation of 1,000 Euros lets the student free for organization of the compulsory mobility during the 2 years.

### → Application

The Masters Course is open to excellent students having acquired a BSc (or a degree equivalent to 180 ECTS) with mark above "B" (or with score equivalent to 70%) in Ecology, Biology, Population genetics, Evolution, Environmental sciences ... as well as a proven fluent understanding of the English language (TOEFL: 580 PBT, 230 CBT, 92 IBT or IELTS: 6.5).

### → Further information on Erasmus Mundus framework

Information on the European programme « Erasmus Mundus Master Courses » is available at the following address: [http://ec.europa.eu/education/programmes/mundus/programme/what\\_en.html](http://ec.europa.eu/education/programmes/mundus/programme/what_en.html) - <http://www.em-a.eu>

→ **Contact:** [contact@master-ema.eu](mailto:contact@master-ema.eu)

**website:** <http://www.master-ema.eu>

Coordination: Dr. Yves CAUBET

Dpt « Biologie des Organismes et des Populations » - UMR CNRS 6556 « Écologie, Évolution, Symbiose »

UFR Sciences Fondamentales & Appliquées – Université de Poitiers

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## How to apply?

### → Application Procedure

The EMAЕ website (<http://www.master-emaе.eu>) will provide all the documents needed to apply and helpful tips to prepare the integration of the selected applicant in the Masters course. The application will be made online and an electronic copy of all documents will be sent to the co-ordinating institution (Poitiers). In case of selection, the original of each document will need to be received before a specific deadline. Commonly, call for application occurs in November, deadline for application for non European and European students and scholars is planned in January.

The applications from European students and from non European students will be examined by 4 referees in the same way in regard to the rules of the Erasmus Mundus programme.

### → Requirements

The minimum requirements for applying to the EMAЕ programme course are as follows:

1. A Bachelor of Science (B.Sc. degree or a nationally recognized degree equivalent to 180 ECTS), with a minimum grade of "B–" in the ECTS grading scale (at least a score of 70%), from a field in relation with the scope of the EMAЕ master (for instance: Ecology, Biology, Population genetics, Evolution, Environmental sciences, and related areas). If requested, the applicant must prove the international recognition of the mentioned Degree as equivalent to a B.Sc. and provide such official recognition translated in English. An academic equivalency may be attributed based on the professional experience of the applicant (validation of acquired experience). In consequence, the programme is not only open to B.Sc. students.
2. A fluent level in English, (excepted for native speakers) certified by a TOEFL score of 580 (paper based), 230 (computer based) or 92 (IBT), IELTS 6.5 or equivalent, is needed as proof of the sufficient knowledge of the English language. Institutional certificates are not accepted, only standardized and recognized tests.

### → Needed documents (to be sent by e-mail AND by post mail; see addresses on website)

The selection will be based on an objective evaluation based on the following documents:

- **The complete list of courses validated during the Bachelor with the grade obtained** in an explained scale (preferentially the ECTS grading scale or the international norm defined by the NCEFEC on a scale from A+ to E). This document must be an official document emanating from the concerned institution with the name and the signature of person in charge of the formation.
- **Two reference letters emanating from two different teachers, researchers and/or professionals**, who have directly known the applicant during a teaching or work period, explaining the applicant's suitability with respect to the programme applied for.
- **The electronic address and contact address of two other referees.**
- **A letter of motivation** in which the candidate explains why he/she is applying, how he/she thinks that this application can help him/her and favour his/her personal project, what are his/her professional objectives. This letter must also present the candidate's arguments explaining his/her final specialisation choice (2<sup>nd</sup> year).
- **A curriculum vitae CV Europass** giving additional information useful for the evaluation and perception of the applicant's interest and suitability to the Programme (the applicant's international experience, training or studies abroad; work experience, actual and past professional activities, skills...). The creation of the CV Europass can be performed on the EMAЕ website using a link to the official CV Europass website.
- **Duly completed EMAЕ Application Forms with ranked choice** of the elective period in the first year (either P3a or P3b) and the elective second year (chose specialization).

### Additional information useful for the administration but not taken into account during the selection:

- A recent picture of the candidate in an electronic format (to be included in the CV Europass)
- In the case of a non European applicant, at the date of the application, proof by an electronic copy that the applicant possesses a passport with an expiration date posterior to the normal date of the end of the course to which he/she is applying (e.g. around 3 years).

### → European grants

Erasmus Mundus scholarship for non-European student amounts 24000€ per year including all the expenses (4000€ for travel/integration, 8000€ for tuition fees and 12000€ for living expenses). Erasmus Mundus scholarship for European student amounts 10000€ per year including all the expenses (4000€ for tuition fees and 6000€ for living expenses). If the European student carries out a project in a non-EU partner institution, an additional mobility grants is allowed (3000€).

The European community allows yearly grants for non-EU teachers/researchers (1200€ per week). The applicants must contact one of the EMAЕ European coordinators directly (see website for addresses of EMAЕ contact persons).

# Study programme



ECTS			Hosting institution				
			UC Coimbra-PT	UP Poitiers-FR	UEA Norwich-UK	CAU Kiel-DE	
0	Y1	September		P0 (P6)			
14		October		P1 (24 to 30 students)			
		November					
		December					
		January			P2 (24 to 30 students)		
February							
16		March					
		30	April	P3a elective (12 to 15 students)		P3b elective (12 to 15 students)	
			May				
			June				
		July					
		August	4 weeks holidays break				
30		Y2	September	P4a elective (6 to 8 students)	P4b elective (6 to 8 students)	P4c elective (6 to 8 students)	P4d elective (6 to 8 students)
			October				
	November						
	December						
January	P5a Master's Project		P5b Master's Project	P5c Master's Project	P5d Master's Project		
February							
March							
April							
30	May						
	June						
	July						
	August						
0		September		P6 (P0)			
120						<b>mobility</b>	

UP: Université de Poitiers (coordination)

UC: Universidade de Coimbra – UEA: University of East Anglia – CAU: Christian-Albrechts-Universität

## Year 1:

P0 - Poitiers (partially joint with P6 Closure period) - Welcome session and Integrative period

P1 - Poitiers – Introductory course period & Intensive language training (DE,PT,FR) (14 ECTS)

P2 - Norwich – Focused course period (16 ECTS)

P3 - Elective Field training and applied course period (30 ECTS)

P3a Coimbra: Environmental Quality & Ecotoxicology

P3b Kiel: Functional approach of ecosystems

## Year 2:

P4 - Specialization period & P5 – Master's thesis (30 + 30 ECTS)

P4a & P5a in Coimbra Ecotoxicology & Bio-indicators of Environmental quality

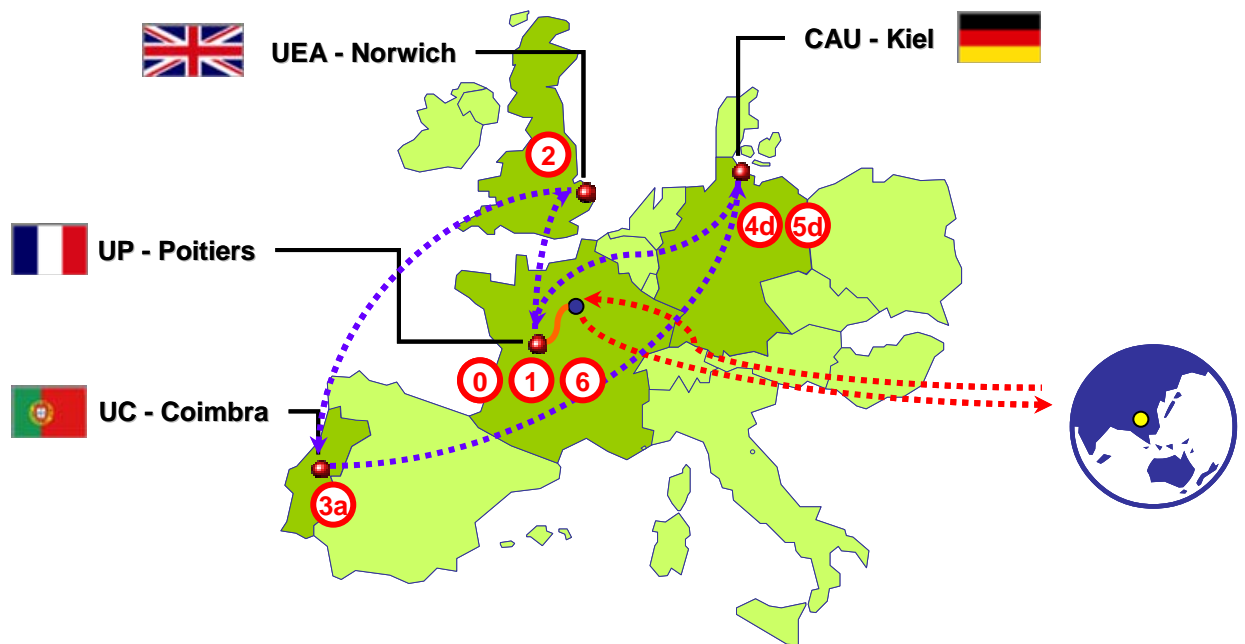
P4b & P5b in Poitiers Applied and theoretical approaches in Ecology and Population Biology

P4c & P5c in Norwich Environmental sciences & Applied ecology

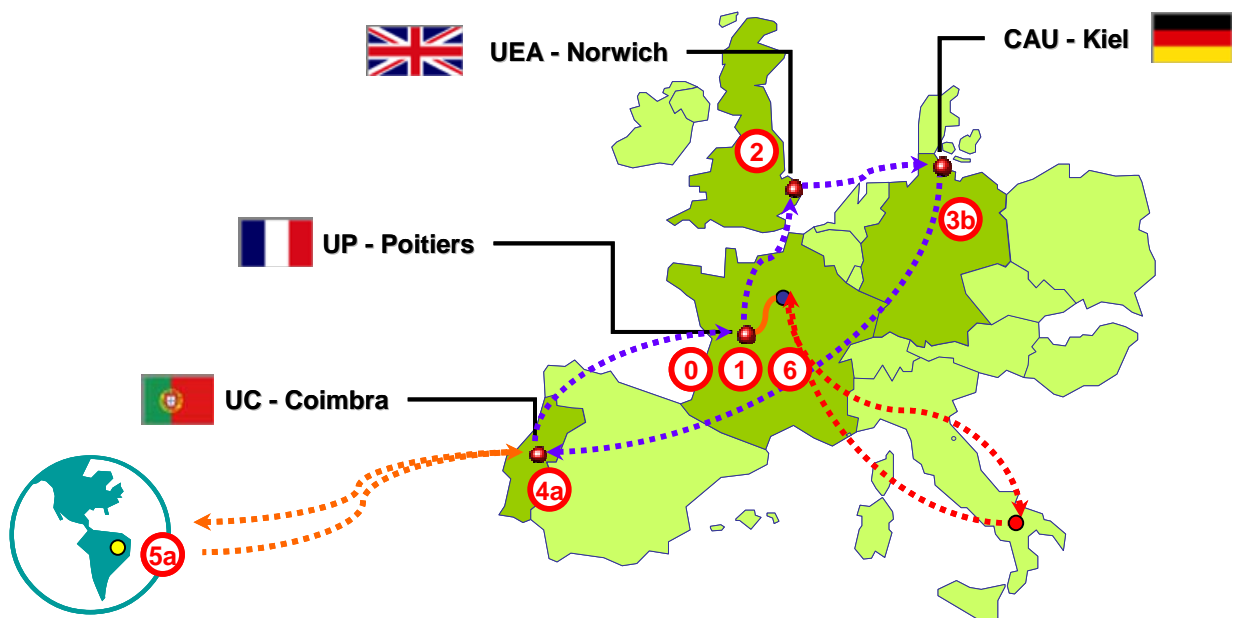
P4d & P5d in Kiel Advanced studies on dynamic of terrestrial, aquatic and coastal ecosystems

P6 - Poitiers (joint with P0 Welcome period) - Farewell congress, Degree-awarding, Closing session

## Examples of Mobility



**Non European student's mobility:** An Asiatic student spends the periods P0 and P1 in Poitiers and the period P2 in Norwich. Then, the student selects the stream P3a in Coimbra and follows the second year in Kiel (P4d & P5d). When the course is completed, the student comes back in Poitiers for the farewell period (P6).



**European student's mobility with his/her Master's project abroad:** An Italian student spends the periods P0 and P1 in Poitiers and period P2 in Norwich. Then, the student selects the stream P3b in Kiel and follows the first semester of the second year in Coimbra (P4a) but carries out the Master's project (P5a) in South America\*. When the course is completed, the student comes back in Poitiers for the farewell period (P6).

\* EMAE consortium is developing a partnership with Adelaide University (Australia), University of Georgia (USA), University of Otago (New Zealand), Federal University of Rio Grande do Sul (Brazil) and San Francisco of Quito University (Ecuador). Other unformulated opportunities exist.



## Study programme

This table lists all the modules offered in the EMAE Masters Course study programme and gives the following informations: **Code**, **Title**, teaching language(s): en-fr-de-pt; **Schedule** and **Coordination** (i.e. where and when the course is delivered and who is convening the organisation (UP: Université de Poitiers – UC: Universidade de Coimbra – CAU: Christian-Albrechts University in Kiel – UEA: University of East Anglia in Norwich); if the module is **compulsory** (C) or **elective** (E); **teaching volume** and number of **ECTS**. Further details are available in the catalogue of units on the EMAE website: [http://www.master-emaë.eu/EMAë\\_catalogue.php](http://www.master-emaë.eu/EMAë_catalogue.php). The choice of elective module is asked during the first period of the programme, not during the application process.

Code	Units of First Year	Coord	Kind	Volume	ECTS
<b>Period P0</b>	<b>Welcome period in Poitiers (September, Year 1)</b>	<b>UP</b>		<b>30</b>	<b>0</b>
	<i>Integrative period - Inaugural session</i>	<b>UP</b>			
	<i>EMAë Farewell congress (see period P6 below)</i>	<b>UP</b>			
UPO-001	Intensive course in French language	UP	E	30	0
<b>Period P1</b>	<b>Poitiers (September to December, Year 1)</b>	<b>UP</b>	<b>C</b>	<b>140</b>	<b>14</b>
UPO-100	Language training in German, Portuguese or French and e-learning project	UP	C	20	2
UPO-101	Multivariate Statistics & Data Analysis in Ecology (en)	UP	C	30	3
UPO-102	Basics of Population Genetics & Evolutionary Ecology (en)	UP	C	30	3
UPO-103	Animal Strategies & Basics in Behavioural Ecology (en)	UP	C	30	3
	<i>One module has to be selected from the list below:</i>		<b>C</b>	<b>30</b>	<b>3</b>
UPO-104	Basics of Ecosystem Analysis (en)	CAU	E	30	3
UPO-105	Environmental Physiology and Toxicology (en)	UC	E	30	3
<b>Period P2</b>	<b>Norwich (January to March, S2-Y1)</b>	<b>UEA</b>	<b>C</b>	<b>160</b>	<b>16</b>
UEA-201	Ecological modelling (en)	UEA	C	40	4
UEA-202	Ecological consequences of climate change (en)	UEA	C	30	3
	<i>A total amount of 9 ECTS has to be composed from the list below:</i>		<b>C</b>	<b>90</b>	<b>9</b>
UEA-203	Behavioural Ecology: From theory to practical analysis (en)	UEA	E	60	6
UEA-204	Communities, Ecosystems and Macro-Ecology (en)	UEA	E	60	6
UEA-205	Resource Development and Conservation (en)	UEA	E	60	6
UEA-206	Evolutional Biology and Conservation genetics (en)	UEA	E	60	6
UEA-207	Environmental pollution, Toxicology and Chemistry (en)	UEA	E	60	6
UEA-X01 *	Conservation genetics (en) (also offered in P4c)	UEA	E	30	3
UEA-X02	Climate Change: Science, Society and Policy (en) (also offered in P4c)	UEA	E	60	6
UEA-X03	Restoration Ecology (en) (also offered in P4c)	UEA	E	30	3
UEA-X04 *	Introduction to GIS (en) (also offered in P4c)	UEA	E	30	3
<b>Period P3a</b>	<b>Coimbra (April to July, Year 1)</b>	<b>UC</b>	<b>E</b>	<b>300</b>	<b>30</b>
UCO-301	Environmental Quality Assessment (en)	UC	C	60	6
UCO-302	Laboratory & Fields studies in Ecology – Practical (en)	UC	C	60	6
UCO-303	Bio-monitoring & Biodiversity Management (en)	UC	C	60	6
UCO-304	Stream Ecology and Monitoring (en)	UC	C	60	6
UCO-305	Ecotoxicology & Ecological Risk Assessment (en)	UC	C	60	6
<b>Period P3b</b>	<b>Kiel (April to July, Year 1)</b>	<b>CAU</b>	<b>E</b>	<b>300</b>	<b>30</b>
	<i>List 1: Two modules have to be selected</i>		<b>C</b>	<b>120</b>	<b>12</b>
CAU-301	Terrestrial Ecosystems – Field Studies (en)	CAU	E	60	6
CAU-302	Coastal & Marine Ecosystems – Field Studies (en)	CAU	E	60	6
CAU-303	Freshwater & Wetland Systems – Field Studies (en)	CAU	E	60	6
CAU-304	Long-Term Development of Landscapes – Field Studies (en)	CAU	E	60	6
	<i>A total amount of 18 ECTS has to be composed from the list below:</i>		<b>C</b>	<b>180</b>	<b>18</b>
CAU-305	Digital Spatial Analysis – Practical Exercises (en)	CAU	E	60	6
CAU-306	Modelling of Aquatic Ecosystems – Practical Exercises (en)	CAU	E	60	6
CAU-307	Economics Aspects of Environmental Management (en)	CAU	E	60	6
CAU-308	Integrated Management of Rural & Woodland Regions (en)	CAU	E	60	6
CAU-309	Ecology of Soils – Practical Exercises (en)	CAU	E	60	6
CAU-310	Current Research Topics in Marine Ecology I (en)	CAU	E	40	4
CAU-311	Environmental Chemistry (en)	CAU	E	40	4
CAU-312	Applied aquatic ecology (en)	CAU	E	90	9
CAU-X01	Aquatic ecology (en) (also offered in P4d)	CAU	E	90	9
CAU-X02	Methods in ecology (en) (also offered in P4d)	CAU	E	90	9
CAU-X03	Evolution of plant diversity (en) (also offered in P4d)	CAU	E	90	9
CAU-X04	Ecotoxicology (en) (also offered in P4d)	CAU	E	40	4

\*: invalid combination

(to be continued)

Code	Units of Second Year	Coord	Kind	Volume	ECTS
<b>Period P4a</b>	<b>Coimbra (September to January, Year 2)</b>	<b>UC</b>	<b>E</b>	<b>300</b>	<b>30</b>
UCO-401	Advanced data Analysis in Ecology (en)	UC	C	60	6
UCO-402	Biochemical & Molecular Techniques in Ecology (en)	UC	C	60	6
UCO-403	Laboratory & Field Studies in Ecology II (en)	UC	C	60	6
UCO-404	Population Ecology (en)	UC	C	60	6
UCO-405	Remote Sensing and GIS Techniques (en)	UC	C	60	6
<b>Period P5a</b>	<b>Coimbra (February to August, Year 2)</b>	<b>UC</b>	<b>E</b>	<b>60</b>	<b>30</b>
UCO-501	Project Management (en)	UC	C	60	6
UCO-502	Master Thesis: Research Project & Dissertation	UC	C	500*	24
<b>Period P4b</b>	<b>Poitiers (September to January, Year 2)</b>	<b>UP</b>	<b>E</b>	<b>300</b>	<b>30</b>
UPO-400	Miscellaneous Skills (fr)	UP	E	30	0
UPO-401	Advanced research seminars (en-fr)	UP	C	54	6
UPO-402	Statistics & GIS tools (fr)	UP	C	54	6
<b>Stream 1: Environmental Management</b>			<b>E</b>	<b>162</b>	<b>18</b>
UPO-403	Natural resources & Natural areas (fr)	UP	C	54	6
UPO-404	Ecosystems management (fr)	UP	C	54	6
UPO-405	Environmental Policies & Economics (fr)	UP	C	54	6
<b>Stream 2: Evolutionary Ecology</b>			<b>E</b>	<b>162</b>	<b>18</b>
UPO-406	Symbiotic systems (en-fr)	UP	C	54	6
UPO-407	Evolutionary Strategies (en-fr)	UP	C	54	6
UPO-408	Evolutionary Genetics (en-fr)	UP	C	54	6
<b>Period P5b</b>	<b>Poitiers (February to August, Year 2)</b>	<b>UP</b>	<b>E</b>	<b>60</b>	<b>30</b>
UPO-501	Project Management (fr)	UP	C	60	6
UPO-502	Master Thesis: Research Project & Dissertation	UP	C	500*	24
<b>Period P4c</b>	<b>Norwich (September to January, Year 2)</b>	<b>UEA</b>	<b>E</b>	<b>300</b>	<b>30</b>
UEA-401	Issues in Conservation (en)	UEA	C	30	3
UEA-402	Ecological Survey Methods (en)	UEA	C	30	3
UEA-403	Biodiversity Conservation and Human Society (en)	UEA	C	60	6
UEA-404	Practical Conservation (en)	UEA	C	30	3
<b>A total amount of 15 ECTS has to be composed from the list below:</b>			<b>C</b>	<b>150</b>	<b>15</b>
UEA-405	Multivariate statistics (en)	UEA	E	30	3
UEA-406	Introduction to the Economics of the Environment (en)	UEA	E	60	6
UEA-X01*	Conservation genetics (en) (also offered in P2)	UEA	E	30	3
UEA-X02	Climate Change: Science, Society and Policy (en) (also offered in P2)	UEA	E	60	6
UEA-X03	Restoration Ecology (en) (also offered in P2)	UEA	E	30	3
UEA-X04*	Introduction to GIS (en) (also offered in P2)	UEA	E	30	3
<b>Period P5c</b>	<b>Norwich (February to August, Year 2)</b>	<b>UEA</b>	<b>E</b>	<b>30</b>	<b>30</b>
<b>Stream 1: Biology - Ecology</b>			<b>E</b>	<b>30</b>	<b>30</b>
UEA-501	Research Skills for Ecologists (en)	UEA	C	30	3
UEA-502	Master Thesis: Research Project & Dissertation	UEA	C	500*	27
<b>Stream 2: Environmental Sciences</b>			<b>E</b>	<b>30</b>	<b>30</b>
UEA-503	Research Skills (en)	UEA	C	30	3
UEA-504	Master Thesis: Research Project & Dissertation	UEA	C	500*	27
<b>Period P4d</b>	<b>Kiel (September to January, Year 2)</b>	<b>CAU</b>	<b>E</b>	<b>300</b>	<b>30</b>
CAU-401	Theory of ecosystem dynamics and decomposing systems (en)	CAU	C	60	6
CAU-402	Soil ecology: microbial and invertebrate decomposing systems (en)	CAU	C	60	6
<b>A total amount of 18 ECTS has to be composed from the list below:</b>			<b>C</b>	<b>180</b>	<b>18</b>
CAU-403	Identifying Chemical Key Processes in Ecosystems (en)	CAU	E	60	6
CAU-404	Principles of Environmental Economics & Environmental Planning (en)	CAU	E	60	6
CAU-405	Basics of Aquatic Ecology (en)	CAU	E	60	6
CAU-406	Evolution, Biodiversity and Conservation (en)	CAU	E	60	6
CAU-407	Current topics in marine ecology II (en)	CAU	E	60	6
CAU-408	Current topics in benthic ecology II (en)	CAU	E	60	6
CAU-409	Advanced modelling (en)	CAU	E	40	4
CAU-X01	Aquatic ecology (en) (also offered in P3b)	CAU	E	90	9
CAU-X02	Methods in ecology (en) (also offered in P3b)	CAU	E	90	9
CAU-X03	Evolution of plant diversity (en) (also offered in P3b)	CAU	E	90	9
CAU-X04	Ecotoxicology (en) (also offered in P3b)	CAU	E	40	4
<b>Period P5d</b>	<b>Kiel (February to August, Year 2)</b>	<b>CAU</b>	<b>E</b>	<b>60</b>	<b>30</b>
CAU-501	Project Management (en)	CAU	C	60	6
CAU-502	Master Thesis: Research Project & Dissertation	CAU	C	500*	24
<b>Period P6</b>	<b>Poitiers (Early September, Year 2)</b>	<b>UP</b>	<b>C</b>		
<b>EMAE Farewell Congress – Degree awarding – Closure session</b>			<b>UP</b>		
<b>Total</b>				<b>1000</b>	<b>120</b>

\*: The research project and Dissertation is at least approximate to 30 hours per week for 16 weeks -> 500 hours)

(last update: Wednesday, 28 October 2009)