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UM2 UNIVERSITÉ MONTPELLIER 2 SCIENCES ET TECHNIQUES

VE RI TAS HARVARD

Please be aware that this is an old version of the guide. The new MEME study guide will soon be posted on our website www.evobio.eu.

Erasmus Mundus Master in Evolutionary Biology

Information Guide

This version of the MEME information Guide was created in November 2009

Education and Culture

Erasmus Mundus

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1. Introduction

The Erasmus Mundus Master Programme 'Evolutionary Biology' (MEME) is a two-year master's programme organized by the universities of Groningen, Montpellier, Munich and Uppsala, with Harvard being an associate member. Students following this programme have to spend at least one semester at two different partner universities, and they will obtain either a double degree from two universities (or even a multiple degree from more than two universities) or a joint European degree (once legislation in the partner countries makes this possible). The first edition of the programme will start on September 1, 2010. The application deadlines are January 3, 2010 for category A students and April 15, 2010 for category B students, respectively. Roughly speaking, category A students are students from outside the European Union, while category B students correspond to EU students. However, you should consult the MEME website www.evobio.eu for a precise definition. This website also contains all kinds of information on the application procedure, including the minimal requirements for admission and the criteria for obtaining a scholarship.

Since the website (as well as the whole MEME organization) had to be built up from scratch in a very short time period, it is just impossible to make it as comprehensive as it will be in a few months time. Moreover, much crucial information on details like student registration or the exact sequence of courses still has to be decided upon by the consortium partners. As a substitute, we have here compiled the crucial parts of our grant application (a document of more than 130 pages!). By this, we hope to give potential applicants already now a reliable impression of what is to be expected from the MEME programme. Most of this information will then later appear in updated form on the MEME website. If there are still questions left that are not answered by this document or the MEME website, you should contact the administrative coordinator of MEME, Dr. Irma C. Knevel (i.c.knevel@rug.nl) or the scientific coordinator of MEME, Prof. Franjo Weissing (f.j.weissing@rug.nl).

2. Summary Description of the Programme

The Erasmus Mundus Master Programme in Evolutionary Biology (MEME) is a two-year research oriented master programme for talented and motivated students who are interested in understanding evolution in all its facets. This multidisciplinary programme will address the driving forces of evolution at all levels of organismal organisation (from cells and individuals to populations and ecosystems), and it will allow students to study all kinds of organisms (microorganisms, plants, animals) in a diversity of habitats (marine as well as terrestrial). The focus is not only on how evolution shaped life on our planet in the past, but also on how understanding the principles underlying evolution can provide new insights and help to cope with present-day challenges in a variety of fields, including ecology, epidemiology, physiology, immunology, genetics/genomics, bioinformatics, economics and the social sciences.

To realize this ambitious goal, four European universities (University of Groningen, Netherlands; Ludwig Maximilians University of Munich, Germany; Uppsala University, Sweden; University of Montpellier II, France) have joined forces with Harvard University (USA) as an associated partner. MEME offers students the opportunity to compose an individual study programme in evolutionary biology by combining elements from the complementary programmes that are already established at the participating universities. Students spend at least a semester at several partner universities, and they will be awarded double degrees for this. In the first year, the emphasis is on scientific, methodological and academic skills courses (taught in English), while the second year mainly consists of individually supervised research training. After a joint summer school, students start their first

semester at either Groningen or Uppsala, then move to Munich or Montpellier for their second semester. Research projects can be conducted at any partner university, including Harvard. MEME students get a personal mentor, they are offered challenging multidisciplinary courses at the frontline of scientific research, they closely interact with leading researchers and can make use of modern, state-of-the-art techniques and facilities, and they are embedded in a high-quality international network. Accordingly, MEME will provide its students with an optimal preparation for a subsequent PhD study or for other career options in the broad variety of fields where evolutionary thinking is an asset.

3. Objectives and Added Value of the Programme

3.1 Evolutionary Biology

Evolutionary biology is the discipline that seeks to understand the functioning of organisms by viewing them as the result of a historical process involving natural and sexual selection, the interplay of genetics and development, biogeography, speciation, and the interaction between species. Modern evolutionary biology is not in the first place focused on understanding the history of life and the course of evolution in the past, but mainly addresses evolution as it is happening now. Only few scientific theories have been as influential as Darwin's theory of evolution. As it became obvious that many biological processes are better understood in their evolutionary context, evolutionary thinking became an integral part of disciplines such as ecology, developmental biology, biogeography, phylogenetics and, more recently, epidemiology, immunology, genomics and bioinformatics. In addition, evolutionary thinking is gaining a strong foothold in many non-biological disciplines such as economics, informatics, medicine, sociology, anthropology, linguistics, psychology and even philosophy. For example, evolutionary principles help us to understand why we get ill and how to protect against diseases ('Darwinian Medicine'); they help us to understand the human mind ('Evolutionary Psychology'), and they provide an explanation for the functioning of organisations and markets ('Evolutionary Economics').

3.2 Complementarity of partners

At present, no university in the world can offer the complete range of sub-disciplines of this highly multidisciplinary research area. For a student studying at one university it is very difficult to get an overview of the field as a whole and to find a niche that perfectly fits to the student's talents and interests. Even the MEME programme, offered by four universities together with an associated partner, cannot offer the full breadth of evolutionary biology to its students, but it is a significant step in this direction. All partners have local centres of excellence in evolutionary biology, and all offer already well-established master programmes with emphasis on evolution. The partners are, however, highly complementary to each other in their expertise and approach, making a joint programme a real asset. Groningen, for example, has strengths in evolutionary conservation biology, evolutionary community ecology, evolutionary physiology and marine biogeography. Munich excels in theoretical population genetics, studies of co-evolution, and behavioural ecology. Montpellier has a focus on paleobiology, spatial evolutionary ecology and phylogenetics. And, last but not least, Uppsala (the university of Linnaeus) is leading in taxonomy, evolutionary genomics and bioinformatics.

3.3 A historical note

Although evolutionary biology is a fundamental and well established biological discipline, there are only few master programmes with focus on evolution in Europe. One of the first (established in 2003) was the TOP master programme 'Evolutionary Biology' at the University of Groningen, an international programme specifically designed to provide an optimal training for a subsequent PhD study and eventually a career in academic research. This programme has proven to be highly successful; all students – without exception – finished the programme with good marks (95% of them within the allotted 2 years) and all enrolled in a PhD programme (either in Groningen or elsewhere). For the first two cohorts it can already be judged that they will finish their PhD (which takes 4 years in Groningen) with excellent results. Inspired by this success story, a similar programme was established at the University of Uppsala in 2005. Since 2006, both programmes exchange teachers and organize a joint course on human evolution for all their students. In 2007, the University of Munich joined in, where just an innovative award-winning master programme 'Evolution, Ecology and Systematics' had been established. In 2008, the joint course on human evolution was organized in Munich. This course was a great success, both for the students of the three programmes and for the lecturers, who profited a lot from the exchange of ideas. Because of its complementary expertise, Montpellier is an ideal partner to join in next, and we can obviously all profit a lot from our associated partner Harvard, which will provide us with close insights into the American tradition of research and education. Even without funding by the Erasmus Mundus programme, we would do our best to continue our collaboration, but additional European funding would help us tremendously on our way to a real European centre of excellence. In the years to come, we plan to further strengthen our research links, for example by applying for a grant for an Erasmus Mundus Doctoral Programme in Evolutionary Biology (DEME).

3.4 Benefits for MEME students

The students in the MEME programme will gain thorough background knowledge and hands-on experience with modern concepts and techniques in evolutionary biology. Students will form high-quality networks; they will get to know some of Europe's top universities, work with well-known scientists and interact with other students. In addition, they will be introduced to the unresolved research questions, that will steer their own career. This all will be executed in an international setting and will create a European atmosphere free of language barriers.

3.5 Relevance to society

Evolutionary thinking has become an essential element of current-day philosophy. Knowledge of evolution is essential for understanding the characteristics of human beings, such as ethics, language and culture, and to clarify the position of man in relation to nature.

Evolutionary thinking will be crucial for dealing with environmental issues and the biodiversity crisis. In a time of global change, knowledge about mass extinctions, rates of speciation and the adaptive potential of species in fragmented environments will help to pinpoint threats to species and ecosystem survival and, hopefully, suggest efficient approaches for their management and protection.

Evolutionary biology is rapidly gaining practical relevance in a variety of applications. Modern microchips, for example, are designed with the help of genetic algorithms and evolutionary computing. Principles of host-pathogen coevolution are used to design more efficient vaccination programmes and antiviral therapies. Students with thorough background knowledge of evolution will be able to apply these principles, no matter what kind of career they choose.

3.6 Objectives of the Programme

A top-level master programme in evolutionary biology will enhance the profile and visibility of European higher education. Further, the MEME programme will provide the students with the necessary knowledge and skills to be competitive on the scientific job market, and will contribute to intercultural exchanges so that the students will be open-minded and internationally experienced.

Objectives for students

- become a critically thinking and independent scientist;
- become part of a scientific network in Europe and Third Countries;
- become familiar with modern research methods and techniques;
- gain research experience;
- acquire skills in communication, writing and analytical thinking to be prepared for a job inside or outside of academia;
- be optimally prepared to join a PhD programme;
- know own strengths and be ready to make informed career decisions;
- learn about and experience different cultures;
- learn and use at least two languages.

Objectives for the institutes

- enhance the collaboration among partner universities;
- enhance mobility for staff and students;
- become a recognized centre of excellence for evolutionary research in Europe;
- create a dense European network and network with Third Countries;
- inspire the best students to choose a career in the field of evolution;
- attract the best students to come to Europe;
- offer excellent teaching and the best opportunities for the students in the MEME programme.

Contribution to the European objectives

The MEME programme:

- provides conditions for intercultural understanding;
- enhances career perspective for students from Europe and Third Countries;
- creates a centre of excellence in Europe.

4. Structure of the Programme

4.1 Outline of the MEME programme

The MEME programme consists of four semesters, for a total of 120 EC (= credits according to the European Credit Transfer and Accumulation System). MEME offers students the opportunity to switch each semester to the university of their choice (with certain restrictions) and, thus, to follow a trajectory that best suits their interests. The programme requires at minimum: 30 EC course work, 60 EC research work (theoretical, lab based or field based) and 10 EC transferable skills. The remaining 20 EC can be spent on electives. No more than 90 EC can be awarded from the same university. The programme has a capacity of 32 students.

4.2 Overall structure and mobility scheme

The programme starts with an annual joint summer school in September that serves several goals:

- introduction for the new students to scholars, and research opportunities;
- official awarding of the degrees to students from year t-2;
- scientific presentations by graduating students (awarding prizes for best performance);
- an attractive scientific programme (guest speakers invited by students);
- networking between students and scholars.

After the summer school, the students start their **1st semester** with a course programme in Groningen or Uppsala. For the **2nd semester**, they move to Munich or Montpellier for research or course work. The **3rd semester** starts again with a summer school; the students are actively involved in the organization. The students are free to choose where they spend the 3rd semester (including Harvard). They follow an individualized programme to strengthen their knowledge, skills and research experience that is approved by the examination committee. The 4th semester is entirely devoted to research and students can stay at the university where they are (except in Harvard) or have the opportunity to move again (also to Harvard). At the end of semester 4, students attend the summer school one more time, where they will be awarded their degrees. The overall structure of the programme and the mobility scheme is indicated by Table 1.

Table 1: Structure and mobility scheme of the MEME programme.

semester	**Groningen**	**Uppsala**	**Munich**	**Montpellier**	**Harvard**
summer school	introduction				
1 autumn/winter	courses	courses			
2 spring/summer			research courses	research courses	
summer school	active participation master students				
3 autumn/winter	research courses	research courses	research courses	research courses	research courses
4 spring/summer	research	research	research	research	research
summer school	awarding degrees				

4.3 Course programme

The consortium partners participating in MEME offer a broad spectrum of courses (see the Annex for a list), which can be classified into four categories:

- Core courses: Courses focussing on fundamental aspects of evolutionary biology. These courses, which form the core of the curriculum, will be taught in the first year. A subset of will be compulsory for all MEME students.
- Topical courses: Courses on specialized topics related to evolutionary biology, such as coevolution, adaptation, evo-devo, population genetics, behaviour, ecology, genomics.

- Methodological courses: Courses on methods and techniques of modern evolutionary research including experimental design, statistics, evolutionary modelling, phylogenetics, bioinformatics, molecular techniques, and QTL analysis.
- Transferable skills courses: Courses that teach general skills of importance within and outside academia, including presentation techniques, scientific writing, project and time management, teaching skills, research ethics, science and society, career development, intercultural communication and various language courses.

4.4 Research

We strongly believe that the most effective way for a student to learn how to do research is by conducting their own research project under close supervision of an experienced researcher. The student becomes a junior member of the research group and participates in the research meetings, literature clubs, and discussion events. Students in the MEME programme will spend at least half of their time (60 EC) doing research, carrying out at least two different projects. This research experience will make them actively-contributing members of the international evolutionary research network. We expect that most of the students will publish the results in a peer-reviewed journal.

4.5 Mentoring system

The MEME programme will introduce a new mentoring system, using mentoring teams. A mentor is a senior project leader with teaching experience appointed by one of partner universities. A mentoring team consists of four mentors, one from each partner university. The mentors act as coach and create a bridge between the student and the Examination Committee in which the mentor is the champion of the student. There will be five to eight mentoring teams and each student will, upon acceptance into the programme, be appointed to one of them. The student therefore always has a mentor at the host institute and, by moving to another institute, a local mentor is automatically available. The mentoring team and student will formulate a plan-of-action to address the general progress in the programme, as well as career/personal development issues. The local mentor meets with the student at least twice per semester. At the end of each semester, the mentoring teams meet virtually (telephone or video conference) and discuss the students they are responsible for; this way each mentor will know which students he or she will mentor in the next semester.

The mentoring team is responsible for:
- advising and approving the individualized study plan of the students;
- ensuring the scientific and supervision quality of the study elements of the students;
- assessing, monitoring and discussing the incoming grades and written reports;
- evaluation of the student's progress, capabilities and limitations.

The student is responsible for:
- requesting additional meetings if necessary;
- providing information requested by the mentors;
- coming forward when there is a problem that the mentors may not be aware of.

The mentors will also discuss the following coaching issues with the student:
- general career aspirations and network activities;
- anything that might prevent the student from achieving her/his objectives;
- awareness and education about gender issues in career development.

4.6 Advantage of the mobility periods

As a result of the mobility periods, students will benefit from the added values of this programme, as the institutes are complimentary to each other and have different facilities/expertise. Through the mobility periods, the MEME students will be optimally prepared to enter a PhD programme. The students will experience the different cultures in Europe and the differences between the laboratories and education systems. By their mobility, they will spread knowledge on how teaching and research is done elsewhere, and exchange the methods and ideas. They will be able to integrate and promote the best elements from the different systems what will finally help to improve the European education system. The yearly evaluation during the summer school will help the teachers to learn from the students from other programmes.

The career perspectives for the students participating in this programme will increase considerably. If they have the ambition to work on a scientific career they have started building a network, which will certainly help them find a PhD or Post doc position. If they decide to leave the academic world they have the opportunity to explore the fields of their interest in their personal study programme. They can do internships in museums, schools, companies, and government or non-governmental organizations. Many connections with non-academic institutions exist at each of the partner universities.

4.7 Involvement of external scholars

Each of the four consortium universities will invite external scholars (typically from outside the European Union) to visit the university for an extended period (at least two weeks; the total period being three months per university and year). The scholars will be embedded in a research group and participate in all activities of the research group and the research institute. Each scholar will play an active role in the MEME programme, e.g., by giving course modules or by supervising research projects. The involvement of scholars will enrich the MEME programme; it allows to flexibly adapt the programme to the needs of a student cohort; and it provides scholars with valuable insights into the organization of teaching and research at the consortium universities.

4.8 Staff mobility

The MEME programme is an ambitious programme and it can only work if the staff at the partner universities know each other and each other's work. Some connections already exist, but many more will be created through MEME. We include a staff mobility programme consisting of 3 components.

1. Yearly meetings at the MEME summer school. From each of the partner universities, four staff members will join. These will usually be two staff members who have an official role in the programme (such as management board) and two staff members who are invited to give a talk at the summer school. Similarly, staff from Harvard will be invited to the summer school.

2. MEME teaching visits. Per year and per university one staff member will spend two weeks at one of the other universities to co-teach with the local staff. This will happen in Uppsala and Groningen in the winter semester and in Munich and Montpellier in the summer semester. During the teaching visit, the staff member will also be invited to give a talk for the other staff and students not involved in the MEME programme.

3. Visits to Harvard University. When the first MEME students are at Harvard, a MEME staff member (for example a management board member or a mentor) will visit Harvard and talk to the students and their Harvard supervisors.

5. Learning Outcomes and Interactions with Professional Sectors

5.1 Learning outcomes

The MEME programme offers the students an excellent opportunity to be trained in evolutionary biology and to become part of the international network of evolutionary biologists. In the first semester of the MEME programme, the students will obtain the necessary background knowledge, historical perspective and skill to read, understand, and critically evaluate research papers. They will also learn practical skills such as statistics.

During the second and third semester, the students will follow more specialized courses and they will do research. The skills courses will help them to communicate at a professional level, either through written reports/papers or through oral/poster presentations. They will also learn how to design a scientific project and write a research proposal.

Throughout the MEME programme, the students will be encouraged to be critical and curious and to develop their own research ideas. The students will learn how to perform fundamental research – from the research question and the design of the experiment to the statistical analysis and the writing of the paper. They will also learn to work in interdisciplinary, international and multicultural teams. Through the mobility periods and the interactions with the other students and staff, the students will experience and learn from different European cultures and improve their language skills. All of the learning outcomes of the MEME programme are extremely relevant for students' careers, both when they stay in academia and when they decide to pursue a career in a different field. The personalized programme and the mobility periods help the student to find out which career perspective fits him or her best. Internships in non-academic institutions can be integrated in the programme on an individual basis.

5.2 Interaction with professional sectors

Students who are trained in evolutionary biology can take jobs in the following areas:

- **Fundamental or applied research** (university; research institute; natural history collections such as research museums and botanical gardens; biotechnology or pharmaceutical company);
- **Teaching or communication** (university - public relations; school or college; museum; newspaper or other media);
- **Environmental management and conservation** (Governmental and non-governmental organizations for conservation, environment, forestry etc.);
- **Management or research** (Science Foundations; Intellectual property companies; IT sector - innovative concepts; Biotechnology and pharmaceutical sector).

Each of the partner universities has connections to other universities, research institutes and natural history collections. If students are interested to do research at one of these institutes there will be ample opportunities. The partner universities also have connections to governments, schools, museums and companies. Due to the custom made nature of this programme we will offer every student a relevant introduction to a professional sector. We expect that the majority of students in the MEME programme will be interested in pursuing an academic career. For those students, a stay

at the associated partner Harvard University will be very useful. At Harvard, the students will meet and work with some of the best researchers in the world in an incredibly inspiring research environment.

5.3 Alumni

All four universities have an active alumni policy. We will keep close contacts with our alumni, which will regularly be invited to the joint summer courses where they get the opportunity to inform students about a later career. In the course of time, we will – through our alumni – establish contacts with many organizations that might act as employers for our students. In the next couple of years, we will invite alumni from other programmes to take on this role. We will actively stimulate our students to join the Erasmus Mundus Students and Alumni Association (EMA), where they can profit from the knowledge and experience of Erasmus Mundus students in other programmes.

6. Course Integration

6.1 Accreditation and integration

The MEME programme is a fully integrated master programme, which is based on well-established master programmes at the partner universities. Each of the local master programmes is accredited by the respective national accreditation organization. The MEME programme uses modules that already exist in these programmes, but there will also be new elements, like the yearly summer school. The MEME programme will have a joint student application and admission procedure. Since only those students who are eligible to study at all partner universities can be accepted, the students will be automatically accepted to each of the partner universities. The ECTS system is commonly used at all partner universities and study elements and credit points will be recognized across the universities. Students obtain **double or multiple degrees**. The ambition is to establish a **joint degree** as soon as this is legally possible in the countries participating in this programme.

The following activities have been jointly developed:

- Application and selection procedure by a joint admissions committee;
- Curriculum and time schedule;
- Summer school for three generations of students;
- Mentoring system;
- Annual meeting of scholars to manage and improve the programme;
- Double degree, transparent grading system, degree awarding ceremony, graduation with honours;
- Tuition fees and participation costs.

The MEME programme will make use of the shared website www.evobio.eu (for communication with prospective students), the online electronic learning portal Nestor (for communication between teachers and students about courses), the student administration tool Progress (for getting an overview of marks and study results irrespective of the university where the student is staying), a facebook page and a blog (for informal communication between the students and staff and to create a feeling of a MEME community).

6.2 Degrees

The MEME programme is able to award double degrees when the student fulfils the requirements of the individual universities and national legislation. The curriculum has been designed in such a way that students will usually obtain a double degree from two partner universities. In exceptional cases the student may obtain a degree from three universities.

The students develop their study plan with their personal mentor team. The mentor team ensures that the students make the right choices to fulfil additional requirements of the individual universities to be able to be awarded a double degree. The staff of the coordinating office will provide the necessary information to the students and the mentor team. In all cases a diploma supplement is awarded on which all elements of the individual study programme of a student are specified, including learning objectives and awarded marks.

The consortium aims for a joint degree, but legislation in the Netherlands and Sweden does not allow to award such a degree at this moment. The expectation is that at the beginning of 2010 European legislation will be adopted by the member states. As soon as the legal barrier disappears, the legal representatives of the universities in this consortium will start to develop a joint degree.

6.3 ECTS mechanisms

The MEME programme makes full use of the European Credit Transfer and Accumulation System (ECTS), which serves as a formal instrument for structure, evaluation, and certification of academic work. All European partner universities have implemented the ECTS system for several years. One EC corresponds roughly to 28 hours of study, and 60 EC correspond to the study load of one academic year (1680 hours). ECs are awarded for all academic work including contact hours, study time, course participation, taking notes, preparing and giving a presentation, preparing and sitting an exam, writing a research paper and other research related activities.

The MEME programme also will introduce a feedback and revision system instead of only grading, based on the experience obtained in the master courses in Munich, Groningen and Uppsala. The feedback and revision system means that for all major written reports and for their oral presentations the students will never be graded immediately. Standard feedback forms are used and teachers or supervisors have to use these to provide the student with feedback.

The teachers award grades according their national grading system. We foresee four systems that will be used as shown in Table 3. A similar table will appear in the diploma supplement. Using the same grading scale does not yet guarantee fair grading. For example, in Germany, it is relatively common that students get the highest grade possible (1,0) for a report, whereas this almost never happens in France or the Netherlands. The MEME evaluation committee will compare the grades given at the partner universities and will make sure that grading is fair and as much as possible independent of where the student studies at a given moment.

Table 3: Comparison of grading systems used at the partner universities.

1-5 (Munich)	**5-1** (Uppsala)	**20-1** (Montpellier)	**10-1** (Groningen)	**Definitions**
1,0		20	10	Excellent, outstanding performance
1,3	5	18	9	Excellent, pass with distinction
1,7		16	8	Very good, above average
2,3	4	14	7.5	Good, pass with credit
3,0	3	12	6.5	Satisfactory, pass
4,0		10	6	Sufficient, meets the minimum criteria, pass
4,3- 4,7	U	9	5	Fail, Unsatisfactory
4,7-5,0	U	9-1	4 – 1	Fail, Unsatisfactory

Graduation with Honours: Students who finish in the top 10% of their cohort and have a final cumulative mark of 8.5 with no marks lower than 7.5 (Groningen scale) will graduate with Honours. Candidates for Honours must also be approved by the MEME Admission and Examination Committee.

6.4 Examination procedure

The partner universities will create general examination regulations so that the examination rules are clear for all students and teachers involved in the MEME programme. Important parts of these regulations will be:

- Examinations passed at one institution are fully recognized by the partner institutions;
- There will be standardized rules for failed examinations;
- A student can only be accepted in the next semester at another university if all requirements of the last semester have been met;
- Grading of the master's thesis is always done by at least two people, normally one from each of the two degree-awarding institutions.

7. Application, Selection and Admission

7.1 Admissions and Examination Committee

The ambition of the MEME programme is to attract the most talented students from all over the world who have a keen interest in evolutionary biology. There will be a joint Admissions and Examination (A&E) Committee with two professors from each partner university, which is appointed by the management board of the MEME programme. This committee will be responsible for the whole application, selection and admission procedure. The decisions of this committee will be accepted by each of the local existing master programmes, so a student who is accepted in the MEME programme, will automatically be accepted in any of the four universities, as long as the student fulfils the requirements of the MEME programme. The joint website of the MEME programme (www.evobio.eu) plays a central role in the admissions procedure. All information will be

published on this site and students can apply via this site. The site will be hosted by the University of Groningen and the online application procedure that is already in place in Groningen will be used for the MEME programme. All universities will have a link to the joint website at the appropriate place on their own websites.

7.2 Application procedure

Students with a Bachelor of Science (BSc) degree in Biology or equivalent and sufficient proficiency in English can apply for admission. Applicants have to follow the procedure outlined on the MEME website (www.evobio.eu) and apply directly to the consortium. The application package includes:

- a letter of motivation from the candidate;
- a complete curriculum vitae;
- an official university transcript which includes a list of all courses taken, the credit hours, the final grade received, an explanation of the grading system used, and an indication of the student's rank within her/his cohort (including cohort size);
- certification of proficiency in English (e.g., TOEFL);
- two letters of recommendation should be sent separately by referees, who in addition will be asked to fill in a form about the candidate.

The application deadline is the **15th of January**. This deadline is for both category A and B. All applicants will be informed of the outcome of their application before March 15. All information on the application procedure will be available at least six weeks before the deadline for application on the website of the programme.

7.3 Selection procedure

The selection procedure will consist of two rounds.

Round 1: The A&E committee will first check if the formal requirements are met. Then at least two members of the A&E committee will grade the application with respect to suitability for the MEME programme. They will pay attention to 1) whether the applicant is suited for the scientific work to be done, and 2) whether the applicant is sufficiently motivated to study the topics that are dealt with. Based on the rating of the two committee members, the best 50 applicants will be invited for round 2. All candidates will be notified of the committee's decision.

Round 2: Applicants who have passed the first round will be invited for an interview using Skype or videoconferencing. The applicant will be notified about the time of the interview and the technical details at least 10 days before the interview takes place. The applicant will have to show a photo-ID at the beginning of the interview. The interview will last 30 minutes and will include the following elements:

- introduction of the candidate to the committee and explanation of the agenda;
- a 5-minute presentation by the candidate on a scientific topic of her/his choice;
- questions and discussion about the presentation (5-10 minutes);
- general questions posed by the committee to the candidate (5-10 minutes);
- general questions posed by the candidate to the committee (5-10 minutes).

After all interviews have taken place the A&E committee will decide which applicants will be accepted. Applicants will be notified within two weeks after the interviews. A maximum of 32 students will be admitted to the MEME programme. The A&E committee will also decide at which

two universities the student will study in the first and second semester of the MEME programme. This decision will respect as much as possible the preference of the student.

The A&E committee will not discriminate based on gender, religion or country of origin of the student, but it will take care that the group of students that are accepted in the programme will be from a variety of countries. The A&E committee will consist of eight members (2 from each partner university). At least three of these members should be female and at least three should be male.

The aim of the programme is to attract half of the students from Europe and half of the students from Third Countries. About 20 of the 32 available places will be reserved for students having an Erasmus Mundus scholarship.

8. Scholarships and Participation Costs

8.1 Erasmus Mundus scholarships

Students applying for MEME can also apply for an Erasmus Mundus scholarship. There are two types of scholarships. Category A students (students from Third Countries) receive € 1000 per month (in total € 24000) for covering accommodation and living expenses, € 8000 per year for covering the participation costs of the programme and € 4000 per year for covering their travel expenses. Category B students (students from EU countries) receive € 500 per month for living expenses, € 4000 per year for participation costs and € 3000 in total for travel expenses. The exact amounts, the definition of 'category A' and 'category B' students and a detailed description of the procedural rules can be found in the Erasmus Mundus Programme Guide. We urge all students interested in a scholarship to consult this guide.

Roughly speaking, the coordinating university (the University of Groningen) will directly transfer the amount dedicated to living expenses to the bank account of the student, in 24 monthly instalments. This university will also ensure that category A students have sufficient resources available for covering the travel costs to one of the partner universities at the start of the programme. The amounts dedicated for participation costs will directly be transferred to the coordination office of the MEME programme. The participation costs do not only cover all tuition fees, but also additional costs like those for an insurance covering illness and accidents.

8.2 Tuition fees and participation costs

The MEME programme applies two tuition fees. For students from outside of Europe, the fee is € 8000 per year, and for European students the fee is € 4000 per year (for exact details, consult www.evobio.eu). The participation fee has to be paid to the coordination office of the programme and all universities will receive the local fees for the students studying at their university. The coordination office will directly pay the insurance costs and all non-local organisational costs (e.g., summer schools, management meetings, promotion, admissions procedure, costs of coordination office). The costs will be calculated per semester. The tuition fee covers all the directly related costs of the integrated programme. This tuition fee guarantees that the students can participate in all courses and research work offered by the four universities including a research period at Harvard without additional costs. The insurance covering illness/accidents is also included in this package. However, if in conflict with national legislation, no such fee will be applied for students from comprised countries.

Students who do not obtain an Erasmus Mundus scholarship (see 8.1) can apply for a (partial) **waiver of the tuition fees** of the MEME programme.

9. Student Services and Facilities

9.1 International Offices

All partner universities have international offices dedicated to assist foreign students with the formal requirements, such as housing, language courses, social issues etc. The MEME coordinating office will consist of four people, one at each partner university. The coordinating office will work closely together with the local international offices and together they will be able to provide excellent service to the MEME students. For the local master programmes, the connections with the international offices are already in place. The coordinating office will also organize social activities for the MEME students. MEME students can use student facilities such as libraries, IT infrastructure and sport facilities at the normal student rates. At each of the partner universities special services are available for students with families and students with special needs, the MEME coordinating office will help the students find these services. The coordinating office will also help students find language courses. The coordination office will be in contact with the students before they arrive so that it will be fully clear to the students which documents they have to bring and which requirements they have to fulfil.

9.2 Insurances

The consortium will pay for and organize sufficient insurance for health issues, accidents, liability and problems during travelling. The coordinating office is responsible for this.

9.3 Language policy

The language of all mandatory elements of the integrated programme is English. All courses specially developed for this integrated master programme are in English as well. Every university also conducts courses and activities in the local language and students are free to join as part of their elective programme. Especially in Montpellier many courses will be offered in French. Students will be encouraged to learn French if they go to Montpellier. All universities offer language courses in the local language (paid by the consortium). Students thus have the possibility to use at least three different European languages: English and two or three of the local languages: Swedish, Dutch, German and French.

9.4 Student Agreement

The MEME programme will work with a standard agreement defining the rights, obligations and responsibilities of the student and of the consortium. It will include information on the structure and requirements of the programme, the payment procedure and the evaluation procedure. The programme also will introduce a Training and Support Plan (TSP) which has already been developed in the TOP master in Groningen and provides a clear overview of all relevant activities of the student, such as courses, research projects, mobility plans and the student's progress. This plan supports an optimal personal training scheme and serves as a status report for the mentor team.

9.5 Networking

The MEME programme facilitates professional networking as well as social networking. The professional networking starts when the students enter the master programme during the annual summer school. The students have the opportunity to meet all key teachers, mentors, and postdoctoral scientists of the five participating institutes including invited internationally renowned scientists. For the younger students, meetings with such invited speakers will be scheduled to ensure that even the shy students can talk to the speaker. At the partner universities students will get to know many people through cohort activities, the mentoring programme and the integration in research laboratories. The students will also be encouraged to actively contribute to the programme, for example by inviting external speakers, organizing social events and writing for the website or the newsletter. Specific activities will be planned to encourage networking with professionals outside the academic field. Such activities are: excursions to organizations or companies, invited speakers from organizations or companies, and meetings with alumni. Language courses will help the students meet other students, also from other fields than biology.

10. The Consortium Partners

10.1 University of Groningen (The Netherlands)

The University of Groningen (RUG) enjoys an international reputation as a leading research university in Europe. It offers 61 Bachelor's programmes (7 of which taught in English) and 118 Master's programmes (58 of which taught in English; 8 being double-degree programmes), and about 1,300 PhD students obtain their training in 9 Graduate Schools. About 15% of the 27,000 students come from abroad. The RUG has strategic partnerships with more than 10 universities in Europe, Turkey, China, Indonesia, Japan, Mexico and Brazil. International networks include the Coimbra Group, Asea, Uninet, APAIE and EUA. The RUG is the coordinating organization of the Erasmus Mundus master programmes CEMACUBE, Euroculture and MEME, and it participates in 5 other EM double degree programmes. The RUG is ranked 101st in the ARWU ranking (35th within Europe), 102nd in the Webometrics ranking (19th within Europe), 138th in the THE ranking, and 23rd in the Leiden ranking of top 100 European universities. It belongs to the CHE Excellence Group, a position reserved for the top 1.5% of all European institutions of higher education. The RUG is 4th place on the international list of Best Places to Work in Academia 2009, published by the American journal The Scientist (see the RUG rankings website for more details).

The Groningen Graduate School of Science (GGSS) comprises all PhD programmes (for >600 PhD students) and all research oriented MSc programmes (for >700 MSc students) at the Faculty of Mathematics and the Natural Sciences. All these programmes are taught in English. The GGSS is highly international: about 25% of the MSc students and about 50% of the PhD students come from abroad. Several joint programmes (including ICI-ECP, a joint programme of 3 European and 3 Japanese universities) are coordinated by the GGSS. A student-centred approach (including mentorship and funding of student projects) and strict quality control measures at all levels are hallmarks of the GGSS.

The acclaimed international TOP master programme 'Evolutionary Biology', which will be part of the MEME initiative, is organized by the Centre for Ecological and Evolutionary Studies (CEES), a national centre of excellence and leading partner in the Dutch Research School Ecology & Evolution (former name: Functional Ecology).

The University of Groningen coordinates the MEME initiative. It will manage the budget, coordinate PR activities, and be responsible for the organisation of the application and selection procedure, the joint management and educational meetings, and joint activities like the annual summer schools. The RUG will ensure a transparent, efficient and accurate financial management, a transparent and fair selection procedure, and the implementation of the mentorship programme and the quality control measures.

In the first semester, Groningen will host half of the enrolled MEME students and offer them advanced courses of the highest international quality. By employing the best scientists of CEES as teachers, by integrating theoretical and practical approaches, by giving students a very active role throughout the programme and by organizing seminars, workshops and summer schools, we attempt to create a stimulating and challenging learning environement. For their research projects, students have a broad spectrum of choices (lab, field and theoretical approaches; terrestrial and marine systems; all levels of organisation).

10.2 Ludwig-Maximilians University of Munich (Germany)

The Ludwig-Maximilians-University Munich (LMU) is one of the leading research universities in Europe, with a more than 500-year-long tradition. The university builds upon its success in the Excellence Initiative, a Germany-wide competition promoting top-level university research, to enhance its research profile over the coming years and strengthen its position at an international level. Some 700 professors and 3,300 academic staff members do research and teach to 44,000 students. 15 percent of the students come from abroad. The LMU is a member of the most important European networks and institutions of academic exchange: It is a founding member of the League of European Research Universities (LERU) and the Venice International University (VIU) as well as the European Association of Universities (EAU). The LMU is ranked 55th in the ARWU ranking (13th within Europe), 160th in the Webometrics ranking (43rd within Europe), 93th in the THE ranking, and 11th in the Leiden ranking of top 100 European universities. It belongs to the CHE Excellence Group, a position reserved for the top 1.5% of all European institutions of higher education.

The Munich Graduate School for Evolution, Ecology and Systematics (EESLMU) is a collaboration between the Biology Department and the Department of Earth- & Environmental Sciences of the LMU, the Max Planck Institute for Ornithology and the Bavarian Natural History Collections. The EES program hosts a Master program, a PhD program, a yearly summer school and conference. The EES Master program, which will be part of the proposed MEME program, introduced many innovative elements to the German training system such as a mentoring program, integrated skills courses and individual research training. The program was awarded a first prize in a competition for innovative educational concepts by the Volkswagen Foundation in 2006 and attracts both German and international students.

The LMU will host half of the MEME students in the second semester. In this semester, there is a whole range of courses available for the MEME students. The courses are offered in English. Most of the courses were newly developed in 2007 or 2008 specifically for the EES program. Courses usually have between 5 and 20 students. Students who want to do research in Munich can choose from around 30 potential supervisors. They could work on the widest range of topics in evolutionary biology, from field work on slavemaking ants, to theoretical population genetics or molecular phylogenetics.

In addition to the courses and the research work, students will be encouraged to join activities such as journal clubs and meetings in the research groups. They will be actively involved in the EES seminar series and they will meet with many international visitors to the EES program.

10.3 University Montpellier 2 Sciences and Techniques (France)

The University Montpellier 2 Sciences and Techniques (UM2) with its 10 research departments and 15000 students enjoys an international reputation : it belongs to the 10 French International Campus and appears in the Shangai ranking and in the important French universities rankings (5th in the CNRS ranking). UM2 participates in 15 FP7 on-going projects (including coordination of the Marie Curie Networks) and coordinates the Erasmus Mundus External Windows project "Averroes" concerning mobility with the Maghreb (lot 1). UM2 is among the world leaders in biological research with centres of excellence and strong research groups in fields as evolutionary biology, ecology, agronomy, bio-informatics and genomics very actives in the European programmes (2 ERC grants obtained). The Master "Sciences for Environment" of UM2, under which this EM Master proposal is partially based, includes all master-level education in non-molecular biology in Montpellier. More than 100 different courses are arranged yearly and attended by a total of 680 students and taught by high quality and very active researchers from different complementary research departments. This includes lectures, lab training, excursions, seminars and research projects. In most courses, theory and thorough practical training are integrated. With 30 students per year the section "Biology, Ecology and Evolution" offers all good basis and complementary courses in M1 and M2 for this EM proposal and particularly all necessary working environment / supervision conditions and quality for the realization of the two masters theses, especially with the support (seminars, courses) of the Doctoral school "Sibaghe" (Integrated Systems in Biology, Agronomy, Hydrosciences and Environment managing about 400 PhD). In this EM Master, strong by its international hosting experience, UM2 will provide a complete and present theoretical knowledge and a usual know-how of the students who will acquire a practical experience from the two master theses with new large skills for new research jobs.

For the MEME programme, the UM2 offers modules in Evolutionary Biology (corresponding to three focal courses, research seminars, practicals and excursions) from its local MSc "Sciences for Environment" in Semester 2 of the 1st year and in Semester 1 of the 2nd year of this EM Master. These teaching units will be taught in English and will be host an average of 8 to 15 students per semester supervised by a team of about 50 researchers. By our research experience, know-how and quality research working conditions (material in labs), our role will be more important in the conduct of individually research projects supervision in the second half of the MEME programme. Our institution will also be able to offer about 60 specific modules concerning additional skills as career development skills (particularly with the Doctoral schools modules) for students able to speak French (however some of these modules are in English and opened for all students) and as language skills in French for the others.

10.4 University of Uppsala (Sweden)

The Biology Education Centre (IBG) at Uppsala University is the organisation for all undergraduate and master level education within biology, biotechnology and bioinformatics at Uppsala University. More than 100 different courses are arranged yearly, and almost 2000 students attend our courses during some part of the year. The majority of teachers are directly involved in scientific projects at the university, implying high quality courses closely connected to ongoing research and recent

findings.The courses arranged by IBG are held at either at the Evolutionary Biology Centre or at Uppsala Biomedical Centre.

Uppsala University is among the world leaders in biological research with centres of excellence and strong research groups in such widely differing fields as evolutionary biology, genomics, ecology, limnology, RNA research, biophysics and structural biology. Biology in Uppsala was recently awarded an Excellence Ranking by the German Centre for Higher Education Development (CHE). Their ranking is specifically aimed as a guide for students who, after obtaining a Bachelor's degree, intend to continue their studies with a Master's programme at a European university.

The Master of Science Programme in Biology is characterised by close connections to the frontlines of research within the area. The teachers are all active researchers at different research departments, and the students come into close contact with leading researchers. The education includes lectures, lab training, excursions, seminars and project work. Theory and thorough practical training are integrated in the courses. In all courses, a major aim is to stimulate and encourage analytical thinking and the ability to solve problems using newly acquired knowledge.

In the first semester, Uppsala will host half of the enrolled MEME students. After an introductory and welcome programme, students get a general scientific introduction, including an introduction to research ethics, philosophy of science, gender issues and the role of the programme for sustainable development. In addition to offering high-quality courses, Uppsala provides individual-level supervision, including study counselling and Individual Study Plans. The Evolutionary Biology Centre and the Uppsala Biomedical Centre provide plenty of opportunities to host a variety of MSc level research projects related to Evolutionary Biology.

10.5 Harvard University (USA)

Harvard University is renowned around the world for excellence in faculty research, teaching and student learning in a wide range of disciplines at undergraduate (first degree), graduate (2nd degree) and professional school levels. It is among the top 3 universities of the world in almost all university rankings.

The Department of Organismic and Evolutionary Biology (OEB) is committed to train scientists pursuing a greater understanding of the evolution of the earth's life processes. The department's programs, many of which are interdisciplinary or linked to research in other departments, constitute a frontier of scientific vision in organismic and evolutionary biology. Modern research facilities, combined with the natural history collections and libraries of the Harvard University Herbaria and the Museum of Comparative Zoology, provide unique opportunities for meeting the challenges inherent in this pursuit.

Faculty in the OEB Department will admit and train MEME students in their field of expertise by involving them in ongoing laboratory and/or field research projects. As an Associate Member, OEB faculty will work with visiting students for up to one term as part of their Master's degree training programme. When at Harvard, MEME students can make use of all facilities, and their traineeship will satisfy all quality criteria of the MEME programme. Upon completion of their project, the OEB supervisor will write and send evaluative reports of the student's performance to the Consortium Programme Leader.

Annex: List of Courses and Teaching Activities

This annex contains a list of courses and other teaching units that can be followed at the four universities participating in MEME. As described in the application, these courses are classified into four categories:

- Core courses [core]
- Topical courses [topic]
- Methodological courses [method]
- Transferable skills courses [skills]

Courses in Groningen	Lecturers	ECTS	English	Type of course
Adaptation, Biocomplexity and Conservation	Prof. Olff Prof. Piersma Prof. Elzenga	8	x	core
Theoretical Ecology and Evolution	Prof. Weissing	8	x	core
Phylogenetics and Genomics in Ecology	Prof. Olsen Prof. Beukeboom Prof. van Elsas Dr. van de Zande	8	x	core
Current Themes in Ecology and Evolution	Prof. Komdeur	2	x	topic
Classic Themes in Ecology and Evolution	Prof. Olsen Prof. Elzenga	2	x	method
Groningen Lectures in Ecology and Evolution	Prof. Beukeboom miscellaneous	6	x	topic
Mathematical Models in Ecology and Evolution	Prof. Pen Prof. Weissing	6	x	method
Life History Evolution	Prof. Tinbergen Prof. van Alphen	2	x	topic
Ecological Genomics	Prof. van Straalen	2	x	topic / method

Evolutionary Genetics Research	Prof. Beukeboom Dr. Wertheim	10	x	topic
Animal Ecology Research	Prof. Piersma Prof. Tinbergen Prof. Komdeur	10	x	topic
Community and Conservation Ecology Research	Prof. Olff Dr. Etienne	10	x	topic
Theoretical Biology Research	Prof. Hemelrijk Prof. Pen	10	x	topic
Plant Ecophysiology Research	Prof. Elzenga	10	x	topic
Microbial Ecology Research	Prof. van Elsas	10	x	topic
Marine Ecosystems	Prof. Olsen Prof. Stam	10	x	topic
Biological Oceanography	Prof. de Baar Prof. Buma	10	x	topic
Function of Marine Biodiversity	Dr. Eriksson	5	x	topic
Human Impact on Marine Environments	Prof. Buma	5	x	topic
Mediterranian Rocky Shores	Dr. Stamhuis	5	x	topic
Behavioural Biology Research	Prof. Groothuis Prof. Merrow	10	x	topic
Behavioural and Cognitive Neurosciences	Prof. Beersma Prof. Luiten	10	x	topic
Self-organization in Biological Systems	Prof. Hemelrijk	5	x	topic
Genomics and Proteomics	Prof. Driessen Prof. Dijkhuizen	5	x	topic / method

Bioinformatics	Prof. Janssen	5	x	topic / method
Groningen Lectures in Theoretical Biology	Prof. Weissing Prof. Pen	6	x	topic
Programming in C++	Prof. Hemelrijk	5	x	method
Advanced Statistics	Prof. Pen	5	x	method
Generalized Linear Models	Dr. van Dooren	2	x	method
Multivariate Analysis	Prof. Molenberghs	2	x	method
Animal and Human Experimentation	Prof. Gerkema	5	x	method
Orientation on International Careers	Prof. Gerkema	5	x	skills
Science, Business and Policy	Prof. Gerkema	10	x	skills
Science, Media and Public	Prof. Gerkema	5	x	skills
Communication and Presentation		5		skills
Presentation Skills	Dr. van Gunsteren	1	x	skills
Academic Teaching Skills	Dr. Romein	2	x	skills
Scientific Research Techniques		3	x	skills
Scientific Writing	Dr. Schubert	2	x	skills
Scientific English	Dr. Schubert	2	x	skills
Scientific Literature Management		1	x	skills
Dutch for Foreigners (levels 1-3)		3 x 2	x	skills

Regular activities for students in Groningen:

* Journal clubs in every research group. Students read, present and discuss recent literature.

* Research seminars. Presentation and discussion of ongoing work in each research group.

* Seminar series. External speakers are invited to give a talk and meet with the students.

Courses in Munich	Lecturers	ECTS	English	Type of course
Evolutionary Genetics	Prof. Stephan	6	x	core
Evolutionary Ecology	Prof. Foitzik	6	x	core
Systematic Data and Evidence	Prof. Renner	6	x	core
Evolutionary Ecology Modelling	Prof. Gabriel	6	x	topic / method
Basic Evolutionary Genomics	Prof. Parsch	3	x	topic
Advanced Evolutionary Genomics	Prof. Parsch	3	x	topic
Microarray Analysis in Evolution	Prof. Parsch	3	x	method
Population Genetics	Prof. Stephan Dr. Hutter	6	x	topic / method
Principles of Behavioral Ecology	Prof. Foitzik	3	x	topic
Experimental Behavioral Ecology	Prof. Foitzik	3	x	method
Diversity and Evolution of Fungi	Prof. Agerer	3	x	topic
Field Mycology	Prof. Agerer	3	x	topic / method
Fungal Interactions: Animals	Dr. Peršoh	3	x	topic
Morphology & Evolution Spermatophytes	Dr. Gottschling	6	x	topic
Systematics of Marine Fauna und Flora	Prof. Haszprunar	6	x	topic / method
EES Excursion and Statistics	Prof. Foitzik Prof. Metzler	3	x	method
Summer School	Dr. Pennings	3	x	topic
Theoretical Population Genetics	Prof. Stephan	3	x	topic
Ornithology	Prof. Kempenaers	3	x	topic / method
Biogeography and Nature Conservation	Prof. Renner	3	x	topic

Experimental Evolutionary Ecology	Dr. Laforsch Dr. Wolinska	3	x	topic / method
Computational Methods in Pop Genetics	Prof. Metzler	3	x	method
Functional Anatomy and Archeobiology	Prof. Grupe	3	x	topic / method
Perl for Beginners	Dr. Hutter	3	x	method
Palynology	Prof. Heubl	3	x	topic
Fungal Interactions: Lichens	Dr. Beck	3	x	topic
Bioinformatics	Prof. Suhre	3	x	topic / method
Ornithology Practical	Prof. Kempenaers	3	x	method
Tropical Plant Diversity	Dr. Döbbeler	3	x	topic
Scientific Writing	Dr. Rose / Dr. Witte	2	x	skills
Scientific Presentations	Dr. Wolinska Dr. Pennings	2	x	skills
Grant Writing	Dr. Wolinska	2	x	skills
Leading discussions	Dr. Jeschke	2	x	skills

Regular Activities for students in Munich:

* Journal clubs in every research group. Students read, present and discuss recent literature

* Seminar series. External speakers are invited to give a talk and meet with the students.

* yearly EES conference. Conference for students and staff of the EES program.

* Volvox student club social activities. Organized by the MSc and PhD students in the EES program.

Courses in Montpellier	Lecturers	ECTS	English	Type of course
Population genetics	Prof Olivieri	5	x	core
Ecology	Prof McKey	5	x	core
Interactions in evolution and ecology	Prof Hochberg	5	x	core
Génétique et génomique évolutive I	Prof Olivieri	5		topic
Biologie évolutive et écologie fontionnelle des organismes et populations	Garnier / Olivieri / Lenormand	5		topic
Evolution des systèmes symbiotiques	S. Godreuil	2.5		topic
Formalisation et modélisation de problèmes biologiques	S. Maurice	2.5		method
Biostatistiques	O. Gimenez ; E. Klein	2.5		method
Ethnoécologie et Environnement Durable	Y.Thomas, E. Dounias et D. Mckey	2.5		topic
Ecologie Humaine et Ethnobiologie		2.5		topic
Ecologie comportementale	F. Bonadonna	2.5		topic
Sociétés, écologie et environnement	Y. Thomas ; D.McKey	2.5		topic
Diversité fonctionnelle : des organismes à l'écosystème	Eric Garnier	2.5		topic
Phylogénie approfondie : méthodes et applications en évolution	E. Douzery	2.5		topic / method
Introduction à la génétique quantitative	David / Klein / Lefèvre	2.5		topic / method
Génétique et génomique évolutive II	Prof Olivieri	2.5		topic
Parasites, ecologie parasitaire et epidemiol		5		topic

Evolution des interactions durables (EID)		5		topic
Gestion des populations et biodiversité		5		topic / method
Paléoenvironnements et évolution végétale		5		topic
Histoire des sciences et bioéthique		5		topic

Regular Activities for students in Montpellier:

*Journal club. Students read, present and discuss recent literature

*Seminar series. External speakers are invited to give a talk and meet with the students.

Courses in Uppsala	**Lecturers**	**ECTS**	**English**	**Type of course**
Applied Ecosystem Ecology	Assoc Prof A Brunberg	15	x	topic
Behavioural Ecology	Prof A Berglund	15	x	topic
Bioinformatic Analyses I	Assoc Prof M Thollesson	5	x	method
Bioinformatic Analyses IIa	Assoc Prof M Thollesson	5	x	method
Bioinformatic Analyses IIb	Assoc Prof M Thollesson	5	x	method
Bioinformatics on the Web	Assoc Prof M Thollesson	5	x	method
Conservation Biology	Prof B Svensson	15	x	topic
Cryptogams – Floristics and Conservation	Prof L Tibell	15	x	topic/method
Diversity and Evolution of Plants	Prof M Thulin	15	x	topic
Ecological Methods	Assoc Prof K Kiviniemi	15	x	method

Ecology	Prof B Svensson	15	x	core
Biology and Evolution of Insects	Prof T Jaensson	15	x	topic/method
Evolutionary Genomics	Prof M Lascoux	15	x	topic
Evolutionary Organismal Biology	Prof P Ahlberg	15	x	topic
Evolutionary Patterns	Assoc Prof M Thollesson	15	x	core
Evolutionary Processes	Prof J Höglund	15	x	core
Functional Genomics	Assoc Prof R Bernander	15	x	topic
Genes, brain and behaviour	Prof E Jazin	15	x	topic
Limnology I	Assoc Prof A Brunberg	15	x	topic
Limnology II	Assoc Prof S Bertilsson	15	x	topic
Modelling in Biology	Prof D Sumpter	5	x	method/skills
Mathematical Biology	By Matem Dept	5	x	method/skills
Population and Community Ecology	Prof P Eklöv	15		topic
Statistical Methods in Natural Sciences	Prof G Arnqvist	5	x	method/skills
Scientific Writing and Publishing	Assoc Prof R Svanbäck	2	x	skills

Regular Activities for students in Uppsala:

*Journal club. Students read, present and discuss recent literature

*Seminar series. External speakers are invited to give a talk and meet with the students.