EUROPEAN PARTNERS Master Program

1. **Albert-Ludwigs-Universität Freiburg: M.Sc Forest Ecology and Management (FEM)**
   - **Admission Requirements**:
     1. *B.Sc. (or equivalent primary degree) well above average in Forest or Agricultural Sciences, Geography, Biology, Ecology, Environmental Sciences, Land Use Planning, Nature Conservation or Natural Resource Management.*
     2. *Very good English language skills (TOEFL paper-based 600 points, internet-based 100 points, IELTS band 7; TOEFL code number 8692; TOEFL should not be older than 2 years).*
   - **Required Courses**

Course title	ECTS
1st Semester (Winter)	
Global Environmental Changes	5
Tree structure and function	5
Applied Statistics	5
Managing Human-Environment Interactions	5
2nd Semester (Summer)	
Methods in Ecosystem Analysis	5
Population and Community Ecology	5
Soil Ecology and Management	5
Ecosystem Management	5
Internship (7 weeks)	10
3rd Semester (Winter)	
Spatial Information Systems and Eco-Informatics	5
Natural Hazards and Risk Management	5
Forest Resources and Wood Production	5
4th Semester (Summer)	
Master-Thesis	30

   - **Parallel elective Modules**

1st Semester (Winter)	
Elective 1 – Forests and Water	5
Elective 1 – Agro-forestry and Farm Forestry	5
Elective 2 – Plantation Forestry	5
Elective 2 – Forests and Climate Change	5
2nd Semester (Summer)	
Elective 3 – Forest growth and Silviculture	5
Elective 3 – Forest-Atmosphere Interactions	5
Selective Topic (individually supervised research project)	5
3rd Semester (Winter)	
Elective 4 – Non-timber Forrest Products and Bioresources	5
Elective 4 – Ecological Modelling	5
Elective 4 – Landscape Ecology	5
Elective 5 – Conservation Biology	5
Elective 5 – Forest and Resource Inventory	5
Selective Topic (individually supervised research project)	5

2. Wales University (Bangor)/UK: M.Sc. Environmental Forestry

- Admission Requirements: Usually, applicants should have an appropriate first degree with a minimum of second class honours, or alternatively a qualification or experience which is acceptable as equivalent.
- Course Requirements:

Course title	ECTS
1st Semester (Summer/1)	
Ecological sampling and GIS for foresters	10
Natural resource economics	5
Forest products	5
World forest resources	5
Research planning	10
2nd Semester (Winter/1)	
Forest ecology	5
Environmental silviculture and management (temperate)	10
Tropical forest ecology and management	10
Field study tour	10
Research planning	10
DISSERTATION: summer	30
TOTAL	**110**

3. University of Eastern Finland: Master of Science (Agriculture and Forestry)

- Admission requirements
    1. BSc in forestry from a recognized university
    2. English language requirement
- Course requirements
    - A two-year programme (min. 120 ECTS)

A) Compulsory studies

Course title	ECTS
General studies	
Orientation for international students[A]	1
Personal study plan (MSc Agr & For)	1
Methodological studies eg.	
-Research methodology in forest sciences and/or	1.5
-Physics, chemistry or fundamentals and applications of decision support methods in forestry [B]	5-6
Academic skills in forest sciences [A] or Academic written skills for students of forestry [B]	1.5 or 2
Internship/Professional training	4-10
Scientific studies for all Master students	
MSc thesis (Agr & For) and maturity test	30 [C]-40
MSc thesis seminar (Agr & For)	0
Final exam (forest sciences)	6

A) only for Canadian students in Finland
B) available only for Finnish students
C) only for Finnish students in Canada

B) Elective scientific studies in specialisation

(Some of the courses may run only every second year and additional courses may be available for Finnish students)

Course title	ECTS
Forest ecology, forest protection, silviculture and forest bioenergy	
Advanced course in forest ecology and biodiversity	3
Forest health and diseases	5
Forest pathology	6
Forest zoology	6
Silvicultural management of forests for timber production and other ecosystem services	3
Peat production and use of cutaway peat bogs	4
Production and energy use of wood biomass	4
Biomass production ecology	3
Bionergy markets and policies	4
Forest information systems and forest planning	
Advanced geographical information systems	5
Advanced Remote Sensing	5
Forest biometrics	5
Forest information systems	5

Forest resource assessment, management and planning	3
Forest economics, forest policy and multiple-use forestry	
Current trends in ethical business practices and human rights	3
Economics of multiple-use forestry	3
European forest related policies	4
Forest governance and environmental policy	3
International forest policy	4
Methods of forest policy analysis	4
Forestry in Russia	
Forestry in Russia	5
Study tour to the Russian forestry	2
Materials science and paper and instrumentation	
Forest products mechanics	6
Measurement, scaling and instrumentation	5
Pulp and paper industry	5
Structure and properties of wood-based materials	8
TOTAL A+B	**min. 120**

4. Swedish University of Agricultural Sciences, Faculty of Forest Sciences

- Admission requirements:
  - A completed Bachelor's degree, equivalent to a Swedish Bachelor's degree (180 ECTS), in Forest Science, Forest Management, Biology or equivalent, from a university recognized by government or accredited by other recognized organization according to UNESCO. Students in their final year of undergraduate education in EU/EES countries may also, if the student meets the general admission requirements, receive a conditional acceptance. Specific requirements for the program applied to must usually be fulfilled by the student at the time of application.
  - Good knowledge of written and spoken English.

- Course requirements:

A) *"Forest Ecology and Management" Option (Dept. of Forest Ecology and Management, Umeå Campus)*

Course title(*)	Period (**)	ECTS
1st Semester(Fall)		
SG0088 Site Productivity and Production Ecology	1A and 1B	15
SG0087 Silviculture – Advanced course	2A	7.5
SG0057 GIT (Geographical Information Technology) II,	2B	7.5
Optional courses:		
SG0056 Forest Remote Sensing	1B	7.5
BI1122 Applied Population Ecology	2A and 2B	15
EX0644 Master thesis in Forest Management	1A-2B	30
EX0642 Master thesis in Biology	1A-2B	30
2nd Semester (Spring)		
SG0084 Forest Vegetation Ecology	3A	7.5
SG0092 International Silviculture	3B	7.5
SG0082 Sustainable Management of Boreal Forests	4A and 4B	15
Optional courses:		
SG0089 Wood Raw Materials: Production, Properties and Use	3A	7.5
SG0064 Conservation Biology 7,5 HEC A1N	3B	7.5
EX0644 Master thesis in Forest Management	3A-4B	30
EX0642 Master thesis in Biology	3A-4B	30
Summer semester		
SG0078 Fire Management I (BSc-level)		7.5
SG0079 Fire Management II (BSc-level)		7.5
Master thesis can be started also in the summer semester		30

(*) The majority of the above-mentioned courses are classified as courses within the "Forest Science" subject (the course codes begin with the SG letters). However, some courses are also classified as Biology (BI). The prerequisites for starting these courses are found in the syllabi. The most common prerequisites are "The equivalent of: 120 ECTS, including 90 ECTS in Forest Science and English B (TOEFL score minimum 550/Computer score 220/IELTS score of 6.0)". However, notice that specific course prerequisites may occur. All courses are full-time courses in a "block schedule", which means that it is difficult to attend two courses that are given within the same period.

(**) Time periods: In 2009/2010, Period 1A is from 31st of August- 30th of September; 1 B from 1st of October - 4th of November, 2A from 5th of November - 7th of December; 2B from 8th of December - 15th of

January (No scheduled activities between 24th of December - 3rd of January, but open individual studies); 3A from 18th of January - 18th of February; 3B from 19th of February - 24th of March; 4A from 25th of March - 30th of April (no scheduled activities from 2nd of April - 5th of April); 4B from 3rd of May - 4th of June. Summer courses in 2010 can be given between 5th of June and 28th of August. These periods can be slightly changed between years.

B) *"Euroforester – Master's programme" Option (Southern Swedish Forest Research Centre, Alnarp Campus)*

Course title(*)	Period (**)	ECTS
1st Semester(Fall)		
SG0069 Sustainable Forestry in Southern Sweden	1A and 1B	15
SG0063 Planning in Sustainable Forest Management	2A and 2B	15
Optional courses:		
EX0630 Master thesis in Forest Management	1A-2B	30
EX0631 Master thesis in Forest Management	1A-4B	60
2nd Semester (Spring)		
SG0062 National and International Forest Policy	3A and 3B	15
SG0067 Broadleaves: Ecology, Nature Conservation, Silviculture	4A and 4B	15
Optional courses:		
LPXXX Landscapes in transition – impacts of an adaptation to climate change (at another faculty)	3A and 3B	15
EX0630 Master thesis in Forest Management	3A-4B	30
Summer semester		
Master thesis can be started also in the summer semester		30

(*)The majority of these courses are classified as courses within the "Forest Science" subject (the course codes begin with the SG letters). However, some courses are also classified as Biology (BI) or Landscape Planning (LP). The prerequisites for starting these courses are found in the syllabi; the most common prerequisites are "The equivalent of: 120 ECTS, including 90 ECTS Forest Science/Forest Management or Biology and English B (TOEFL score minimum 550 / Computer score 220 / IELTS score of 6.0)". However, notice that specific course prerequisites may occur. All courses are full-time courses in a "block schedule", which means that it is difficult to attend two courses that are given within the same period. Regarding Master thesis, there is a possibility to take a 60 ECTS MSc-thesis, i.e. a thesis for a full study year.

(**)Time periods: See details in the Forest Ecology and Management option above

C) *"Management of Fish and Wildlife Populations – Master's programme" option (Dept. of Wildlife, Fish, and Environmental Studies, Umeå Campus)*

Course title(*)	Period (**)	ECTS
1st Semester(Fall)		
BI1123 Fish and wildlife census techniques	1A and 1B	15
BI1122 Applied Population Ecology	2A and 2B	15
Optional courses:		
BI1076 Project based advanced course	1A and 1B	15
BI1076 Project based advanced course	2A and 2B	15
EX0633 Master thesis in Biology	1A-2B	30
EX0595 Master thesis in Biology	1A-4B	60
2nd Semester (Spring)		
BI1126 Human Dimensions of Fish and Wildlife Management	3A and 3B	15
BI1124 Fish and Wildlife Management	4A and 4B	15
Optional courses:		
SG0064 Conservation Biology	3B	7.5
BI1076 Project based advanced course	3A and 3B	15
BI1076 Project based advanced course	4A and 4B	15
EX0633 Master thesis in Biology	3A-4B	30
SG0065 Faunistics of Forest Animals *(BSc-level, 25 %)*	3A-4B	7.5
Summer semester		
Master thesis can be started also in the summer semester		30

(*): The majority of these courses are classified as courses within the "Biology" subject (the course codes begin with the BI letters). However, some courses are also classified as Forest Science (SG). The prerequisites for starting these courses are found in the syllabi. The most common prerequisites are "The equivalent of: 120 ECTS, including 90 ECTS in Biology or Forest Science, and 15 ECTS in Ecology, and English B (TOEFL score minimum 550 / Computer score 220 / IELTS score of 6.0)". However, notice that specific course prerequisites may occur. All courses are full-time courses (except one course at BSc-level) in a "block schedule", which means that it is difficult to attend two courses that are given within the same period. Regarding Master thesis, there is a possibility to take a 60 ECTS MSc-thesis, i.e. a thesis for a full study year.

(**)Time periods: See details in the Forest Ecology and Management option above

D) *"Plant and Forest Biotechnology – Master's programme" option (Dept. of Forest Genetics and Plant Physiology, Umeå Campus)*

Course title (*)	Period (**)	ECTS
1st Semester(Fall)		
BI1133 Plant Cell and Molecular Biology	1A and 1B	15
BI1134 Plant Growth and Development	2A and 2B	15
Optional courses:		
BI1130 Computional Life Science	1A and 1B	15
BI1131 Functional Plant Genomics	2A and 2B	15
BI1075 Project based advanced course	1A and 1B	15
BI1075 Project based advanced course	2A and 2B	15
EX0634 Master thesis in Biology	1A-2B	30
EX0584 Master thesis in Biology	1A-4B	60
2nd Semester (Spring)		
BI1132 Plant Biotechnology and Molecular Breeding	3A and 3B	15
BI1129 Biology & Biotech - in Forest Production Systems	4A and 4B	15
Optional courses:		
BI1075 Project based advanced course	3A and 3B	15
BI1075 Project based advanced course	4A and 4B	15
EX0634 Master thesis in Biology	3A-4B	30
Summer semester		
BI1075 Project based advanced course		15
Master thesis can be started also in the summer semester		30

(*)These courses are classified as courses within the "Biology" subject (the course codes begin with the BI letters). The prerequisites for starting these courses are found in the syllabi. The most common prerequisites are "The equivalent of: 120 ECTS including 90 ECTS in Biology whereof 7.5 ECTS in Cell biology and 15 ECTS in Chemistry and English B (TOEFL score minimum 550 / Computer score 220 / IELTS score of 6.0)". However, notice that specific course prerequisites may occur. All courses are full-time courses in a "block schedule", which means that it is difficult to attend two courses that are given within the same period. Regarding Master thesis, there is a possibility to take a 60 ECTS MSc-thesis, i.e. a thesis for a full study year.

(**)Time periods: See details in the Forest Ecology and Management option above

E) *"Environmental Monitoring and Assessment -Master's Program" option (Dept. of Forest Resource Management, Umeå Campus)*

Course title	Period	ECTS
1st Semester(Fall)		
MX0088 Environmental Monitoring	1A	7.5
MS0055 Mathematical Statistics	1B	7.5
MX0093 Database and Data Processing	2A	7.5
MX0090 Geographic Information Technology	2B	7.5
Optional courses:		
SG0056 Forest Remote Sensing	1B	7.5
SG0057 GIT (Geographical Information Technology) II,	2B	7.5
EX0627 Master thesis in Environmental Sciences	1A-2B	30
EX0626 Master thesis in Environmental Sciences	1A-4B	60
2nd Semester (Spring)		
MX0091 Sampling and Data Acquisition	3A	7.5
MX0092 Statistical Methods for Environmental Analysis	3B	7.5
MX0089 Environmental Monitoring Analysis, Prognoses and Communication	4A and 4B	15
Optional courses:		
EX0627 Master thesis in Environmental Sciences	3A-4B	30
Summer semester		
Master thesis can be started also in the summer semester		30

(*)These courses are classified as courses within the "Environmental Science" subject (the course codes begin with the MX letters). The prerequisites for starting these courses are found in the syllabi. The most common prerequisites are "The equivalent of: 120 ECTS, including 90 ECTS in environmental sciences, biology, forest science, agricultural sciences, horticulture sciences, geosciences or chemistry, and English B (TOEFL score minimum 550 / Computer score 220 / IELTS score of 6.0)". However, notice that specific course prerequisites may occur. All courses are full-time courses in a "block schedule", which means that it is difficult to attend two courses that are given within the same period. Regarding Master thesis, there is a possibility to take a 60 ECTS MSc thesis, i.e. a thesis for a full study year.

(**)Time periods: See details in the Forest Ecology and Management option above