



Figure 1. Dr Lutz Fehrmann in October 2018 conducting an interactive discussion on a new draft BioCEP curriculum with staff and students of Mandalay, Myeik and Mawlamyine universities.

WP.2.1: Curriculum planning and content workshops
WP2.2 Draft outline of curriculum

BASED ON THE FOLLOWING WORKSHOPS:

13-15 March 2018: Myeik University (Kick-off meeting)

5-7 July 2018 workshop: University of Mandalay

9-10 July 2018: Mawlamyine University

AND SPECIFICALLY: **10-14 October 2018 workshop: University of Mandalay**

1: Work packages 2.1 - Results (narrative) (1000 characters)

During 2018, MuEuCAP established a list of (1) pre-existing and (2) new courses, which together will provide the new MSc BioCEP (Biodiversity Conservation and Environmental Protection) curriculum. As a baseline, several courses already taught in the universities of Mandalay, Myeik and Mawlamyine, such as biostatistics, will be incorporated into the new curriculum. These will be updated to international standard in content and teaching method. The staff will be trained to use , new equipment to deliver these courses. New courses will also be incorporated, such as E.I.A. (environmental impact assessment) and scientific writing. Follow-up workshops in 2018 will train the Myanmar university staff in the theoretical and practical aspects of these new and enhanced courses (WP2.8) to ensure they can deliver high quality teaching to their students.

2: Anticipated outcome

- Curriculum planning and content (WP2.1)
- Draft outline of curriculum (WP2.2)
- Additional outcomes of the workshops (listed above) include:

- Finalizing logistical arrangements for training (WP2.6.5) and developing programs to meet the needs in:
 - staff training in hard, technical and soft skills (WP2.8.1)
 - evaluation mechanisms (WP2.6.2; WP2.6.3) and quality assurance (WP2.8.2)
 - English language skills (WP2.6.6; WP2.8.1)
- Finalizing selection of staff for ongoing training (WP2.6.1)
- Finalizing equipment needs (WP2.7)
- First call for students to participate in the first year of staff training (WP2.6.4).

3: Responsible: Project coordinator, project manager, Myanmar universities contact persons. The workshop programmes were led by the European trainers with discussion and feedback from Myanmar staff and students. The workshop (10-14 October 2018) took place in the University of Mandalay and included 42 staff and students from Myanmar and Europe, comprising:

- Five European staff from the University of Natural Resources and Life Sciences (Dr Swen Renner and Dr Paul Bates); Göttingen University (Prof Lutz Fehrmann) and the University of Extremadura (Dr Alfonso Marzal Reynolds)
- Three staff from two Myanmar NGOs, (Nay Myo Shwe from FFI and Dr Thein Aung and Dr Thiri Dawei Aung from MBNS)
- Thirty-six staff from three Myanmar universities, namely:
 - University of Mandalay – 20 staff and students
 - Mawlamyine University – 6 staff, including the Pro Rector Prof Dr Mie Mie Sein
 - Myeik University – 10 staff, including the Pro Rector Prof Dr Ni Ni Oo.



Figure 2. Dr Hlaing Hlaing Htoon of Mawlamyine University contributing to discussions on the BioCEP curriculum development at the workshop in the University of Mandalay (October 2018).

4: Outcomes/outputs achieved

- Curriculum planning and content (WP2.1) included:
 - defining and developing and/or enhancing 12 courses for the new curriculum
 - explaining curriculum requirements following Bologna reforms
 - assessing formal and technical requirements for implementation
 - identifying 12 topics within Environmental Protection curriculum
 - identifying specialisms at each of the three Myanmar universities
 - defining learning outcomes for the new curriculum

- planning follow-up workshops to recognise and promote specialisms at each of the three Myanmar universities in the context of the new curriculum
- ensuring relevance to minority groups and promoting gender balance by:
 - focusing on topics that reflect societal needs (demand-driven topics)
 - require transferable technical skills - to promote employability of postgraduates nationally and internationally.
- Draft outline of the curriculum (WP2.2), which includes:
 - new courses and topics
 - new learning materials
 - new learning and teaching methodologies
 - new technical competences and hard skills
 - new transversal (soft skills) – including English language
 - new assessment and validation processes
 - new quality control (acceptance that a student can fail)
 - will respond to requirements following Bologna reforms
 - twelve topics, namely:
 - environmental impact assessments
 - environmental law
 - conservation biology
 - GIS, information and communications technology
 - research analysis
 - scientific report writing
 - data presentation
 - field techniques
 - research methods
 - natural resource management
 - protected area management
 - community-based conservation.
- Finalized arrangements for:
 - staff training in hard, technical and soft skills (WP.2.8)
 - evaluation mechanisms (WP.2.6) and quality assurance (WP.2.8)
 - English language skills (WP.2.6) – see separate report
 - selection of staff for ongoing training (WP.2.6) – see *Item 4 and Item 8 on MuEuCAP project website Download page* <https://www.myanmar-edu.org/downloads>
 - equipment needs (WP.2.7)
 - first call for students to participate in the first year of staff training (WP.2.6).



Figure 3. Prof. Dr Mie Mie Sein (left) in discussion with staff about the new BioCEP curriculum.

5 Remarks

During the discussions, planning and implementation of the new curriculum, MuEuCAP identified several points (risks and weakness) which are currently under further discussion to resolve within reasonable time:

- there are no optional courses or free optional courses in Myanmar universities so far
- there is no mandatory nor voluntary internship for Master students. Internship of

- students in companies, NGOs and government departments is very limited
- exchange between universities is very limited
- students do not have to complete subject-related foreign-language courses
- compulsory courses, elective courses, practice, free elective courses and courses taken at universities abroad in a foreign language shall be credited against these courses, whereby language courses (with the exception of technical language) shall not be taken into account.
- the “credit unit” in Myanmar universities corresponds to 4 lessons of 50 minutes each, plus two tutorials of 100 minutes each (1 credit = (4x50) + (2x100) = 400 minutes = 6.67h. Thus, the equivalence to ECTS credit is not given. Therefore, promoting the exchange between universities from Myanmar and abroad (e.g. European Universities) will be a challenge in the beginning.

MuEuCAP suggested changes on procedures and recommendations

The project-related and newly suggested master curriculum is based on existing curricula and courses already offered at the Myanmar universities.

The Master’s program “Biodiversity Conservation and Environmental Protection” should comprise a workload of 128.0 Credits. These credits correspond to compulsory courses (64 credits) and Master thesis (64 credits). Currently, no optional or free elections credits are considered. No student internship is planned currently.

Current structure of Myanmar master in biology-related sciences

64 compulsory course credits (426.88 hours) + 64 credits Master thesis (426.88 hours) = 853.76 hours

The structure of study and credits of current Myanmar masters are divided into:

- Compulsory courses (I and II semester): 64.0 Credits, of which points are allocated to:
 - Compulsory practice: 32.0 Credits
 - Master seminar: 32.0 Credits
- Master thesis (III and IV semester): 64.0 Credits

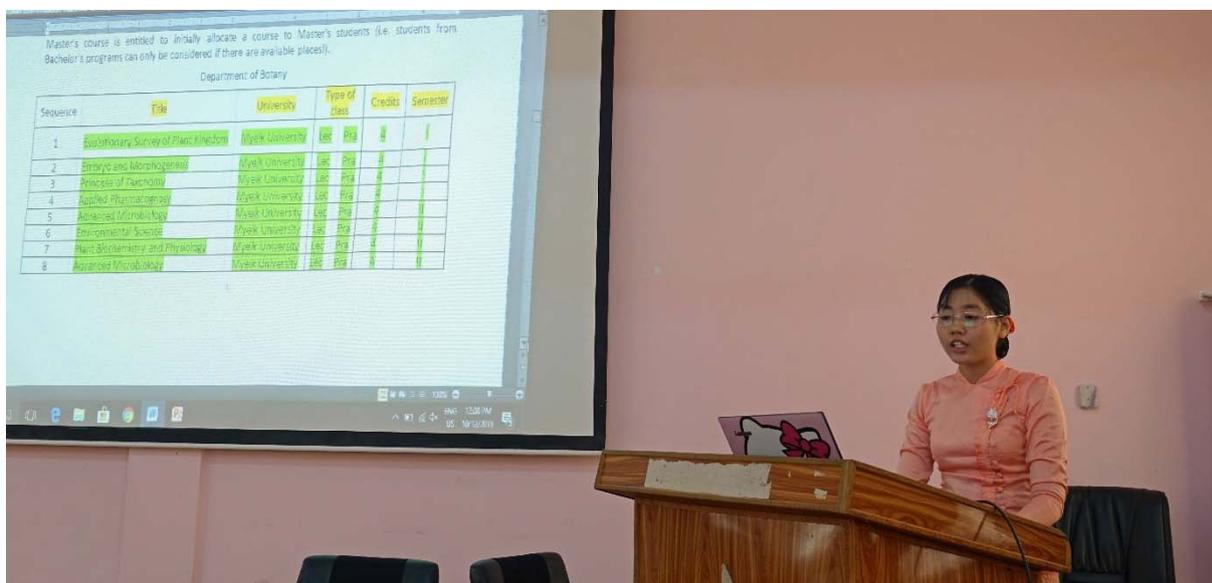


Figure 2. Ms Myat Pwint Yamon discussing different aspects of the existing curriculum of the Department of Botany, Myeik University during the workshop in the University of Mandalay (October 2018).

We suggest the following structure for Myanmar Master Curriculum to compare with EU and ECTS:

- 28 credits for a 4-weeks internship (186.16h, a workload of 46.54h per week)
- 6 optional or free elections courses (of 4 Myanmar credits each) in I and II semester: 24 credits.

- MuEuCAP will train the teaching staff in the following courses to enable MUP offering a number of optional courses (MC > 5). This will allow the students to choose 5 courses among the offered courses:
 - Research Methods
 - Global change processes
 - GIS-methods
 - Writing scientific papers and proposals
 - Research question and literature research
 - Testable hypothesis/measurable indicators
 - Planning of analysis & statistics
 - Design of empirical study
 - Preproposal (Jan/Feb) and presentation (during field session)
 - Sampling/fieldwork (WP3): Mentoring of supervisors and student supervision
 - Statistical analysis
 - Writing report/paper

To reach the equivalence of 128 ECTS the new curriculum should abide to the following:

- 64 compulsory course credits (426.88h) = we can adjust it to 48 credits ECTS
- 64 credits Master thesis (426.88h) = we can adjust it to 36 credits ECTS
- 24 optional course credits (166.08h) = 15 credits ECTS
- 28 credits of 4-weeks internship (186.16h, a workload of 46.54h per week) = 21 credits ECTS

However, some further adjustments and additions are essential to implement a fully-fledged MSc in “Biodiversity Conservation and Environmental Protection”:

- Appendix 1: Formally establish a draft text to submit to the board of studies; change the composition and structure of the curriculum of the master by increasing the total number of hours of the Masters and adjusting the Myanmar master to European masters. This will result in a small increase in the work load of the Myanmar Masters to bring them in line with Masters in European Higher Education Area (EHEA; Bologna process). This would be much more convenient, because: i) the exchange of students between Myanmar universities would be easier and realistic, because all will have the same system; ii) the exchange of students between Myanmar universities and European universities would be easier because all will have the same system. Offer optional and free elective courses to reach ECTS standard (and adjust to the Bologna process).
- Appendix 2: Within the framework of the study program, optional or free elective courses in animal ecology, animal management, limnology, environmental law, environmental protection, etc... totaling 24 credits (or 15 ECTS credits) must be completed. These courses serve to impart knowledge and skills both from the fields related to the own subject or are of general interest. It is recommended that these be taken from the range of elective courses on offer at partner universities with cooperation agreements to facilitate exchange; as part of the compulsory and optional courses offered in this curriculum, courses amounting to 10.0 Credits must be offered in English;
- Appendix 3: Add an internship for students to link higher education and practitioners in Myanmar; each student should finish an internship to deepen the competences learned in theory during the Master’s. The internship also aims to promote the task-oriented application of what has been learned and the establishment of relationships between science and practice. The internship lasts at least 4 weeks (2 MC or 21 ECTS). It is recommended to complete the internship during the III semester. It is possible to complete parts of the

internship in smaller units but it should be proven 4 weeks in total. The internship is organized during participation of the obligatory Master seminar; the internship should be implemented as “mandatory” but will be offered as “voluntary” during the MuEuCAP support for administrative issues on the MUP side.

We further suggest changing slightly the composition and structure of the curriculum of the Master by increasing the total number of hours of the master, and hence adjust the Myanmar master to European master standards. This will result in a small increase the working load of the Myanmar Master students to bring them in line with Masters in European Higher Education Area (EHEA; Bologna process). This adjustment would benefit:

- the exchange of students between Myanmar universities;
- the exchange of students between Myanmar universities and European universities.

New courses to be developed for the model curriculum

- Environmental Impact Assessment (EIA)
- International conventions and national/international environmental laws
- Project setup and management in environmental protection (including project cycles, adaptive management)

In addition, we plan to train the MUP Staff in:

- How to organize an international meeting with student participation during preparation and the meeting.



Figure 5. Staff a range of departments (including Botany, Geology, Marine Science and Zoology) from Myeik and Mandalay universities discussing aspects of the new curriculum in BioCEP.

Suggested list of optional courses proposed by Myanmar university partners

The names as suggested here are a mix of suggestions from Myanmar and European staff within the MuEuCAP project. The final name might change as needed for the official curriculum. The contents will be the same whatsoever.

Mawlamyine University (P5)

- Bioinformatics
- Biodiversity Conservation (Protection of Coastal and Marine Environment)

University of Mandalay (P6)

- Ecology, Global Change and mitigation
- Biodiversity Conservation
- Waste water management
- Geospatial Analysis
- Environmental Modelling
- Environmental Ethic, Law and Management
- Research methodology
- Biostatistics

Myeik University (P7)

- Environmental Science
- Environmental Studies and Conservation Management
- Environmental Geology
- Conservation and Protection of Marine and Coastal Environment
- Marine Spatial Planning

Courses which need an upgrading in teaching skills

- All courses related to statistics and experimental design as well as sampling/field work/experimental setup
- All courses in the broad field of ecology and evolution need an update on concepts
- Adaptive management in conservation and environmental protection
- GIS and remote sensing techniques and CONCEPTS
- All courses need support in rewording (or adding) learning outcomes and examination protocols

Further topics related to teaching include training in:

- How to write a MSc thesis (and how to supervise it with modern teaching techniques), including developing research concepts i.e. the following steps need to be included:
 1. Research question and literature research
 2. Testable hypothesis/measurable indicators
 3. Planning of analysis & statistics
 4. Design of empirical study
 5. Preproposal and presentation
 6. Sampling/fieldwork
 7. Statistical analysis
 8. Writing report/paper
- How to write a scientific report and/or publication (as an outcome to student supervision);
- Didactics, with a special focus on how to prepare learning outcomes and applying modern teaching skills beyond simple lectures;
- Awareness of, avoiding of and what plagiarism is, should be delivered in short training units (as standalone, but also at all other activities...).

Appendix 1 – Credits in Myanmar and ECTS

Credits in Myanmar (MC) are not equivalent to the European Credits Transfer System (ECTS). To translate MC to ECTS, 1 (one) MC corresponds to 4 lessons of 50 minutes each, plus two tutorials of 100 minutes each (1 credit = $(4 \times 50) + (2 \times 100) = 400$ minutes = 6.67h).

1 ECTS in the European Higher Education Area (EHEA) corresponds to 25h of work, but includes lessons, practices, tutorials and estimated student study time and homework. The latter, including student study time, is currently not included into the MC system. We recommend to add this information to the MC system to reach fully the ECTS and hence future exchange.

A 2-years master in EHEA usually comprises 120 ECTS, 60 credits ECTS per year. Each ECTS is 25 hours of work, including lessons, practices, seminars, tutorials, homework and study hours. In my University, we assume that each ECTS (25h) comprises approx. 10h of lectures/practice/tutorials, plus 15h homework and study hours.

Usually courses in Myanmar masters are 4 credits (including lessons, practices and tutorials). That is, $4 \times 6.67h = 26.68h$. In the equivalent proposed NEW Myanmar master courses (ECTS), each equivalent ECTS course will have 3 ECTS credits. Each equivalent course will have 1 ECTS credit (25h) for lessons, practices and tutorials, and the remaining 2 credits will be study hours/homework. So, the number of teaching hours per course will be the same.

With the aim to fully adjust this new Myanmar master to ECTS master, MuEuCAP suggests to adjust MC to ECTS. This process is relatively easy, because the approximate number of teaching hours per course as the MC will be complemented with student homework hours until 25h per credit (= 1 ECTS credit).

Appendix 2 – Classes offered and Credits

Listed are all classes we consider relevant for the new curriculum with MC translated into ECTS.

Classes Myeik University – Department of Botany

Title	Type of class		Large group/Lab/ Seminar/Tutorial	Student homework	Total ECTS credits	Credits	Semester	Module/ Topic
	Lec	Pra						
Evolutionary Survey of Plant Kingdom	Lec	Pra	1	2	3	4	I	
Embryo and Morphogenesis	Lec	Pra	1	2	3	4	I	
Principle of Taxonomy	Lec	Pra	1	2	3	4	I	
Applied Pharmacognosy	Lec	Pra	1	2	3	4	I	
Advanced Microbiology	Lec	Pra	1	2	3	4	II	
Environmental Science	Lec	Pra	1	2	3	4	II	
Plant Biochemistry and Physiology	Lec	Pra	1	2	3	4	II	
Advanced Microbiology	Lec	Pra	1	2	3	4	II	
First Seminar	Lec	Pra	1	2	3	4	I	
Second Seminar	Lec	Pra	1	2	3	4	I	
Plan and Progress Report	Lec	Pra	1	2	3	4	I	
Research Outline and their Presentation	Lec	Pra	1	2	3	4	I	
Research and Seminar	Lec	Pra	2	4	6	8	II	
Thesis and Viva Voce	Lec	Pra	2	4	6	8	II	
Optional course I			1	2	3		I	
Optional course II			1	2	3		I	
Optional course III			1	2	3		I	
Optional course IV			1	2	3		II	
Optional course V			1	2	3		II	
4-week internship				21	21		III	
Master thesis				36	36		III and IV	
TOTAL			21	99	120			

Classes Myeik University – Department of Zoology

Title	Type of class		Large group/Lab/ Seminar/Tutorial	Student homework	Total ECTS credits	Credits	Semester
	Lec	Pra					
Zoological Nomenclature and Postgraduate Study in the Biological Science	Lec	Pra	1	2	3	4	I
Zoogeography and Ecology	Lec	Pra	1	2	3	4	I
Quantitative and Population Genetics	Lec	Pra	1	2	3	4	I
Developmental Biology	Lec	Pra	1	2	3	4	I
Animal Physiology and Endocrinology	Lec	Pra	1	2	3	4	II
Environmental Studies and Conservation Management	Lec	Pra	1	2	3	4	II
Evolutionary Biology and Animal Behaviour	Lec	Pra	1	2	3	4	II
Invertebrate Immunology	Lec	Pra	1	2	3	4	II
Title Defence	Lec	Pra	2	4	6	8	I
Research Progress Report and Seminar I	Lec	Pra	2	4	6	8	I
Research Progress Report and Seminar II	Lec	Pra	2	4	6	8	II
Thesis and Viva voce	Lec	Pra	2	4	6	8	II
Optional course I			1	2	3		I
Optional course II			1	2	3		I
Optional course III			1	2	3		I
Optional course IV			1	2	3		II
Optional course V			1	2	3		II
4-week internship				21	21		III
Master thesis				36	36		III and IV
TOTAL			21	99	120		

Classes Myeik University – Department of Geology

Title	Type of class		Large group/ Lab / Seminar/Tutorial	Student homework	Total ECTS credits	Credits	Semester
	Lec	Pra					
Photogeology and Remote sensing	Lec	Pra	1	2	3	4	I
Advance Paleontology	Lec	Pra	1	2	3	4	I
Advance Structural Geology	Lec	Pra	1	2	3	4	I
Advance Igneous and Metamorphic Petrology I	Lec	Pra	1	2	3	4	I
Environmental Geology	Lec	Pra	1	2	3	4	II
Global and Regional Tectonics	Lec	Pra	1	2	3	4	II
Sedimentology	Lec	Pra	1	2	3	4	II

Stratigraphic Paleontology/Selected Topics	Lec	Pra	1	2	3	4	II
Research Progress Report	Lec	Pra	2	4	6	8	I
Research Progress and Seminar	Lec	Pra	2	4	6	8	I
Research Outcomes and Seminar	Lec	Pra	2	4	6	8	II
Thesis and Viva Voce	Lec	Pra	2	4	6	8	II
Optional course I			1	2	3		I
Optional course II			1	2	3		I
Optional course III			1	2	3		I
Optional course IV			1	2	3		II
Optional course V			1	2	3		II
4-week internship				21	21		III
Master thesis				36	36		III and IV
TOTAL			21	99	120		

Classes Mawlamyine University – Department of Marine Science

Title	Type of class		Large group/Lab/ Seminar/Tutorial	Student homework	Total ECTS credits	Credits	Semester
	Lec	Pra					
Quantitative Ecology	Lec	Pra	1	2	3	4	I
Oceanography of the Marginal Seas	Lec	Pra	1	2	3	4	I
Biology of Large Marine Mammals	Lec	Pra	1	2	3	4	I
Conservation and Protection of Coastal and Marine Environment	Lec	Pra	1	2	3	4	I
Evolutionary Biology and Marine Biogeography	Lec	Pra	1	2	3	4	II
Marine Microbiology	Lec	Pra	1	2	3	4	II
Marine Spatial Planning	Lec	Pra	1	2	3	4	II
Estuarine Ecology	Lec	Pra	1	2	3	4	II
Title Defense	Lec	Pra	2	4	6	8	I
Research Progress Report and Seminar I	Lec	Pra	2	4	6	8	I
Research Progress Report and Seminar II	Lec	Pra	2	4	6	8	II
Thesis and Viva voce	Lec	Pra	2	4	6	8	II
Optional course I			1	2	3		I
Optional course II			1	2	3		I
Optional course III			1	2	3		I
Optional course IV			1	2	3		II
Optional course V			1	2	3		II
4-week internship				21	21		III
Master thesis				36	36		III and IV
TOTAL			21	99	120		

Classes Mandalay University – Department of Zoology

Title	Type of class		Large group/Lab/ Seminar/Tutorial	Student homework	Total ECTS credits	Credits	Semester	Module/ Topic
	Lec	Pra						
EPBC-611 Ecology and climate change mitigation	Lec	Pra	1	2	3	4	I	Zoological Nomenclature and Postgraduate study in Biological Science
EPBC-612 Biodiversity conservation	Lec	Pra	1	2	3	4	I	Zoogeography and Ecology
EPBC-613 Waste water management	Lec	Pra	1	2	3	4	I	Quantitative and population genetics
EPBC-614 Developmental biology								Developmental biology
EPBC-621 Geospatial Analysis	Lec	Pra	1	2	3	4	II	Animal Physiology and endocrinology
EPBC-622 Environmental Modelling and Geochemistry	Lec	Pra	1	2	3	4	II	Environmental studies and conservation management
EPBC-623 Environmental Ethic, Law and Management	Lec	Pra	1	2	3	4	II	Evolutionary Biology and animal behavior
EPBC-624								Invertebrate immunology
EPBC-631 Research methodology	Lec	Pra	1	2	3	4	I	
Proposal	Lec	Pra	3	6	6	8	I	

Thesis and Viva voce	Lec	Pra	5	10	6	8	II	
Optional course I			1	2	3		I	
Optional course II			1	2	3		I	
Optional course III			1	2	3		I	
Optional course IV			1	2	3		II	
Optional course V			1	2	3		II	
4-week internship				21	21		III	
Master thesis				36	36		III and IV	
TOTAL			21	99	120			

Appendix 3 – Draft curriculum text (WP.2.2)

Curriculum for a Master in BioCEP Biodiversity Conservation and Environmental Protection

Established with means of the
**Supporting modernization, accessibility, and internationalization of environmental protection in
Myanmar's higher education sector - MuEuCAP**

For further information, please see the official project webpage: www.myanmar-edu.org.

Occupational Field and Field of Activity

The interdisciplinary orientation of the Master's program "Biodiversity Conservation and Environmental Protection" offers a significant advantage for graduates of this program when applying for jobs in the following fields, among others:

- Conservation and Conservation Biology,
- Environmental Sciences,
- Biodiversity Research,
- Forestry and Natural Resources.

Admission Requirements

The Master's program "Biodiversity Conservation and Environmental Protection" is open to graduates of regular studies at recognized post-secondary educational institutions from Myanmar and the European Union or abroad who are related to biology, ecology, agriculture, forestry, or landscape ecology. In any case, the following knowledge must be proven from the preliminary studies:

- Basics of Ecology, or
- Basics of Zoology, or
- Basics of Botany, or
- Basics of Forestry.

The knowledge can be proven by submitting documentation of a BSc studies with equivalence of at least 80.0 Credits in any of the topics listed above.

Composition and Structure of the Curriculum

Duration

The Master's program "Biodiversity Conservation and Environmental Protection" comprises a workload of 128.0 Credits. This corresponds to a study duration of four semesters (a total of 3,000 hours of 60 minutes each; 1 Credit equals a class of 60 minutes duration and is equivalent to 1.0 ECTS).

- Compulsory courses (I and II semester): 64.0 Credits, of which points are allocated to:
 - Compulsory practice: 32.0 Credits
 - Master seminar: 32.0 Credits
- Master thesis (III and IV semester): 64.0 Credits

Structure of study and Credits

The curriculum provides modules that each split into several classes. The courses of study are divided into:

- Compulsory courses: 64.0 Credits
- Master thesis: 64.0 Credits

Students have to complete subject-related foreign-language courses of at least 10.0 Credits. Compulsory courses, elective courses, practice, free elective courses and courses taken at universities abroad in a foreign language shall be credited against these courses, whereby language courses (with the exception of technical language) shall not be taken into account. As part of the compulsory and

optional courses offered in this curriculum, courses amounting to 10.0 Credits must be offered in English.

Universities

All students having finished successfully a BSc in Biology, or Zoology, or Botany, or Forestry, or Ecology with at least 80.0 Credits in total are admissible to study "Biodiversity Conservation and Environmental Protection" at University of Mandalay, Myeik University, Mawlamyine University. The curriculum is open to students from the European Partner universities.

Compulsory Courses

The program consists of the compulsory and elective courses totaling 128 Credits, including the defense and Master Thesis. The compulsory courses form the basis of this curriculum. In the case of courses with a limited number of participants, the director of a Master's course is entitled to initially allocate a course to Master's students (i.e. students from Bachelor's programs can only be considered if there are available places).

No.	Name	ECTS	MC	Semester	Topic
BioCEP-x11	Ecology	1		1	
	Statistics and environmental modelling				
	Scientific Writing				
	Environmental Law				
	protected areas management				
	Project management and project implementation in the field				
	Methods in BioCEP (field/practical)				
	Master Seminar for BioCEP				

Optional Courses

Within the framework of the study program, optional courses in zoology, botany, marine science, geography, geology, chemistry, ecology, global change biology, limnology, environmental law, environmental protection, or marine science – totaling 64 Credits must be completed. In the case of courses with a limited number of participants, the director of a Master's course is entitled to initially select students based on quality (e.g. students will be considered only if there are available places).

The optional courses are offered by other curricula at the University, namely MSc in Zoology, MSc in Botany, MSc in Geography, MSc in Geology, MSc in Forestry and complement the needed skills to finish the MSc in BioCEP.

Internship

Each student should finish an internship to deepen the competences learned in theory during the Master's. The internship also aims to promote the task-oriented application of what has been learned and the establishment of relationships between science and practice.

The internship lasts at least 4 weeks. It is recommended to complete the internship between the II and III semester. It is possible to complete parts of the internship in smaller units but it should be proven 4 weeks in total. The internship is organized during participation of the obligatory Master seminar.

The student must contact the head of the Master seminar for support within a reasonable time before the intended start of the internship. It is the responsibility of the director to advise the students on the choice of internship and to instruct them on the procedure of the internship and the preparation of the report. The completion of parts of the internship requires the consent of the head of the Master seminar.

If no position for an internship can be found despite proactive and constant efforts, an adequate substitute shall be chosen in agreement with the head of the Master seminar. As an alternative, for example, cooperation in a project at the University of Natural Resources and Applied Life Sciences Vienna, the Universität Göttingen, Universidad de Extremadura or at another relevant research institution can be considered.

The proper completion of the internship and/or the provision of the substitute is confirmed with the completion of the Master seminar. This includes the submission of an activity report in the form of a manuscript ("paper-style" details in Appendix B) and an oral presentation of the internship during the Master Seminar.

Master Thesis

A Master's thesis is a thesis dedicated to a scientific topic, which is to be written within the framework of a Master's program (exception: see Statutes of the Universities). It comprises 30 Credits. With the master thesis, students show that they are capable of dealing with a scientific question on their own initiative, on an ongoing basis and in a methodologically justifiable manner.

The assignment of the Master's thesis must be chosen in such a way that it is possible and reasonable to complete it within six months. Joint processing of a topic by several students is permissible if the achievements of the individual students can be assessed separately.

The master thesis must be written in English. Another language is only possible after a certificate from the supervisor. In any case, the defense must be conducted in English.

The Master thesis is supervised by a professor (Lecture, Assistant Prof., Prof., Associate Prof., Adjunct Prof.) of one of the Myanmar MuEuCAP project partners. A committee of two further teachers from any of the MuEuCAP partners will advise or co-supervise the Master Thesis in form of a committee.

The master thesis should be written in "paper-style".

Completion

The Master's program in "Biodiversity Conservation and Environmental Protection" is considered completed if all courses, the Master's thesis and the Defense have been assessed positively.

Academic Title

Graduates of the Master's program in "Biodiversity Conservation and Environmental Protection" are awarded the academic degree "Master of Science", abbreviated "MSc" or "M.Sc.". The academic degree "MSc" ("M.Sc.") must follow the name.

Examination Regulations

The Master's program in "Biodiversity Conservation and Environmental Protection" is completed if the following requirements are met:

- the positive completion of the compulsory courses to the extent of 64 Credits;
- the positive completion of the internship;
- the positive assessment of the Master thesis and the Defense of 64 Credits.

The evaluation of the study success takes place in the form of course examinations. The course examinations can be taken in writing and/or orally by the head of the course, taking into account the extent of the Credits.

Proof of achievement for each subject is provided by the proof of achievement of the courses belonging to the subject. The overall assessment for a subject results from the mean value of the courses completed within the subject weighted according to Credits. If the mean value after the decimal point is less than or equal to 5, the system rounds to the better grade, otherwise to the worse grade. In justified cases, the Dean of Studies may provide for a subject examination.

The examination method must be based on the type of course: Lectures are to be concluded with oral and/or written examinations, provided that these are not assessed during the reading.

The topic of the master thesis can be found in one of the subjects of the study program. The student has to announce the topic to the supervisor of the Master thesis and to the dean before the beginning of the work.

The completed Master's thesis, which has been evaluated positively by the reviewers, must be presented to the public after all courses have been completed and defended in a scientific discussion (defense). The commission is composed of the chairperson and two other university teachers. The overall performance (master thesis and defense) is assessed with an overall grade, whereby both parts must be completed positively. The written evaluation of the written master thesis and the defense, which is based on written justification, are separately included in the overall grade and are also documented separately.

The valuation key is:

- Master's Thesis: 70%
- Defense (including presentation): 30%.

An overall assessment is to be given for the overall study success.

Appendix A: Types of classes

The following class types are available:

- Lecture (Lec)
- Laboratory class (Lab)
- Practice (Pra)
- Mandatory Internship (Int)
- Seminar (Sem)
- Excursion (Exc)
- Master Seminar (MaS)
- Projects (Pr)

Appendix B: Report layout and structure

All reports by students, including the Master Thesis shall follow a manuscript style ("paper-style") layout. The text should be precise and as short as possible, but include all information relevant. Therefore, the length of each section and the entire text depends on the topic, not on the academic title. The following rules are considered as recommendations for all students:

Title

1- to 2-line title

Author

Author name, academic titles, directions, phone/email, ...

Supervisor(s)

Add the full name(s) of all supervisors

Abstract

Add a 250-word abstract of the thesis (and structure the abstract in the following sections):

- Scientific background including the (new) aspect(s)
- Research question and/or general hypothesis,
- Method outline
- Results

Key words

Add up to 10 keywords; separated by semicolon.

Introduction

Prepare the reader on the background of your thesis and lead towards the research question and Hypothesis. Mention any knowledge gap or methodological issue there might be, particular if you are decreasing the knowledge gap. Write short and precise, do not distract the reader.

Methods

Present the study area (including habitat types, environmental structure etc.), methods of observation/sampling, or describe the experiments in all needed detail.

Add an extra section on Statistical analysis.

Results

Present your results. Add figures (preferred over tables) and tables as needed. As a thumb rule: If you need to cite something in the results section, the sentence is probably wrong and should be moved to method or discussion.

Discussion

Place your finding in the broader contents.

Acknowledgements

Add a short acknowledgment of all persons with significant support, including funding sources if applicable.

References cited

ONLY list all reference cited in the text – but list all references mentioned there. Follow one style throughout and be congruent. Double check that the citations and references cited match up.

Journal articles: Always cite all authors following the year, title, Journal, volume, pages, and DOI, for example: Renner, S.C., Lüdtke, B., Kaiser, S., Kienle, J., Schaefer, H.M., Segelbacher, G., Tschapka, M. & Santiago-Alarcon, D. 2016 Forests of opportunities and mischief: disentangling the interactions between forests, parasites and immune responses. *International Journal for Parasitology* 46, 571-579. (doi:10.1016/j.ijpara.2016.04.008).

Books: Valkiūnas, G. 2005 Avian malaria parasites and other haemosporidia, CRC Press.

Book chapters: Renner, S.C. & Markussen, M. 2005 Human impact on bird diversity and community structure in a tropical montane cloud forest in Alta Verapaz, Guatemala, with special reference to the Quetzal (*Pharomachrus mocinno*). In: *Valuation and Conservation of Biodiversity: Interdisciplinary Perspectives on the Convention on Biological Diversity* (eds. M. Markussen, R. Buse, H. Garrelts, M.A. Mánuez Costa, S. Menzel & R. Marggraf), pp. 373-390. Heidelberg, Berlin, Springer.

Webpages and unpublished reports: Do not cite.

Tables

Number the tables as emerging in the text and add the table BELOW the heading.

Figures

Number the figures as emerging in the text and add the heading BELOW the figure.

Appendices

Add any information in numbered Appendices following the text. All information distracting the reader or of the thesis or report of secondary interest and not core of the research should be moved from the main text into the Appendix section. E.g. (this is NOT a complete list), photos, taxonomic lists, statistical background information, r-codes or any other secondary information should be placed here.

Further

Add a 1-page scientific CV.