



Arrival and Survival Guide

(HOPEFULLY) EVERYTHING YOU NEED TO KNOW!

International Master Program
in Fish Biology, Fisheries
and Aquaculture



Leibniz-Institute of
Freshwater Ecology
and Inland Fisheries





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International Master Program in Fish Biology, Fisheries and Aquaculture

A warm welcome

“Welcome to our International Master Program in Fish Biology, Fisheries and Aquaculture! We are delighted that this programme interests you. The management of our freshwaters and fisheries is an important challenge around the world, both now and in the future. Millions of people depend on fisheries for food security or enjoy it for recreation. Those fisheries need to be managed sustainably. Aquaculture is the fastest growing food production system in the world. There will be a need for specialists in this field. And proper management of both aquaculture and fisheries demand thorough ecological and biological knowledge of fish. You will gain this expertise in our program. Our lecturers are authorities in their respective research fields and are dedicated to offering you the most up-to-date knowledge on the topic. We will educate you as fish experts in a broad range of key qualifications for research, practice and nature conservation. Our study program is exceptional in that it covers three different domains: “Fish Biology and the Evolution of Fish”, “Fisheries Management and Fish Conservation” and “Aquaculture”. You will acquire knowledge about fish as integral parts of aquatic ecosystems and their dynamics in response to exploitation (both freshwater and marine), about the specific characteristics of freshwater ecosystems and how they shape fish communities, and about the effects of the human influence on ecosystems and fisheries, including recreational fisheries. The modules will also provide you with theoretical and practical skills for the sustainable management of freshwaters and capture fisheries. In addition, you will learn about key aspects of aquaculture: rearing concepts, nutrition, evaluation and design of possible farm sites, as well as approaches to improving sustainability and product quality. With your degree, you will be able to work in trailblazing jobs at the crossroads of aquatic sciences, sustainable ecosystem management and food production. The number of students is restricted to 30 per year, which allows for individual attention from lecturers and assistants. This creates a close-knit and enjoyable learning atmosphere. We look forward to your enriching contribution to our group and wish you a successful study experience!”

**Professor Dr. Jens Krause,
Director of the master program**



“This brochure gives you an overview of preparations you need to make and what student life is like on our master program. It also serves you as a guide through the German administration jungle. After reading this brochure carefully, you will probably still have loads of questions, but don't worry – you're not alone. We are there to help you with any problems you may encounter, so if you have any questions, please do not hesitate to contact us!”

**Susanne Joop,
Secretary of Professor Dr. Jens Krause**



Whom to contact

Susanne Joop, Secretary of
Professor Dr. Jens Krause
**Leibniz-Institute of Freshwater Ecology
and Inland Fisheries**
Müggelseedamm 310
12587 Berlin
+49 30 64181611
fishmaster@igb-berlin.de
www.igb-berlin.de/en/fishmaster
www.agrar.hu-berlin.de/de/lehre/msc/mfs

Student Service Center (SSC) at HU Berlin:

The SSC is located in the main building at Unter den Linden 6, in the western atrium. Starting at the lobby, signs will guide you quickly and easily, and the building is handicapped accessible.

www.hu-berlin.de/en/studies/admission/standardseite?set_language=en

Compass at HU Berlin:

Compass is the central information centre of Humboldt-Universität zu Berlin for applicants, students and guests.

International Hotline: +49 30 2093 70333

compass@hu-berlin.de

Monday to Friday 09:30 to 16:30

By sending an email, you agree to your data being processed by an electronic ticketing system (OTRS). More information is available at otrs.hu-berlin.de/hinweis.html

Student Advisory Services, Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences:

Invalidenstr. 42, Room 1028

+49 30 2093 8707

www.agrar.hu-berlin.de/de/lehre/studium/beratung

Where will I study?

AN EXCELLENT LEARNING ENVIRONMENT IN THE EXCITING CITY OF BERLIN

Benefit from our experts in teaching, research and application: your lecturers come from both the university sector and from external fisheries and ecological research institutions. You will study at a “University of Excellence” – Humboldt-Universität zu Berlin, in a highly motivating and professional learning environment. You will also be part of the scientific community at the Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB), a world-leading institution for freshwater sciences and inland fisheries. Benefit also from the applied knowledge of experts from the Institute of Inland Fisheries in Potsdam-Sacrow (IfB).

Humboldt-Universität zu Berlin (HU Berlin): In June 2012, Humboldt-Universität was selected to

be one of eleven German “Universities of Excellence”. In an international study, Humboldt-Universität was ranked in the top ten of German universities. The Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences focuses on teaching and research on fundamental nutrition, development and resource management problems in a modern and conflict-ridden world. This includes fisheries.

Invalidenstraße 42, 10099 Berlin

www.agrar.hu-berlin.de



Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB): IGB is Germany's largest research centre for freshwaters. At IGB, scientists from different disciplines work under one roof to investigate the fundamental processes governing rivers, lakes and wetlands, and join forces to develop measures for sustainable water, ecosystem and fisheries management and aquaculture. Müggelseedamm 310, 12587 Berlin www.igb-berlin.de

Timeline and Study Goals

TIMELINE

You can start the Fish Biology, Fisheries and Aquaculture master program in the winter or summer semester. If you wish to study according to the recommended study plan (Studienverlaufsplan, see Appendix 3), you should start in the winter semester. The master program has a standard period of study of four semesters. Thus, specific modules are offered at a four-semester interval, but you do not have to take all for graduation and in fact you have a lot of flexibility and free choice. You can also take modules beyond Humboldt-Universität zu Berlin. And another thing to note – German education is free and hence you can listen to modules offered elsewhere in other programs.

GENERAL STUDY GOALS OF THE MASTER PROGRAM

(As stipulated by the “*Fachspezifische Studien- und Prüfungsordnung für den Masterstudiengang Fish Biology, Fisheries and Aquaculture*”, as of 2014; the full text is only available in German)

- The successful completion of the master program enables graduates to work in the fields of fish ecology, fisheries management and aquaculture, and may offer them an opportunity for a career in research (basis for access to PhD studies and doctoral programs).

Institute of Inland Fisheries in Potsdam-Sacrow (IfB): IfB undertakes practice-oriented research in the field of inland fisheries. The basic principle of “inland fisheries research in practice for practice” characterises the institute's work. Im Königswald 2, 14469 Potsdam www.ifb-potsdam.de



- Graduates are capable of analysing complex relationships throughout aquatic ecosystems and of finding appropriate solutions for issues surrounding management and conservation.
- They are qualified to work across disciplines; in other words, they can combine specialist expertise from the field of fish ecology, fisheries and aquaculture with knowledge from other disciplines, such as limnology or evolutionary biology, as well as agriculture, economics and social and technology studies.
- Graduates have the theoretical, methodological and social skills required to perform scientific work. They have proven their creativity, responsibility and willingness to find innovative solutions for complex research questions.
- Graduates will have gained key qualifications for a broad and rapidly changing field of work. They are capable of comprehending and critically evaluating new knowledge and they are prepared for lifelong education, teamwork and knowledge transfer.
- Most of the modules are offered in English; graduates will have benefited from the improvement and utilisation of their professional English skills.
- The master program allows students to participate in research and development projects.



Study content

Our study program is exceptional in that it covers three different domains: “Fish Biology and the Evolution of Fish” and “Fisheries Management and Fish Conservation” as well as “Aquaculture”. Here you can find a short overview of what you can expect in your course of study.

(For more information, please see the individual module descriptions).

DOMAIN I: FISH BIOLOGY AND THE EVOLUTION OF FISH

An understanding of the biology and evolution of fish includes knowledge of the interplay between the environment, genetics and physiology. New scientific approaches involve behavioural aspects and focus on the impact of human-ecosystem interactions.

You will learn about the factors that have driven the evolution of fish species and understand the relevant extant taxa, their diversity and their biology. By the end of your studies, you will understand the dynamics and life history of fish and the interdependencies between fish ecology, behaviour and evolution.

We will explain to you the specific physiological characteristics of fish in comparison to other vertebrates, so that you can apply this knowledge to understanding the specific physiological adaptations of different species of fish to various environments (including natural habitats and rearing facilities). You will also learn about the theoretical background and management skills related to the breeding, culture and husbandry of several different (ornamental) fish species. The structural and functional diversity of microbes in freshwater ecosystems and the relevance of microbial activities for different ecological processes in freshwaters is also part of your studies. You will learn how to use basic analytical methods, from water and sedi-

ment sampling to molecular-biological techniques, as well as basic data processing and analysis.

Modules:

- The Systematics and Evolution of Fish Species
- The Ecology of Fish
- Fish Physiology
- Functional Morphology
- Fish Behaviour and Evolution
- Experimental Fish Biology
- The Reproduction of Ornamental Fishes
- Aquatic Microbial Ecology

DOMAIN II: FISHERIES MANAGEMENT AND FISH CONSERVATION

The global fisheries crisis and the rapid decline of freshwater biodiversity call for new approaches to fisheries management and the conservation of fish worldwide.

Fish populations and their dynamics are intimately linked to the structure and quality of the environment. You will first learn about basic limnological factors and characteristics of habitats of lakes and rivers, and study the effects of human influences on aquatic ecosystems and fish stocks. As a basis for this, we will show you different ecosystem processes and functions, and the links between biogeochemical nutrient cycles and the biotic components in aquatic systems. As a result, you will understand how aquatic and terrestrial environments are ecologically interconnected and the role humans, including fishers, play in this complex ecological concert. We will then teach you basic techniques to study the fish and fisheries ecology of lakes and rivers, with some components reaching out to marine systems in relation to fisheries dynamics. This theoretical and practical background will in turn help you to develop solutions to environmental and fisheries exploitation-induced problems in lakes and rivers through case studies. You will then learn about the global fisheries crisis and the complexity of fisheries management worldwide, taking a strictly interdisciplinary perspective integrating social,





ecological and economic sciences. You will be exposed to an emerging fisheries system – recreational fisheries – and the complexity of social-ecological interactions and human behaviour. You will also receive insights into relevant legal frameworks and administrative systems, and understand the current structure, specific problems and future trends of commercial fisheries in Germany. Thereby, you will be given the toolbox to derive basic tools to manage commercially and recreationally important fish stocks in inland waters sustainably, and get impressions about fish processing and marketing. We will also introduce you to extinction risks, the hazards and threats to endangered species, and the development, assessment and evaluation of management and conservation concepts surrounding fishes. These insights are also relevant to put ongoing legislative demands, such as the European Water Framework Directive, into operation as regards to fish as biomarkers. Students will have the skills required to develop a scientific hypothesis on a research question related to fisheries and conservation, plan and conduct a field sampling programme, apply a range of sampling gears, and document, analyse, graph and eventually publish their data from the field.

Modules:

- Limnology I (Theoretical Limnology)
- Limnologischer Freilandkurs (Applied Limnology)
- Commercial Inland Fisheries
- Fanggeräte (in German)
- Integrative Fisheries Management
- Fish Conservation
- Sampling and Data Analysis in Fisheries Science

DOMAIN III: AQUACULTURE

Aquaculture is the fastest growing food production system in the world. Overfishing of the world's oceans and the increasing need for high quality animal-based protein are just two reasons for this development. Intensive aquaculture often has a bad reputation – and rightly so – as it pollutes natural waters and wastes resources. The sustainable development of aquaculture will therefore be a crucial challenge in the future.

We will teach you about the sustainable development of aquaculture at the intersection of aquaculture techniques, fish health and product quality. You will learn about the principles of extensive and intensive culture of warm and cold water fish species, and the current international status of aquaculture. You will get to know different fish species and their individual requirements, nutrition and breeding. You will gain significant knowledge regarding fish diseases and health management. You will also learn to construct, manage and organise different fish rearing facilities and the preconditions for suitable farm sites. You will gain insights into fish processing and product quality assurance, as well as marketing strategies. You will understand the methodologies and techniques regarding the analysis of experimental data, the design of common experiments, and the presentation and interpretation of experimental results in aquaculture research.

Modules:

- Fish Nutrition
- Biometry for Aquaculture
- Management of Warm Water Ponds and Fish Breeding
- Salmonid Aquaculture
- Intensive Warm Water Aquaculture
- Aquakulturtechnik (in German)
- Genetics and Reproduction in Fish
- Fish Diseases I (Environmental, Viral, Bacterial and Fungal Diseases of Fish)
- Fish Diseases II (Protozoan and Metazoan Parasites of Fish)



The formal requirements for application

APPLICATION AT HU BERLIN

A formal application is required for this master program. You always apply online, either at Humboldt or at uni-assist (for foreign students). Please note that there are different application periods for German and foreign students!

All information in the following section is subject to change. To make sure that you fulfil the most recently updated requirements for your application as a student at HU Berlin, you should check the following websites:

“How to apply” on the COMPASS website of HU Berlin: www.hu-berlin.de/en/studies/compass-the-central-information-service-en/wie-en?-set_language=en

“Access to studies” information of HU Berlin: www.hu-berlin.de/en/studies/admission/access

All information about application requirements for foreign students: www.hu-berlin.de/en/studies/admission/admission-for-foreign-applicants-en

All important information for foreign students at a glance: “Guide for International Students at HU Berlin”: www.international.hu-berlin.de/en/studierende/aus-dem-ausland/wegweiser?set_language=en

And look for the latest “Fächerübergreifende Satzung zur Regelung von Zulassung, Studium und Prüfung der Humboldt” (ZSP-HU).

SPECIAL REQUIREMENTS FOR THIS MASTER PROGRAM

For more information, see the “Fachspezifische Zugangs- und Zulassungsregeln

zur ZSP-HU” (only available in German): www.hu-berlin.de/de/studium/beratung/angebot/zsr/fishery

- We seek highly skilled and motivated students in the fields of fisheries/aquaculture, agriculture, biology, ecology, chemistry, environmental/nutritional sciences or geosciences. You don't have this background? Please contact us anyway!
- Almost all of the study content is offered in English, creating an enriching international learning atmosphere. We expect English skills in accordance with Level C1 of the CEFR (Common European Framework of Reference for Languages).
- To ensure that you can communicate in your everyday life, we expect basic German language skills in accordance with Level A1 of the CEFR.
- Prospective students need to prove the successful completion of modules comprising at least 10 ECTS credits in the field of biology/natural sciences.
- There is no numerus clausus. The number of students is restricted to 30 per year, which allows for individual attention from lecturers and assistants. If the number of applicants is higher than the number of study places, we implement a transparent selection process.
- The criteria for the selection process are:
 1. Qualifying degree from previous studies (final grade): weighting factor: 90%
 2. Qualifications achieved outside formal study in the field of fisheries and aquatic sciences or agricultural and environmental sciences. Scope: at least 900 hours; weighting factor: 10%. (i.e. in the context of acquiring work experience during an internship, apprenticeship or education).



To-dos before coming to Berlin



ADMINISTRATIVE STEPS FOR FOREIGN STUDENTS

Depending on your country of origin, there are several different things to prepare before coming to Germany (visa, health insurance, etc.). Here are a number of really helpful websites to guide you through the German administration jungle. The German Academic Exchange Service (Deutscher Akademischer Austauschdienst, or DAAD) is an especially important contact for all your questions. But the COMPASS Team and the Studierendenwerk of HU Berlin are also very helpful:

Please take a look at HU's "Guide for International Students at HU Berlin": www.international.hu-berlin.de/en/studierende/aus-dem-ausland/wegweiser?set_language=en

To-dos in Berlin

To give yourself enough time to fulfil the necessary administrative steps before the semester begins, you should plan on arriving in Berlin a month before lectures start at the latest. Moreover, the university offers events and meetings for new students a few days before the official start of the semester. This is a nice opportunity for networking and finding your way into your studies.

On this website, you can find the following information under Item 4, entitled "Before entering the Federal Republic of Germany":

- 4.1 Visa formalities necessary for studies in Germany
 - 4.1.1 Applying for a visa
 - 4.1.2 Confirmation of application/applicant's visa
- 4.2 The cost of studies in Germany
- 4.3 Health insurance coverage
- 4.4 Finding accommodation in Berlin
 - 4.4.1 Student halls of residence
 - 4.4.2 Accommodation provision for exchange students
 - 4.4.3 Student hotels
 - 4.4.4 The private accommodations market

Information brochure for prospective international students at HU Berlin: www.hu-berlin.de/de/studium/bewerbung/formulare/engl-assist.pdf

The German Academic Exchange Service (Deutscher Akademischer Austauschdienst, DAAD): www.daad.de/deutschland/en

Another good contact point for any and all information concerning student life in Berlin (arrival, housing, jobs, etc.) is the Studierendenwerk:

You can find a good overview of general information for (international) students on their website: www.stw.berlin/en/international.html



You can find helpful information on the HU "Tips for beginners" website: www.hu-berlin.de/en/studies/counselling/leaflets/study_begin?set_language=en



To ensure that you don't forget anything and can start your studies well prepared and relaxed, we offer you a short checklist:

Study Start Checklist



- If you have successfully applied for our master program at HU Berlin, you then need to enrol (immatrikulieren) in order to start your degree at HU.

(Student Advisory Services, Invalidenstr. 42, room 1028; +49 30 2093 8707; www.agrar.hu-berlin.de/de/lehre/studium/beratung) and IGB (Susanne Joop; +49 30 64181611; fishmaster@igb-berlin.de).
- Visit the “Introductory Event” of the Albrecht Daniel Thaer-Institute, the “General Introductory Orientation Session of HU Berlin: What must I know when I start studies?” and the “Study Orientation Trainings for International Students: Get Ready for Studying in Germany!” For announcements, please check the HU “Tips for beginners” website: www.hu-berlin.de/en/studies/counselling/leaflets/study_begin?set_language=en
- Familiarise yourself with the online platforms of HU: activate your HU Account and your email address, and register for AGNES and Moodle.
- Plan your studies: check the modules for the Fish Biology, Fisheries and Aquaculture Master Program and the study plan (Studienverlaufsplan) and look through the course catalogue on AGNES. Check out the official administrative rules for courses and exams as well (known as the Studien- und Prüfungsordnung; there is an abbreviated English version in the “Survival and Arrival Guide” of the master program).
- Don't hesitate to take advantage of the wide range of advisory services at HU Berlin (Compass, The Central Information Service; +49 30 2093 70333; compass@hu-berlin.de), the Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences
- Familiarise yourself with the broad spectrum of services and activities at HU Berlin:
 - Computer and Media Service (CMS): www.cms.hu-berlin.de/en/standardseite_collage?set_language=en
 - Library (Bibliothek): www.ub.hu-berlin.de/en/using-the-library/registration
 - University Sports (Hochschulsport) (register early to get a place!): www.hochschulsport.hu-berlin.de/en/sport-and-recreation-at-humboldt-universitaet-zu-berlin?set_language=en
 - The Language Centre (Sprachenzentrum) (register early to get a place!): www.sprachenzentrum.hu-berlin.de/en/standardseite-en?set_language=en
- One important service contact for all issues of student life is the *Studierendenwerk*. Their website provides information concerning dining facilities (the Mensa), housing, jobs, etc.: www.stw.berlin/en
- We have established a Facebook group for each semester at the Daniel Thaer-Institute. We'd love you to join too!



ADMINISTRATIVE STEPS FOR FOREIGN STUDENTS

Please take a look at HU's "Guide for International Students at HU Berlin" website: www.international.hu-berlin.de/en/studierende/aus-dem-ausland/wegweiser?set_language=en

The following information is available on this website under Item 5, "On arrival":

- 5.1.1 Registering at the Local Registration Office | Bürgeramt
- 5.1.2 Health insurance coverage
- 5.1.3 Student residence permit
- 5.1.4 Payment of standard fees and dues
- 5.1.5 Opening a bank account
- 5.1.6 Registration as an occasional or visiting student

ENROLMENT FOR DEGREE STUDENTS

If you have successfully applied for our master program at HU Berlin, you then need enrol (immatrikulieren) in order to start your degree at HU. To do this, you will need to visit the Immatrikulationsbüro (enrolment office) located in the Student Service Center (SSC) at Unter den Linden 6. The particular deadlines to do this will be mentioned in your acceptance letter and can be found online. After enrolling, your student ID and local transport pass along with a few other documents will be mailed to you. We usually refer to this as the "green letter". You will need the information on this to set up a "HU account", so keep the entire page, not just the student ID.

To enrol, you will need the following documents mentioned in your admissions letter

(*Zulassungsbescheid*):

- Antrag auf Immatrikulation (enrolment form)
- Certified copy of your previous university degree
- Copy of any other university degrees you may have
- Proof of health insurance coverage
- Proof of payment of the standard fees
- Your official acceptance letter
- Valid visa/residence permit or the Meldebestätigung (police registration)

- If you have previously studied in Germany: certificate of ex-matriculation

The Enrolment Office at the SSC:

- Admission office website: www.hu-berlin.de/de/studium/bewerbung/imma
- Website of the admission office for international students: www.hu-berlin.de/en/studies/admission/admission-for-foreign-applicants-en/Zul%20Ausl?set_language=en
- Information brochure for prospective international students: www.hu-berlin.de/de/studium/bewerbung/formulare/engl-assist.pdf

SETTING UP AN HU ACCOUNT

After enrolment, you can activate your HU account. In the "green letter", you will find a four-digit PIN. The HU account is a crucial tool for your studies: it allows you to obtain an email address and access the "AGNES – Lehre und Prüfung online" system, which includes the electronic examination service as well as instant access to the Moodle e-Learning and communication platform.

Set up your HU account: www3.hu-berlin.de/dl/beratung/antrag/index.php?gelesen=o&lang=en

Information sheet from the Computer and Media Service of HU Berlin: <https://agnes.hu-berlin.de/info/infomaterial/flyer/info-flyer2017-engl-v09-1d.pdf>

HU Berlin's "Guide for International Students at HU Berlin" website under Item 6 "Studies", Item 6.8 "How do I get a HU account and what are the advantages?": www.international.hu-berlin.de/en/studierende/aus-dem-ausland/wegweiser?set_language=en

If you have any questions, please contact:

Humboldt-Universität zu Berlin
ZE Computer- und Medienservice (CMS)
User Help Desk (Benutzerberatung)
Location: Jacob-und-Wilhelm-Grimm-Zentrum, Geschwister-Scholl-Str. 1-3
+49 30 2093 70000
cms-benutzerberatung@hu-berlin.de



MOODLE

Moodle is an online platform where information for individual courses is provided, such as the syllabus, slides, practice exams or other relevant study material that accompanies a lesson. Often, course supervisors or teaching assistants use Moodle as a way of communication: announcements are usually communicated through Moodle. Moodle also offers a discussion forum, where course participants can exchange information regarding matters related to the class. Generally, when you take a certain course you will join the accompanying group in Moodle. To access Moodle, simply use your HU account. If you would like to sign up for a course in Moodle, you will usually need a password, which will be announced in the first session of the semester. Note that your registration for a course in Moodle is just to give you access to the

learning material. It is not a binding enrolment for the module and you still have to register for exams separately.

www.moodle.hu-berlin.de

AGNES

AGNES is the more official counterpart of Moodle. This is where courses are published and where you need to register for exams. Course catalogues are published on 1 February for the next summer semester and on 1 July for the next winter semester. You can use AGNES to look at courses without an HU account, but for all further features you will need to log in.

www.agnes.hu-berlin.de

What to consider for my studies

HELPFUL INFORMATION FOR FOREIGN STUDENTS

Please take a look at the HU “Guide for International Students at HU Berlin” website: www.international.hu-berlin.de/en/studierende/aus-dem-ausland/wegweiser?set_language=en

You can find the following information on this website under Item 6, “Studies”:

- 6.1 Starting studies at Humboldt, courses, examinations, etc.
- 6.2 Teaching formats
- 6.3 Assessment of performance
- 6.4 Getting advice when help is necessary
- 6.5 A period of study outside Germany
- 6.6 Libraries
- 6.7 Student canteens and cafeterias
- 6.8 How do I get a HU account and what are the advantages?
- 6.9 Language courses at Humboldt-Universität
- 6.10 In-service training options
- 6.11 Sports at university



The following text is an English extract from the “Fachspezifische Studien- und Prüfungsordnung für den Masterstudiengang in Fish Biology, Fisheries and Aquaculture” (as of 2014); the full text is only available in German.

TYPES OF COURSES

Lecture (L): Oral presentation by a lecturer about a defined topic.

Seminar (SE): Group work, focusing on a particular subject, in which everyone present is requested to participate.

Practical Course (PR): Under the guidance of a course leader, students learn to carry out practical tasks related to their studies.

Exercise (E): This type of lecture is designed to teach application-oriented skills and empower students to carry out different tasks autonomously and to critically reflect upon and assess new findings and results. The lecturer guides the exercise and checks the results.

Field Trip (FT): Field trips get students out of the classroom to gain new insights into the study content and offer them the opportunity to apply the knowledge gained in a real environment.

Tutorial (TU): Experienced and specially trained students supervise students to deepen and discuss the knowledge gained.

Student Project (SPJ): Students carry out projects, either individually or in small groups. These are conducted before registration of the Master’s thesis. Students apply methodologies of scientific research on a selected topic. They gain first-hand supplemental experience in the presentation of the results of their research and in interdisciplinary cooperation.

STUDY CONTENT (MODULES)

The master program encompasses 120 credit points (*Leistungspunkte*, or CP). The curriculum consists of a **Mandatory Part** (*Pflichtbereich*), a **Compulsory Optional Part** (*Fachlicher Wahlpflichtbereich*) with **Focus Modules** (*Schwerpunktbereich*) and **Supplementary Modules** (*Ergänzungsbereich*), as well as an **Interdisciplinary Part** (*Überfachlichen Wahlpflichtbereich*). You can find a detailed description of the single modules in the Appendix.

Mandatory Part (42 CP):

Student Project (12 CP) and Master’s Thesis (30 CP).

Compulsory Optional Part (66 CP):

The Compulsory Optional Part is divided into **(I) Focus Modules** (54 CP) and **(II) Supplementary Modules** (12 CP).

(I) Focus Modules (54 CP): Students choose a total of nine modules, including at least two modules from each of the three domains:

Domain 1: Fish Biology and the Evolution of Fish

(6 CP each)

FM 1: The Systematics and Evolution of Fish

FM 2: The Ecology of Fish

FM 3: Fish Physiology

FM 4: Functional Morphology

FM 5: Fish Behaviour and Evolution

FM 6: Experimental Fish Biology

FM 7: The Reproduction of Ornamental Fish

FM 8: Aquatic Microbial Ecology

Domain 2: Fisheries Management and Conservation

(6 CP each)

FM 9: Limnology I (Theoretical Limnology)

FM 10: *Limnologischer Freilandkurs*
(Applied Limnology)

FM 11: Commercial Inland Fisheries

FWM S 12: *Fanggeräte* (in German)

FM 13: Integrative Fisheries Management

FM 14: Fish Conservation

FM 15: Sampling and Data Analysis in Fisheries
Science

Domain 3: Aquaculture

(6 CP each)

FM 16: Fish Nutrition

FM 17: Biometry for Aquaculture

FM 18: Management of Warm Water Ponds
and Fish Breeding



- FM 19: Salmonid Aquaculture
- FM 20: Intensive Warm Water Aquaculture
- FWM S 21: *Aquakulturtechnik* (in German)
- FM 22: Genetics and Reproduction in Fish
- FM 23: Fish Diseases I (Environmental, Viral, Bacterial and Fungal Diseases of Fish)
- FM 24: Fish Diseases II (Protozoan and Metazoan Parasites of Fish)

(II) Supplementary Modules (12 CP): Students can choose additional modules from the three domains of the course program or select various courses from other master programs at the Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences.

Interdisciplinary Part (12 CP):

To broaden your knowledge, you may choose specially designated modules from other fields of study at HU Berlin, or from other universities.

What to consider before exams

Please remember to carefully check the application deadlines and regulations for exams. Normally, you have to complete a registration form to be admitted to an exam.

Information concerning exams at HU Berlin: www.agrar.hu-berlin.de/de/lehre/studium/pruefungen/pruef

All registration forms concerning exams at HU Berlin: www.agrar.hu-berlin.de/en/lehre-en/studium-en/pruefungen-en/AnForm-en/standard-seite-en?set_language=en

SPECIAL ADMINISTRATIVE RULES FOR OUR MASTER PROGRAM

(Extract from the “Fachspezifische Prüfungsordnung für den Masterstudiengang Fish Biology, Fisheries and Aquaculture” / official examination regulations for the Master Program in Fish Biology, Fisheries and Aquaculture)

The examination board (*Prüfungsausschuss*) of the Fish Biology, Fisheries and Aquaculture master program is responsible for all matters related to exams.



Module exams (*Modulabschlussprüfungen*) (see Appendix):

- Students must register for exams by completing the “Examination Registration” form.
- Oral and practical exams will take place in the presence of a single competent invigilator, provided the ZSO-HU does not request two examiners. The invigilator observes the exam and takes notes. He or she is not involved in the examination itself or in the assessment of the exam.
- Module exams that you have passed can be repeated once with the goal of achieving a higher grade, as long as they are registered within the standard period of study. This option is restricted to three module exams.
- Module exams can be taken in German or English.
- After successful completion, students receive a corresponding exam certificate.



Student Project (*Studentenprojekt, SPJ*):

- Before starting and when finishing, you must complete the Topic registration form/result sheet.

Masters Thesis (*Masterarbeit*):

- See the general guidelines of HU Berlin on the submission of final theses here: www.agrar.hu-berlin.de/de/lehre/studium/pruefungen/2016_Richtlinien_Anfertigung_Abschlussarbeiten/anleitung-zur-abfassung-von-studienabschlussarbeiten_en.pdf
- Forms concerning exams at HU Berlin can be found here: www.agrar.hu-berlin.de/en/lehre-en/studium-en/pruefungen-en/AnForm-en/standardseite-en?set_language=en
- To register your Master's thesis, it is necessary to complete the "Registration and confirmation form, Topic of Final Thesis".
- Graduates who have successfully submitted their Master's thesis must defend their thesis (oral defence) within eight weeks of submission.
- The grade for the Master's thesis is composed of a written part and an oral part at a ratio of 2 to 1.
- The "Procedure for Defending the Final Thesis" form can be found here: www.agrar.hu-berlin.de/de/lehre/studium/pruefungen/Formulare/2016-Formulare/antrag-auf-eroeffnung-des-verfahrens-zur-verteidigung-der-abschlussarbeit.pdf
- The "Master's Thesis Cover Sheet" can be found here: www.agrar.hu-berlin.de/de/lehre/studium/pruefungen/Formulare/deckblatt-abschlussarbeit_eng17.pdf

Graduation:

- The final grade consists of the grades of the module exams and the grade of the Master's thesis. The weighting is based on credit points. Module exams that are not graded or only marked as a "pass" are not taken into account.
- Successful graduates will be awarded a Master of Science (M.Sc.) degree.



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