

SPIBES MSc. Programme Handbook



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1. Introduction to the CABES SPIBES MSc. programme

1.1. What is SPIBES?



The Master of Science (MSc) in Science–Policy–Practice Interfaces on Biodiversity, Ecosystem Services, and Climate Change (SPIBES) is a capacity development initiative of the Capacity Development for Biodiversity and Ecosystem Services Experts in Africa (CABES, www.cabes.online) programme, designed to train young professionals to seamlessly navigate biodiversity science-policy-practise interfaces (SPPIs).

The interdisciplinary SPIBES MSc. programme responds to the growing need for professionals who are able to translate scientific evidence into policy-relevant insights and actionable strategies, particularly in regions facing complex environmental and socio-economic challenges.

SPIBES also serves to institutionalize the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, www.ipbes.net) rolling capacity building work programmes in higher education institutions across Africa.

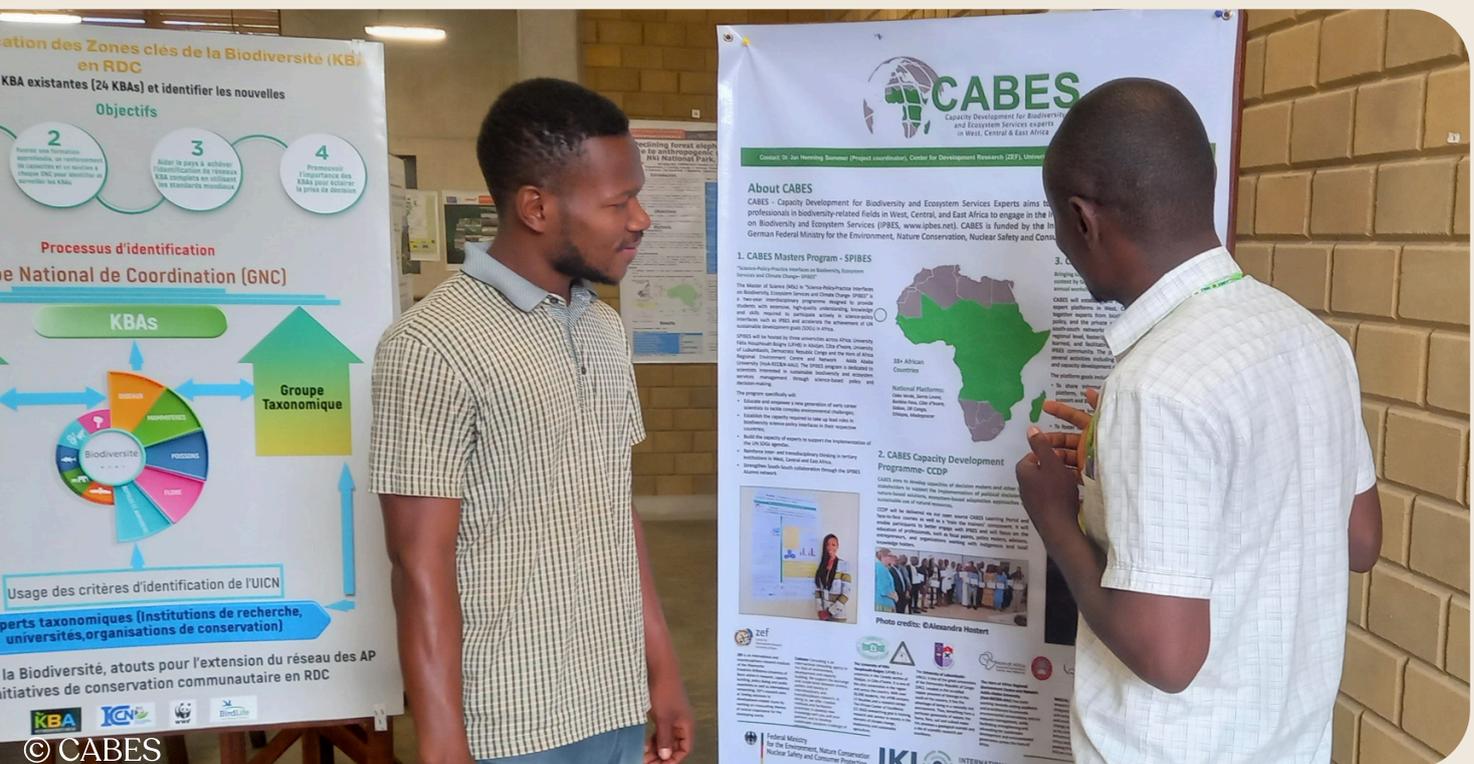
2. About the CABES programme

2.1. Background and objectives

The Capacity Development for Biodiversity and Ecosystem Services Experts in Africa (CABES) project is a regional initiative aimed at strengthening Africa's capacity to engage with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

Despite Africa's ecological richness and the growing availability of scientific knowledge, many countries face challenges in translating evidence into policy-relevant and actionable outcomes. These challenges include limited interdisciplinary training opportunities, gaps in science-policy engagement, and underrepresentation of African experts in global and regional biodiversity processes.

CABES was established to address these gaps by supporting youth capacity development, fostering stronger linkages between scientific research, decision-making, and implementation.



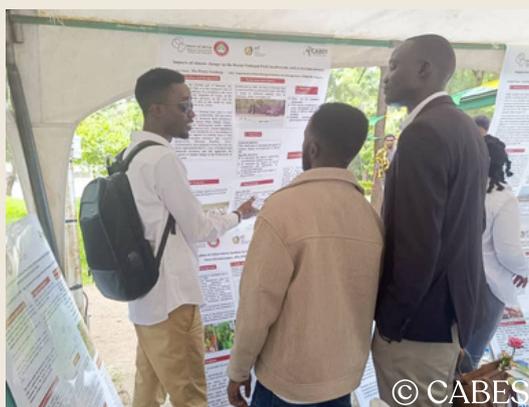
2.2. Key areas of action of the CABES programme

CABES operates through three complementary areas of action:



Academic capacity development

CABES supports the development and delivery of international Master's programmes, including the SPIBES MSc, to train a new generation of professionals skilled in climate and biodiversity science-policy-practice interfaces.



Facilitation of national and sub(regional) Science-Policy-Practice platforms and networks

The project contributes to strengthening national and regional platforms that facilitate dialogue and collaboration among scientists, policymakers, practitioners, and other stakeholders.



Provide targeted training and knowledge exchange

CABES delivers capacity development activities for decision-makers, practitioners, and biodiversity professionals to support evidence-based biodiversity governance, ecosystem management, and climate-related decision-making.

2.3. CABES and its SPIBES MSc. programme

The SPIBES MSc. programme represents a central academic pillar of the CABES project. It translates CABES objectives into a structured graduate-level training programme that combines interdisciplinary coursework, applied research, and professional experience.

Overall, SPIBES MSc. contributes to the internalization of higher education, and the United Nations Sustainable Development Goal 4 (Quality Education).

Through SPIBES, CABES aims to:

- Build long-term expertise in biodiversity and ecosystem services governance
- Strengthen African participation in science-policy processes, including those related to biodiversity assessments
- Foster regional and international academic and professional networks

2.4. CABES programme coordination and support

The CABES project is coordinated by the **Center for Development Research (ZEF), University of Bonn, Germany** in collaboration with African and international partner institutions. Funding is provided through the **International Climate Initiative (IKI)** of the **German Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety (BMUKN)**. See www.cabes.online for more details.

The SPIBES MSc. programmes adhere strictly to the regulations of the host institutions, and are coordinated by academic researchers and staff from the host universities.

3.1. Why SPIBES?



Biodiversity loss, ecosystem degradation, and climate change are among the most pressing challenges of our time. While scientific knowledge on these issues has expanded significantly, its effective use in decision-making remains limited. Policymakers and practitioners often lack access to timely, relevant, and actionable scientific information, while researchers may have limited opportunities to engage directly with policy and practice. However, Science–Policy–Practice Interface (SPPI) addresses this challenge by strengthening collaboration between researchers, decision-makers, practitioners, and other relevant stakeholders. Well-functioning interfaces support evidence-based policymaking, inclusive governance, and sustainable development outcomes.

SPIBES was developed to respond directly to this expertise need by providing structured, interdisciplinary training focused on:

- Integrating scientific knowledge into policy and practice
- Engaging stakeholders across sectors and scales
- IPBES tools and methodologies
- Interdisciplinary and transdisciplinary knowledge generation

3.2. A pan-African programme with regional delivery

The SPIBES MSc. programme is delivered through a pan-African structure, combining a shared curriculum and academic framework with regional implementation across West, Central, and East Africa, and hosted by leading African universities, including:

- SPIBES West Africa: Université Félix Houphouët-Boigny, Côte d'Ivoire
- SPIBES Central Africa: University of Lubumbashi, Democratic Republic of Congo
- SPIBES East Africa: Addis Ababa University, Ethiopia

All students follow the same core programme logic, learning objectives, and degree structure, while benefiting from region-specific expertise, institutional contexts, and environmental settings.

SPIBES West Africa

In West Africa, the SPIBES MSc. programme is hosted by Université Félix Houphouët-Boigny (UFHB), Côte d'Ivoire, within its African Centre of Excellence on Climate Change, Biodiversity and Sustainable Agriculture (CEA-CCBAD).



The West Africa programme emphasises:

- Biodiversity governance in savanna, forest, and coastal systems
- Climate change adaptation and sustainable land use
- Regional environmental policy processes and institutions
- Applied research and stakeholder engagement in West African context.

It is implemented jointly with the DAAD-funded MSc. programme of AFAS-The African Climate and Environment Center – Future African Savannas. Visit [Your paragraph text](#) for details.

SPIBES Central Africa

In Central Africa, the programme is hosted by the University of Lubumbashi, Democratic Republic of Congo, within the Faculty of Agronomic Sciences.

The Central Africa programme focuses on:

- Biodiversity and ecosystem services in forest and mining-affected landscapes
- Natural resource governance and land-use change
- Environmental assessment and sustainability challenges in Central Africa
- Applied research and field-based learning



SPIBES East Africa

In East Africa, the SPIBES MSc. programme is hosted by Addis Ababa University, Ethiopia.

The East Africa programme highlights:

- Biodiversity and ecosystem services in highland, rangeland, and agricultural systems
- Climate change impacts, resilience, and nature-based solutions
- Environmental governance and policy processes in East Africa
- Interdisciplinary research and regional collaboration



Mobility and regional exchange

Across all regions, SPIBES promotes academic exchange and collaboration among students and faculty. Opportunities may include joint activities, regional workshops, guest lectures, and collaborative research initiatives, subject to programme arrangements and funding availability.

3.3. The SPIBES programme context: SPPI

The **Science–Policy–Practice Interface** (SPPI) refers to the processes and spaces through which scientific knowledge, policy-making, and practical implementation interact. Well-functioning interfaces support:

- **Evidence-based and transparent decision-making**
- **Inclusive and participatory governance processes**
- **The translation of research into actionable solutions**

International initiatives such as the **Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES)** and the **Intergovernmental Panel on Climate Change (IPCC)** play key roles in advancing science–policy integration. However, effective engagement in these processes requires specific skills related to interdisciplinary analysis, stakeholder engagement, and communication.



4. SPIBES programme structure and curriculum

4.1. Overall structure

The SPIBES MSc is a two-year, full-time programme structured over four semesters (24 months), and aligned with the Licence-Master-Doctorate (LMD) system in SPIBES West Africa and Central Africa. The programme combines interdisciplinary coursework, applied training, field engagement, and independent research.

Each semester carries 30 ECTS credits, for a total of 120 ECTS credits.

- **Semesters 1 and 2:** Common core learning modules
- **Semester 3:** Specialisation track
- **Semester 4:** Internship, field research, and Master's thesis

This structure allows students to build foundational knowledge before progressing to field exercises, advanced application and professional practice.

4.2. Common core learning modules (semesters 1 and 2)

The SPIBES MSc. programmes adopts a modular course delivery. The common core courses provide students with a shared interdisciplinary foundation in biodiversity, ecosystem services, climate change, and science–policy–practice engagement. Core thematic areas include:

- Biodiversity, ecosystems, and climate change
- Environmental governance and sustainability
- Social science perspectives and development contexts
- Research design, data analysis, and methods
- Science communication and stakeholder engagement
- Introductory field activities and professional immersion

4.3. Specialisation tracks (semester 3)

From the third semester onwards, students specialise in one of the following tracks, depending on their academic interests and career goals.

Track 1: Science–Policy–Practice Interfaces on Biodiversity and Ecosystem Services

This track focuses on introduction to biodiversity SPPI, and how to effectively translate scientific knowledge into policy-relevant and practical outcomes. Key areas include:

- Science–policy interface methods and tools
- Biodiversity assessments and governance
- IPBES-related tools, processes and case studies
- Policy brief writing and science communication
- Project planning, leadership, and management

Track 2: Climate Change and Nature-based Solutions (NbS) (Only available at SPIBES West Africa, see Appendix 1)

This track emphasises climate resilience and ecosystem-based approaches to sustainability, including:

- Climate change adaptation and mitigation
- Nature-based solutions in African socio-ecological systems
- Ecosystem-based adaptation and livelihoods
- Urban ecology and sustainable development
- Applied research and professional skills

4.4. Internship and master's thesis (Semester 4)

The final semester is dedicated to professional experience and independent research. Students undertake during a 6-month period:

- professional internship or field placement with a relevant organisation, and
- independent research project addressing a real-world biodiversity or sustainability challenge.

The programme concludes with the submission and defence of a **Master's thesis**, demonstrating the student's ability to apply interdisciplinary knowledge and methods in policy- or practice-relevant contexts. Details of the courses and associated modules for each of the SPIBES MSc. programme are provided in preceding sections. There are slight differences between the programmes. See Appendix 1, 2, and 3 for detailed curriculum of each of the SPIBES MSc. programmes.





5. Teaching, learning, and assessment

5.1. Teaching and learning approach

The SPIBES MSc. programme adopts an interdisciplinary, practice-oriented teaching approach that integrates theory, applied learning, and real-world engagement. The programme is designed to help students develop both academic competence and professional skills relevant to biodiversity governance, ecosystem management, and science-policy-practice processes.

Teaching and learning methods include:

- Lectures and interactive seminars
- Tutorials and practical exercises
- Field activities and professional immersion
- Group work and collaborative projects
- Independent study and supervised research

5.2. Learning environment

SPIBES offers a multicultural and international learning environment, bringing together students from different academic, professional, and geographic backgrounds. Learning activities are designed to promote peer learning, dialogue across disciplines, and engagement with diverse perspectives.

Students benefit from interaction with academic staff, practitioners, and guest experts involved in biodiversity, climate, and sustainability-related work at national, regional, and international levels.

5.3. Assessment methods

Student performance is evaluated through a combination of continuous assessment and final evaluations, in accordance with the academic regulations of the host universities.

Assessment methods may include:

- Written assignments and examinations
- Oral presentations and posters
- Group projects and policy briefs
- Practical exercises and fieldwork reports
- Evaluation of internships and professional placements
- Submission and defence of the Master's thesis

The **Master's thesis** represents the final assessment of the programme and demonstrates the student's ability to apply interdisciplinary knowledge and methods to real-world research, policy, or practice-oriented challenge.



6. Research and internship opportunities

6.1. Research opportunities

The SPIBES MSc. programme places strong emphasis on applied, interdisciplinary research that addresses real-world challenges related to biodiversity, ecosystem services, and climate change.

Throughout the programme, students engage in research activities linked to:

- Biodiversity conservation and ecosystem services assessment
- Environmental governance and sustainability
- Climate change adaptation and nature-based solutions
- Biodiversity science-policy-practice processes

Research projects may be developed within host universities or in collaboration with national, regional, and international partner institutions. Students are encouraged to align their research topics with ongoing projects, policy processes, or applied sustainability initiatives.

6.2. Internship opportunities

The programme operates an internship cum thesis model. During the fourth semester, students undertake a professional internship in a relevant organisational setting. SPIBES interns may be hosted by:

- Government ministries and public agencies
- Universities and research institutions
- International organisations and development agencies
- Non-governmental organisations (NGOs)
- Environmental and sustainability-focused projects

These placements allow students to apply academic knowledge in practice, gain exposure to science-policy-practice processes, and develop professional networks.



7. Faculty and expertise

The SPIBES MSc. programme is delivered by a multidisciplinary teaching team drawn from African and international universities, research institutions, and practice-oriented organisations. Faculty members combine academic expertise with practical experience in biodiversity governance, ecosystem management, climate change, and science–policy–practice engagement.

Teaching staff may include:

- Academic faculty from the SPIBES host universities
- Researchers from African and international research centres
- Experts from organisations involved in biodiversity policy and sustainability initiatives

Practitioners with experience in science-policy interfaces and applied environmental management.



7.2. Areas of expertise

**Biodiversity
Conservation &
Ecosystem
Services**

**Climate Change
Adaptation & NbS**

**Environmental
Governance &
International
Policy Processes**

**Science-Policy-
Practice Interfaces**

**Research design,
data analysis, and
environmental
assessment
methods**

**Science
communication,
policy brief writing,
and professional
skills**

7.3 Guest lectures and external experts

The programme regularly hosts guest lecturers and visiting experts from regional and international institutions. These contributions expose students to current thematic debates, applied case studies, and professional pathways related to biodiversity governance and sustainability.



8. Admission requirements and eligibility

8.1. Academic eligibility

Admission to the SPIBES MSc. programme is competitive and open to candidates who hold a **Bachelor's degree or equivalent** in a relevant discipline. Suitable academic backgrounds include, but are not limited to*:

- ✓ Environmental sciences
- ✓ Biology, ecology, agronomy, or forestry
- ✓ Geography, earth sciences, or natural resource management
- ✓ Economics, development studies, or social sciences
- ✓ Environmental engineering or related fields

*Applicants from other academic backgrounds may also be considered if they can demonstrate relevant knowledge, skills, or professional experience aligned with the objectives of the SPIBES programme.

8.2. Language requirements

The language of instruction for all the SPIBES MSc programme is **English**. Applicants must demonstrate sufficient proficiency in English to participate effectively in lectures, discussions, group work, and written assignments. Language upgrade support may be provided during the programme for students who require additional training.

8.3. Selection criteria

Selection of candidates is based on a holistic assessment of academic suitability and programme fit. Criteria include:

- Academic performance and relevance of prior studies
- Demonstrated interest in biodiversity, ecosystem services, and sustainability-related fields
- Alignment between the applicant's academic or professional background and the science-policy-practice focus of the programme
- Capacity to complete an interdisciplinary Master's programme

Final admission decisions are made in accordance with the academic regulations of the respective host universities.

9. Scholarships and financial support

9.1. Available financial support

The SPIBES MSc. programme seeks to support talented and motivated young African professionals by reducing financial barriers to participation. A limited number of scholarships and financial support opportunities may be available for eligible students, subject to funding availability.



Financial support may include:

Coverage of tuition fees

Monthly stipends for partial coverage of living allowance

Support for research activities & fieldwork

Travel & mobility costs

9.2. Scholarship selection criteria

Scholarships are awarded on a competitive basis, and selection criteria include:

- Academic merit
- Relevance of academic background to the programme
- Motivation and commitment to biodiversity, ecosystem services, and science-policy-practice interfaces.
- Considerations related to gender balance and regional representation

9.3. Important information for applicants

Availability of scholarships and financial support is subject to funding conditions and may differ from year to year. Applicants are encouraged to consult official SPIBES communication channels for the most up-to-date information regarding funding opportunities.

Upon successful completion of the programme, MSc. certificates are awarded by the respective host universities.

Contact information

For all inquiries, contact persons for the respective higher learning institutions:



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Appendix 1: SPIBES West Africa - Course content breakdown / semester . *for DAAD-funded AFAS students

	Common Core		Specialty 1: SPIBES		Specialty 2*: NbS	
	Semester 1	Semester 2	Semester 3	Semester 4	Semester 3	Semester 4
EU Credits	Language Upgrade	Basic concepts in sustainable development	Introduction to R and Biodiversity Modelling	Internship and writing of dissertation and defence	Science-policy, practice, and practice interfaces	Internship and writing of memory and defence
	Introduction to interdisciplinarity in environmental management: Science-Policy-Practice interface	Biodiversity and Climate Change	Ecology Applied to Sustainable Development: Environmental Planning		Nature-Based Solutions	
	Basic notions and concepts of environmental science	Environmental Governance and Management	Environmental Assessment Method and Tools and IPBES		Ecology Applied to Sustainable Development: Urban Ecology	
	Basic Notions and Concepts of Social Sciences	Key Interdisciplinary Methods in Environmental Sciences	General Scientific Skills		General Scientific Skills	
	General skills in Scientific Research: communication	Good Practices in Scientific Research	Project Management and Fundraising		Project management and fundraising	
	Data Collection and Statistical Analysis	Modeling and Environmental Sciences	Drafting of briefs and policy briefs		Drafting of briefs and policy briefs	
	Field immersion (hands-on field data collection)	Immersion in the field (practical, data collection in institutions...)	Research project		Scientific Research Methods	
					Internships, Exchanges, and Mentoring	
			Research project			

Appendix 2: SPIBES Central Africa - Course content breakdown / semester

Master 1 (First Year of Master)		Master 2 (Second Year of Master)	
Semester 1	Semester 2	Semester 3	Semester 4
Introduction to the Science, Policy, and Practice Interfaces	Fundamentals of Sustainable Development <ul style="list-style-type: none"> • Concept of sustainable development • Concept of transformative change 	Biodiversity Modeling <ul style="list-style-type: none"> • Introduction to biodiversity modeling 	Professional Internship and Data Collection
Fundamentals of Environmental Sciences <ul style="list-style-type: none"> • Basic concepts of ecology and biodiversity • Basic concepts of climatic systems and climate change 	Biodiversity and Climate Change <ul style="list-style-type: none"> • Biodiversity and climate change and its effects on ecosystem functioning, ecosystem services, and natural resource management • Diversity of tropical and subtropical African ecosystems in changing climatic and social contexts 	Applied Ecology for Sustainable Development: Environmental Planning <ul style="list-style-type: none"> • Application of landscape ecology and planning. • Integration of ecosystem services concepts into existing initiatives. • Urbanization and sustainable cities in Africa 	
Fundamentals of Social Sciences <ul style="list-style-type: none"> • Basic concepts of environmental social sciences • Basic concepts of environmental economics 	Governance and Environmental Management <ul style="list-style-type: none"> • Biodiversity, ecosystem services, international governance of climate change, and national-level considerations • Tools for sustainable management and conservation 	Methods and Tools for Environmental Assessment and IPBES <ul style="list-style-type: none"> • Methods and tools for environmental assessment • Use of IPBES environmental assessments in national decision-making processes: case studies • Environmental and social impact assessment 	
Data Collection and Statistical Analysis <ul style="list-style-type: none"> • Statistics and Introduction to R • Sampling strategies, data management, and statistical analysis in biodiversity and ecology studies • Sampling strategies, data management, and statistical analysis in social sciences 	Key Interdisciplinary Methods in Environmental Sciences <ul style="list-style-type: none"> • Integrated assessment and evaluation of biodiversity values and ecosystem services in the context of climate change • ILKP (Integrated Landscape Knowledge Practices) in sustainable management 	General Non-Technical Skills <ul style="list-style-type: none"> • Interpersonal, intercultural, and communication skills - • Stakeholder engagement, negotiation, advocacy, and conflict resolution skills • Project management, leadership, and entrepreneurial mindset • Fundraising and training skills to prepare for the job market 	Master's Thesis Writing and Defence in ISPP

<p>Writing and Communicating Scientific Data</p> <ul style="list-style-type: none"> • Scientific writing • Scientific presentation • Writing policy briefs and information notes 	<p>Best Practices in Scientific Research</p> <ul style="list-style-type: none"> • Ethics and good practices in science and integration of the gender dimension • Introduction to transdisciplinary research and knowledge co-production 	<p>Presentation of the Finalized Thesis Protocol in ISPP</p>	
<p>Field Immersion Excursion and training in data collection</p>	<p>Modelling and Environmental Sciences</p> <ul style="list-style-type: none"> • Use of GIS and remote sensing tools • Understanding biodiversity, ecosystem services, and climate modelling 		
	<p>Writing and Defending a Research Protocol in ISPP</p>		

Appendix 3: SPIBES East Africa - Course content breakdown for Semester 1

Module	Courses
Remedial Language course: English	English upgrade Course
Interdisciplinary approach for Environmental Management	Introduction to Science-Policy-Practice Interface (SPPIs) (Link with sustainable development and connect with second semester courses)
Climate, BES and Transformative change	Concepts of transformative change and resilience
	Biodiversity & Climate Change and its effects on ecosystem functioning, ecosystem services, nature's contributions to people
	Basic concepts on Climate system and climate change
Concepts on ecology, taxonomy, environmental economy and sociology	Basic concepts on Ecology and Introduction to Taxonomy
	Basic concepts on Environmental economy (including New economic paradigm and sustainable development (green, blue, circular and bio economies, GDP growth)
	Basic concepts on Environmental social science (sociology, anthropology, Law/politics)
Ecology of tropical and sub-tropical African ecosystem types	Ecology of tropical and sub-tropical African ecosystem types under changing climatic conditions: natural and managed (arid and semi-arid Savanna arid and semi-arid, rain forests, Aquatic, Agro-biodiversity and Agroforestry, Soil)
Interdisciplinary scientific research method	Scientific writing (including bibliographic research): Work with students on how to find their own thesis topics SPBE6018
	Introduction to trans-disciplinary research and knowledge co-production
	Scientific presenting (Science-Media-Professional): Guide students to present and defend their master thesis proposals

Scientific writing and communication	Interpersonal, Intercultural and Communication skills
	Skills in stakeholder engagement, Negotiation, Advocacy and Conflict resolution
	Ethics and good practices in science & Gender mainstreaming
	Policy brief writing
Research skills, practice and statistical analysis	Data collection and analysis methods in social sciences (qualitative and quantitative), including survey technique
	Statistical analysis, data management and sampling strategies (climate & biodiversity)
	Introduction to R
	Project management, Leadership and Entrepreneurship
Internship & Thesis Proposal Preparation	Fund-raising and Job market preparation (CV and letter of motivation writing, Interview training)
	Field immersion (Practical data collection in the field)

Semester 2

Module	Courses
Environmental Management and governance for sustainable development	The concept of sustainable development (history, challenges, opportunities, SDGs, Agenda 2063)
	Biodiversity, ESS, Climate Change Governance International context and their translation into national context)
	Sustainable management and conservation tools (Biodiversity conservation and management strategies, Nature-based Solutions, ecosystem-based adaptation)

Interdisciplinary methods and tools in environmental sciences	Valuation of biodiversity and ecosystem services (integrated valuation; natural capital accounting) in the context of climate change
	Indigenous, local and traditional knowledge and practices in sustainable management, including global developments e.g. connect UNESCO
Modeling in BES studies	Environmental modelling
	Understanding of biodiversity, ecosystem services, climate modelling
	Biodiversity modelling
Applied ecology for sustainable development and Environmental planning	Application of Landscape Ecology and planning
	Integration of Ecosystem services concepts to existing initiatives (PPPs in Africa / cross-sectoral policies)
	Urbanization and sustainable cities in Africa
Methods and tools to conduct IPBES assessment and apply in national decision making	Methods and tools to conduct an assessment (including scenarios and nature futures framework)
	Using IPBES assessments in national decision making: different case studies
Environmental and social impact assessment	Environmental and social impact assessment
Using GIS & remote sensing tools	Application of GIS & Remote Sensing Tools

Detailed semester activities will be provided to enrolled students.