Master's Degree Program

LEAD THE LOW-CARBON ECONOMY OF TOMORROW

CARBON NEUTRALITY AND CLIMATE RESILIENCE

The global transition to carbon neutrality is the defining economic and strategic transformation of current time. Our Master's program is designed for future leaders who will not only understand climate and ecological challenges but will drive practical solutions, turning risks into opportunities for businesses, finance, and policy.

WHY THIS PROGRAM? WHY NOW?

China's "Dual Carbon" goals (peak emissions by 2030, carbon neutrality by 2060) and its commitment to "Ecological Civilization" are creating an unprecedented demand for skilled professionals who understand both decarbonization and natural capital. The global ESG (Environmental, Social, and Governance) and green finance market is booming, with ecosystem services becoming a critical component of corporate and national strategies. This program provides the exclusive expertise needed to build a high-impact career at the intersection of sustainability, business, and innovation.

This program is for students who want more than general knowledge about climate change. It is designed for those who want to work with real data, build quantitative models, and contribute to practical solutions in carbon management and climate resilience. By combining field measurements, numerical modeling, and applied decision-making, the program offers a unique and future-oriented education at the intersection of science, technology, and sustainability.

A key feature of the program is its strong focus on quantitative analysis, numerical modeling, and data-driven approaches. Students learn to move beyond descriptive assessments to predictive modeling of climate and ecosystem processes, thereby supporting evidence-based decision-making in carbon management and climate resilience.

05.04.06
Ecology and Environmental Management

KEY ADVANTAGES

- **Career-Focused Curriculum:** Beyond theory. Learn through real-world case studies from industry leaders and hands-on projects with partner companies.
- **Expert Faculty:** Learn from world-class academics and seasoned practitioners - CEOs, sustainability directors, and consultants shaping the field today.
- **For China and Russia, for the World:** Gain a deep understanding of global climate frameworks and natural capital approaches while specializing in China's unique policy landscape and market opportunities.
- **Professional Network:** Study alongside ambitious peers from diverse backgrounds. Build your network with future industry leaders and experts.
- **Advanced Quantitative and Modeling Skills:** Training in numerical modeling, carbon and water balance simulation, greenhouse gas flux modeling, and machine learning applied to real environmental datasets.

UNIQUE RESEARCH & LEARNING INFRASTRUCTURE

Students gain direct access to a world-class research base for applied work with real-world data:

- Ecosystem Geoinformatics Laboratory
- Geoinformatics and Natural Resource Monitoring Laboratory
- Mycology and Mycotechnology Laboratory
- Mukhrino Field Station (Carbon Supersite)
- Carbon Data Center (Specialized data processing unit)

Faculty of Practicing Experts:
The program is taught by leading scientists and industry practitioners with proven track records in implementing real-world projects in climate change and carbon regulation. Theoretical knowledge is directly supported by case studies from the instructors' professional experience. These facilities provide unique opportunities for numerical modeling, data-driven analysis, and validation of climate and ecosystem models using long-term observational datasets.

WHO SHOULD APPLY?

This program is ideal for:
Bachelor's graduates in Business, Economics, Finance, Engineering, Environmental Science, or Ecology seeking a cutting-edge specialization.

Young professionals aiming to pivot their careers into the high-growth sustainability, ESG, and natural resource management sector.

Corporate specialists looking to master ESG strategy, carbon and natural capital management, or climate and biodiversity risk assessment.

Entrepreneurs and innovators building the next generation of green technology, sustainable business models, and nature-based solutions.

EDUCATIONAL PLAN

YOUR CAREER PATHWAY

Graduates are equipped for leadership roles such as:
Corporate Sector: Sustainability Manager, ESG Analyst, Carbon & Natural Capital Manager.

Finance & Investment:
Green Finance Analyst, ESG Risk Manager, Specialist in Biodiversity & Ecosystem Services Financing.

Consulting:
Climate & Nature Strategy Consultant, Decarbonization and Ecosystem Services Valuation Advisor.

Policy & International Organizations:
Policy Analyst (Climate and Biodiversity), Ecosystem Services Project Manager.

Innovation & Land Management:
Founder or Specialist in Cleantech, Green Ventures, and Nature-Positive Projects.

Science & Modeling:
Climate and Ecosystem Modeling Specialist, Environmental Data Scientist, Carbon and Climate Modeling Researcher

PROGRAM STRUCTURE & CORE FOCUS AREAS

The two-year, full-time program blends core knowledge with applied skills across four key pillars:

- Climate & Ecological Foundations: Climate Science, International Policy, and the Economics of Ecosystem Services.
- Economics & Finance: Low-Carbon Transition, Green & Blue Finance, Carbon & Biodiversity Markets, Natural Capital Valuation.
- Business Strategy & Management: Corporate Sustainability, ESG Integration, Risk Management (Climate & Nature), Supply Chain Resilience.
- Applied Tools & Solutions: Carbon Accounting, Ecosystem Services Assessment, Numerical Modeling of Climate and Ecosystem Processes, Greenhouse Gas Flux Modeling, Data-Driven Analysis and Machine Learning Applications, Sustainability Reporting, Nature-Based Solutions.

A dedicated module, "Valuing Natural Capital: Ecosystem Services for Business and Policy," explores how to measure, value, and integrate services like water purification, flood regulation, soil health, and pollination into financial decision-making and corporate strategy.

A dedicated module, “Numerical Modeling and Data-Driven Analysis of Climate and Ecosystem Processes,” equips students with essential skills in the quantitative modeling of carbon and water balances, greenhouse-gas fluxes, and climate–ecosystem interactions. The module integrates process-based models with machine-learning approaches and is closely linked to hands-on work using data from carbon monitoring sites, research laboratories, and remote-sensing sources.

The curriculum culminates in a capstone Master's project, solving a real challenge for a business or organization, such as developing a decarbonization plan, a natural capital assessment, or a blended climate-nature strategy.

The two-year program is strategically designed in two integrated phases to transform knowledge into professional mastery:

Year 1. Foundational Mastery

Dedicated to intensive academic study, this year builds the essential theoretical and analytical framework.

Year 2. Applied Expertise & Thesis

Focused on practical application and synthesis. You will engage in advanced project work, case studies, and potential internships with partner organizations, and concentrate on your Final Master's Thesis.

Admissions & Practical Information

Degree: Master of Science (Msc)

Format: Full-time, On-Campus

Language of Instruction: English

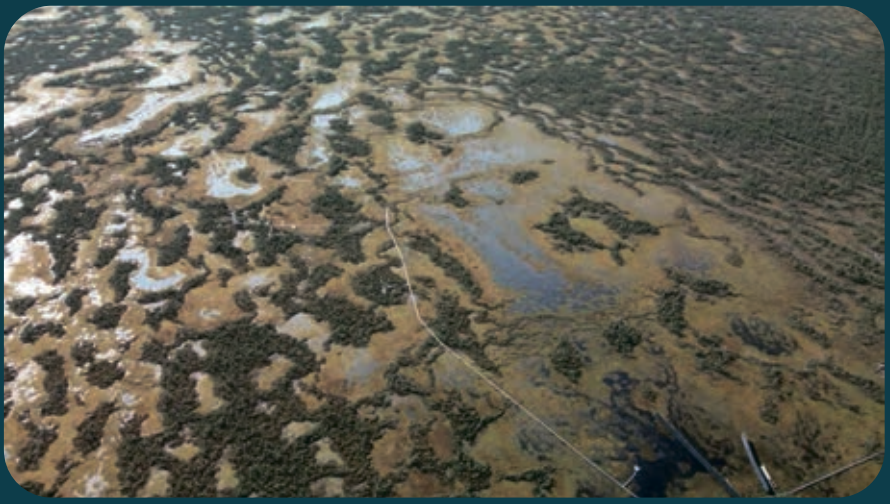
Entrance examination: online test

Duration: 2 years

Intake: September 2027

Sample exam questions

Status: The program is aligned with international research and professional standards, preparing graduates for global academic and professional environments.




Ready to build a career that defines the future?
Contact our Program Advisor for application details and deadlines.
Apply for the program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