

Master's Program in Mountain Studies

■ Master of Science in Mountain Studies

Program Educational Objectives

To address complex issues arising from natural variations and human activities in mountainous regions, the program cultivates highly specialized professionals through integrated learning across multiple fields such as the geosphere, hydrosphere, and human sphere. These professionals deepen scientific understanding of mountainous areas and contribute to the sustainable development of local communities. The program aims to balance conservation of the natural environment with sustainable regional development and to produce leaders capable of tackling diverse challenges in mountain regions.

Graduate Profile	Individuals who have integratively acquired knowledge and skills in natural and social sciences related to mountainous regions, possess a strong interest in balancing the conservation of the natural environment and the development of local communities, and are capable of contributing to solving these challenges.
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Diploma Policy

The degree of Master of Science in Mountain Studies is commenced to those who have fulfilled the requirements for the completion of the Master's programs, as set out in the Graduate School Regulations of the University of Tsukuba and related university regulations, and who are deemed to have the following competences.

	Competences	Evaluation perspectives
Knowledge and Skills	1. Knowledge application competence: Ability to contribute to society with advanced knowledge	① Can you apply knowledge gained through research and other activities in society? ② Can you identify new problems, even in other fields of expertise, based on broad knowledge?
	2. Management competence: Ability to appropriately address challenges from broad standpoints	① Can you take on major tasks with systematic planning? ② Can you understand and solve problems from multiple perspectives?
	3. Communication competence: Ability to accurately and clearly communicate expert knowledge	① Are you capable of efficient communication for research purposes? ② Can you discuss research or research-specific knowledge with experts from your own field and from other fields?
	4. Teamwork competence: Ability to work with a team and actively contribute to the achievement of goals	① Do you have experience cooperatively and actively working on challenges as part of a team? ② Have you helped promote projects and activities other than your own research?
	5. Internationality competence: Willingness to contribute to international society	① Are you aware of making contributions to international society and getting involved in international activities? ② Have you obtained the linguistic skills necessary for international information collection and action?
	6. Knowledge and technical skills: an ability to acquire basic knowledge and skills relating to mountain studies and make full use of them.	If having acquired basic specialized knowledge and skills relating to mountain studies
	7. Problem solving ability: an ability to scientifically understand various problems in mountainous areas and to establish specific measures to solve such problems.	If having understood various problems in mountainous areas and established concrete measures for problem solving.

	Competences	Evaluation perspectives
Knowledge and Skills	8. Ability for coordination and self-expression: communication skills to be able to communicate sufficiently and express themselves accurately.	If having acquired communication skills to express themselves accurately.
	9. Leadership ability: an ability to coordinate and cooperate in order to solve problems in mountainous areas and to exhibit leadership.	If capable of coordination and cooperation for problem solving of mountainous areas and exhibiting leadership.
	10. International character: an ability to be able to deal with various issues of mountainous areas in international vision.	If having acquired ability to deal with various issues of mountainous areas in international vision.
Guidelines for Assessing Learning Outcomes	<p>In addition to required and elective assignments, evaluation includes reviewing academic conference outputs (posters, presentations) and Q&A sessions. Master's thesis progress is assessed annually in December by an advisory committee at a joint mountain science conference of four universities (mid-term review in year 1, preliminary review in year 2). The final presentation is public and evaluated by mountain science faculty for competence, with top students nominated for awards.</p> <p>Those expected to meet credit requirements undergo thesis review and oral exam by a committee of one chief and at least two associate examiners. The committee assesses each student's competence according to the degree awarding policy for the Master of Mountain Studies.</p>	
Evaluation Criteria for Degree Theses/ Dissertations	<p>The dissertation that satisfies all the following items shall be a pass as the thesis for master's degree after going through final examination.</p> <p>Additionally, the thesis shall be examined by the committee for master's thesis review (composed of one chief examiner and two or more sub examiners). While the instructor shall be the sub-examiner in charge of master's program in mountain studies, the instructors in charge of other degree programs can participate in such examination.</p> <ol style="list-style-type: none"> 1. If the submitted master's thesis is high in degree of completion including descriptions, logic expansion and charts. 2. If the contents of the master's degree thesis have international vision and their levels are high enough as the research in the area of mountain studies. 3. If the references are appropriately cited for the master's thesis. 4. If the contents of research for master's thesis can correspond to solution of various problems in mountainous areas. 	

Evaluation Criteria for Degree Theses/ Dissertations	<p>5. If academic rank, contents and future developments of master's thesis are sufficiently understood.</p> <p>6. If conducting questions and answers appropriately based on communication skills for appropriate presentation and sufficient communication in presentation.</p>
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Curriculum Policy

Basic knowledge and skills for mountain studies and specialized knowledge, skills and research methodologies necessary to resolve the real problems relating to bioresources shall be learned. The curriculum shall be organized in order that the students can learn the methods to analyze and summarize the data obtained by research/surveys though the said methodologies and communication skills and presentation ability can be acquired.

Curriculum Design Framework	<p>As a specialized fundamental course, in addition to compulsory courses common to programs and selective compulsory courses common to courses, Inter-disciplinary Foundation Courses, Degree Programs' Common Courses and Graduate General Education Courses as elective compulsory courses shall be registered and broad culture and basic knowledge and skills of agro-biological resource sciences shall be acquired. The specialized lectures as specialized courses in area of expertise and practical training and special research as selective compulsory courses shall be registered and basic knowledge and skills of the area of expertise shall be learned.</p> <ul style="list-style-type: none"> - In order to be able to acquire both the broad scope of education and high degree of expertise essential for mountain environment conservation and management, Major Core Subjects and Foundation Subjects for Major shall be established. The Major Core Subjects shall include courses from three different areas: geological, biological and anthropological areas. The Major Core Subjects within each area will equip students with highly specialized skills and knowledge for specific areas. At the same time, students should take courses across multiple areas to cultivate interdisciplinary and practical imaginative ability and the ability to identify issues. - By compiling the above-mentioned learning and the research of the area of expertise as the master's degree thesis, the items provided in the policy of degree award shall be achieve.
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Teaching and Learning Methods	<p>The standard learning year shall be two years. As the requirements to complete master's degree, it is necessary to acquire the following 30 or more credits, to put the research outcomes together in master's thesis and to pass the final examination.</p> <ul style="list-style-type: none"> - Foundation Subjects for Major shall be organized for the purpose of acquiring basic knowledge, approaches and practical skills relating to mountain studies and Introduction to Mountain Studies and Exercises shall be offered through the collaboration with other universities. The compulsory courses shall include Introduction to Mountain Science A,B (1 credit for each), Mountain Science Area Course A, B (1 credit for each), Area Safety Management (1 credit), Graduate General Education Courses (1 or more credits), Inter-disciplinary Foundation Courses and Degree Programs' Common Courses (1 credit for each), 8 credits in total. The selective courses shall be registered from Mountain Environment Internship I, II, Advanced Research Area Course, Advanced Lecture in Mountain Studies for one or more credits. - Major Core Subjects shall be provided for the purpose of acquiring highly specialized knowledge/skills etc. in geological, biological and anthropological areas. The compulsory courses shall be from Mountain Studies Seminar IA, IB, IIA, IIB, Mountain Science Research I, II, and Introduction to Environmental Sciences, 15 credits in total. The selective courses shall be taken from Major Subjects of Master's Program in Mountain Studies, 2 or more credits of each area (geological, biological and anthropological areas). - Research instruction shall be provided by one chief supervisor and 2 or more sub supervisors. At least one sub instructor may be selected from collaborative universities. Additionally, the advisory committee (AC) composed of one chief instructor and 2 or more sub instructors shall be established to organize validity and problems of research plan for each student by holding meetings to investigate problems. Furthermore, instruction shall be provided to confirm registered courses and acquired credits etc.
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Admission Policy

Desired Student Profile	<ul style="list-style-type: none"> - The persons who have interest in mountainous areas and motivation to contribute to solving problems that mountainous areas confront to are required. - The persons who have basic academic skill relating to natural science and social science, and motivation to acquire the knowledge and skills etc. over the plural areas of mountain studies in addition to specialized knowledge. - The persons from a broad areas shall be accepted including working professionals.
Student Selection Process	<ul style="list-style-type: none"> - The knowledge/quality, ability, motivation and English ability in the above-mentioned "Desired Students" shall be examined. - The students' abilities shall be observed regarding if they can logically and clearly explain the principle of research plan and relationship with the existing research etc.

Learning Support Framework

<p>Academic Support</p>	<p>At the biannual mandatory "Special Seminar on Mountain Studies", students presenting are specifically coached to deliver presentations understandable to those from different fields. Additionally, as support for time management, multiple faculty members assist in managing time during various activities in the required field training course.</p>
<p>Opportunities for Peer Interaction</p>	<p>The Mountain Studies degree program includes two specialized field training courses, where students typically conduct research and presentations in small groups, promoting interaction among students. Additionally, at the joint Mountain Studies academic conference held with three partner universities (Shinshu University, Shizuoka University, and Yamanashi University), a social gathering is organized to encourage interactions among students from different fields and institutions.</p>
<p>Opportunities for Student-Faculty Interaction</p>	<p>The Mountain Studies degree program organizes social gatherings with faculty not only after the entrance and graduation ceremonies but also following various presentations to increase opportunities for interaction. Additionally, master's thesis supervision is generally conducted in small seminar groups within research labs, promoting close interaction with the primary advisor and other faculty members.</p>

Approaches to Assuring and Enhancing Educational Quality

The Mountain Studies degree program establishes a Mountain DP Learning Confirmation Committee, composed of administrative staff and the Degree Program Leader, to monitor each student's course enrollment and learning progress. By continuously reviewing and improving the overall educational activities, the program ensures educational quality and strengthens the framework for achieving the degree program's objectives.