College of Medical Sciences

- Bachelor of Medical Sciences
- Bachelor of International Medical Sciences

Program Educational Objectives

The objective is to develop individuals with the fundamental knowledge and skills in medical science required to be active in diverse fields of medicine and healthcare. The program emphasizes cultivating a strong sense of mission and responsibility as medical professionals, enabling graduates to contribute to the advancement of medical science through research and education, and to advanced specialized healthcare through the development and application of innovative diagnostic and therapeutic technologies.

Graduate Profile	We aim to prepare individuals who, by applying specialized knowledge and a global perspective, can contribute to medical research at universities, research institutes, and companies. We also aim to prepare individuals who, with a research-oriented mindset and leadership, can contribute to the advancement of healthcare through clinical laboratory practice.
Career Paths after Graduation / Completion	After completion of the program, graduates may pursue further study in graduate programs or take up employment in hospitals, industry, and governmental or public institutions. Following completion of graduate study, career options include academic appointments, research positions at national research institutes, and research and development roles in industry, with opportunities for international engagement. Those entering the clinical sector typically work as clinical laboratory technologists in university hospitals, public or private hospitals, or clinics. Graduates are also well positioned for careers with diagnostic laboratory service providers and across a range of medical and healthcare organizations.

Diploma Policy

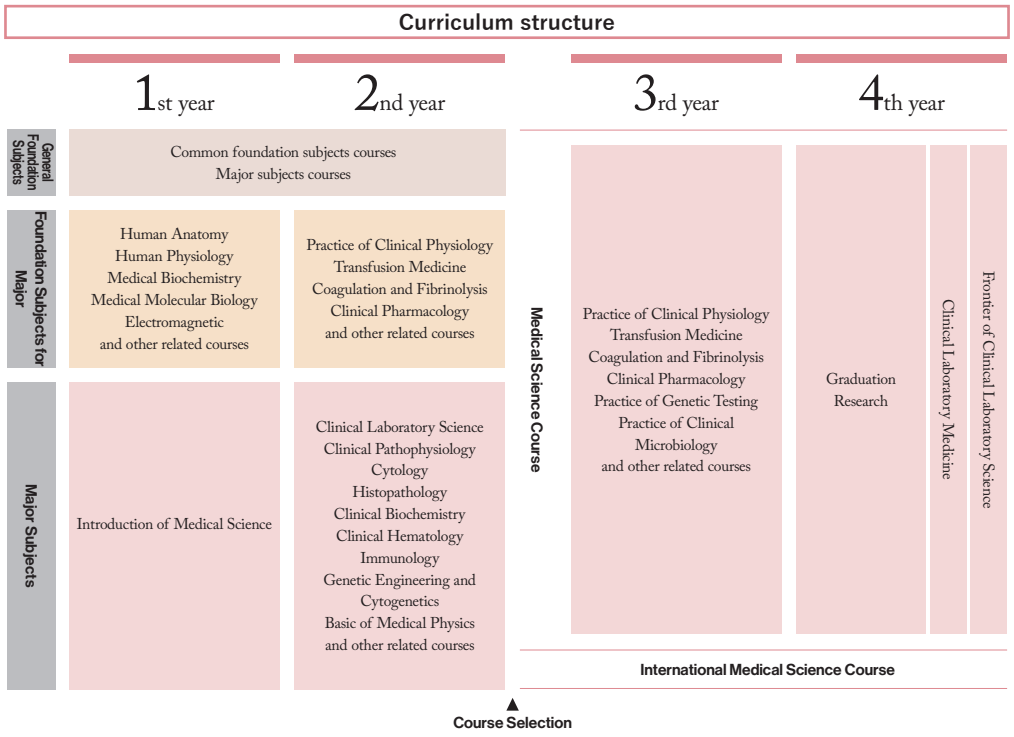
A Bachelor of Medical Science is awarded to students who, in line with the undergraduate educational objectives of the University of Tsukuba and the mission of the School of Medical Sciences, achieve the following:

Knowledge and Skills (Specialized Competences)	1. Ethics and humanity as a medical professional	Acquisition of broad knowledge of humanity and an understanding of human values that respect the dignity of life and ethics.
	2. Understanding human health and disease	Acquisition of the fundamental knowledge and skills necessary for the study of medical science, as well as medical knowledge related to human health and disease.
	3. Clinical laboratory knowledge and practical exercises	Acquisition of fundamental knowledge and skills in clinical laboratory science, mastery of specialized subjects required for clinical laboratory technologists, and development of the academic foundation, clinical competence, and ethical awareness essential to the profession.
	4. Ability to promote research in medical science	Development of comprehensive academic ability, information literacy, and independent learning capacity through experience in research and development in medical science, enabling the pursuit of independent research.
	5. Ability to understand and practice team medicine	Understanding of the role of team-based healthcare, together with acquisition of the fundamental competences and communication skills required to act as a clinical laboratory technologist.
Guidelines for Assessing Learning Outcomes	For the competencies stated in the Diploma Policy, each course syllabus specifies the relationship to the competencies, as well as evaluation criteria and grading methods (e.g., tests, quizzes, and reports). Competency achievement is reviewed annually based on course completion. In the final evaluation for degree conferral, emphasis is placed on graduation research, clinical training in hospitals, and a comprehensive examination equivalent to the national certification examination, as the culmination of learning outcomes. Graduation research is evaluated by multiple faculty members through interviews, research presentations, and the graduation thesis, assessing competencies in understanding human health and disease and research competence in medical science. Clinical training (and pre-training practical skill examinations) evaluates students' participation in laboratory practice and assesses professional ethics and humanistic values, knowledge and practical competence in clinical laboratory science, and ability in team-based healthcare. The comprehensive examination, based on questions equivalent to the national certification examination for clinical laboratory technologists, assesses competencies in understanding human health and disease and clinical laboratory knowledge and skills.	

Curriculum Policy

The curriculum provides students with fundamental and specialized knowledge in clinical laboratory science, together with ethics and the competence to contribute to society as clinical laboratory technologists.

Curriculum Design Framework	The curriculum is designed to enable students to acquire the learning outcomes required for the Bachelor of Medical Science. **General Policy:** The program develops fundamental and specialized knowledge in clinical laboratory science, related skills, ethical standards, and the professional attitude necessary to contribute to society as clinical laboratory technologists. The curriculum focuses on courses required for clinical laboratory technologist education while also including a broad range of subjects in the medical sciences. **Progression Policy:** Students first complete foundational courses that provide broad education and scientific literacy in the natural sciences, followed by basic medical science courses, and then specialized courses. The specialized courses consist of lectures and practical training to develop professional knowledge and skills in clinical laboratory science. After completing these courses, students undertake hospital-based clinical training to develop practical competence. A comprehensive examination equivalent to the national certification examination is administered before graduation to confirm the required knowledge and abilities. Graduation research and specialized courses across the medical sciences provide opportunities to learn the foundations of research. **Implementation Policy:** Through these courses, students acquire the competencies stated in the Diploma Policy. Ethical awareness and humanistic values are mainly developed through foundational courses; understanding of human health and disease through basic and specialized courses; knowledge and practical competence in clinical laboratory science through specialized courses, clinical training, and the comprehensive examination; research competence in medical science through specialized medical science courses and graduation research; and the ability to work in team-based healthcare through clinical training and small-group learning. Advancement to the Medical Science Major is determined at the beginning of the third year based on completion of foundational, basic, and selected specialized courses. Enrollment in fourth-year clinical training requires completion of the required specialized courses and passing the practical skills examination.
Teaching and Learning Methods	Education is centered on lectures and practical training in clinical laboratory science, designed to develop specialized knowledge, technical skills, clinical ability, and teamwork. Students receive direct instruction from experts across diverse medical fields, ensuring access to advanced knowledge and techniques.



Admission Policy

Desired Student Profile	Students with a strong interest in medical science, motivation to contribute internationally to the field of clinical laboratory technology, and flexibility to understand and fulfill roles in team-based healthcare.

Student Evaluation and Selection	Individual Achievement Test First Round	Applicants are comprehensively evaluated on their broad fundamental academic ability, proficiency in mathematics, science, and English, as well as their motivation to pursue a career in healthcare, aptitude, sensitivity, social adaptability, and ability to act independently.
	Entrance Examination by School Recommendation	Applicants are comprehensively evaluated on their strong motivation and aptitude for becoming healthcare professionals, sensitivity and compassion toward others, enthusiasm for contributing to society, as well as the fundamental academic ability and capacity for independent action required to study medical science.
	Entrance Examination for IB Students	Applicants are comprehensively evaluated on their motivation and aptitude for pursuing healthcare or medical science, sensitivity and compassion toward others, enthusiasm for social contribution, together with the fundamental academic ability and capacity for independent action required to study medical science.
	Entrance Examination for Foreign School Students	Type 1 / Type 2) Applicants are comprehensively evaluated on their overall academic ability in English and Japanese, fundamental academic ability in mathematics and science, logical thinking skills, and written expression ability.
	Transfer examination	In addition to motivation for further advancement as a healthcare professional, applicants are comprehensively evaluated on whether they possess the foundational knowledge, thinking skills, academic ability, and capacity for independent action necessary to acquire basic or clinical medical knowledge at the university level.

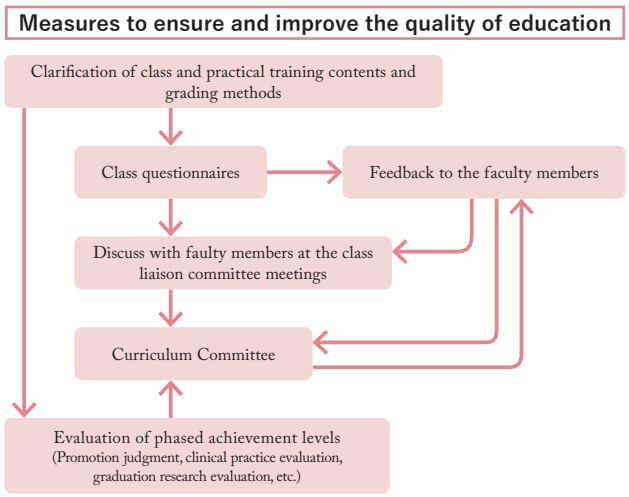
Learning Support Framework

Academic Support	Through guidance and advising by class advisors, students are provided with direction for their studies. Opportunities are created for students to monitor their own progress in acquiring competences, thereby encouraging independent learning. Career path seminars are also offered to support career planning and to help students strengthen their motivation toward their goals. In graduation research, each student is assigned not only a primary research supervisor but also a supporting faculty member, who provides regular consultations addressing research progress as well as personal and career matters.
Opportunities for Peer Interaction	Small-group learning promotes discussion and problem-solving, stimulating independent learning. In addition, graduation research presentations offer opportunities for mutual questioning and dialogue, enabling students to deepen their understanding of research topics and to enhance research quality by incorporating diverse perspectives.

Opportunities for Student–Faculty Interaction	Regular advising by class advisors promotes curriculum understanding and motivation. In graduation research, in addition to the supervisor, supporting faculty provide detailed guidance.

Approaches to Assuring and Enhancing Educational Quality

- The Curriculum Committee evaluates students' learning outcomes as well as the quality of courses offered within the program. Specifically, the following surveys and evaluations are conducted to review the program's overall educational activities:
  - Verification of students' achievement in competency-based courses during reviews of progression and graduation requirements
  - Student self-assessment of competence attainment at each academic year
  - Course evaluation questionnaires administered at the end of each semester
  - Review meetings with students to discuss the curriculum and course content based on course evaluations and student surveys
- Based on these findings, the Curriculum Committee examines the appropriateness of the curriculum and the adequacy of instructional practices and works continuously to improve the quality of education.



Diploma Policy

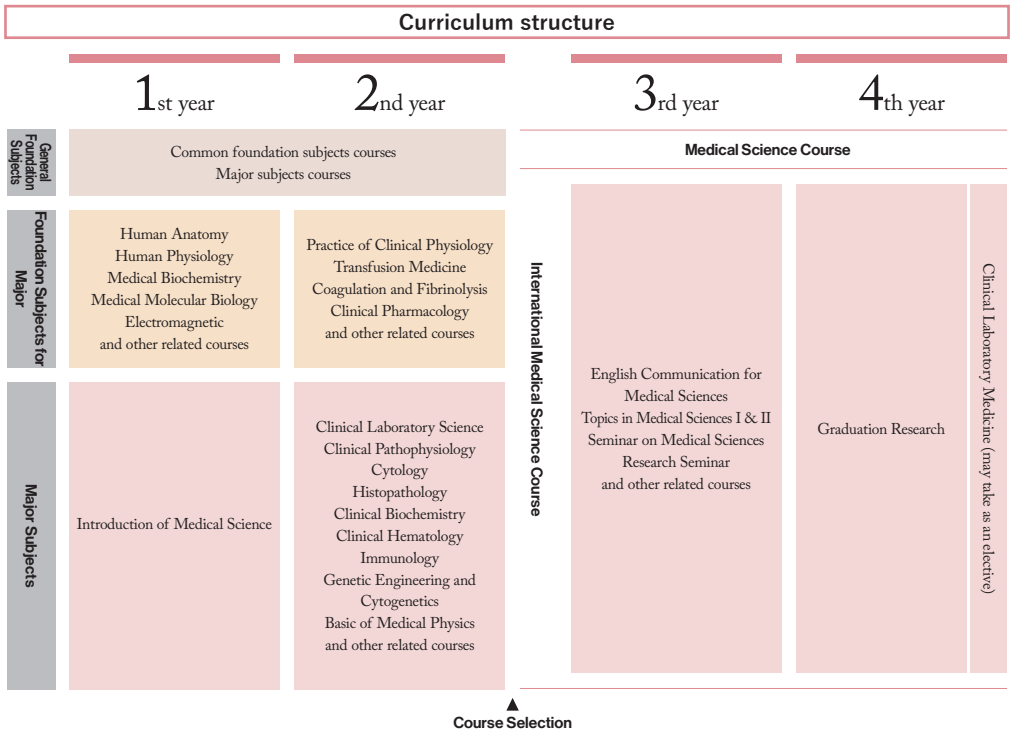
A Bachelor of International Medical Science is awarded to students who, in line with the undergraduate educational objectives of the University of Tsukuba and the mission of the School of Medical Sciences, achieve the following:

Knowledge and Skills (Specialized Competences)	1. Ethics and humanity in the Life Sciences	Acquisition of broad knowledge of humanity and an understanding of human values that respect the dignity of life and ethics.
	2. Understanding human health and disease	Acquisition of the fundamental knowledge and skills necessary for the study of medical science, as well as medical knowledge related to human health and disease.
	3. Knowledge and skills in the field of medical science	Development of comprehensive academic ability, information literacy, and independent learning capacity through experience in research and development in medical science, enabling the pursuit of independent research.
	4. Ability to promote research in medical science	Understanding of the principles of medical science research and acquisition of fundamental techniques.
	5. Understanding of international issues and ability to plan responses	Development of a proactive learning attitude, problem-identification skills, and solution-design abilities necessary to address international issues in medical science.
Guidelines for Assessing Learning Outcomes	For the competencies stated in the Diploma Policy, each course syllabus specifies the relationship to the competencies as well as evaluation criteria and grading methods (e.g., confirmation tests, quizzes, and reports). Competency achievement is reviewed annually based on course completion. Because the International Medical Science Major emphasizes researcher training, students conduct graduation research over two years (third year: Research Training; fourth year: Graduation Research). The two-year research project is regarded as the culmination of learning outcomes and is evaluated through individual interviews, research presentations, and written theses or reports. Each student is assigned a support faculty member from outside the laboratory, who conducts 3–4 interviews per year to evaluate research progress, explanations of the thesis (or third-year report), responses to questions, and engagement in research. Students present their research annually, and the outcomes are evaluated by multiple faculty members other than the supervisor. The graduation thesis (fourth year) or report (third year) is evaluated by the support faculty member and the course instructors responsible for Research Training and Graduation Research. These evaluations, together with the supervisor's assessment, are considered comprehensively to determine the final evaluation of learning outcomes.	

Curriculum Policy

The curriculum is organized and implemented according to the following policies to ensure that students acquire the learning outcomes required for the Bachelor of International Medical Science degree.

Curriculum Design Framework	The curriculum is organized and implemented according to the following policies to enable students to acquire the learning outcomes required for the Bachelor of International Medical Science. **General Policy:** The program develops fundamental and specialized knowledge in medical science, related skills, understanding of global issues and the ability to design responses, ethical standards, and the commitment to contribute globally as medical science researchers. The curriculum emphasizes courses that develop research ability and communication skills in medical science. **Progression Policy:** Students first complete foundational courses that provide broad education and scientific literacy in the natural sciences, followed by basic medical science courses, and then specialized courses. Specialized courses emphasize research methods in medical science and scientific communication in English. In parallel with these courses, students undertake long-term graduation research to develop practical abilities in research and communication. **Implementation Policy:** Through these courses, students acquire the competencies stated in the Diploma Policy. Ethical awareness and humanistic values in life science are mainly developed through foundational courses; understanding of human health and disease through basic and specialized courses; knowledge and techniques in medical science and research competence through specialized courses, research training, and graduation research. Understanding global issues and the ability to design responses are developed through practical English courses, group-based learning on current research topics, and international learning experiences abroad. Advancement to the International Medical Science Major is determined at the beginning of the third year based on completion of foundational, basic, and selected specialized courses, as well as objective evaluation of English proficiency. To strengthen specialized English and discussion skills, students take specialized courses together with international students, and all research presentations and the graduation thesis are conducted in English. From the third year, students join a laboratory and conduct research training and graduation research.
Teaching and Learning Methods	By studying with international students in lectures and practicals, students acquire knowledge and skills in medical science and the ability to address international challenges. Early participation in laboratories provides a foundation for independent research.



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