

School of Transdisciplinary Science and Design

■ Bachelor of Arts and Science

Educational Objectives

The programme aims to develop individuals with data science literacy who can apply ideas and technologies from the natural sciences, humanities and social sciences to a broad range of environmental and social issues. By utilising design thinking, our students can creatively contribute to solving global issues.

Graduate Profile	Personas to be cultivated are individuals with data science literacy who can apply ideas and technologies from the natural sciences, humanities and social sciences to a broad range of environmental and social issues. By utilising design thinking, they can creatively contribute to solving global issues.
Career Paths after Graduation / Completion	<ul style="list-style-type: none">- Pursue a higher degree in a Japanese or Malaysian graduate school in fields such as information science, humanities and social sciences, life sciences, environmental sciences, education, sports science, or science and engineering etc.- Work in a Japanese company in Malaysia or in a company in Japan- Work in a government agency, organisation, etc. in Malaysia

■ Bachelor of Arts and Science

Diploma Policy

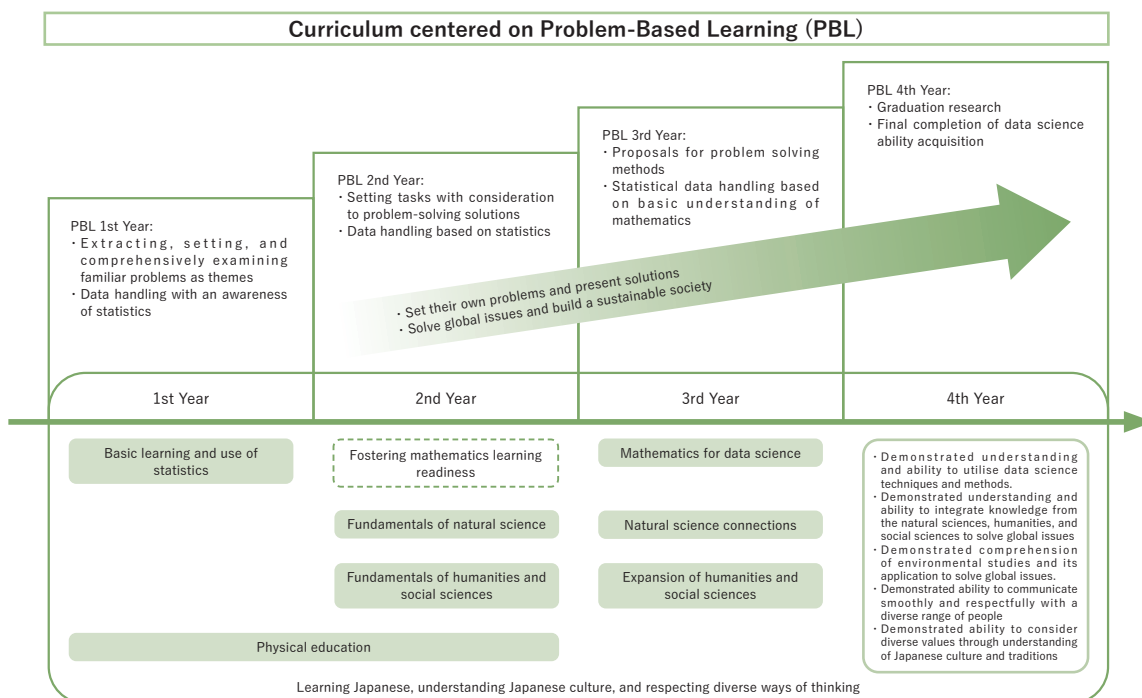
A Bachelor of Arts and Science is granted to those who are recognised as having gained the appropriate knowledge and skills (generic competences) set out in the curriculum targets stipulated for the University of Tsukuba's undergraduate degree programmes, as well as who have reached the following achievement targets and skills in their learning outcomes based on the educational purpose for the School.

Knowledge and Skills (Specialized Competences)	1. Data Science Application Skills	Demonstrated understanding and ability to utilise data science techniques and methods.
	2. Liberal Arts Application Skills	Demonstrated understanding and ability to integrate knowledge from the natural sciences, humanities and social sciences to solve global issues.
	3. Environmental Studies Application Skills	Demonstrated comprehension of environmental studies and its application to solve global issues.
	4. Communication skills	Demonstrated ability to communicate smoothly and respectfully with a diverse range of people.
	5. Multicultural Thinking Skills:	Demonstrated ability to consider diverse values through understanding of Japanese culture and traditions.
Guidelines for Assessing Learning Outcomes	For Problem-Based Learning (PBL) including graduation research, a presentation session to report learning outcomes shall be held at the end of each academic year. For graduation research presentations, in addition to the supervising lecturer, multiple lecturers shall evaluate the acquisition status of the knowledge and skills (competences) outlined in the diploma policy. For other course subjects, the syllabus shall indicate the correspondence, assessment criteria, and grading methods for each subject in relation to the competences outlined in the diploma policy. Achievement tests and reports, enabling the visualisation of learning outcomes, shall be assigned to each student to evaluate the acquisition of these competences.	

Curriculum Policy

Our curriculum is based on the following policies to help students achieve the learning outcomes for their Bachelor of Arts and Science degrees:

<p>Curriculum Design Framework</p>	<ul style="list-style-type: none"> - Our programme integrates fundamental knowledge in humanities and social sciences, understanding Japanese culture and society, and natural sciences, with the basic academic principles of data science that include core applications of mathematics, programming, and statistics. The information literacy and data science foundation learned in the first year of the programme enables students to apply their knowledge to problem-solving in their upper years. This approach enables students to simultaneously develop a deep understanding of data science while gaining experience in applying data-science techniques to real-world issues. - Our class exercises in problem-based learning subjects offer opportunities for discussions and analyses of current issues and problem-solving proposals, allowing students to obtain clear learning objectives through credit attainment. These exercises provided mainly in the first to third years of our programme allow students to develop their abilities and apply them towards their chosen graduation research topics. - Our programme of required common foundation subjects, including three multidisciplinary subjects, physical education, foreign languages, information literacy, and data sciences, are designed to correspond to our university's other undergraduate programmes. - Our programme also offers subjects related to Malaysian society and language, as stipulated by Malaysian higher education policy - Firmly based in linking data science approaches, our programme is designed to provide students with knowledge and skills in foundation subjects for their majors by integrating fundamentals of natural sciences, humanities and social sciences, as well as Japanese language and Japanese studies. Students can then apply this knowledge and skill set to current issues analysis and solution exercises. - Students will present a visualisation of their progress on their learning outcomes in their problem-based learning and graduation research classes at the end of each academic year. Our faculty members evaluate each student's learning outcomes based on the content of such reports and presentations.
<p>Teaching and Learning Methods</p>	<p>Our human resource development objective focuses on equipping students with basic skills in data science, and then providing opportunities for them to apply ideas and technologies from the natural sciences, humanities and social sciences to a wide range of environmental and social issues. This approach allows students to actually experience how engineering can be used to effectively contribute to solving global issues. We have incorporated many problem-based learning approaches in our curriculum which correspond to using evidence-based data science techniques to identify and extract solutions to globalisation-related issues. This emphasis on practical problem-solving develops students' abilities to realise concrete and comprehensive solutions to today's complex real-world issues</p>



Admission Policy

<p>Desired Student Profile</p>	<p>Our programme will particularly appeal to students who are:</p> <ol style="list-style-type: none"> 1. Strongly interested in and motivated to study global issues and their resolutions in Malaysia and South-East Asia 2. Clearly enthusiastic about integrating knowledge from the natural sciences, humanities and social sciences to solve complex global issues 3. Keenly determined in judging information applicability based on objective data and materials, and who can logically communicate their ideas 4. Genuinely interested in Japanese language and culture, and who can respect diverse values and ways of thinking 	
<p>Student Evaluation and Selection</p>	<p>School Recommendation Scheme</p>	<p>Applicants will be comprehensively evaluated based on their excellent academic performance in secondary or post-secondary education, ability to learn in Japanese, and high interest and motivation to learn and solve global issues.</p>
	<p>Aptitude-based Scheme</p>	<p>Applicants will be comprehensively evaluated based on their basic academic competence, advanced comprehension skills required for learning data science, critical thinking skills, and interest and expressiveness to global issues.</p>

Learning Support Framework

Academic Support	Problem-Based Learning (PBL) is consistently employed, and within this course, a system has been established whereby teaching staff support students' learning.
Opportunities for Peer Interaction	Students proactively plan and implement sporting events and networking events for new students, with staff providing full support. Through these student-led social events, an atmosphere conducive to conversation among students is fostered, creating an active learning environment with high collaborative learning effects.
Opportunities for Student-Faculty Interaction	We arrange forums for students to exchange views with teaching and administrative staff two to four times a year. We continuously implement improvements based on student feedback to enhance the learning environment.

Approaches to Assuring and Enhancing Educational Quality

Our School's PDCA committee continuously evaluates education and administrative activities. This committee improves and enhances education and research within the School by:

- ① Quality improvement proposals based on learning outcomes assessment results concerning teaching and learning evaluation standards (Office of Management for Teaching and Learning).
- ② Conducting self-checks and implementing quality improvement proposals concerning organisational evaluation standards (Organisational Evaluation Committee).
- ③ Undertaking continuous collection of quantitative and qualitative data on quality assurance.
- ④ Responding to other educational and administrative matters

The quality improvement proposals noted in 1 and 2 follow a PDCA cycle for quality assurance and improvement within the School.