



UiT The Arctic University of Norway

Program description

Master of Science in Technology and Safety

120/Tromsø

The program description was approved by the Board of Education at the Faculty of Science and Technology on June 11, 2025. Effective from the autumn of 2026.



Study programme name	Engelsk: Master of Science in Technology and Safety Bokmål: Master i Teknologi og sikkerhet Nynorsk: Master i Teknologi og sikkerhet
Degree obtained	Master of Science in Technology and Safety Master i teknologi og sikkerhet/ Sivilingeniør
Target group	This interdisciplinary master's programme is well-suited for students specializing in ocean technology, sustainable technology, drone technology, automation, nautical science (Engineering), aviation, informatics, computer science, reliability, safety etc. Applicants with equivalent educational backgrounds in technology and science, such as mechanical, electrical, and civil engineering, as well as maritime professionals, are also key target groups for this programme.
Admission requirements, required prerequisite, recommended prerequisite knowledge	Admission to the Master programme requires a relevant bachelor's degree in engineering (180 credits), or similar education of not less than three years duration approved in accordance with the Norwegian Universities Act section 3-4. Relevant fields of study may include ocean technology, sustainable technology, drone technology, automation, nautical science (engineering), informatics, computer science, reliability, safety, civil engineering, mechanical engineering, and electrical engineering. Other fields of study may be considered upon individual assessment. Admission to the master programme requires a minimum grade average comparable to a Norwegian C (2.5) in the ECTS scale, see the UiT webpage for International admissions for more information on how the point average is calculated. The bachelor's degree must contain minimum 30 credits: 25 credits mathematics, 5 statistics and 7,5 credits in physics. All educational activities will be conducted in English. Electives at 2000-level can be in Norwegian. International students from non-Nordic countries (except students with English as their mother tongue), must meet UiT's English proficiency requirements as mentioned in: https://en.uit.no/education/admissions/art?p_document_id=594494
The study programme's Learning Outcome	The master programme provides knowledge in technology and safety for students from diverse backgrounds. It offers education in the application of multidisciplinary technologies to address engineering and societal challenges, particularly those related to safety." During the master programme, students have the opportunity to focus their study in various engineering topics such as ocean technology, sustainable technology, drone technology and other specialization areas. The programme has the following learning outcomes: Knowledge:

	The candidate • has a solid basis in engineering in general and advanced level of knowledge in technology. • gains a comprehensive but deep understanding of engineering technologies from a multidisciplinary perspective. • has thorough knowledge in technical safety methods, and good understanding of the operation and engineering issues related to safety. • has advanced knowledge about scientific theory and methods of engineering, engineering challenges, and solutions related to industrial activities. • can analyze safety-related or other industrial problems in the use of multidisciplinary technologies. Skills: The candidate • can analyze and deal critically with safety and technology issue and apply them to solve engineering problems. • can analyze data and propose mitigation strategies for safety threats. • can independently utilize mathematical methods and simulation techniques related to industrial activities. • can quantitatively and qualitatively analyze engineering data. • can carry out an independent, limited research or development project under supervision and in accordance with applicable norms for research ethics. General competence: The candidate • has an overview of multiple engineering technologies and safety-related issues with solid theoretical understanding. • can analyze safety problems through multidisciplinary approach. • can apply their knowledge and skills in new areas to carry out advanced assignments and projects. • can present independent work clearly and use academic language and terminology of technology and safety. • can communicate about technical issues, analysis results and conclusions in the technology and safety, both with specialists and the general public. • can contribute to new thinking and innovation processes.
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Academic content and description of the study programme	The programme is a 2-year, 120 credits, full-time study at the Department of Technology and Safety of UiT The Arctic University of Norway in Tromsø. The programme includes 90 ECTS common compulsory courses, including 30 ECTS master thesis. The courses • TEK-3xxx Elements of Technology and Safety (10ECTS) • TEK 3XXX Data Acquisition and Analysis (10 ECTS) • TEK-3XXX Multiphysics Simulation (10 ECTS) • TEK-3XXX Sustainable Innovation (10 ECTS) • TEK 3004 Specialization Project (10 ECTS) • TEK 3003 Specialization Subject (10 ECTS) • TEK-3901 Master Thesis in Technology, 30 ECTS																				
Table: programme structure	<table><tr><td>1. Semester</td><td>TEK-3XXX Elements of Technology and Safety (10ECTS)</td><td>TEK 3XXX Data Acquisition and Analysis (10ECTS)</td><td>Optional Bachelor/Master Level Course (10 ECTS)</td></tr><tr><td>2. Semester</td><td>TEK-3015 Multiphysics Simulation (10ECTS)</td><td>Optional Master Level Course 3xxx (10ECTS)</td><td>Optional Master Level Course 3xxx (10ECTS)</td></tr><tr><td>3. Semester</td><td>BED-3200 Sustainable Innovation (10ECTS)</td><td>TEK 3004 Specialization Project (10ECTS)</td><td>TEK 3003 Specialization Subject (10ECTS)</td></tr><tr><td>4. Semester</td><td colspan="3">TEK-3901 Master thesis in engineering, 30 ECTS</td></tr><tr><td colspan="4">The generally recommended optional courses are provided separately with this description and subject to change each year.</td></tr></table>	1. Semester	TEK-3XXX Elements of Technology and Safety (10ECTS)	TEK 3XXX Data Acquisition and Analysis (10ECTS)	Optional Bachelor/Master Level Course (10 ECTS)	2. Semester	TEK-3015 Multiphysics Simulation (10ECTS)	Optional Master Level Course 3xxx (10ECTS)	Optional Master Level Course 3xxx (10ECTS)	3. Semester	BED-3200 Sustainable Innovation (10ECTS)	TEK 3004 Specialization Project (10ECTS)	TEK 3003 Specialization Subject (10ECTS)	4. Semester	TEK-3901 Master thesis in engineering, 30 ECTS			The generally recommended optional courses are provided separately with this description and subject to change each year.			
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Learning activities, examination and assessment	The academic staff teaching the courses are active researchers in diverse fields. The programme is aligned with industry requirement, which is reflected in the in courses, projects and thesis work. The learning activities are adapted to candidates with diverse bachelor background within engineering and technology, to provide both a deeper knowledge within their already established disciplines and a more general understanding of safety and technology. The master programme uses a variety of teaching methods including lectures, lab activities, course projects, oral presentations, teamwork and mandatory assignments. These methods will help students to take																				

	an active role in the learning process to enhance their professional development and improve their skills for collaboration, communication and solving practical problems through teamwork. The study programme provides knowledge of scientific theories and methods, and the project paper (TEK-3003) and master thesis give students opportunities for their individual research topics. Most courses are organized with regular lectures on a weekly basis, while some courses are seminar-based to offer flexibility and to allow the student to pursue their own interest. Each student in this master programme will have an individual supervisor to help him/her for their research topic, learning plan, and thesis work. Assessment methods vary and include written exam, home exam, oral exam, and project assignments. In some courses, the assessment is a combination of several assessment methods. For a more detailed description of the assessment forms, see the subject descriptions. Professional achievements are assessed either with letter marks or passed/failed. If no assessment is required, "completed/non-completed" will be used.
The study programme's relevance	The programme qualifies for various positions in private or public sector that require competence in technology or safety. Relevant occupations include jobs in for instance maritime industry, energy industry, aviation industry, and some public administration. Further education on Ph.D. level is another option.
Work scope	Students are expected to work 37.5 hours a week with the studies. It is required to work both independently and in groups.
For master's theses/independent work in master's degrees	The students will carry out a mandatory, independent and individual master's thesis, equivalent to 30 ECTS in the last semester. The students can choose an individual study for their own interest in the field of technology and safety under supervision by an academic staff and additionally, under guidance or help from industry representatives if selected topic required. The master thesis is assessed with letters A-F.
Language of instruction and examination	The language of all teaching and examinations is English. Students can include courses taught in Norwegian as their elective courses.
Internationalisation	The student group of the programme may consist of both Norwegian and international students. The academic teaching group also has an international and diverse composition, which is reflected in the teaching. Some international lectures and guest lecturers might be involved in the programme.
Student exchange	Students are encouraged to participate in exchange programmes abroad, and the department offers assistance for students who will participate in exchange programmes.

	Recommended exchange institutions are: - Tokyo University of Marine Science and Technology, Japan It is possible to take part of the studies in other Norwegian universities for example at the University Centre of Svalbard (UNIS). The exchange courses will substitute the courses in relevant semester of the programme and will be included in the diploma.
Administrative responsibility and academic responsibility	The Department of Technology and Safety is administratively responsible for the programme and appoints a study programme leader.
Quality assurance	The study programme is evaluated annually according to the UiT quality system.
Other regulations	Supplementary provisions for the two-year master's degree programme (120 credits) at the Faculty of Science and Technology: https://uit.no/regelverk#kapittel_660863 Vilkår for bruk av tilleggsbetegnelsen Sivilingeniør (siv.ing.) approved by The Norwegian Association of Higher Education Institutions spring 2016, referring to https://www.uhr.no/_f/p1/i906ea646-71d3-4cea-8d7c-696786b6ae12/nasjonale-retningslinjer-for-ingeniorutdanning-vilkar-for-siving-vedtatt-12mai-2023.pdf.

