

INTERNATIONAL SEMESTERS

Academic year 2022-2023

School of Chemical Industry:

- Chemical and Materials Engineering autumn & spring semesters
- Energy and Environmental Engineering autumn & spring semesters
- Contact: ana.kupri-karenmaa@turkuamk.fi

Chemical and Materials Engineering

Autumn semester 2022 (end of August - mid December)

Material Technology 2* (recommended to take the module as a whole)		
Location: Kupittaa Campus, Turku / Mon & Thu module		
Course name	Course code	ECTS credits
Processing of Plastics	TE00BX98	5
Packing Technology	TE00BX99	5
Project	TE00BY00	5
Total		15

Biomaterials and Bioprocesses 2* (recommended to take the module as a whole)		
Location: Kupittaa Campus, Turku / Mon & Thu module		
Course name	Course code	ECTS credits
Biomaterials Manufacturing Processes	5021221	5
Biotechnological Production	5021222	5
Methods in Biotechnology	5021167	5
Total		15

Food Engineering 1* (recommended to take the module as a whole)		
Location: Kupittaa Campus, Turku / Tuesdays & Fridays module		
Course name	Course code	ECTS credits
Food ingredients and raw materials	TE00BV66	5
Product Development and Analytics	TE00BV68	5
Food Processes 1	TE00BX89	3
Sensory Analysis	TE00BX90	2
Total		15

Innovation project		
Location: Kupittaa Campus, Turku / Tue & Fri module		
Course name	Course code	ECTS credits
Innovation Project (Capstone)*	TE00BL66	10
Total		10

**Innovation project is typically a development project implemented in co-operation with a company or another external customer. However, the project may also be a part of Turku University of Applied Science's internal research and development activities, or it can be based on a student's, student team's own project, or business idea. In addition, development projects related to different student competitions are applicable. Students select their preferred projects they want to work after exhibition.*

After completing the course, the student can:

- participate in systematic research and development activities as a responsible member of the project team*
- describe the principles of project team operation and project control*
- explain the importance of the project's goals to the business of the stakeholders*
- use modern tools of project management in project planning and implementation*
- solve problems related to project implementation*
- apply his/her knowledge to achieve project goals*
- document the project*
- identify areas of further development related to one's professional skills and is able to deepen one's professional skills according to the project's goals*
- evaluate his/her learning and professional development in the project.*

More information: <https://innovaatioprojektit.turkuamk.fi/en/capstone-projektit-english/>

Energy and Environmental Engineering

Autumn semester 2022 (August - mid December)

Water conservation		
Kupittaa Campus, Turku/ Tue & Fri module		
Course name + link to study guide	Course code	ECTS credits
Introduction to the Baltic Sea on-line	5100BI69	4
Water conservation and technical solutions	5100BI71	11
Total		15

Distributed energy systems		
Kupittaa Campus, Turku/ Mon & Thu module		
Course name + link to study guide	Course code	ECTS credits
Wind Power Systems	TE00BX17	4
Photovoltaic Systems	TE00BX18	4
Battery Storage systems	TE00BX19	4
Electricity markets	TE00BX20	3
Total		15

Chemical and Materials Engineering

Spring semester 2023 (January - end of April)

Biomaterials and Bioprocesses 1* (recommended to take the module as a whole)		
Location: Kupittaa Campus, Turku / Mon & Thu module		
Course name	Course code	ECTS credits
Basics of Genetic Engineering and Diagnostics	5021169	5
Biotechnological Processes and Downstream Processing	5021220	5
Biomaterials and Tissue Engineering	5021168	5
Total		15

Materials Technology 1* (recommended to take the module as a whole)		
Location: Kupittaa Campus, Turku / Mon & Thu module		
Course name	Course code	ECTS credits
Basics of Material Technology	5021223	5
Processing Technologies	5021224	5
Selection of Materials	5021225	5
Total		15

Food Engineering 2* (recommended to take the module as a whole)		
Location: Kupittaa Campus, Turku / Mon & Thu module		
Course name	Course code	ECTS credits
Food Processes 2	TE00BY03	10
Food Legislation and Food Hygiene and Safety	TE00BX91	5
Food Project	TE00BR60	5
Total		15

Innovation project		
Location: Kupittaa Campus, Turku / Tue & Fri module		
Course name	Course code	ECTS credits
Innovation Project (Capstone)*	TE00BL66	10
Total		10

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Energy and Environmental Engineering

Spring semester 2023 (January - end of April)

Climate change		
Location: Kupittaa Campus, Turku/ Mon & Thu module		
Course name + link to study guide	Course code	ECTS credits
Climate.now basics	TE00BT85	5
Climate change guest lecture series	TE00BT84	5
Solutions.now	TE00BR31	5
Total		15

Waste management		
Location: Kupittaa Campus, Turku/ online		
Course name + link to study guide	Course code	ECTS credits
Waste treatment/management on-line	5100BI75	5
Global waste management on-line	5100BI79	5
Life Cycle Analysis on-line	LC00BS48	5
Total		15

Research Hatcheries on Circular Economy		
Location: Kupittaa Campus, Turku/ mainly Wednesdays		
Course name + link to study guide	Course code	ECTS credits
Research Hatcheries on Circular Economy (REHA)*	TE00BQ93	2-10
Total		2-10

**The Research Hatchery (REHA) is a model in which a multidisciplinary team of students works to solve a circular economy related brief. The need for the brief can rise from a research, development and innovation project, from a client in work life, or from a student. Research Hatchery is led by coaches, people working on the projects and student tutors. In a REHA students learn about the substance and they also develop their innovation competences: creativity, critical thinking, initiative, group work and networking. The student can participate in this course for a total of ECTS agreed with the course leader and depending on the needs to support their Learning Agreement. The amount ranges from 2 to 10 ECTS.*