



The Department of Process and Environmental Engineering organizes 18 courses which are lectured in English (see table 1). In addition we have 26 courses which are lectured in Finnish but the course materials and the exams are in English (see table 2). You can find the detailed descriptions of individual courses from our ECTS Information Package (<http://www.oulu.fi/intl/ects/ttk/PYO.pdf>).

Table 1. Courses lectured in English.

Course / Code	ECTS	Year	Period ¹	Independent passing possible in English
Advanced process design / 477206S	6	5	2-3	Not needed
Research methodology / 477307S	3	4	2-6	Yes, materials, exercises and laboratory practice (in English)
Environmental and process catalysis / 477309S	5	4	5-6	Not needed
Advanced catalytic processes / 477310S	5	5	2	Not needed
Advanced separation processes / 477311S	4	5	5	Not needed
Environmental load of metallurgical industry / 477410S	4	4	5	Not needed, the course organized as a seminar (in English)
Seminar in metallurgy / 477411S	4	5	?	Not needed, the course organized as a seminar (in English)
Modelling and control of biotechnical processes / 477506S	5	5	1	Yes
Automation in metallurgical industry / 477508S	5	5	4	Not needed
Digital control theory / 477605S	4	4	2-3	Not needed
Power plant automation / 477608S	5	5	5-6	Not needed
Industrial ecology and recycling / 488203S	5	4	2	Yes, Not needed
Basics of biotechnology / 488302A	5	3	5-6	Not needed
Bioreactor technology / 488304S	6	4	6	Not needed
Advanced course for biotechnology / 488305S	5	4	4-5	Not needed
Applied microbiology / 488306S	7	4	1-3	Not needed
Bioprocess engineering / 488307S	7	5	1-3	Not needed
Hydrology and Hydraulics / 480207A	5	2	3-4	Not needed

¹periods: 1,2,3 on the autumn term and 4,5,6 on the spring term

Table 2. Courses lectured in Finnish, it is possible to complete the course in English.

Course / Code	ECTS	Year	Period ¹	Independent passing possible in English
Pulp and paper technology / 470103A	3	3	5	Yes, Book (in English)
Chemical pulping / 477104S	3	4	1	Yes, Book (in English)
Mechanical pulping / 477105S	3	4	3	Yes, Book (in English)
Recycled fiber processes / 477106S	3	4	4	Yes, Book (in English)
Paper manufacture / 477107S	3	4	5	Yes, Book (in English)
Printing technology / 477108S	2	4	6	Yes, Book (in English)
Pulp and paper laboratory analyses / 477109S	2	5	2	Yes, Book (in English)
Pulp and paper research seminar / 477110S	3	5	3	Yes, Book (in English)
Laboratory exercise of pulp and paper technology / 470112S	3		-	Yes, Book (in English)
Research training of pulp and paper technology / 470113S	8	5	4-6	Yes, Book (in English)
Material and energy balances / 477201A	5	2	1-2	Yes
Chemical engineering thermodynamics / 477204S	5	4	1	Yes
Momentum transfer / 477301A	3	2	4	Yes
Heat transfer / 477302A	4	2	5	Yes
Mass transfer / 477303A	3	3	1	Yes
Separation processes / 477304A	5	3	1-2	Yes, Book on separation processes, exercises (in English)
Flow dynamics / 477305S	5	4	2	Yes
Non-ideal reactors / 477306S	5	4	3	Yes, Book on non-ideal reactors, exercises (in English)
Thermodynamics of pyrometallurgical solutions / 477403S	4	4	3	Yes, written report based on the given material (in English)
Thermodynamics of hydrometallurgical solutions / 477404S	3	4	4	Yes, written report based on the given material (in English)
Process control engineering I / 477501A	5	3	3	Yes
Automation in pulp and paper industry / 477507S	5	5	3	Yes
Fault diagnosis and process performance analysis / 477606S	2	4	4	Yes
Advanced control and systems engineering / 477607S	5	4	4-5	Yes
Air pollution control engineering / 488204S	5	4	3	Yes
Microbiology / 488301A	5	2	5-6	Yes

¹periods: 1,2,3 on the autumn term and 4,5,6 on the spring term