



UNIVERSITY WEST

Department of Engineering Science

EDUCATION SYLLABUS

Education programmes swedish name and credits, higher education credits	Prog. code
Produktionsteknik, magister, 60 HE credits	TAPTE
Education programmes english name and credits, higher education credits	Spec. code
Master in Manufacturing Engineering, 60 HE credits	

Qualification	Teknologie magisterexamen med huvudområdet maskinteknik Master of Science (60 credits) with a major in Mechanical Engineering
Qualification level	Graduate level
Applies for students	H12
Last revision	
Stated	2011-11-29
Board responsible	(UN)

The programme consists of the following courses:

The courses within the block are compulsory for the program.

Course code	Course name	Hec	Successiv Level	Main area
ASC900	Automation Systems	7.5	A1N	Automation
XX9347	Operations management	7.5	A1N	Mechanical Engineering
RSC910	Robotic Systems	7.5	A1N	Automation
XX3048	Materials and Production technology	15	A1F	Mechanical Engineering
XX7684	Degree Work	15	A1E	Mechanical Engineering

Elective courses

The course XX6760 Fundamental Materials and Manufacturing Technology, 7.5 HE credits is chosen by students who do not have completed courses in Materials Science and Engineering (Materials Technology) and Manufacturing Technology previously.

The course XX8138 Advanced Materials and Manufacturing Technology, 7.5 HE credits is chosen alternatively by students who have completed courses in Materials Science and Engineering (Materials Technology) and Manufacturing Technology previously.

Course code	Course name	Hec	Successiv Level	Main area
XX8138	Advanced Materials and Manufacturing Technology	7.5	A1N	Mechanical Engineering
XX6760	Fundamental Materials and Manufacturing Technology	7.5	A1N	Mechanical Engineering

Eligibility requirements

Degree of Bachelor of Science in Engineering, within Mechanical engineering, Industrial Engineering and management, or equivalent. Additionally, the Bachelor degree must be comprised of a minimum of 15 ECTS in mathematics and include a proven basic knowledge of calculus, linear algebra, and statistics. Verified knowledge of English corresponding to the

course English B in the Swedish Upper Secondary School or equivalent.

Transitional provisions and other regulations

A student who has been admitted to a programme with this education plan is guaranteed a place on courses according to the study plan above, provided that the student follows the programme according to the study plan. The study plan and its courses may however be subject to change, within the framework of the qualitative targets, when revisions of education plans and syllabi are being made. Should the programme involve choosing a specialization, the student is guaranteed a place on courses concerning the chosen specialization.

Admission requirements within the programme:

For the course XX7684 Degree Work, 15 HE credits, previous courses corresponding to 30 HE credits from courses within the programme is required.

For the course ASC900 Automation Systems 7,5 HE credits a robot license comprising 0,5 HE credits from RSC910 Robotic Systems, 7.5 HE credits is required.



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APPENDIX

Education programmes swedish name and credits, higher education credits	Prog. code
Produktionsteknik, magister, 60 HE credits	TAPTE
Education programmes english name and credits, higher education credits	Spec. code
Master in Manufacturing Engineering, 60 HE credits	

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Qualification objectives and criteria

Knowledge and understanding

For a Master of Science (60 credits) degree the student should:

National goals

- demonstrate knowledge and understanding in the main field of study, including both an overview of the field and specialised knowledge in certain areas of the field as well as insight into current research and development work, and
- demonstrate specialised methodological knowledge in the main field of study.

Local goals

- demonstrate in-depth knowledge and understanding within the main area, manufacturing engineering, focusing on complex production systems and production processes, and

Competence and skills

For a Master of Science (60 credits) degree the student should:

National goals

- demonstrate the ability to intergrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information
- demonstrate the ability to identify and formulate issues autonomously as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames
- demonstrate the ability in speech and writing to report clearly and discuss his or her conclusions and knowledge and arguments on which they are based in dialogue with different audiences, and
- demonstrate the skills required for participation in research and development work or employment in some other qualified capacity.

Local goals

- show ability to asses the need for scientific and technical information, search for this

information and critically evaluate its relevance

- ◆ show ability to participate in project and apply knowledge and engineering methods within industrial manufacturing, and
- ◆ show ability to communicate results, methods and conclusions to specialists as well as non specialists within manufacturing engineering.

Judgement and approach

For a Master of Science (60 credits) degree the student should:

National goals

demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work

- ◆ demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- ◆ demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Local goals

- ◆ demonstrate insight into the possibilities and limitations of production technology, its role in industry and the responsibility of the individual for how it is used.

Qualification criteria

Completed course requirements of 60 HE credits, in accordance with the syllabus for the program, Master in Manufacturing Engineering, 60 HE credits.

For students who have completed the programme according to the syllabus, a reference to the programme should be printed on the first page of the degree certificate.

Main field of study

Mechanical engineering.

The principal organisation of the educational programme

The teaching is primarily consisting of lectures, tutorials, group seminars, laboratory work and project assignments. Problem based and project based activities occur. Emphasis is put on group projects but, individual projects exist. The course language is English.

Work Integrated Learning

The programme is research integrated rather than work integrated. Current industrial research is, however, well integrated with manufacturing industry.

OBS! Läsperiodlistan (LP) är preliminär

Master in Manufacturing Engineering, 60 hp, TAPTE, H12, 100%, Normal

These course events are part of the offering, academic year 2012/2013

Dpt/Div	Course name	Particulars	Code	AP 1a	AP 1b	AP 2a	AP 2b	AP 3a	AP 3b	AP 4a	AP 4b	S
IV/PP	Advanced Materials and Manufacturing Technology, 7.5 hp	50	XX8138	x	x							
IV/PP	Fundamental Materials and Manufacturing Technology, 7.5 hp	50	XX6760	x	x							
IV/PP	Operations management, 7.5 hp	50	XX9347	x	x							
IV/PP	Materials and Production technology, 15 hp	50	XX3048			x	x	x	x			
IV/EA	Robotic Systems, 7.5 hp	50	RSC910			x	x					
IV/EA	Automation Systems, 7.5 hp	50	ASC900					x	x			
IV/PP	Degree Work, 15 hp	100	XX7684							x	x	