

2020 - 2021



## COURSES IN ENGLISH FOR EXCHANGE STUDENTS

# Mechanical Engineering ME Course listing

## Course listing

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ID:	<b>ME_A_01</b>		<b>ECTS</b>
Disciplinary field:	Materials Science		2
Module:	Materials Properties		
Semester:	<i>Autumn</i>		
Teaching hours:	-	-	12h
	Lectures	Tutorial classes	Practical work
Teaching type:	<input type="checkbox"/> English-only		<input checked="" type="checkbox"/> French-English

- Objective(s):
  - Define and select mechanical tests to identify materials.
  - Linking material characterisation and mechanical behaviour
- Skill(s):
  - Perform destructive and non-destructive tests. Identify mechanical behaviour.
  - Perform a test in the field of material structure.
- Prerequisite(s):
  - Material properties.
- Remark(s):
  -

ID:	<b>ME_A_02</b>		<b>ECTS</b>
Disciplinary field:	Turning , Milling , Drilling , Tapping		<b>3</b>
Module:	Mechanical Machining (introduction)		
Semester:	<i>Autumn</i>		
Teaching hours:	-	12h	-
	Lectures	Tutorial classes	Practical work
Teaching type:	<input checked="" type="checkbox"/> English-only		<input type="checkbox"/> French-English

- Objective(s):  
- Know how to shape a part by using machine-tools such as lathes or milling machines.
- Skill(s):  
- Be able to choose a manufacturing process according to part specifications.
- Prerequisite(s):  
- Be able to read a design drawing.
- Remark(s):  
- It is preferable for students to attend the two modules of mechanical machining in order to mix theory and practice.

ID:	<b>ME_A_03</b>		<b>ECTS</b>
Disciplinary field:	Turning , Milling , Drilling , Tapping		<b>3</b>
Module:	Mechanical Machining (introduction)		
Semester:	<i>Autumn</i>		
Teaching hours:	-	-	26h
	Lectures	Tutorial classes	Practical work
Teaching type:	<input type="checkbox"/> English-only		<input checked="" type="checkbox"/> French-English

- Objective(s):  
- Shape a part by using machine-tools such as lathes or milling machines.
- Skill(s):  
- Use a manufacturing process according to part specifications.
- Prerequisite(s):  
- Be able to read a design drawing.
- Remark(s):  
- It is preferable for students to attend the two modules of mechanical machining in order to mix theory and practice.

ID:	<b>ME_A_04</b>		<b>ECTS</b>
Disciplinary field:	Mechanical Engineering		<b>5</b>
Module:	Mechanical design		
Semester:	<i>Autumn</i>		
Teaching hours:	-	-	40h
	Lectures	Tutorial classes	Practical work
Teaching type:	<input type="checkbox"/> English-only		<input checked="" type="checkbox"/> French-English

- Objective(s):
  - CAD modelling methodology (revolving and extrusion parts, assemblies).
  - Studies of different real mechanical systems (dissassembly, technological solutions, mechanisms, materials...).
  - Detailed study and CAD-modelling of a system.
- Skill(s):
  - Use a CAD software programme for simple mechanical parts and assemblies.
  - Understand the behaviour of simple mechanical systems.
- Prerequisite(s):
  - Basic technical drawing knowledge.
  - Mechanical notions (kinematics).
- Remark(s):
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ID:	<b>ME_A_05</b>		<b>ECTS</b>
Disciplinary field:	Mechanical Engineering		<b>5</b>
Module:	English		
Semester:	<i>Autumn</i>		
Teaching hours:	-	14h	14h
	Lectures	Tutorial classes	Practical work
Teaching type:	<input checked="" type="checkbox"/> English-only		<input type="checkbox"/> French-English

- Objective(s):  
- Communicative English for industry.
- Skill(s):  
-
- Prerequisite(s):  
-
- Remark(s):  
- For non-native speakers.

ID:	<b>ME_A_06</b>		<b>ECTS</b>
Disciplinary field:	Materials Science		2
Module:	Materials properties		
Semester:	<i>Autumn</i>		
Teaching hours:	-	14h	-
	Lectures	Tutorial classes	Practical work
Teaching type:	<input type="checkbox"/> English-only		<input checked="" type="checkbox"/> French-English

- Objective(s):
  - Define and use a method to select materials in design product.
  - Justify the choice of an organic polymer, a ceramic, a metal alloy or a composite in relation to the required properties, the behaviour laws and the implementation possibilities for a given application.
- Skill(s):
  - Select materials.
  - Link a scientific model to a work situation.
  - Identify the interactions at play in a system and between the system and the environment in which it is set.
  - Take materials properties and behaviours into account within a system.
- Prerequisite(s):
  - Material properties.
- Remark(s):
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ID:	<b>ME_A_07</b>			<b>ECTS</b>
Disciplinary field:	Mechanical Engineering			<b>6</b>
Module:	Internship/ Professional project			
Semester:	<i>Autumn</i>			
Teaching hours:	-	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	<input type="checkbox"/> English-only		<input checked="" type="checkbox"/> French-English	

- Objective(s):  
- Develop problem-solving and team-building skills
- Skill(s):  
-
- Prerequisite(s):  
-
- Remark(s):  
-

ID:	<b>ME_S_01</b>		<b>ECTS</b>
Disciplinary field:	Materials Forming Processes		2
Module:	Special machining (composite forming, injection molding, gear cutting, electrical discharge machining)		
Semester:	Spring		
Teaching hours:	-	-	12h
	Lectures	Tutorial classes	Practical work
Teaching type:	<input type="checkbox"/> English-only		<input checked="" type="checkbox"/> French-English

- Objective(s):  
- Introduction to special machining used in order to shape a part.
- Skill(s):  
-
- Prerequisite(s):  
-
- Remark(s):  
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ID:	<b>ME_S_02</b>		<b>ECTS</b>
Disciplinary field:	Mechanical Engineering		4
Module:	Mechanical design		
Semester:	<i>Spring</i>		
Teaching hours:	-	-	36h
	Lectures	Tutorial classes	Practical work
Teaching type:	<input type="checkbox"/> English-only		<input checked="" type="checkbox"/> French-English

- Objective(s):  
- CAD modelling methodology (advanced functions, 2D-drawings).
- Skill(s):  
- Use a CAD software programme for more complex mechanical parts and assemblies.  
- 2D-drawings.  
- Understand the behaviour of mechanical systems.
- Prerequisite(s):  
- Autumn courses or equivalent.
- Remark(s):  
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ID:	<b>ME_S_03</b>		<b>ECTS</b>
Disciplinary field:	Mechanical Engineering		<b>5</b>
Module:	English		
Semester:	<i>Spring</i>		
Teaching hours:	-	14h	12h
	Lectures	Tutorial classes	Practical work
Teaching type:	<input checked="" type="checkbox"/> English-only		<input type="checkbox"/> French-English

- Objective(s):  
- Communicative English for industry.
- Skill(s):  
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- Prerequisite(s):  
-
- Remark(s):  
- For non-native speakers.

ID:	<b>ME_S_04</b>			<b>ECTS</b>
Disciplinary field:	Mechanical Engineering			6
Module:	Internship/ Professional project			
Semester:	Spring			
Teaching hours:	-	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	<input type="checkbox"/> English-only		<input checked="" type="checkbox"/> French-English	

- Objective(s):  
- Develop problem-solving and team-building skills.
- Skill(s):  
-
- Prerequisite(s):  
-
- Remark(s):  
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