

## Study Programme 2015-2016 Mechanical Engineering

### Semester 5

Course	Lect	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
<b>Unit 5-1 Mathematics and Computing I</b>							<b>62</b>	<b>5</b>	
Mathematics tools for engineers 1	12		24			36	36	3	511110
Computing	6			20		26	26	2	511120
<b>Unit 5-2 Mechanics I</b>							<b>112</b>	<b>9</b>	
Continuum Mechanics	16		16			32	32	2,5	511210
Strength of Materials	14		14	12		40	40	3,25	511220
Mechanics of rigid bodies	4		24	12		40	40	3,25	511230
<b>Unit 5-3 Design and Manufacturing I</b>							<b>122</b>	<b>9</b>	
Mechanical Systems Analysis	6			40		46	46	3,5	511310
Manufacturing and Metrology	10		10	12		32	32	2,5	511320
Materials	6		2	12		20	20	1,75	511330
Upgrading courses : Technology			4	20		24	24	1,25	511340
<b>Unit 5-5 Soft Skills I</b>							<b>58</b>	<b>4</b>	
Sport					22	22	22	0,75	511410
Career Planning			10			10	10	0,75	511420
Corporate Communication			10			10	10	0,75	511430
Project Management	3		3		10	16	16	1,75	511440
<b>Unit 5-6 Languages</b>							<b>46</b>	<b>3</b>	
English			26			26	26	2	511510
Remedial English (TOEIC test)			14			14	14	2	511520
German			20			20	20	1	511531
Spanish			20			20	20	1	511532
French			20			20	20	1	511533
<b>Total :</b>							<b>400</b>	<b>30</b>	

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**Note :**  
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## Study Programme 2015-2016 Mechanical Engineering

### Semester 6

Course	Lect	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
<b>Unit 6-1 Mathematics and Computing II</b>						<b>50</b>		<b>4</b>	
Mathematical Tools for engineers 2	8		10				18	1,75	512110
Numerical Methods for engineers		16		16			32	2,25	512120
<b>Unit 6-2 Mechanics II</b>						<b>106</b>		<b>8</b>	
Vibration of Discret Systems	10		12			22	22	1,5	512210
Mechanics of Deformable Solids	18		24			42	42	3,25	512220
Fluid Mechanics	16		20	6		42	42	3,25	512230
<b>Unit 6-3 Design and Manufacturing II</b>						<b>112</b>		<b>8,5</b>	
Guidance Systems Design	6		4	32		42	42	3,25	512310
Production Engineering	8		6	8		22	22	2	512320
Power Transmission	18		18	12		48	48	3,25	512330
<b>Unit 6-5 Project and Soft Skills II</b>						<b>92</b>		<b>6,5</b>	
Sport					22	22	22	0,75	512410
Project					40	40	40	3,5	512420
Project review					2	2	2	0	512440
Corporate Communication			10			10	10	0,75	512450
Economic Environment	12		6			18	18	1,5	512460
<b>Unit 6-6 Languages</b>						<b>42</b>		<b>3</b>	
English			22			22	22	2	512510
Remedial English (TOEIC training)			18			18	18	0	512520
German			20			20	20	1	512531
Spanish			20			20	20	1	512532
French			20			20	20	1	512533
<b>Industrial placement (4 weeks during the summer)</b>									
						<b>Total :</b>	<b>402</b>	<b>30</b>	

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## Study Programme 2015-2016 Mechanical Engineering

### Semester 7

Course	Lect	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
<b>Unit 7-1 Vibration - Transfer</b>							<b>129</b>	<b>10</b>	
Dynamics of structures	16		18	12		46	46	3.5	513110
Thermodynamics and Heat Transfer	24		28	12		64	64	5	513120
->Heat transfer	12		12	4		28	28	2.25	513121
->Thermodynamics	12		16	8		36	36	2.75	513122
Signal tools for mechanics	8		8	3		19	19	1.5	513130
<b>Unit 7-2 Numerical Methods</b>							<b>100</b>	<b>8</b>	
Numerical Methods for Analysis of Structures	14		14	24		52	52	4	513210
Numerical Sizing Tools	4			20		24	24	2	513220
Numerical Fluid Mechanics	6		6	12		24	24	2	513230
<b>Unit 7-3 Design I</b>							<b>72</b>	<b>5</b>	
Mechanical Systems Design 1			20		28	48	48	3.5	513310
Dynamics of structures	8		10	6		24	24	1.75	513320
<b>Unit 7-4 Soft Skills I</b>							<b>56</b>	<b>4</b>	
Introduction to Research	4					4	4	0,25	513410
Work placement debriefing			10			10	10	0.75	513420
Marketing	12					12	12	1	513430
Corporate Management	14			16		30	30	2	513440
<b>Unit-7-5 Languages</b>							<b>40</b>	<b>3</b>	
English			22			22	22	2	513510
Remedial English (TOEIC test)			18			18	18	0	513520
German			20			20	20	1	513531
Spanish			20			20	20	1	513532
French			20			20	20	1	513533
<b>Total :</b>							<b>397</b>	<b>30</b>	

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## Study Programme 2015-2016 Mechanical Engineering

### Semester 8

Course	Lect	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
<b>Unit 8-1 Technology</b>						<b>64</b>	<b>5</b>		
Modelling and Control of Mechanical Process	14		14	12		40	40	3	514110
Composite Materials	10		10	4		24	24	2	514120
<b>Unit 8-2 Design II</b>						<b>144</b>	<b>11</b>		
Mechanical Systems Design 2			20		76	96	96	8	514210
Hydraulic Machines	18		18	12		48	48	3	514220
<b>Unit 8-3 Assistant Engineer Placement (starting in May – from 6 to 13 weeks)</b>						<b>120</b>	<b>9</b>		
Assistant Engineer Placement							120	9	
<b>Unit 8-4 Soft Skills II</b>						<b>20</b>	<b>2</b>		
Fundamentals of management	10					10	10	1	514410
Quality, Hygiene and Safety			10			10	10	1	514420
<b>Unit 8-5 Languages</b>						<b>40</b>	<b>3</b>		
English			22			22	22	2	514510
Remedial English (TOEIC test)			12			12	12	0	514520
German			20			20	20	1	514531
Spanish			20			20	20	1	514532
French			20			20	20	1	514533
<b>Total :</b>							<b>390</b>	<b>30</b>	

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## Study Programme 2015-2016 Mechanical Engineering

### Semester 9

Course	Lect	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
<b>Unit 9-1 Specialty Modules : (A or B) and (C or D) and (E or F)</b>							<b>144</b>	<b>13</b>	
A - Mechanics of real fluids		48				48	50	5	515110
B - Solid Mechanics	4	16		28		48	50	5	515111
C : Prototyping : choice and implementation	12			36		48	50	4	515112
D : Braking : Technology and Sizing	36		6	6		48	50	4	515113
E – Energy Systems and Environment	18			30		48	50	4	515114
F - Aeronautics and Mechanical Design	10	8			28	46	50	4	515115
<b>Unit 9-2 Cross-disciplinary modules</b>							<b>48</b>	<b>3</b>	
<i>Cross-Disciplinary modules - 2 courses to be chosen from the following list * :</i>									
-> Life Cycle Assessment (LCA) and eco-design			24			24	24	1.5	925510
-> Intercultural Management	24					24	24	1.5	925511
-> Approaches of social and interdependent economy	12		12			24	24	1.5	925513
-> Entrepreneurship	24					24	24	1.5	925516
-> Co-Design in Polytech Lille's fablab			24				24	1.5	925517
-> High Tech innovation Management and Business Intelligence	24						24	1.5	925523
-> Discover the Internet of things	12			12		24	24	1.5	925530
-> Industrial Waste Management in France	24						24	1.5	925540
-> Renewable Energy	16			8		24	24	1.5	925571
-> Mobilizing the collective intelligence: a key resource in the team work	24					24	24	1.5	925580
-> User-centered design (basic concepts of ergonomics)	12			12		24	24	1.5	925590
-> Introduction to Digital Art Technologies	24					24	24	1.5	925592
-> Economy, Geopolitics and international Geostrategy	24					24	24	1.5	925595
-> Fundamentals of project engineering and commercial Negotiation	24					24	24	1.5	925598
-> Production Management	16			8		24	24	1.5	925599
<b>Unit 9-3 Soft Skills</b>							<b>50</b>	<b>3</b>	
Labour Law and Employment Legislation			12			12	12	0.75	515310
Corporate Social Responsibility	4					4	4		515320
Team and Change Management			24			24	24	1.5	515330
Preparing for a job interview	10					10	10	0.75	515340
<b>Unit 9-4- Final-year project (part 1)</b>							<b>104</b>	<b>8</b>	
Final-year project (part 1)					104	104	104	8	515410
<b>Unit 9-5 Languages</b>							<b>52</b>	<b>3</b>	
English			20			20	20	1,75	515510
Remedial English ( Toeic test) or professional English			12			12	12	0,5	515520
German			20			20	20	0,75	515531
Spanish			20			20	20	0,75	515532
French			20			20	20	0,75	515533
<b>Total :</b>							<b>398</b>	<b>30</b>	

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\* The list of cross-disciplinary modules may change from one academic year to the other.

## Study Programme 2015-2016 Mechanical Engineering

### Semester 10

Course	Lect	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 10-1 Engineer Placement (starting in February – from 5 to 6 months)							300	24	
									516110
Unit 10-2 Final Year Project (part 2)							100	6	
									516210
<b>Total :</b>							<b>400</b>	<b>30</b>	

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