



Institut Universitaire De Technologie De Belfort-Montbéliard, France
Equivalent to Institute of Technology

Département Génie Thermique et Energie
Equivalent to Building Services Engineering Department

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Diplôme Universitaire Technologique en Génie Thermique et Energie Programme Description

Equivalent to 2-year Undergraduate University Technical Degree in Building Services Engineering

Programme description

This is a professionalised technological programme specialising in the areas of Building Services Engineering / Thermal Science / Process and Energy Engineering, the students enrolled have the opportunity to take courses concentrated on energy systems / building systems.

Teaching combines science and engineering expertise and is not as theoretical as at university, students can apply their knowledge of science and thermal engineering in practical ways and gain work-based skills.

Study pattern

The programme is divided into 4 semesters of 15 weeks.

Teaching and learning takes place in the form of lectures, tutorials and seminars labs sessions (accounting for 50% of teaching).

Career prospects & further education

After this programme, graduates can enter the workforce directly While the work-based skills gained from a Diplôme Universitaire de Technologie (DUT) can lead directly to a career as a technician in energy efficiency, HVAC systems, renewable energy, heat engines, car industry, aeronautics, many students use it as a stepping stone to an honours degree.

Some graduates enrol on to a Heat Efficiency and Energy BEng programme specialising in Renewable Energy Systems, which is an integrated 3-year Bachelor programme taught in the same institute. Other students go on to study further degrees. These can include French Engineering School Degrees, Master's Degrees, etc.

Areas of expertise

Heat engines, thermal systems, thermal process, energy management, energy efficiency in buildings, energy audit, HVAC (Ventilation, heating systems, cooling systems, air conditioning for industrial applications or facilities, commercial or residential buildings), aeronautics, aerospace, test laboratories, research laboratories.

10 to 12-week internship

During Semestre 4, students do a 10-week internship in organisations in France or a 12-week international internship.

YEAR 1**Semestre 1**

<i>Teaching Unit Code</i>	<i>Module</i>	<i>Coef.</i>	<i>ECTS</i>
UE11	General Knowledge		10
UE11	MMT1101 Applied Mathematics	3	
UE11	MMT1102 IT	2	
UE11	MMT1103 Communication	2	
UE11	MMT1104 English as a Foreign Language	2	
UE11	MMT1105 Helping students with learning gaps		
U12	Energy		11
U12	MMT1201 Thermodynamics	3	
U12	MMT1202 Electricity	3	
U12	MMT1203 Energy and Environment	2	
U12	MMT1204 Mechanics	2	
U12	MMMELS1 Optional Module	2	
Bonus Sport	Bonus		1
Bonus Sport	M_SP_1 optional PE	1	
UE13	Professional Knowledge		9
UE13	MMT1301 Metrology	3	
UE13	MMT1302 Heating Systems Technology	2	
UE13	MMT1303 Computer Aided Design	3	
UE13	MMT1304 Personal and Career Development	1	
		31	31

YEAR 1**Semestre 2**

<i>Teaching Unit Code</i>	<i>Module</i>	<i>Coef.</i>	<i>ECTS</i>
UE22	Mechanics and Energy		10
UE22	MMT2201 Thermodynamics	3	
UE22	MMT2202 Fluid Mechanics	3	
UE22	MMT2203 Architectural Interior Systems	1	
UE22	MMT2204 Stress (Material Strength)	2	
UE22	MMMELS2 Optional Module	2	
UE21	Applied General Knowledge		11
UE21	MMT2101 Applied Mathematics	3	
UE21	MMT2102 Automated Control Systems	2	
UE21	MMT2103 Communication	2	
UE21	MMT2104 English as a Foreign Language	2	
UE21	MMT2105 Helping students improve Skills and Methods		
UE21	MMT2106 Project Management		
UE21	MMT2107 Research Project	2	
UE23	Thermal Engineering		9
UE23	MMT2301 Heat Transfer	3	
UE23	MMT2302 Thermal Performance of Buildings	2	
UE23	MMT2303 Thermal Engineering Techniques	1	
UE23	MMT2304 Thermoelectricity	1	
UE23	MMT2305 Personal and Career Development	1	
M SP 2	M SP 2 PE Bonus		1
M SP 2	M SP 2 optional PE	1	
		31	31

YEAR 2

Semestre 3

Teaching Unit	Class	Class code	Coef	ECTS
UE31 General Knowledge and Research Project				9
Applied Mathematics		MMT3101	2	
Communication		MMT3102	2	
English as a Foreign Language		MMT3103	2	
IT Programming		MMT3104	1	
Research Project (100h per student)		MMT3105	2	
UE32 Transfer and Fluids				10
Heat Transfer		MMT3201	4	
Fluid Mechanics : Aerodynamics		MMT3202	2	
Combustion and Thermochemistry		MMT3203	2	
<i>Combustion and hearth</i>		MMT3203C	2	
<i>Thermochemistry</i>		MMT3203P	1	
Case study		MMT3204	2	
UE33 Thermodynamic Systems				11
Automated Control Systems		MMT3301	3	
Refrigeration Systems		MMT3302	2	
Air Handling, Air Conditioning, Ventilation		MMT3303	3	
<i>Aeraulic Networks</i>		MMT3304C	1	
<i>Mathematics</i>		MMT3304P	1	
Personal and Career Development		MMT3305	1	
Semestre 4				
UE41 Professional Knowledge				9
Communication		MMT4101	1	
English as a Foreign Language		MMT4102	2	
<i>Fluids and Networks</i>		MMT4103C	1	
<i>Compressible Flow</i>		MMT4103P	1	
<i>Energy Management</i>		MMT4104C	2	
<i>Engineering Mathematics</i>		MMT4104P	2	
<i>Software for students entering the workforce directly</i>		MMT4105C	1	
<i>Software for students continuing on to further education</i>		MMT4105P	1	
<i>Case study</i>		MMT4106E	2	
<i>Viscous and Turbulent Flows</i>		MMT4106V	1	
<i>Vibration</i>		MMT4106P	1	
UE42 Energy for industry and Research Project				9
Thermodynamic Systems and Cycles		MMT4201	2	
<i>Heat Engines</i>		MMT4201C	1	
<i>Thermodynamic Cycles of Heat Engines</i>		MMT4201P	1	
Heat Exchangers and Heat Transfer between Fluids		MMT4202	1	
<i>Heat Exchangers</i>		MMT4202C	1	
<i>Heat Transfer between Fluids</i>		MMT4202P	1	
Research Project		MMT4203	4	
UE43 Short-term Internship				12
10 to 12-week internship		MMT4301	12	