FICHE MASTER

Energy and Solar Buildings (ESB)

The ESB Master Program is about Energy and Buildings with a special focus on Solar Energy, from fundamental concepts to applications, modelling and optimization.
Courses are conducted in English.

Location :
Université Savoie Mont Blanc
Polytech Annecy-Chambéry
Campus Scientifique Savoie Technolac

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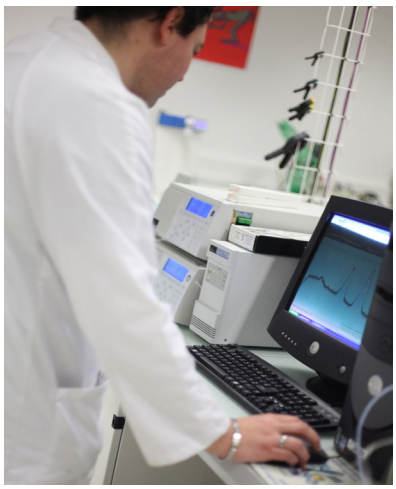
OBJECTIVES

- Train scientists capable of solving complex problems relating to the management, design and optimization of multiple-input technological systems.
- Develop the expertise and skills needed to carry out research into energy management, environmental protection, the use of innovative materials and the production of innovative structures as part of a global policy of sunstainable development.

SKILLS AND EXPERTISE

- Design and implement complex technological systems that are self-regulating (or autonomous) and that protect the environment improved energy efficiency and the use of specific methods, processes and materials.
- Expertise in associated tools (modeling, simulation, measurement, information management).



UNIVERSITÉ
SAVOIE
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PROGRAM

		Master ESB	ECTS	Lectures	Tutorials	Labs
M1	S7	**UE1 : Mathematics** Data analysis and reliability of numerical models, Numerical Methods	7	16.5	37,5	
		UE2 : Building Science and Technology Combustion, Heat transfer in buildings, HVAC	11	34.5	42	24
		UE3 : Experimental methods and Bibliography research Measurements (flows, temperature, pressure...) and experiemental methods (database), Thematic bibliographic work (self-study)	12	21	12	24
	S8	**UE1 : Energy** Energetics (advanced thermodynamics and heat transfers), Fluid engineering applied to energy (hydraulic and marine)	12	42	55,5	
		UE2 : Systems Control for building applications, Innovative energy systems (Fuel cell, CHP)	8	27	30	20
		UE3 : Poject Group research project	10			36
M2	S9	**UE1 : Solar Energy** Solar thermal energy, Solar Photovoltaic	8	36	40,5	
		UE2 : Building and renewable energies District heating and smart grids / practical work, Energy issues, labels, regulation and transient simulations	7	24	30	12
		UE3 : Modeling and optimization Advanced building modeling (heat and mass transfer), Numerical tools (CFD, systems, optimization)	8	21	15	36
		UE4 : Project Technical or R&D Project	7		36	
	S10	**UE1 : Internship** Master thesis (Research or Industrial)	30		3	

PARTNERS

LOCIE LISTIC SYMME ines INSTITUT NATIONAL DE L'ENERGIE SOLAIRE