Master of Optics, Image, Vision, Multimedia 3D Multimedia Technology Studies

Master of Science, Technology, Health
Optics, image, vision, multimedia honours
3D Multimedia Technology **studies**

Objectives

The training course is based on basic learning, practical learning and advanced learning at the crossroads between optics and IT. It provides gradual specialisation to train professionals to be able to explore a research or engineering activity in disciplinary fields related to applied physics, optics, photonics, fibre optic metrology, micro and nano surface structuration,
optical, physical and mathematical modelling and characterisation of surfaces and structured interfaces, light-matter interaction modelling, instrumentation, non-destructive industrial characterisation and control, solar power, vision, image and colour processing and analysis and 2D and 3D multimedia technologies with a more or less pronounced specialisation in these fields during the course. The teaching staff also strives to provide a course that suits the industry's needs, is open to innovative technology (nanotechnology, augmented traceability, colour imaging and multimedia application) and focuses on vocational training (phototonic instrumentation, control, analysis and image processing).

Jean Monnet University Saint-Etienne (France) and Gjøvik University College (Norway) are combining their skills and expertise to offer a two-year Master Course in 3D Multimedia Technology (3DMT).
The study programme of this Master is scientifically original and covers computer vision, imaging science, computer science and multimedia technology with a mix of relevant theoretical and practical knowledge. The objective is to educate students in advanced methodologies and models in computational 3D imaging. Both practical applications and further research studies orientations can pursued.
Those areas are emergent, rapidly evolving with high development and recruitment potential and with a growing impact on the Information Society Technologies requiring specialised skills.
Courses are taught in English and are structured according to the European Credit Transfer System with 120 credits over four semesters of full-time studies.
Applicants with at least a BSc degree level (180 ECTS) or equivalent, in computer vision, computer science, mathematics or equivalent are invited.

Who's it for?

Entry requirements

> Prepare your Master application
> Application terms

What's next?

Prospects

Science and Technology Faculty
23, rue Docteur Paul Michelon
42023 Saint-Etienne Cedex 2

Tel: +33 (0)4 77 48 15 00
http://fac-sciences.univ-st-etienne.fr

Membre de
UNIVERSITÉ DE LYON

The 3D multimedia technology master course is designed to address the industries' needs and challenges. It also opens up for international and challenging career opportunities, since on the international job market, the demand for postgraduates in computer vision, imaging science, computer science and multimedia technologies as well as basic and applied research is very high.

Postgraduates will be qualified to work in any enterprise that uses digital media tools and systems, such as the imaging industry, the mobile industry or the gaming industry.

Below, are some examples of future career prospects.

> scientific advisor
> chief scientist
> R&D coordinator
> research engineer
> consultant
> Technical business development manager/director
> technology manager

The master programme also qualifies the postgraduate for PhD studies.

Course

M1 SEMESTER 7	Credits	Lecture	Tutorial	Practical
Module 1 - Digital image fundamentals	5	24	12	24
Module 2 - Data analysis and statistics	5	24	6	18
Module 3 - Design and analysis algorithms	5	24	6	24
Module 4 - Colour science and colorimetry Made up of two elements:	5			
Module 4A - Colour science	3	12	9	12
Module 4B - Colorimetry	2	12	12	
Module 5 - 3D visualisation and GPGPU	3	8	12	9
Module 6 - Scientific methodology	7			
Students can choose optional modules from:				
Module 7 - French language and culture	2		30	
Module 8 - Introduction to Matlab	2	12		12

	Credits	Lecture	Tutorial	Practical
Module 9 - Introduction to radiometry	1	6	6	0

M1 SEMESTER 8	**Credits**	**Lecture**	**Tutorial**	**Practical**
Module 1 - Pattern Recognition	5	12	12	24
Module 2 - Data processing Made up of two elements:	10			
Module 2A - coding and compression of media data	7.5			
Module 2B - 3D-4D Computer Vision project	2.5		6	18
Module 3 - Computer vision	5	24	24	24
Module 4 - 3D-4D Computer Vision	5	24	18	9
Module 5 - Digital Innovation and Entrepreneurship	5	12	12	12
Students can choose optional modules from:				
Module 6 - Optional Internship	2			

M2 SEMESTER 9	**Credits**	**Lecture**	**Tutorial**	**Practical**

	Credits	Lecture	Tutorial	Practical
Specialisation courses	15			
Module 1 - Specialisation in colour imaging	7.5			
Module 2 - Specialisation in video processing	7.5			
Advanced courses	15			
Module 3 - Advanced project work	7.5			
Students can choose one optional module from:				
Module 4 - Specialisation in game technology	7.5			
Module 5 - Specialisation in mobile/wearable technology	7.5			
MODULE 6 - Cross-media colour reproduction	7.5			

M2 SEMESTER 10	Credits	Lecture	Tutorial	Practical
Module 1 - Master Thesis (placement)	30			