UNIVERSIDADE da MADEIRA

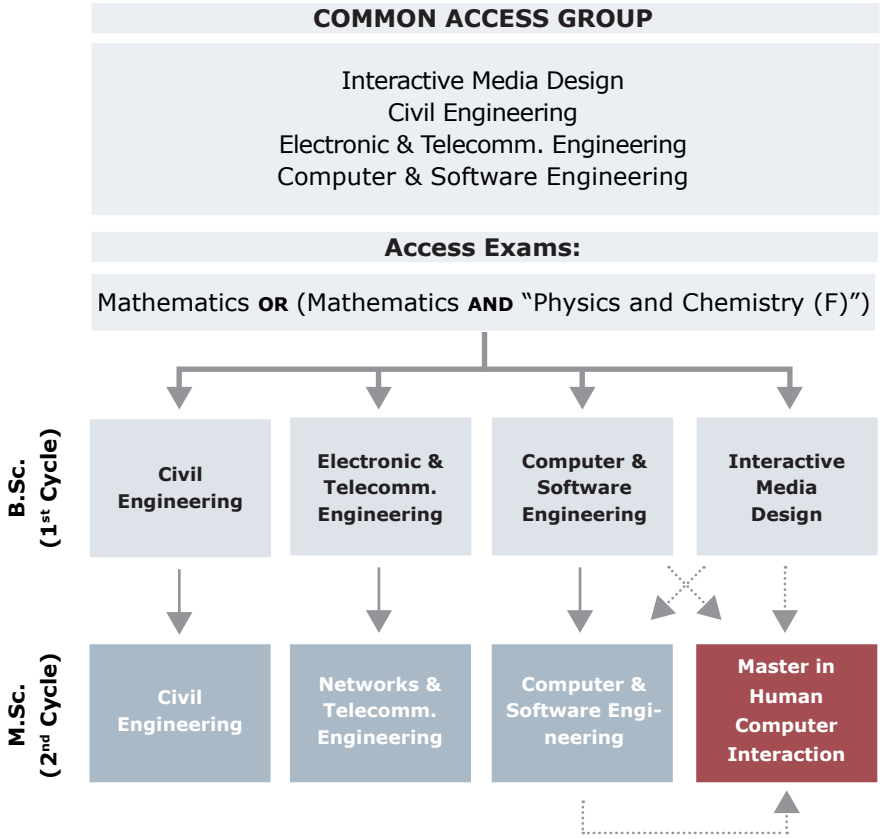
Courses
COMMON ACCESS GROUP

Interactive Media Design
Civil Engineering
Networks and Telecommunications Engineering
Computer & Software Engineering

STUDENTS GUIDE

The Common Access Group and the Liberal Education Model

The **Liberal Education** Model followed at the **University of Madeira** (UMa) enables an access system that increases the flexibility of the students academic career. For the B.Sc. degrees in engineering access is achieved through a single **Common Access Group**, which allows the students to freely choose their degree until the end of their first year at the university. It should be noted that in the first year the different degrees share a lot of common courses.



Last year the number of admissions was set at 132, with access exams on Mathematics OR (Mathematics AND Physics and Chemistry (F)). In 2008/09 the last student admitted had an 124,5 average.

FREQUENTLY ASKED QUESTIONS (F.A.Q.)

Can I finish a degree in 3 years? And have a M.Sc. in 2 more years?

Yes! Following the implementation of the Bologna Process in Portugal, higher education is now based on a 3 (BSc)+2 (MSc) years model.

What amount of work should I expect?

Students should expect a typical workload of about 10 work hours per discipline, including class hours.
It should be noted that our faculty dedicate a significant time to a personalized support to students. In the evaluation report of the Electronic Engineering degree, for instance, evaluators stated "a young, enthusiastic, dedicated faculty staff who show great commitment, having built a clear vision about what's possible and desirable for the Madeira region."

In the context of Mathematics or Engineering, what's the difference between a conventional degree program and a program that follows the liberal education model?

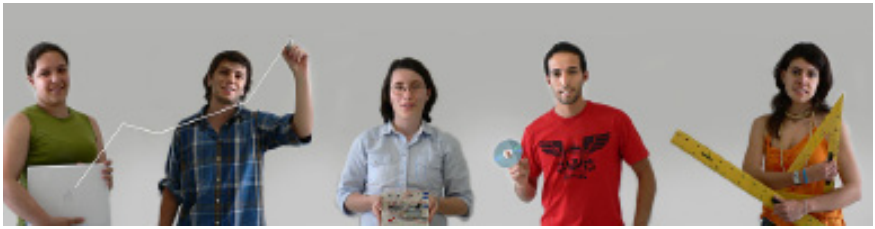
The liberal education model followed at UMa is fully compatible with all the accreditation criteria set by national ("Ordem dos Engenheiros" - The Portuguese Engineering Board) and international (Accreditation Board for Engineering and Technology) organizations. Therefore the degrees offered by the UMa are comparable to those offered by any other university in any country. By using this model the UMa is following the global trend in the teaching of engineering and exact sciences. This produces what Harvard calls a new generation of "renaissance engineers": having the theory and practice required to engage in large projects, while simultaneously having knowledge and principles based on humanities and social sciences.

How much will the tuition fees be for the 1st and 2nd Cycles?

Portuguese law sets a limit to the 2nd cycle tuition fees when that 2nd cycle is required for a certain professional category, as is the case in the field of engineering. This limit is basically the same as the value of the 1st cycle tuition fees, which is set each year by the Science and Technology Ministry. This year those fees are set at €972,14. It should be noted that the Professional Master in Human-Computer Interaction is not included in this system

Are UMa engineering students allowed to enrole in the "Ordem dos Engenheiros"?

The Electronics and Telecommunications / Networks and Telecommunications Engineering and Computer and Software Engineering degrees have been recently evaluated by the "Ordem dos Engenheiros", having both received a "Favourable Quality Evaluation", and therefore students from those degrees, with degrees earned between 2006 and 2010, are not required to take the admission exam. The Civil Engineering will only be evaluated by the "Ordem dos Engenheiros" after the first students graduate and become employed, something that will only happen in 2009/2010. Until that evaluation process in completed students who earn their degree can, individually, apply by doing the admission exam.



UNIVERSIDADE da MADEIRA

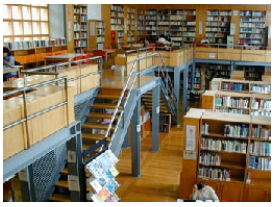
It is the youngest Portuguese Public University, created in 1988.

It is located in Funchal, with premisses in the Largo do Colégio, in Penteada and on the Marine Biology Station.

The brand-new student housing is located in Santa Maria Maior.

Main Building in Penteada

25 Classrooms (prepared for 1254 students)
4 Large auditoriums (120 places each)
6 Small auditoriums (56 places each)
Senate room (200 places)
70 Laboratories for teaching and research
160 Offices
Student restaurant and 2 Bars
Copy room
Library (300 places)
Wi-Fi network
4 Study rooms



Degrees

In the fields of Engineering and Technical Design the University of Madeira offers a total of 14 degrees:

1st Cycle (B.Sc. – 3 years)

Interactive Media Design
Civil Engineering
Electronic and Telecommunications Engineering
Computer & Software Engineering

2nd Cycle (M.Sc. – 2 years)

Civil Engineering
Networks and Telecommunications Engineering
Computer & Software Engineering
Mathematics
Mathematics teaching for high schools

Professional Master in Human-Computer Interaction

A partnership with
Carnegie Mellon University, E.U.A.

3rd Cycle (Ph.D. – 3 yeads)

Civil Engineering
Electrical Engineering
Computer & Software Engineering
Mathematics

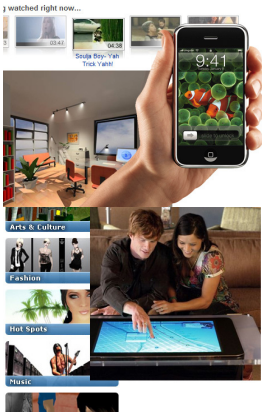
Interactive Media Design

Civil Engineering

Electronic and Telecomm. Engineering

Computer and Software Engineering

Interactive Media Design



Nowadays production in the fields of web based and interactive media is booming. The development and commercial application of new technologies has opened new opportunities for interactive media, encompassing interactive television, on-line environments, mobile networks, distributed computation and smart buildings. The ability to combine fundamental aspects of the creation process in a productive way will characterize the graduates of this degree. As such, the main area of this degree lies in the cross-roads between design, technology and psychology.

New interactive media examples

Our Designers will be able to:

• develop technical skills that will allow them a methodologically structured approach in the different areas of the design process and a professional attitude in the development of creative processes;

• develop the capacity to evaluate aspects related to design, and its products in critical manner, putting in historical and sociological perspective the innovative aspects.

Careers

• Web designers and multimedia designers in a business environment;

• Designers in the mass media (television, press), or in industry (telecommunications, animation);

• Software developers;

• Designers public and private organizations with a strong on-line presence;

• Independent consultants or , freelance designers.

Civil Engineering

Civil engineering plays a significant role in building modern society in a sustainable future. It deals with the design, construction, management and maintenance of the infrastructures on which society relies. In addition to the buildings in which we live and work, the roads and the bridges we use everyday, society depends on civil engineers for providing clean water, energy, waste management and to protect the natural environment.

Ponte na ribeira dos Socorridos.

Our Civil Engineers will be able to:

• perform efficient and aesthetically pleasant constructions, applying scientific methods through a balanced management of the available resources;

• be fully prepared for life-long learning, thus strengthening their ability to successfully and effectively solve the challenges that will be posed by the natural evolution of the society.

Careers

• As liberal professionals and in design offices;

• In building companies, and Central and Regional Administration services;

• In diverse areas such as structural design, geotechnics and foundations, hydraulics and roads; sustainable regional and urban planning, without forgetting the emerging concerns with recovering damaged estate and structural reinforcement of bridges, which constitute one of the major markets of the construction industry in Europe.

Electronic and Telecommunications Engineering

the old Santa Rita antenna (Funchal).

Electronic and Telecommunications specialists are able to analyze, specify, project, industrialize, commercialize and use products and services that employ technologies such as electronics, telecommunications and computer networks as a basis, and the information technologies as a support.

Our Electronic and Telecommunications Engineers will be able to:

• plan and project telecommunications systems, communication networks, electronics devices (digital and analog) and signal processing;

• perform technical functions in implementing and maintaining information systems;

• promote research and development of applications in telecommunication systems and computer networks.

Careers

• Services: banks, insurance, tourism, culture and entertainment;

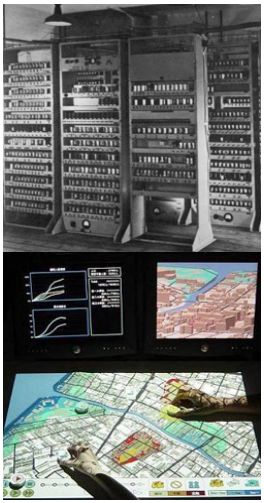
• Industry: planning, modeling, producing and maintaining software and hardware systems;

• Public Administration;

• Self-entrepreneurship: governmental and community support to innovation and entrepreneurship, great economical feasibility and growth and success potential.

Computer and Software Engineering

Computer and Software Engineering is currently present in all the core areas of economic and social progress. Whether developing information visualization tools, air traffic control systems or ambulance scheduling programs, this kind of engineering has a huge impact on policy decisions that affect our everyday lives. It's a collaborative, broad activity that requires broad skills in terms of management, technology, leadership and imagination.



On top: the EDSAC, the world's first computer to operate a regular computing service (1949). Bottom: a tangible interface to simulate rescue operations (2006).

Our Computer and Software Engineers will be able to:

• model, develop, operate and maintain computer programs, information systems, computer architectures and data networks;

• deal with complexity and abstraction in order to easily adapt to the constant technological changes that happen in computer and software industry.

Careers

• Services: banks, insurance, tourism, culture and entertainment;

• Industry: planning, modeling, producing and maintaining software and hardware systems;

• Public Administration;

• Self-entrepreneurship: governmental and community support to innovation and entrepreneurship, great economical feasibility and growth and success potential.

B.Sc. Study Plans

M.Sc. in Civil Engineering

	1st Semester				2nd Semester			
1st Year	Reinforced Concrete I	Foundations and Support Structures	Instrumentation and Monitoring of Works	Option (Free choice)	Reinforced Concrete II	Computational Mechanics	Structural Dynamics	Option (Free choice)
2nd Year	Structural Design	Organization and Management of Site Works	Project / Internship / Dissertation					

M.Sc. in Computer and Software Engineering

	1st Semester				2nd Semester			
1st Year	Network centred Applications	Information Systems Architecture	Software Design and Implementation	Distributed Systems	Software Architectures	Usage-centred Design	Security in Information Systems	Decision Support Systems
2nd Year	Option (Software)	Option (Telecom.)	Project / Internship / Dissertation					

M.Sc. in Networks & Telecommunications Engineering

	1st Semester				2nd Semester			
1st Year	Digital Communications	Mobile Communications	Networks and Systems Management	Analysis of Investment Projects	Security in Information Systems	Advanced Network Technologies	Optical Communications	Option (Software or Electronics)
2nd Year	Option (Networks)	Option (Telecom.)	Project / Internship / Dissertation					

M.Sc. in Mathematics

	1st Semester				2nd Semester			
1st Year	Advanced Functional Analysis	Complements of Statistics	Option (Mathematics)	Option (Free choice)	Time Series Prediction	Stochastic Processes	Option (Mathematics)	Option (Free choice)
2nd Year	Mathematics & Applications to other sciences	Multivariate Data Analysis	Internship / Dissertation					

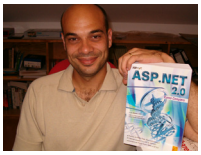
M.Sc. in Mathematics Teaching

	1st Semester				2nd Semester			
1st Year	Didactics of Mathematics I	Sciences of Education I	Sciences of Education II	Professional Practices I	Didactics of Mathematics II	Sciences of Education III	Sciences of Education IV	Professional Practices II
2nd Year	Didactics of Mathematics III	Didactics of Mathematics IV			Option (Mathematics)			
	School Teaching Practice (Including a final report)							

MHCI - Professional Master in Human-Computer Interaction

The MHCI Project course is an 8-month long capstone project for the Master's of HCI program and integrates everything the students have learned in their coursework into one "end-to-end" experience. Students work in interdisciplinary teams with an industry sponsor to produce a working prototype that serves as a proof of concept of a novel service or product idea. The students come from a variety of backgrounds including Computer Science, Psychology, Design, and other related programs.

ALUMNI



Luís Abreu

Software Engineer

Luis Abreu has written two books:
ASP.NET 2.0 Curso Completo and
Ajax com ASP.Net Curso Completo

"Currently, the University of Madeira is one of the good universities in Portugal. As a former student in this institution, I've been gladly observing its evolution along the years.
Besides significant improvements in the faculty staff (which place it among the best in the country), the University also managed to improve its campus, which provides a comfortable learning environment.
Besides the infra-structures, the university provides a nice academic environment where freshmen and new students can integrate without difficulty.
Because all of this, the University of Madeira is a good choice for anyone who is looking for quality higher education."

Fernando Rodrigues

Systems Engineer - NAV Portugal, E.P.E.

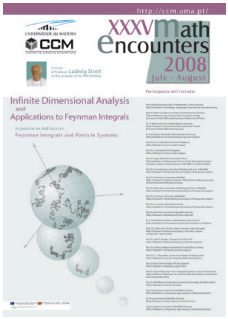
"After concluding in 2000 the degree in Computer Systems and Engineering, I entered the professional world through a tourism sector company, which faced the challenges of the future in an information society, with determination and ambition.
I am currently a technician of aeronautical telecommunications in Nav Portugal, the company in charge of Portugal's air traffic control. Needless to say, rigor and cutting-edge technology are key ingredients which I face at the beginning of every day.
Today keep verifying that the education, knowledge-sharing and the intellectual demand provided by both teachers and students, as well as the familiar environment provided by the University's small dimension, are intimately related to the way I analyze problems, with the quality of the decisions I take, as well as the solutions I seek.
The quality of the infra-structures, the human resources, the proposed lecture contents, the openness to the society through internships and collaborations, as well as the fact of continuously providing post-graduate degrees, allowed me to face the future with confidence.
The success I obtained, I owe it to this excellence institution, nested in the middle of the Atlantic Ocean, proposing the help set a course in the knowledge discovery of many that like myself, with 18 years left high school with a handful of dreams and ambition."

Fátima Teixeira

Mathematics
Statistics Service and Research Support in Funchal General Hospital

"Why the University of Madeira? For many reasons, but the main one was the possibility of staying home, and the advantages that come from that (financial, family, accommodation, environment, etc.). My Mathematics degree (Scientific specialization) opened me many doors in the research area, as well as other equally exciting opportunities.
The greater diversity in terms of degrees provided by our University is of great value for the Region, and if the young generation is given what was given to me, then you can't be wrong: the choice is unquestionably the University of Madeira."

RESEARCH

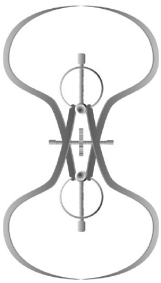


Centro de Ciências Matemáticas

The "Mathematical Sciences Centre" of the University of Madeira, created in 1991, promotes research in Mathematics and its applications through Projects with local and visiting researchers.

Astronomy Group

The Astronomy Group is dedicated to research, teaching and promotion of Astronomy in schools and to the general public. Two main projects are now ongoing: A full time optical observatory to be built in Madeira; The installation of a radio antenna in Madeira, to be connected to the VLBI European radio telescope. The main interests of the Astronomy group are binary stars, extra-galactic astronomy, gravitational lenses and black holes.



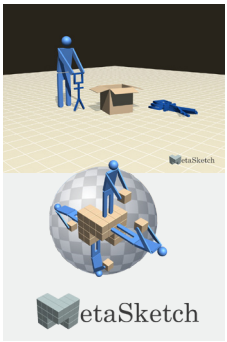
Civil Engineering and Environment Group

The civil Engineering group is composed of researchers who develop scientific research in the fields of structures, hydraulics, water resources, environment and mathematical analysis of civil engineering processes, based on finite element and frontier element models.

Telecommunications and Electronics Engineering Group

The Telecommunications and Electronics Engineering Group has research and development activity in the areas of Optical Fiber Communications, Neural Networks and Electromagnetic Radiation, with strong emphasis in Optical Fiber Sensors, Wireless Sensors, Control Systems and Antennas. The Group integrates several international scientific projects and has published various scientific papers in international journals and conferences.

Laboratory for Usage-Centered Software Engineering



Internationally recognized consulting designer Larry Constantine and his team at LabUSe are conducting research aimed at making technology more useful, more usable, and more accessible by bridging the gap between software engineering and interaction design supporting model-driven design and development creating innovative tools to improve design and development processes.

Contacts

We're always ready to answer your questions!

For more information about our degrees

contact us!

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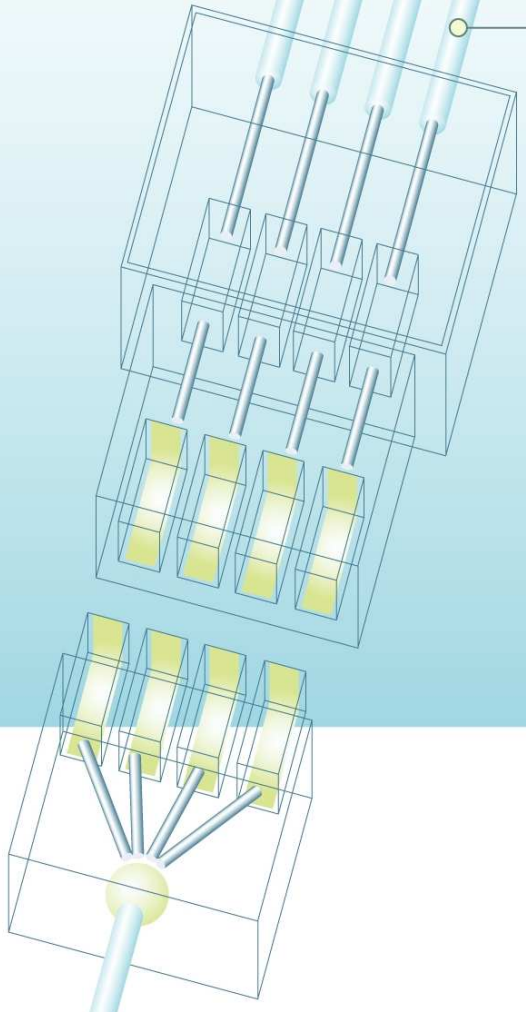

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