Master in Informatics Engineering (MEI)
Oscar Romero
Vice-dean of Postgraduate Studies

info.masters@fib.upc.edu
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FIB:
Facultat d’Informàtica de Barcelona
Universitat Politècnica de Catalunya (UPC-BarcelonaTech)
About UPC

Universitat Politècnica de Catalunya (UPC-BarcelonaTech) is a public higher education and research institution that is specialised in the fields of architecture, science and engineering and one of the leading technical universities in Europe. Every year, more than 6,000 bachelor’s and master’s students and more than 500 doctoral students graduate.

UPC values:

- Social responsibility
- Sustainability
- Equal opportunities
- Cooperation and solidarity
## UPC Main Indicators

### UPC Community
- 23,990 bachelor’s students
- 5,822 master’s degree students
- 2,107 doctoral degree students
- 3,595 lifelong learning students
- 3,523 teaching and research staff members
- 2,074 administrative and service staff
- 70,151 UPC alumni members
- 231 doctoral theses defended
- 2,232 graduates of master’s degrees
- 3,627 graduates of bachelor’s degrees

### Knowledge
- 65 bachelor’s degrees 2022-2023
- 84 master’s programmes 2022-2023
- 45 doctoral programmes 2022-2023
- 275 continuing education programmes
- 19 patents
- 38 technology companies in which the UPC has a shareholding
- 99 scientific and technical awards received
- 2,588 articles published in scientific journals
- €72,734,268 turnover for R&D projects (2021)

### UPC in the world
- 5,283 students participating in educational cooperation agreements with companies
- 18 company chairs
- 13 companies set up last year
- 2,276 companies and other entities that have signed collaboration agreements with the UPC
- 34 international double-degree agreements with 26 universities
- 2,756 students in international mobility programmes
- 1,315 UPC students (outgoing)
- 1,441 mobility students at the UPC (incoming)
- 53 development cooperation projects
- 15 international networks with the UPC as a member
- 4 UNESCO chairs

* 2021-2022 academic year
About FIB

The Facultat d'Informàtica de Barcelona (Barcelona School of Informatics) belongs to UPC and it is the reference centre for Informatics studies since its inception in 1976, and the beginning of the educational activities during 1977-1978.

Throughout these 40 years, the faculty has been in charge of the bachelor’s degree, diploma courses, technical engineering and master degrees and currently the formal qualifications in the field of Computer Science and related subjects.
FIB: Mission

• Provide education on **informatics engineering**
  • Promote the dissemination of information technologies to contribute to society improvements
  • Provide a strong background to our students that will be used throughout their professional life

• Prioritizing lasting concepts
• Promoting **effective working habits and team working**
• Stimulating their students' **ability of self-sufficiency**
FIB: Why?

- It is one of the top 10 computer science schools in Europe. We have the resources, professors and experience to offer a wide range of high-value courses.
- It is a pioneering school at university-level in Informatics in Spain and has been spearheading Catalonia’s progress in the field since 1977. Its contribution to society can clearly be seen in the number of top-quality professionals it has produced, who are required by organizations that seek to innovate and make progress.
- Excellence quality certified by external and independent quality agencies.

Opportunities

- Broaden your knowledge on the latest trends and technologies in informatics.
- Complete your education with a stay at a foreign university.
- Carry out your master's thesis or work placement at a company and get paid for it.
- Study in an international environment.
- Take a double master's degree with a foreign university.
- Collaborate with the many research centres and groups linked to FIB.
- Participate in sports, cultural, international cooperation and leisure activities organized by student associations.
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Highly Skilled Professionals

• Professionals who are equipped to manage ICT projects, installations and organizations that comply with prevailing regulations and meet quality and environmental criteria.
• Entrepreneurs and researchers who are able to carry out projects in an international environment.
• Professionals who have the skills to implement ICTs in all types of companies and organizations.
• Professionals who can lead R&D departments and projects with a substantial research component.
• Graduate employment rate of practically 100% and salaries among the highest for university graduates.
FIB: Quality Indicators

Our masters are externally evaluated and certified with the maximum quality labels by international and national evaluation organisms

• FIB established the processes and mechanisms to implement Internal Quality Assurance System (IAQS). This accreditation process is carried out by quality agencies such as AQU/EQAR and EQANIE and allows supervising the performance of studies and informs the society about its quality.
  • MEI obtained the maximum quality label AQU-Excellence
  • MEI obtained the Euro-Inf master quality label EQANIE

• What aspects do quality agencies highlight about our masters:
  • Programme learning outcomes
  • Teaching staff
  • Learning support services and resources
FIB: Where?

Address
B6 Building at Campus Nord
Jordi Girona street, 1-3
08034 Barcelona

Contact
Email: Info.masters@fib.upc.edu
Web: http://www.fib.upc.edu/

Social Networking
https://www.facebook.com/fib.upc
https://twitter.com/fib_upc
https://www.youtube.com/user/mediafib
https://www.instagram.com/fib.upc/
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Master in Informatics Engineering

Summary
MEI: Master in Informatics Engineering

The master’s degree equips graduates with knowledge and hands-on experience across a wide spectrum of information technology domains: from cloud computing to security and from computer graphics to information systems, with a focus on IT management and leadership.

Graduates become the “Swiss Army knife” of IT in their organizations.

• This degree is equivalent to the former Enginyer en Informàtica
• Accreditations: EQUAINE, AQU-Excellence
• Language: Spanish / Catalan (B2)
  • Some courses are taught in Catalan and some in Spanish
  • Support to Spanish-speaking students to learn basic Catalan to follow the lectures
• 90 ECTS : 1.5 anys – Strong professional orientation
  • 45 Compulsory (36 IT , 9 Management)
  • 15 Elective (3 ECTS on Management)
  • 30 Master thesis
• Industrial Agreements – Curricular Internships, Professional Experience (elective ECTS)
• Complementary courses might be required

https://masters.fib.upc.edu/masters/master-informatics-engineering
**Recommended MEI path:**

<table>
<thead>
<tr>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business &amp; Management (6)</td>
<td>Information Technology (24)</td>
<td></td>
</tr>
<tr>
<td>Business &amp; Management (6)</td>
<td>Information Technology (24)</td>
<td>Master Thesis (ideally internship) (30)</td>
</tr>
</tbody>
</table>

*Note: Not all courses are offered at every semester. Plan well ahead!*
Social and Technological Challenges

- E-Health
- Hardware Design and Acceleration
- Applied Artificial Intelligence
- 3D Gaming Rendering in Real Time
- Big Data and Data Science
- Programming Models and Parallel Exploitation

TECHNOLOGY TRANSFER
RESEARCH + DEVELOPMENT + INNOVATION
Master Thesis: HPC for Deep Learning

- **Title**: Study of Deep Learning Algorithms Scalability in High Performance Computer Infrastructures.
- **Author**: Francesc Sastre Cabot. **Grade**: 10 (MH)
- **Topic**: High Performance Computing and Parallel Techniques to Speed-up Deep Learning
  - Image classification
  - Object Detection, etc.

From 106 hours of training to 12 hours...
Employment Perspectives

• Software Engineering Companies
• Companies in the field of Artificial Intelligence / Data Science
• Internet and Multimedia Security Companies
• Video Games, Virtual and Augmented Reality Companies
• Companies in the Embedded field, Mobile Devices, Industry 4.0, 3D Printers, Computers, etc.
• Sustainable Companies!

+ Training to manage team projects, to start innovation and entrepreneurship projects, study the feasibility of launching a product or create spin-offs... Naturally oriented to become a CIO
Industrial MEI

Internships
Internships

• \textit{Convenis de col·laboració universitat – empresa (CCE)}: https://www.fib.upc.edu/en/companies/industrial-practices

Internships for students become a training activity under the supervision of the Faculty, the goal of which is to apply and complete the academic formation acquired, encouraging the professional skills that prepare for professional activities which facilitate the employment of them.

The framework of these activities is called educational cooperation agreements, regulated by Royal Decree 592/2014 which regulates the external academic practices of college students.
Internships

CCE can be established between companies and FIB

• Curricular Practices:
  • Maximum of 900 hours (without accounting the Master Thesis)
    • For the master thesis, you may account 450 additional hours (i.e., for a total of 1350h)
  • Elective ECTS (minimum 6, maximum 12) [+ Master Thesis ECTS]
  • Master Thesis (Modality B –at a company- or D –at a foreign company-)
    • 30 hours → 1 ECTS

Professional Experience as elective ECTS (via work contract):
  • Previous or during the master
  • 1600 hours per 6 credit
    • Then, proportional
MEI – Industrial Modality

It is the same as MEI (all information from previous slide holds), but a modality thought for people working part-time at a company or in a CCE

• Intensive training academic-professional,
• Focus on project management and team leadership

• Students of this modality will achieve their studies in 2 years with the following dedication:
  • A maximum of 4-5 hours/day dedicated to their studies at FIB,
    • Compact Lecture Schedule: 3 afternoons per week (14:00 to 20:00)
    • The rest of hours are devoted to self-study activities that can be conducted from home
  • Around 5 hours/day dedicated to their formation and work in industry

https://masters.fib.upc.edu/masters/master-informatics-engineering-industrial-modality
# MEI Vs. MEI Industrial Modality

<table>
<thead>
<tr>
<th>MEI</th>
<th>Industrial MEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>ACAP, CSI, SEU, SGI, PEGTI +1,5 ECTS (1 management course)</td>
</tr>
<tr>
<td>S2</td>
<td>VPEI+FPEI, DGSI, ISDCM +7,5 ECTS (3 elective courses)</td>
</tr>
<tr>
<td>S3</td>
<td>Master Thesis</td>
</tr>
<tr>
<td>S4</td>
<td></td>
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</tbody>
</table>

**ECTS (industrial modality)**
- 48 ECTS FIB
- 42 ECTS Industry (25/30h = 1 ECTS)

**Total:** 90 ECTS
Mobility and Internationalisation

Studying Abroad
Mobility and Internationalisation

Plenty of options! **202 universities in 42 countries**
- Study abroad (one or two semesters)
  - Conditions (max ECTS): MEI (30)
  - Mobility programs (many with scholarships)
    - CERN
    - Erasmus+
    - UNITECH
    - Latin America, USA and Canada
    - National Institute of Informatics (NII) Tokyo and Vulcanus in Japan
    - China
- 1 Double degree
- Internship abroad
  - Ever-open calls: Erasmus+, IAESTE, AIESEC, Entrypark
  - Academic institutions
  - Industry
- Other activities (summer schools, short stays...)


Mobility and Internationalisation

https://www.fib.upc.edu/en/mobility

MOVING

Knowing a new university, discovering a new country or improving your language skills are some of the advantages of the mobility programs offered by FIB.

Personal experiences that will allow you to stay in foreign universities and intern at businesses worldwide.

Incoming  Outgoing  Double degrees  International Partnerships
Mobility and Internationalisation

• Mobility calendar: https://www.fib.upc.edu/en/mobility/outgoing/mobility-calendar
Mobility and Internationalisation

- Information Sessions: [https://www.fib.upc.edu/en/mobility/outgoing/information-sessions](https://www.fib.upc.edu/en/mobility/outgoing/information-sessions)

**Mobility information session 2022-2023**

**1st semester**
*Wednesday, 16 November 2022*

In this first session we will inform on the various mobility programs, but we will focus on those whose call is in December-January and on the stays at US universities. Information sessions will be recorded.

*Place: Sala d’actes Manuel Martí Recobir*

- Morning session: 12:15 pm

**2nd semester**
*Wednesday, 15 February 2023*

In this second session we will inform on the various mobility programs, but we will focus on Erasmus+ SICUE and double degree calls. Information sessions will be recorded.

*Place: Sala Agora*

- Morning session: 12:15 pm
- Afternoon session: 15:00 pm

Still have doubts? Contact us at: rel.int@fib.upc.edu
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Enrolment Procedure
Procedure

Interested in one of our masters? This is the procedure to follow

The admission process, step by step

1. Register. Enter your personal and academic details.
2. Pay the €30 pre-enrolment fee to start the process.
3. Check the decision on admission.
4. You must accept the place.
5. Pay €300, which will be deducted from your enrolment fees.
6. Enrol and provide the original documents.

https://www.upc.edu/en/masters/access-admission-enrolment
Important Dates

• **Pre-enrolment**: From 27th February to 26th May 2023

• Two (three) admission periods:
  • First period:
    • Deadline to apply: 21st April 2023
    • Tentative admission notification: 28th April 2023
  • Second period:
    • Deadline to apply: 26th May 2023
    • Tentative admission notification: 2nd June 2023
  • Third period:
    • Not guaranteed, only if seats available
    • Tentative deadline: 30th June
    • Tentative admission notification: 7th July

• Check the specific website of each master to know about its admission criteria: masters.fib.upc.edu
Pre-enrolment

• Start the procedure from the masters.fib.upc.edu website. Look for your favourite master, scroll down and look for the pre-enrolment button as shown below

• To pre-enrol follow the instructions
  • Provide the required documentation to evaluate your admission
  • Pay 30,21€ (tax) – Important: the button to pay does not appear until you enter all required fields

You can learn more about the pre-enrolment process here: https://www.upc.edu/en/masters/access-admission-enrolment/pre-enrolment
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Prices

Prices 2022/23 for European Union applicants
• MEI: 18,46€ / ECTS

Prices 2022/23 for Non-European Union applicants
• MEI: 43,23€ / ECTS

Note: prices for 2023/2024 will be published in July. Once published, UPC list the prices here: https://www.upc.edu/en/masters/fees-grants
• Perspectives to be reduced up to 17,69€ / ECTS for European Union applicants at mid-term
More Information

• General:
  • Information: info.masters@fib.upc.edu
  • Specific academic questions: Òscar Romero (vd.postgrau@fib.upc.edu)

• Websites:
  • Regular modality: https://masters.fib.upc.edu/masters/master-informatics-engineering
  • Industrial modality: https://masters.fib.upc.edu/masters/master-informatics-engineering-industrial-modality
  • Academic calendars: https://www.fib.upc.edu/en/studies/academic-management/academic-calendars
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Grants and Aids

• Find all details at: https://masters.fib.upc.edu/grants-and-financial-aid
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Social Life

- FIB promotes social activities: [https://www.fib.upc.edu/en/fib/university-life](https://www.fib.upc.edu/en/fib/university-life)
**Events**

**Eleventh European Big Data Management & Analytics Summer School (eBISS 2023)**

July 3 - July 7, 2023  
Barcelona, Spain

**Top Rosies Talent**

**Hackathon**

Per la Salut Cardiovascular

16-17-18 desembre 2022

**REPTE 2023**

Design Thinking

Com transformes l’experiència de conduir un vehicle en 5 anys?

Conquereix la SDG que revolucionarà l’automàtica de conducció de CUPRA, avançant el model de seguretat.

**A new age in automation technology**

18-20 abril 2023 | Fira de Barcelona

www.advancedfactories.com
Services

- Equal opportunities: [https://igualtat.upc.edu/](https://igualtat.upc.edu/)
  - Bullying
  - Gender equality
  - Transgender community
- Inclusion: [https://inclusio.upc.edu/](https://inclusio.upc.edu/)
  - Learning needs
  - Teaching support
  - Psychologic orientation
- Solidarity and cooperation: [https://ccd.upc.edu/](https://ccd.upc.edu/)
- Learning languages: [https://www.upc.edu/slt/en/reception/languages-upc](https://www.upc.edu/slt/en/reception/languages-upc)
- Cultural reception: [https://www.upc.edu/slt/en/reception](https://www.upc.edu/slt/en/reception)
- Libraries
- Sports Club
- UPCArts

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FAQs

• If I’m finishing my undergraduate studies this year, can I apply to a master?
  Of course! You can be admitted. You only need to finish on time your registration in September. Indeed, if you finalize your bachelor thesis in October you can yet be admitted in our masters. Contact us for more details.

• Can I change to MEI industrial modality if I started the regular one?
  Yes. Indeed, the industrial modality is thought to help students accommodate their studies with their jobs / internships

• What about next academic course and covid-19?
  Our objective are 100% face-to-face lectures. If not possible due to public health recommendations, we will maximise face-to-face / hybrid lectures.

• For new incoming students… what about enrolment?
  Registration has been online in the last courses. If you require to hand in some documentation you can do later before the lectures start
Do you have further questions? Do not hesitate to contact us at info.masters@fib.upc.edu