EIT DIGITAL MASTER SCHOOL

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What is EIT Digital

- Promotes Innovation & Interpreneurship
  - Goal: to accelerate the growth of promising digital technology startups and scaleups by helping them secure target customers and raise capital.

Digital Industry
The Digital Industry Action Line covers the seamless process from production to retail and the related supporting functions such as logistics and consumer engagement...

Digital Cities
The Digital Cities Action Line leverages the digital transformation of the cities through centralised, participative and collaborative interactions between city actors: government, city service providers, industry, and citizens...

Digital Wellbeing
Slowing down the growth of healthcare expenses while maintaining the quality of life during the working life and at higher age is the focus of the Digital Wellbeing Action Line, through prevention of and coping with mental and physical conditions...

Digital Infrastructure
The Digital Infrastructure Action Line is the core enabler of the digital transformation by providing secure, robust, responsive and intelligent communications and computation facilities...

Digital Finance
EIT Digital set up the Digital Finance Action Line in 2018 to support the creation of innovative tools and services to help the finance industry adapt to the challenges it currently faces. Robust yet agile and tailored financial services are essential for our economies, citizens and enterprises.
EIT Digital Master School

https://masterschool.eitdigital.eu/
How is EIT Digital Master School different? [ Double Degree ]

- 2-years (24 months) **double degree Master** programme in two different universities of the EIT Digital Consortium
- The EIT Digital Consortium is composed by 18 universities placed all over Europe
The main feature of the MS programme is an Innovation & Entrepreneurship (I&E) Minor:

- 30 ECTS = 24 first year + 6 second year

Mobility:
- Two years mobility in entry and exit universities + internship
- Mandatory two-weeks summer school between year 1 and 2
- Mandatory kick-off event for entry students (Kick Off 2018 will be held in Paris)

Students completing the EIT Digital MS receive:
- double degree from both universities in the individual study plan
- EIT Digital Label certificate, documenting the specific EIT Digital learning outcomes
How is EIT Digital Master School different?
[ EIT Digital Summer Programme ]
by Elena Bortolotti

• Offered by EIT Digital. Between year 1 and 2 (required)
• Part of the I&E Minor (in terms of ECTS)
• Hands-on real business study cases developed together with real business and technical mentors
• Themes differ among Summer Schools
• Costs for EIT Digital MS students covered by the Consortium
• Students will be able to interact with stakeholders such as companies, business consultants, market research experts, technology experts, users, etc.
• For further details please check this page: https://masterschool.eitdigital.eu/education/summer-schools/
  Contents will be soon updated with the complete 2018 Summer Schools list
Programmes (Technical Major) & Partners

- Autonomous Systems (AUS)
- Cloud Computing and Services (CCS)
- Cyber Security (CSE)
- Data Science (DSC)
- Embedded Systems (ES)
- Human Computer Interaction and Design (HCID)
- Internet Technology and Architecture (ITA)
- Visual Computing and Communication (VCC)
Technical Majors @ UniTrento

As entry point – year 1

• Autonomous Systems (AUS)
• Cyber Security (CSE)
• Internet Technology and Architecture (ITA)
• Visual Computing and Communication (VCC)

As exit point – year 2

• Autonomous Systems (AUS)
• Cyber Security (CSE)
• Internet Technology and Architecture (ITA)
• Visual Computing and Communication (VCC)
• Embedded Systems (ES)
• Human Computer Interaction and Design (HCID)
I&E Courses @ UniTrento

Year 1 (entry)

• Innovation and Entrepreneurship Basic
  • 6 ECTS
• Business Development Laboratory
  • 9 ECTS
• ICT Innovation
  • 9 ECTS
  (incl. Summer School)

Year 2 (exit)

• Innovation and Entrepreneurship Studies in ICT
  • 6 ECTS
## Courses

### YEAR 1

<table>
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<th>Course</th>
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### YEAR 2

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<tr>
<td>Technical</td>
<td>24</td>
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<td>Thesis/Internship</td>
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<td><strong>Total</strong></td>
<td><strong>60</strong></td>
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**Total: 60 ECTS**
EIT Digital MS
Call for Applications
Applications

• The application process is divided into 2 periods:
  • Period 1 (15 November 2017 - 1 February 2018): Open to EU/EEA/CH/ Non-EU citizens
  • **Period 2 (15 February 2018 - 15 April 2018)**: Open to EU/EEA/CH/Non-EU citizens. Please note that this application period is not recommended for applicants who require a visa due to time constraints. Also, note that all study trajectories may not be available during application period 2.

• From May to September/December the EIT Digital MS programme is accessible through the **local recruitment procedure**. UniTrento students have a direct access to the EIT Digital curriculum implemented at the University of Trento (track ICT Innovation) and all activities dedicated to EIT Digital MS students and can then apply to MS dedicated call for application during the first term. Once admitted to the programme students will be able to benefit of their EIT Digital status (tuition waiver, scholarship etc.) starting from the next academic year.
Applications

Standard Call for Application
(open until April 15, 2018)

• Admission to the programme according to key dates & deadlines on the MS website

• EIT Digital benefits starting from year 1

• All technical majors offered by the EIT Digital MS and all mobilities are available*

*some destinations might not be available during period 2 due to the maximum number of students

Local Recruitment procedure
(May to September 2018)

• Entry year at UniTrento, choosing among 4 technical majors offered: AUS, CSE, ITA, VCC

• Standard student at UniTrento → Opera benefits

• Application within December 2018 on the MS portal

• Admission during Spring 2019

• EIT Digital benefits starting from year 2
Key Dates and Deadlines

• Period 1 - closed

• **Period 2 will be open until April 15, 2018**
  to EU/EEA/CH/Non-EU citizens
  Please note that this application period is not recommended for applicants who require a visa due to time constraints

• By the end of May letters of acceptance will be sent out

• June 10, 2018 is the deadline for replying to the study offer
Admission Requirements

• Proof of English proficiency
• Bachelor degree certificate/diploma or a statement certifying that you are in the final year of your studies and giving your expected completion date
• Final transcript of records certificates, Italian & English versions
• CV including details on academic and professional career
• Passport or personal ID
• A letter of motivation in which you prove your innovative potential

• Please note that there might be more detailed requirements for each programme and university according to thematic areas and local rules.
All specific requirements can be found at the following link:
https://masterschool.eitdigital.eu/application/admission-requirements/
Admission Requirements

• The number of seats available at each university is limited for each programme and the application process is highly competitive.

• Students who will apply between May and September through the local recruitment procedure will need to meet EIT Digital MS requirements at the time of their application on the portal.

• All admission requirements can be checked [here](#).

• All documents required are available [here](#).
ICT Days @ EIT Digital Trento Node

• March 13, 2018 – EIT Digital & ICT Days:
  • Presentation of the EIT Digital Master and Doctoral Schools
  • Innovation Talk by Wilfried Dron (EIT Digital Alumni, CEO and founder of Wiseblatt)

• Detailed presentation of the Trento Node and the agenda of the event are available here

• EIT Digital | Trento Node
  Via Sommarive 18 - Northern building, 1st floor
  38123 Povo (Trento)

• Please note that in order to participate you will need to register at the following link
Links & Contacts

• EIT Digital Master School programme: https://masterschool.eitdigital.eu/
• EIT Digital Summer Schools: https://www.eitdigital.eu/eit-digital-academy/summer-schools/
• EIT Digital Italian Node – Trento CLC: https://www.eitdigital.eu/about-us/locations/trento-node/visit/

EIT Digital @ UniTrento:
For further information and appointments please send an email to eitmaster@unitn.it specifying the technical major you are interested in
Internet Technology and Architecture (ITA)
(by Prof. Fabrizio Granelli)
Internet Technology and Architecture (ITA)

• Potential employers include large corporations as well as small enterprises, working on the design, engineering and production of communication components, devices and systems. Graduates easily find work as developers, network planners, consultants and ICT managers to plan, manage and maintain large networked computer systems that support modern distributed enterprise systems.

• Who can apply:
  • Bachelor’s holders in Computer Science, Information Technology, Mathematics, Statistics

• UniTrento is both entry and exit point for this technical major, offering a specialization in Software Defined Networking

• Programme coordinator at UniTrento: Fabrizio Granelli, fabrizio.granelli@unitn.it
Internet Technology and Architecture (ITA)

• Year 1 at UniTrento - mandatory technical courses (a.y. 2017-18):
  • Advanced Network Modeling and Design – 9 ECTS
  • Design of Networks and Communication Systems – 6 ECTS
  • Mobile and Satellite Communications – 9 ECTS
  • Wireless Networks – 6 ECTS
  • Communication Systems – 6 ECTS

• Year 1 programme (60 ECTS) will be completed with 24 ECTS from the I&E Minor
Year 2 – track: Software Defined Networking

The objective of the track is to offer a complete and effective vision of the technologies for the Future Internet, focusing on virtualization and programmability of the networking infrastructure.

Mandatory technical courses (a.y. 2017-18):
- Radar and 5G Systems – 9 ECTS
- Project course on “Software Defined Networking” – 3 ECTS

Selected elective courses - 12 ECTS (a.y. 2017-18):
- Project course on “Software for Mobile” – 3 / 6 ECTS
- Design of Networks and Communication Systems – 6 ECTS
- Network Modeling and Design – 6 ECTS
- Wireless Networks – 6 ECTS
- Data Hiding – 6 ECTS
- Digital Signal Processing – 9 ECTS
Visual Computing and Communication (VCC)
(by Prof. Nicola Conci)
Visual Computing and Communication (VCC)

• Visual Computing and Communication focuses on the acquisition, processing, analysis, transmission, and rendering of visual information, including aspects of learning and decision making

• Interdisciplinary programme between computer science and information engineering where students can be active in the areas of image processing and communication, image analysis, computer vision, computer graphics, augmented reality, visualisation, visual analytics etc.

• VCC graduates combine technological and business aspects to create products and services for our ocular-centric world

• Who can apply:
  • Bachelor’s holders in Computer Science, Information Technology, Mathematics, Statistics or Electrical Engineering (with a specialisation in information technology)
  • UniTrento is both entry and exit point for this technical major, offering a specialization in Computer Vision and Multimedia Analysis
  • Programme coordinator at UniTrento: Nicola Conci, nicola.conci@unitn.it
• Year 1 at UniTrento - mandatory technical courses (a.y. 2017-18):
  • Advanced Network Modeling and Design – 9 ECTS
  • Digital Signal Processing – 9 ECTS
  • Recognition Systems – 9 ECTS
  • Multimedia Data Security – 6 ECTS
  • Project course (3 ECTS) on:
    • Computer Graphics
    • Service Design and Engineering

• Year 1 programme (60 ECTS) will be completed with 24 ECTS from the I&E Minor
Visual Computing and Communication (VCC)

• Year 2 – track: Computer Vision and Multimedia Analysis
• The objective of the track is to bridge the gap between Signal Processing technologies applied to multimedia data, and the relevant fields of Media Analysis and Pattern Recognition and Knowledge Representation that allow associating a semantic to media objects
• Selected technical courses (a.y. 2017-18):
  • Computer Vision – 6 ECTS
  • Project course on “Media Retrieval” – 6 ECTS
  • Big Data and Social Networks – 6 ECTS
  • Knowledge and Data Integration – 6 ECTS
Specializations

TU Delft - Visual Analytics and pattern recognition
KTH - Mobile and visual computing
Aalto - Web-based applications
BME - Networked media services and applications
Autonomous Systems (AUS)
(by Prof. Daniele Fontanelli)
Autonomous Systems (AUS)

• AUS is a combination of Computer Science and Electronic Engineering. During the programme, students will gain new skills in both areas. In Computer Science, relevant fields include Internet of Things (IoT), machine learning, artificial intelligence and robot vision. In Electronic Engineering, relevant fields are automation, control, embedded systems and communications.

• Who can apply:
  • Bachelor’s holders in Electrical Engineering / Electronics, Computer Engineering, Computer Science, Information Technology or Industrial Engineering. Students should have basic competence in programming, data structures, algorithms and mathematics including calculus, algebra, and mathematical statistics.

• UniTrento is both entry and exit point for this technical major, offering a specialization in Real-time Perception, Decision and Control for Autonomous Driving

• Programme lead and coordinator at UniTrento: Daniele Fontanelli, daniele.fontanelli@unitn.it
Autonomous Systems (AUS)

AUS Consortium partners

• Royal Institute of Technology (KTH), Sweden – entry/exit
• Aalto University (Aalto), Finland – entry/exit
• Technical University Berlin (TUB), Germany – entry/exit
• University of Trento (UniTN), Italy – entry/exit
• EURECOM, France – exit
• Eötvös Lorand University (ELTE), Hungary – exit
**Autonomous Systems (AUS)**

- Year 1 at UniTrento - Technical Courses (a.y. 2018-19):
  - Robotic Perception and Action – 9 ECTS
  - Industrial Robotics – 6 ECTS
  - Modeling and Simulation of Mechatronic Systems – 9 ECTS
  - Elective courses – 12 ECTS

- Year 1 programme (60 ECTS) will be completed with 24 ECTS from the I&E Minor
Autonomous Systems (AUS)

• Year 2 – track: *Real-time Perception, Decision and Control for Autonomous Driving*

• The specialisation is offered by the Department of Industrial Engineering and the Department of Information Engineering and Computer Science. DII provides a very broad expertise in many areas related to Industrial Engineering, Industrial and Service Robotics, Dynamics, Modelling and Control of Vehicles, while DISI offers a wide knowledge on Software Engineering, AI, Decision Making and Computer Science.

• Technical courses (a.y. 2019-20):
  • Distributed Systems for Measurement and Automation – 6 ECTS
  • Laboratory of Applied Robotics – 6 ECTS
  • Elective courses – 12 ECTS
Embedded Systems (ES)
(by Prof. Luigi Palopoli)
Embedded Systems (ES)

• Graduates of the ES programme become world-class specialists and innovators in the field of embedded systems, capable of developing smart embedded solutions for new challenges in domains of Cyber-Physical Systems (CPS) and the Internet-of-Things (IoT). They are also capable of taking on leading management roles in embedded systems and more general ICT companies.

• Who can apply:
  • Bachelor’s holders in Computer Science, Information Technology, Mathematics, Statistics, Electronic Engineering.

• Entry universities:
  • Eindhoven University of Technology (TU/e), Netherlands
  • Royal Institute of Technology (KTH), Sweden
  • Technical University of Berlin (TUB), Germany

• Programme coordinator at UniTrento: Luigi Palopoli, luigi.palopoli@unitn.it
• UniTrento offers ES technical major only as exit point, with two different tracks:

• Track 1: Real-Time Embedded Systems
  • Specialisation mandatory courses (24 ECTS):
    • Laboratory of Applied Robotics (6 ECTS)
    • Real-Time Operating Systems (6 ECTS)
    • Laboratory of Sensor Networks (6 ECTS)
    • Advanced Computing Architectures (6 ECTS)
  • Specialisation electives:
    • Distributed Algorithms (6 ECTS)
    • Network Security (6 ECTS)
    • Nomadic Communication (6 ECTS)
    • Formal Methods (12 ECTS)
    • Simulation and Performance Evaluation (6 ECTS)
    • Research Project in Embedded Systems (12 ECTS)
Embedded Systems (ES)

• Track 2: Methodologies for Cyber-Physical Systems Design
  • Specialisation mandatory courses (18 ECTS):
    • Capstone Project Module (18 ECTS) which includes an industry-driven multidisciplinary design project (12 ECTS) and a project-oriented course (6 ECTS) selected from: Laboratory of Applied Robotics, Digital Image Processing, HW/SW Co-Design, Laboratory of Sensor Networks
  • Specialisation electives (min. 6 ECTS):
    • Real-Time Operating Systems (6 ECTS)
    • Advanced Computer Architectures (6 ECTS)
    • Simulation and Performance Evaluation (6 ECTS)
Human Computer Interaction and Design (HCID)
(by Elena Bortolotti)
Human Computer Interaction and Design (HCID)

• HCID graduates are valuable in open innovation settings where different aspects (market, users, social aspects, media technologies) come together. They can choose to work within companies that provide value-added products and services, such as game companies, e-learning, web developers, and entertainment

• Who can apply:
  • Bachelor’s holders in Computer Science and Electronic Engineering; but also Industrial Design, Social Sciences, Cognitive Sciences (incl. Psychology) provided they have a proven track record in programming, web design and statistics, such as through programming and mathematics courses at engineering departments

• Entry universities:
  • Aalto University (Aalto), KTH Royal Institute of Technology (KTH), Université Paris-Sud (UPS), University of Twente (UT), Universidad Politecnica de Madrid (UPM), Polytechnic University of Milan (Polimi)

• Programme coordinator at UniTrento: Antonella De Angeli, antonella.deangeli@unitn.it
Human Computer Interaction and Design (HCID)

• HCID exit point at UniTrento – track Cognitive Interaction:
• Specialization elective courses (a.y. 2017-18):
  • Design experience: Mod.1 User-centred design
  • Design experience: Mod.2 Participatory design
  • User experience / HCI
  • Big Data and Social Networks
  • Computer Vision and Multimedia Analysis
  • E-learning
  • Knowledge and Data Integration
  • Laboratory for Applied Robotics
  • Prototyping interactive systems
  • Visual Design (+lab)
  • Affective computing
  • Data Mining
Cyber Security (CSE)  
(by Prof. Bruno Crispo)
Cyber Security (CSE)

• The programme focuses on the study of the design, development and evaluation of secure computer systems, which are also capable of ensuring privacy for future ICT systems. The aim is to provide students with an understanding of the concepts and technologies for achieving confidentiality, integrity, authenticity, and privacy protection for information processed across networks.

• Who can apply:
  • Bachelor's degree holders in Computer Science and Information Technology as well as Mathematics, Statistics or Electrical Engineering, provided they demonstrate basic knowledge of programming and information technology.

• Entry universities:
  • Universities of Rennes 1 (UR1), Trento (UNITN), Turku (UTU), Twente (UT)

Programme coordinator at UniTrento: Prof. Bruno Crispo, bruno.crispo@unitn.it
Cyber Security (CSE)

• Year 1 at UniTrento - mandatory technical courses (a.y. 2017-18):
  • Cryptography (6 ECTS)
  • Cyber Security Risk Assessment (6 ECTS)
  • Security testing (6 ECTS)
  • Network Security (6 ECTS)
  • Privacy and IPR (6 ECTS)

• Year 1 programme (60 ECTS) will be completed with 24 ECTS from the I&E Minor
Cyber Security (CSE)

- Year 2: exit point at UniTrento – track Applied Security:
  - Specialization elective courses (a.y. 2017-18):
    - Multimedia Data Security (6 ECTS)
    - Offensive Technologies (12 ECTS)
    - Project course (6 ECTS)
    - Research course (12 ECTS)
    - Security Testing (6 ECTS)
    - Organizational Information Systems (6 ECTS)
    - Distributed systems 2 (6 ECTS)
    - Privacy and Intellectual Property Rights (6 ECTS)
Thank You!