



Fakultät für Ingenieurwesen
Facoltà di Ingegneria
Faculty of Engineering

Master in Smart Technologies for Sports and Health

2025/26



At a glance

Master class: LM-32
ECTS credits: 120
Duration of the course: 2 years
Courses will be taught in English
Places available: 18 EU + 7 non-EU
Campus: NOI Techpark Bozen-Bolzano
Tuition fees: ca. € 1200 per year

Course description

This full-time master programme trains engineers able to design intelligent embedded systems and cognitive robotic systems for sports and health applications. Students will benefit from an interdisciplinary education, including courses in computer engineering, biotechnology and biomedical sciences, electrical engineering, and automation and robotics, to address key societal challenges in sports and health. This programme is grounded in South Tyrol while maintaining a strong international outlook. This is guaranteed by being taught entirely in English with teaching staff as well as students coming from Italy, Europe and the entire world.

Courses combine theory and engineering practice. Lecture halls are equipped with modern technology to enable hybrid and distance learning, and e-learning tools are used to complement and support lectures. Laboratory and project activities are seamlessly integrated into the programme and students have access to state-of-the-art software tools and equipment in the various laboratories associated with the programme at our **Campus NOI Techpark**.

Courses are taught by leading research professors from unibz, supported by experts from relevant industries. In-class learning is further enriched by experiential learning activities that build bridges between courses and between academia and industry. Upon graduation, students can take the Italian state examination for the profession of Ingegnere dell'informazione (Information Engineer) and after passing this examination to join the Ordine degli Ingegneri (Italian Chamber of Engineers) - Section A.

Online Info Session

We offer online information sessions in the coming months during which the master programme will be presented and where interested students can address their questions to professors and students. The Info Sessions take place on the following days:

- Thursday, 6 March 2025, 17:00 (CET): [register here](#)
- Thursday, 3 April 2025, 17:00 (CET): [register here](#)

Structure of the course

In the first part of the programme (45 ECTS credits), teaching activities are offered that provide targeted knowledge in the fields of computer engineering, bioengineering and biomedical sciences. The aim of these activities is to homogenise knowledge and to familiarise students with the modern and advanced methods required for the specialisation activities.

The second part (52 ECTS credits) is dedicated to deepening students' knowledge in embedded systems and cognitive robotic systems, and to attending elective courses of up to 12 ECTS credits. Teaching activities in this second phase focus on experimental laboratory activities and experiential learning embedded in the respective courses to develop the students' analytical and design skills. Through these activities, students will also encounter companies active in the field. Special attention is also paid to the development of soft skills such as teamwork and communication skills.

The third and final part (20 ECTS credits) is dedicated to researching for and writing the

master thesis. Students have the option of writing their master thesis in house at unibz or in cooperation with local or international companies.

Our Facilities

At the NOI Techpark Bozen-Bolzano Campus students will have access to a variety of state-of-the-art laboratories, where practical activities and lectures take place. Students have the opportunity to learn in a modern environment, living a hands-on learning experience that prepares them for their future careers in different fields.

Electronics engineering:

- Flexible Electronics Lab
- Media Interaction Lab
- Sensing Technologies Lab
- Photonics and Optoelectronics Lab

Automation and Robotics engineering:

- Human-Centered Technologies and Machine Intelligence Lab
- FIRST Field Robotics South-Tyrol Lab

Computer Engineering:

- Collective Design and Ideation Lab
- Physical Computing Lab
- User Experience Lab
- Data Driven Artificial Intelligence Lab
- Cybersecurity Laboratory

Study Plan

1st Year

- 6 CP Foundations of physical activity and health
- 9 CP Artificial intelligence and machine learning
- 12 CP Humans and systems
 - 6 CP M-1 Human-system interaction
 - 6 CP M-2 Sports and health behaviour and system recommendation
- 12 CP Introduction to bioengineering
 - 6 CP M-1 Bioengineering
 - 6 CP M-2 Biosignal processing
- 12 CP Sensors and electronic systems for sports and health
 - 6 CP M-1 Sensors for biosignals
 - 6 CP M-2 Electronic systems for sports and health
- 12 CP Robotic systems for sports and health
 - 6 CP M-1 Cognitive robotics
 - 6 CP M-2 Socially-aware robot assistants

2nd year

- 6 CP Embedded and software systems
- 6 CP Security and privacy in connected sports and health systems
 - Specialisation topics (two of the following):
 - 6 CP Human biomechanics for physical assistive robots
 - 6 CP Wearable electronics
 - 6 CP Materials and technologies for biomimetic systems
 - 6 CP Bionic limbs
- 12 CP Free choice
- 1 CP Seminar
- 20 CP Master Thesis

Exchange programmes and internships

Currently we offer exchange programmes with partner universities all over the world and we are part of a large network of collaboration with employers in Italy and abroad where you can undertake an **optional internship** with a maximum of 300 hours.

Career Opportunities

Our graduates will be able to design, implement and validate embedded systems and cognitive robotic systems for sport and health, mastering technologies across hardware and software

layers. They will integrate sensors and actuators with embedded artificial intelligence, address security and privacy, and interact with users based on human factors principles to enhance physical and mental health as well as performance. The programme provides students with the tools for a career as an engineer or consultant in companies that provide products and services for health, rehabilitation, fitness and sport, or as a researcher in public and private research institutions working in the field of information technology for sport and health.

Well prepared and ready for the job market. On the website of **AlmaLaurea** you can check statistical data about graduates' satisfaction and their employability.



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Application and Admission

You can find all you need to know in order to apply and gain admission to this study programme by browsing through the information below.

Subject to accreditation of the Ministry.

Deadlines and important dates

Early Bird Application

Application: 03/03 - 06/05/2025 (by noon local time)

Language exams (online): 17/03/2025 (registration: 03 – 09/03/2025) and 16 -17 - 22 - 23/04/2025 (registration: 24/03 – 08/04/2025)

Publication of ranking lists: by 27/05/2025

Payment of the 1st instalment of the tuition fees: by 05/06/2025 (by noon local time)

Enrolment: from 11/07 - 14/10/2025 (by noon local time)

Late Application (only for EU citizens)

Application: 28/05 - 09/07/2025 (by noon local time)

Language exams (online): 23 - 27/06/2025 (registration: 28/05 – 15/06/2025)

Publication of ranking lists: by 29/07/2025

Payment of the 1st instalment of the tuition fees: by 05/08/2025 (by noon local time)

Enrolment: from publication of the ranking list until 14/10/2025 (by noon local time)

Additional Application Session (only for EU citizens)

The faculty can open additional application sessions for single study programmes in September if there are available places. More information on additional sessions will be published in due course.

Preparatory courses and Freshers Days

Freshers Days: 29 - 30/09/2025

1st semester

Classes: 29/09 - 23/12/2025

Holidays: 24/12/2025 - 06/01/2026

Classes: 07/01 - 24/01/2026

Exams: 26/01 - 21/02/2026

2nd semester

Classes: 02/03 - 02/04/2026

Holidays: 03 - 06/04/2026

Classes: 07/04 - 13/06/2026

Exams: 15/06 - 11/07/2026

Autumn session

Exams: 24/08 - 26/09/2026

Available places

EU citizens and citizens given parity of treatment

Early Bird Application: 10

Late Application: 8

Non-EU citizens (living abroad)

Early Bird Application: 7

The programme will only be offered if a minimum of 12 newly enrolled students is reached.

Entry requirements

In order to gain admission you need one of the following admission titles:

- a bachelor degree or an equivalent qualification according to the previous regulations obtained in Italy;
- an equivalent qualification obtained abroad.

The following curricular requirements obtained through bachelor degrees, master degrees, or single subject courses:

- at least 36 ECTS credits in scientific-disciplinary sectors
 - INFO-01/A (ex INF/01) - Computer Science
 - IINF-05/A (ex ING-INF/05) - Information Processing Systems
 - IINF-01/A (ex ING-INF/01) - Electronic Engineering
 - IINF-04/A (ex ING-INF/04) - Systems and Control Engineering
 - IIND-02/A (ex ING-IND/13) - Applied Mechanics
 - IIND-08/A (ex ING-IND/32) - Power Electronic Converters, Electrical Machines and Drives
 - IIET-01/A (ex ING-IND/31) - Electrical Engineering
- at least 18 ECTS credits in
 - MATH-01/A (ex MAT/01) - Mathematical Logic
 - MATH-02/A (ex MAT/02) - Algebra
 - MATH-02/B (ex MAT/03) - Geometry
 - MATH-03/A (ex MAT/05) - Mathematical Analysis
 - MATH-03/B (ex MAT/06) - Probability and Mathematical Statistics

- MATH-04/A (ex MAT/07) - Mathematical Physics
- MATH-05/A (ex MAT/08) - Numerical Analysis
- MATH-06/A (ex MAT/09) - Operational Research
- PHYS-01/A (ex FIS/01 and FIS/04) - Experimental Physics of Fundamental Interactions and Applications
- PHYS-02/A (ex FIS/02 and FIS/04) - Theoretical Physics of Fundamental Interactions, Models, Mathematical Methods and Applications
- PHYS-03/A (ex FIS/01 and FIS/03) - Experimental Physics of Matter and Applications
- PHYS-04/A (ex FIS/02 and FIS/03) - Theoretical Physics of Matter, Models, Mathematical Methods and Applications

For candidates with a qualification obtained abroad the verification of the curricular requirements is based on the specific contents of the educational activities.

In addition to the entry requirements, candidates need to possess

an adequate personal preparation with a mark average of at least 24/30 in previous university studies, in case of a lower average the commission will decide about the adequacy of the candidate on an interview

Knowledge of the teaching level (at least B2 level of the European reference

If you have not yet graduated at the time of application:

You can apply if you have acquired at least 120 credit points (ECTS). In this case you will be admitted conditionally. You will have to submit your diploma by the enrolment deadline.

If you have not yet graduated at the time of application:

You can apply if you have acquired at least 120 credit points (ECTS). In this case you will be admitted conditionally. You will have to submit your diploma by the enrolment deadline.

If you graduate after the enrolment deadline:

You cannot enrol and you will lose your place, which will be offered to the subsequent applicant in the ranking list. In this case you should not pay the tuition fees to secure your admission. You will be able to submit a late enrolment request and, only if there still are available places, you can enrol by 13 December 2024.

To be admitted you must fulfil the language requirements indicated in the section “Language requirements”.

According to national regulations, simultaneous enrolment in a maximum of 2 programmes is possible (however, the two programmes must not belong to the same class, e.g., LM-18/LM-18 and must differ for at least 2/3 of the course contents).

Language requirements

The official teaching language is English. Therefore, the following language requirements apply, otherwise you will be excluded from the admission procedure:

Entry level (to gain admission)

English: B2

The levels of the Common European Framework of Reference apply.

You can demonstrate your language proficiency in the application portal (in the section “upload language certificates” and/or “enrol for language exams”) after you have created an application in the section “create/manage applications”.

- In case your final certificate has been awarded by an **Italian** public institution, you need to submit a self-declaration.
- In case your final certificate has been awarded by a **foreign** public institution, you need to upload diploma scanned copy of the original.

You can demonstrate language proficiency through:

1. **the main teaching language in your final high school year**, if English (recognised as C1)
Foreign qualifications: If the main teaching language is not clearly stated on your high school diploma, please also upload a letter/document issued by your high school stating the medium of instruction.
2. **a bachelor or master degree** in English (recognised as C1). unibz graduates must upload the language certificates obtained and/or declare that they have passed language exams at the unibz Language Centre (B2, B2+ or C1). **Foreign qualifications:** If the teaching language is not clearly stated on your University degree, please also upload a letter/document issued by your University stating the medium of instruction during your studies.
3. **a recognised language certificate** (see the list of recognised certificates) If you cannot upload the certificates, you can send them by e-mail as PDF files or deliver them in person to the Language Centre by the application deadline (see “Deadlines” section).
4. **language exams organised by the unibz Language Centre.** You can register for these exams online through the application portal (in the section “enrol for language exams”) after you have filled out your application in the section “create/manage applications”. The registration periods are indicated in the “Deadlines” section. If you start your application outside a language exams registration period, you must return to the portal during one of the periods indicated above in order to register for an exam. Information regarding the structure of the language proficiency exams, their duration, their administration, and typical processing time for the publication of the results can be found on the following webpage.

For information on studying in three languages also visit the following page.

Online application

Your application must be submitted online through the Application Portal. The deadlines are indicated in the “Deadlines” section.

- You need to create an account and upload a valid ID card or passport (front/back). Please note: if your document is invalid, incomplete or unreadable, you will be excluded from the admission procedure;
- Fill in the online form and upload the attachments listed under “Admission procedure”;
- If you gained your qualification abroad, you must also upload the diploma of your

qualification: if you are not yet in possession of the diploma, you'll need to upload it upon enrolment;

- Complete and submit the online application by the deadline. Once the application has been sent, it cannot be modified. Filled-in forms which have not been sent correctly will not be taken into consideration.

Please note: Mendacious declarations will be criminally prosecuted and will result in the automatic exclusion from the ranking list.

EU-Citizens and equivalent

You might apply for more than one study programme. If you are excluded in the first session, you might apply again in the second one.

Considered as equivalent are:

1. Citizens from Norway, Iceland, Liechtenstein, Switzerland, San Marino and the Vatican City State;
2. Non-EU citizens with a valid permit to stay in Italy (see article 39, paragraph 5 of decree no. 286 of 25.07.1998: "**permesso di soggiorno**" (residence permit) for work, family reasons, political or humanitarian asylum, religious reasons). In this case, you apply directly to the University as described above and must submit a copy of your valid permit to stay. A permit to stay for study reasons or a visa for tourism is **not valid**. If the permit has expired, you must attach a renewal request. **Please note** that if you do not upload the permit in the application portal, you will be automatically considered a non-EU citizen living abroad and therefore subject to the admission procedure through the Italian authorities in your country of origin.

Non-EU-Citizens (living outside of Italy)

Only one application period is offered. After the deadline it is not possible to apply anymore. Application fee: € 50.

Once the ranking list has been published, if you have gained admission, secure it by paying the first instalment and then start your visa application on the University portal. The application on University is mandatory, otherwise you will not be allowed to enrol. On University you can apply for one study programme only.

Admission procedure

The admission procedure is based on the evaluation of your study career.

Information on your study career:

- **Please download** the excel file and the PDF with the example of a filled in file from the application portal. Fill in both worksheets (tab "Admission title" and tab "Other university courses") and upload it in the portal as an excel file.
- **If you graduated in Italy:** you must self-declare the exams passed, otherwise you will be excluded.
- **If you graduated abroad:** you must upload your academic transcript, otherwise you will be excluded.
- To be admitted you **must also certify adequate language skills in English** (see section

“Language requirements).

Please note: mendacious declarations will be sanctioned by criminal law and will result in your automatic exclusion.

The evaluation criteria are:

- the **admission title** is scored up to **30 points** based on the grade average obtained at the time of application;
- the **origin of the degree** is scored up to **10 points** depending on the university rank in the “Webometrics Ranking of World Universities”:
 - **10 points** for universities in position from 1 to 100 in the ranking;
 - **8 points** for universities in position from 101 to 500;
 - **5 points** for universities in position from 501 to 1000;
 - **3 points** for universities in position from 1001 to 2000;
 - **1 point** for universities in position from 2001 to 3000 in the ranking;
 - **0 points** for universities in position from 3001 onwards;

The **possession of the curricular requirements** does not give a score but is an admission prerequisite;

The **certificate of English language proficiency** does not give a score but is an admission prerequisite.

Candidates must have an average mark of at least 24/30.

Candidates below this average mark must pass an online interview in English in which they demonstrate their knowledge. Dates are as follows:

- Interviews for the early-bird application session: 23/05/2025
- Interviews for the second application session: 24/07/2025

Ranking lists

The Admission Committee will only evaluate the documents uploaded in the portal by the application deadline. The ranking lists will be published here and are only valid for the respective academic year.

Secure your study place and enrolment

If you have been admitted to more than one study programme, you can secure your admission for a maximum of 2 programmes by paying the designated rate twice. By confirming your place, you renounce admission to the other programmes.

1. Choose the study programme and pay the fees (to secure your admission) in the application portal.

The deadlines are indicated in the “Deadlines” section.

If you do not meet this deadline, you will automatically be excluded and the next applicant in

the ranking list will be admitted.

For EU citizens and citizens given parity of treatment only: any remaining places of the early bird application, will be offered in the late application.

Please note: Paying university fees does not confer student status, which is only obtained by enrolling. If you pay but do not enrol, you are not entitled to a refund, except for non-EU applicants living abroad who do not obtain the necessary documents for enrolment from the Italian authorities in their country.

2. Enrol online in the application portal.

The deadlines are indicated in the “Deadlines” section.

Enrolment is recommended as early as possible, so you have the possibility to upload incomplete documents before the deadline.

If you do not meet the enrolment deadline, you will be excluded and the next applicant in the ranking list will be admitted.

Admission with reservation:

If you do not have the required academic qualification, you will be given a conditional offer for a study place and you must submit your qualification upon enrolment. If you achieve your qualification after the enrolment deadline, you cannot enrol, and you will lose your place which will be offered to the subsequent applicant in the ranking list. **Advice:** If you achieve your qualification after the enrolment deadline, you should not pay the tuition fees to confirm the study place. You will be able to submit a late enrolment request and, only if there are study places still available, you can enrol by 12 December 2025.

Students intending to transfer from another Italian University to unibz must submit to the Student Office - at the beginning of the academic year - a copy of the transfer application presented at the university of provenance.

3. If you have a foreign university degree, during enrolment you must upload:

- degree diploma of your Bachelor
- official translation of your degree into Italian (not necessary if the documents have been issued in German or English)
- Diploma supplement, where it must be indicated: that you have achieved at least 180 credit points (ECTS) and that the qualification gives access to a master programme

Depending on the foreign education system your degree belongs to, you must also upload:

a) EU countries, Switzerland, Norway, Iceland, Liechtenstein:

- Statement of **Correspondence** of your Bachelor degree, to be downloaded from the ARDI - Automatic Recognition Database – Italy

b) Non-EU countries that are signatories to the Lisbon Convention:

- Statement of **Correspondence** of your Bachelor degree, to be downloaded from the ARDI - Automatic Recognition Database – Italy
- Statement of **Verification** of your Bachelor degree, issued by the Italian Information Centre

on Academic Mobility and Equivalence (CIMEA)

c) Non-EU countries that are not signatories of the Lisbon Convention:

- Statement of **Comparability** of your Bachelor degree, to be downloaded from the ARDI - Automatic Recognition Database – Italy
- Statement of **Verification** of your Bachelor degree, issued by the Italian Information Centre on Academic Mobility and Equivalence (CIMEA)

unibz performs the necessary checks on your foreign qualification and in case of doubt reserves the right to request additional documents.

Please note that if you do not possess a valid admission qualification, you can be excluded with Rector's decree even after enrolment.

If you are a non-EU citizen living abroad:

If you are eligible for admission (check the ranking lists) and have also applied on University, the Italian Authorities in your own country will issue you the entry visa for studies/university.

This will allow you to arrive in Italy to enrol for the study programme that you have applied for, after passing the admission procedure.

According to Italian law, within 8 working days of your arrival in Italy, you must have applied for the residence permit: as soon as you arrive, get in touch with the Advisory Service and you will be given the necessary information for starting the procedure.

Once you will obtain your residence permit (permesso di soggiorno), you have to hand it in at the Student Office personally or via e-mail.

Tuition fees

Fees amount to € 1200

- **1st instalment (€ 600):** includes the revenue stamp of € 16.
- **2nd instalment (€ 600):** must be paid by March of the following year

Delayed payment of the second instalment will result in a fine being levied. If you have not paid the tuition fees, you will be unable to take exams and will not be able to transfer to other universities or other study programmes.

If you drop out of a programme, interrupt your studies or are excluded from studies, you are not entitled to reimbursement of the fees.

Exemption from the tuition fees is granted to:

- Students with a disability recognized under article 3, paragraph 1, of Law No 104/1992, or with a disability up to or exceeding 66%: the disability certificate, issued by the health authorities, must be handed in at the beginning of the academic year.
- Foreign students who have been granted a scholarship from the Italian government.

Students who benefit from a scholarship granted by the Autonomous Province of Bozen-Bolzano are entitled to receive a refund of the tuition fees.

Recognition of credit points from previous studies

Credit points from previous university studies can only be recognised after enrolment if the exams taken at the university of provenance are equivalent in content to those offered at unibz. You can fill out the application after enrolment.

The Advisory Service provides support regarding your choice of study. In many cases a simple call or a short request is enough to get the relevant information (Tel. +39 0471 012100).

Advisory Service

Universitätsplatz 1 - piazza
Università, 1
Italy - 39100, Bozen-Bolzano
Tel +39 0471 012100
Fax +39 0471 012109
apply@unibz.it

Opening Hours

Tuesdays: 10:00-12:00
Thursdays: 14:00-16:00

Alternatively, you may call us
throughout the week or book an
online appointment