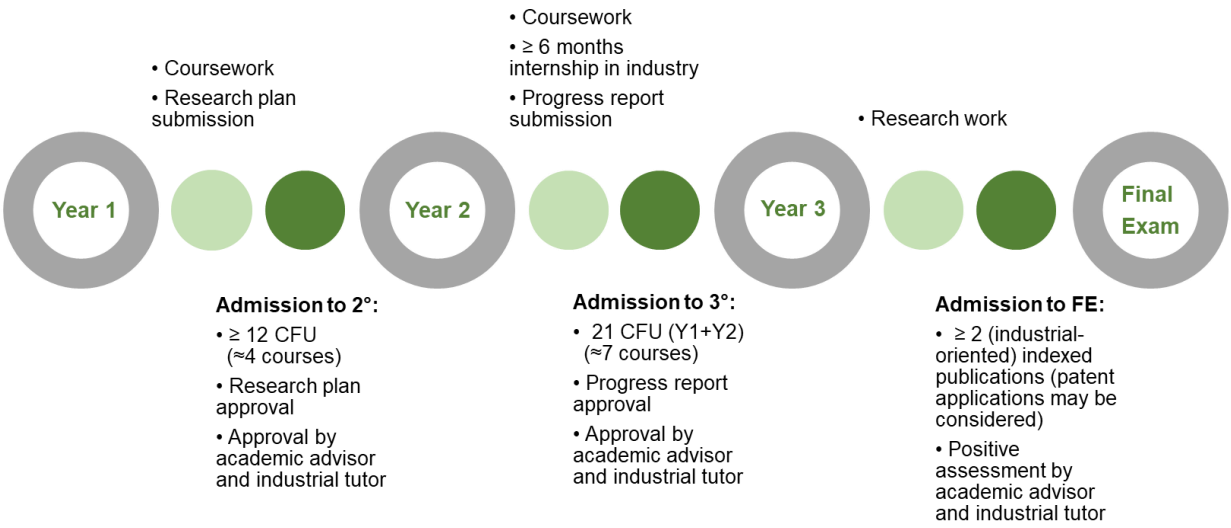
MANIFESTO OF STUDIES 2022-2023

TIMELINE OF THE PHD PROGRAMME



PhD TRAINING PROGRAMME

Doctoral students must earn **21 course credits** to complete the Doctoral programme.

Credits are assigned upon completion of courses that are of the following 3 types:

- Technological/Scientific (**TS**)
- Soft Skills/Innovation/Entrepreneurship//Economics/Management (**SKIEEM**)
- Freely chosen by the PhD Student (**FC**)

The list of TS and SKIEEM courses for – 2022-2023 is available in Annex A.
The freely chosen courses are any course that does not appear in Annex A.

The amount of credits that must be achieved throughout the programme is described as follows:

Year	Course credits
1	At least 12 6 out of the 12 credits must be completed by passing: • Research Methodology course (TS) • From research to business: a technology transfer approach (SKIEEM)
2	**At least 21** The amount includes first year completed credits
3	
Total	At least 21

Each PhD student may follow one of the two plans below:

Plan A	Course credits	Plan B	Course credits
3 TS courses	9	**2** TS Courses	6
2 SKIEEM courses	6	**3** SKIEMM courses	9
2 FS courses	6	**2** FS courses	6
Credits	21	**Credits**	21

At the beginning of each year, PhD Students compile a study plan choosing courses among those proposed annually. Both the academic advisor and the industrial tutor must approve the study plan.

Any subsequent change in the study plan must be communicated to the Secretariat - industrial-innovation@unitn.it with advisor and tutor in CC - for approval.

PhD students are encouraged to attend the industrial seminars which will be suggested by the Doctoral programme (no credits awarded).

ENROLMENT ON COURSES

Courses offered by	How to enrol
IECS Doctoral School – DISI HIT	Your enrolment is automatic if the course has been inserted in DSC
Doctoral Programme in Materials, Mechatronics and Systems Engineering – DII	Contact **dii.phd@unitn.it**
Doctoral Programme in Civil, Environmental and Mechanical Engineering – DICAM	Contact **dicamphd@unitn.it**
Doctoral Programme in Physics	Contact **phd.physics@unitn.it**
Doctoral Programme in Biomolecular Sciences – CIBIO	Contact **phd.bioscie@unitn.it**
Doctoral Programme in Economics and Management – DEM	Contact **school.socialsciences@unitn.it**
School of Innovation	Contact **soi-info@unitn.it**

COMPULSORY COURSES THAT DO NOT GIVE CREDITS

PhD Students must complete the following courses. These courses do not give credits.

Students must provide the Secretariat with a certificate of completion of each of the below courses

Courses	Organized by	Course description	Due
Italian Language (A1) Only for foreign students	CLA	https://www.cla.unitn.it/en/671/italian-for-foreigners	End of the 2° year
Health and Safety in the workplace – Workers' General Training	UNITN E-Learning	Online course The course is available with the university credentials in the website of Didattica online.	January 31, 2023
Health and Safety in the workplace – Low risk Training	UNITN E-Learning	Online course The course is available with the university credentials in the website of Didattica online.	January 31, 2023

Depending on the environment (equipment/machinery) where research activities will be performed the following courses must be completed:

Training by the Lab/ Company responsible	UNITN Company	Only for doctoral students who carry out activities based on medium-high risk equipment and / or machinery. The training has to be organized by the advisor / tutor and by the responsible of the laboratory where the activity will take place	Before the activity takes place

COURSE CREDIT RECOGNITION PROCEDURE

The number of credits assigned for course attendance depends on the number of hours according to the following table.

The minimum number of hours to get 3 credits is 18.

Hours/course	CFU (credits)
<18	0
>18 and <40	3
≥40* (approval by the Executive Committee)	Max 6* (of which 3 for freely chosen course)

*The attendance of courses longer than 40 hours must be previously approved by the Executive Committee. From the exceeding credits no more than 3 credits can be recognized and they will be recognized as freely chosen courses. The maximum number of credits that can be recognized for attending a course is 6.

All credits are acquired upon approval by the PhD student's advisor and tutor.

Courses that have contributed to other degrees and online courses that the student has completed do not apply.

HOW TO GET THE COURSE CREDITS RECOGNIZED

In order to insert the completed credits in the student's career, PhD students should ask the Secretariat of the Doctorate program or the Institution that offers the course to send confirmation of the participation in the course as well as the outcome of the exam if foreseen to **industrial-innovation@unitn.it**

- **Technological/Scientific (TS) and Soft skills/Innovation/Entrepreneurship/Economics/Management (SKIEEM) courses**

  Any course chosen from the list provided in Annex A will be automatically approved.

  Some courses have a duration of less than 18 hours. In that case, an integration with a project activity or the combination of short courses are required.

- **Freely chosen courses**

  Any course chosen from the list provided in Annex A will be automatically approved.

  In case of courses that do not appear in Annex A, students must provide all related information (title, number of hours, lecturer, content, institute that provides the course) for approval by the Executive Committee, **by sending an e-mail to industrial-innovation@unitn.it with academic advisor and industrial tutor in cc.**

  Summer/Winter Schools of at least 18 hours can be recognized as freely chosen courses.

- **School of Innovation (UNITN) courses**

  PhD students interested in the recognition of 3 credits from the attendance of courses of the School of Innovation, must complete three courses (6 hours each course) or two courses (6 + 12 hours each course) of the School.

ADMISSION TO THE SUBSEQUENT YEARS

Admission to the subsequent year is approved by the Doctoral School Committee in October each year.

ADMISSION TO THE SECOND YEAR

By the end of the first year PhD students must fulfil the following requirements:

a. positive assessment by the academic advisor and industrial tutor
b. completion of at least 12 course credits
c. approval of "Research Plan"

Instructions and deadlines regarding the approval of the "Research Plan" are described in Annex B.

ADMISSION TO THE THIRD YEAR

By the end of the second year PhD students must fulfil the following requirements:

a. positive assessment by the academic advisor and industrial tutor
b. completion of at least 21 course credits
c. approval of "Progress Report"

Instructions and deadlines regarding the approval of the "Progress Report" are described in Annex B.

ADMISSION TO THE FINAL EXAMINATION

Admission to the Final Examination requires:

a. positive assessment by the academic advisor and industrial tutor;
b. completion of a period of research of at least 6 months in the company funding the scholarship;
c. completion of at least two ISI- or SCOPUS- indexed articles of industrial-scientific interest*; patent(s) close to be approved can also be considered.
   *the articles should be at least approved for publication

The **Final exam** consists of a defence of the thesis before a panel of renowned experts.

Annex A – DOCTORAL COURSES BY THE PHD IN INDUSTRIAL INNOVATION

TECHNOLOGICAL/SCIENTIFIC (TS) COURSES

Courses offered by IECS Doctoral School - DISI

Courses' description and scheduling (and changes) are available within each course's webpage at:
https://iecs.unitn.it/education/courses

Course title	Hours	Lecturer
Research methodology (mandatory)	**20**	**Carlo Ghezzi**
Engineering Gamified Systems	20	Antonio Bucchiarone
(Inductive) Logic Programming and Explainable AI	20	Fabio Aurelio D'Asaro
Advanced AI approaches to Digital Humanities applications and beyond	20	Silvia Cascianelli, Angelo Porrello
Advanced digital forensics	20	Antonio Barili
AI Ethics Today	20	James Brusseau
Answer Set Programming in Knowledge Representation	20	Loris Bozzato
Computing for sustainable socio-ecologies: an introduction from a sustainable interaction design perspective	20	Maurizio Teli
Network intrusion detection with Deep Learning	20	Roberto Doriguzzi Corin
Ontology-Based Data Access	20	Marco Calautti
Requirements Engineering using AI and for AI	20	Anna Perin; Angelo Susi
Researching Operations & Supply Chain Management	20	Marco Formentini
Robot motion planning	20	Lucia Pallottino
Secure CompilatioN	20	Marco Patrignani
Statistical Multimedia Security and Forensics	20	Fernando Pérez-González
Towards brain programming	20	Adriano Tavares
Visual Recognition beyond the Closed World	20	Massimiliano Mancini

Courses offered by Doctoral Programme in Materials, Mechatronics and Systems Engineering – DII

IMPORTANT NOTES:

- all courses listed below with duration of <18 hours have to be integrated with a project activity to reach 18 hours. For such purpose, students have to arrange the project with the course's lecturer;
- the combination of two short courses (summing up at least 18 hours) may be considered as well in order to get 3 credits recognized.

Courses' description and scheduling are available at https://www.unitn.it/drmmse/23/teaching-activities

All details (and changes) regarding the timetable and rooms will be published on the website at the following page:
http://www.unitn.it/en/drmmse

Course title	Hours	Lecturer
Materials Science and Engineering		
Biodesign applied to tissue engineering*	12	Antonella Motta
Coatings for corrosion protection and electrochemical surface characterization	18 (+18 lab)	Flavio Deflorian, Stefano Rossi
Computational thermodynamics I	12	Massimo Pellizzari
Design and manufacturing of (nano) technologies for controlled release of biomacromolecules	12	Annalisa Tirella
Electron microscopy techniques – Theory	12	Stefano Gialanella
Electron microscopy techniques – Practice	12	Gloria Ischia
Elemental analysis by X-ray spectroscopy – Practice*	12	Mauro Bortolotti, Lorena Maines
Experimental mechanics of materials	18	Alessandro pegoretti, Vincenzo M. Sglavo
Friction and Wear of Materials	18	Giovanni Straffelini
Materials science and technology	18	Luca Fambri
Point defect chemistry, diffusion, and charge transport in ceramics	12	Mattia Biesuz
Qualification SEM and TEM*	12	Gloria Ischia, Lorena Maines, Antonella Motta
Synchrotron-based techniques for characterization of materials	12	Barbara Rossi
Thermal analysis	12 (+12 lab)	Luca Fambri, Massimo Pellizzari
X-ray diffraction: theory and applications to materials science and engineering	12 (+12 lab)	Luca Lutterotti, Mauro Bortolotti
Mechatronics and Mechanical Systems		
Legged robot control	18	Andrea Del Prete
Modeling with Partial Differential Equations	18	Giacomo Moretti
Neural networks for Mechanics	18	Gastone Pietro Rosati Papini
Network dynamics	18	Giulia Giordano
Non-linear hybrid dynamical systems	18	Luca Zaccarian
Non-linear vibrations	12	Daniele Bortoluzzi
Robot learning from demonstration	12	Matteo Saveriano
Wave approaches to vibration control	18	Emiliano Rustighi
*** Courses offered on demand (contact dii.phd@unitn.it)**		
Electronic Systems and Integrated Microelectronic Systems		
Fundamentals of statistical estimation theory	18	Daniele Fontanelli
Laboratory of electronic instrumentation	18	David Macii
Operational Research		
Decision-Making under Certainty, Risk and Uncertainty	12	Cavallo
An introduction to performance evaluation and data envelopment analysis (DEA)	12	Di Caprio

Web strategy	12	Mich
Multidisciplinary Research Tools and Languages		
Multidisciplinary integrated design project	18 (+6 project)	Davide Brunelli, Devid Maniglio, Lucio Pancheri
Virtual instruments for data acquisition and signal analysis	18	David Macii
In addition, during the academic year 2022/2023 the following courses will be offered by visiting professors at the Department of Industrial Engineering:		
Physical chemistry for cultural heritage	12	Armetta

Courses offered by Doctoral Programme in Civil, Environmental and Mechanical Engineering – DICAM

IMPORTANT:

- all courses listed below with duration of <18 hours have to be integrated with a project activity to reach 18 hours. For such purpose, students have to arrange the project with the course's lecturer;
- the combination of two short courses (summing up at least 18 hours) may be considered as well in order to get 3 credits recognized.

Courses' description and scheduling (and changes) are available at: https://www.unitn.it/dricam/913/academic-year-2022-2023

Course title	Hours	Lecturer
Molecular Dynamics: a primer with elements of statistical mechanics	16	Paolo Scardi
GEOframe Winter School GWS2022	64	Riccardo Rigon, Giuseppe Formetta
Introductory nonlinear continuum mechanics	24	Luca Deseri
Introductory nonlinear mechanics of soft biological tissues	16	Luca Deseri, Angelo R. Carotenuto (University of Napoli-Federico II)
Winterschool part I - Advanced numerical methods for free surface hydrodynamics	30	Vincenzo Casulli
Stochastic Dynamical Modeling	18	Henk Dijkstra
Winterschool part II - Advanced numerical methods for hyperbolic equations	40	Michael Dumbser, Laura Del Rio
Waves in metamaterials and periodic structures	16	Oreste S. Bursi, Francesco Dal Corso, Diego Misseroni, Giacomo Oliveri
Mathematical Methods for Engineering - theoretical part	50	Alberto Valli, Ana Alonso Rodriguez
Environmental data management and analysis with GIS	40	Paolo Zatelli, Alfonso Vitti, Marco Ciolli
X-ray Diffraction applied to the study of polycrystalline materials: theory and practice	36	Paolo Scardi
Models and Applications for Transportation Systems Analysis	18	Andrea Pompigna (Engineer, Assistant Freelancer)
Hydro Climatology and Paleohydrology	30	Glenn Tootle (University of Alabama), Giuseppe Formetta
Advanced Numerical Methods for Environmental Modeling	80	Ilya Peshkov, Annunziato Siviglia
Turbulence in environmental flows	60	Marco Toffolon, Dino Zardi, Luigi Fraccarollo, Sebastiano Piccolroaz, Lorenzo Giovannini, Nadia Vendrame, Michael Dumbser
Microelectromechanical systems: from established engineering applications to research platforms	20	Maria F. Pantano
Advanced geomatics and Earth observation for environment	20	Alfonso Vitti
Integrated river morphodynamics	64	Guido Zolezzi, Walter Bertoldi, David Vetsch (ETH Zurich), Annunziato Siviglia

Advanced Sampling and retrival Methods – The Compressive Processing Paradigm	32	Marco Salucci, Nicola Anselmi
Global Optimization Methods - Theory, Techniques, and Advanced Engineering Applications	32	Andrea Massa, Paolo Rocca
Numerical Modelling of Weather and Climate	36	Simona Bordoni, Lorenzo Giovannini
Machine Learning & AI Methods - Theory, techniques, and Advanced Engineering Applications	32	Marco Broccardo, Marco Salucci
Inverse Problems (Ill-Posedeness and Regularization): Theory, Techniques, and Engineering Applications	32	Andrea Massa, Paolo Rocca
Multiphysics Metamaterials – Theory and Engineering Applications	32	Giacomo Oliveri, Francesco Zardi
Surface Electromagnetics for Wireless Communications and Sensing	32	Giacomo Oliveri, Nicola Anselmi, Marco Salucci
On water. Designing climate-responsive landscape and infrastructure	32	S. Favargiotti, G. Formetta, L. Giovannini, A. Marzadri

Courses offered by Doctoral Programme in Physics

IMPORTANT: for all courses listed below with duration longer than 40 hours, please refer to the course credit recognition rules.

Courses' description and scheduling are available at: https://www.unitn.it/drphys/en/129/training-programme

Course title	Hours	Lecturer
Scientific Writing, Speaking and Storytelling	24	S. Oss/ R. Potestio
Advanced techniques in experimental physics	24	G. Baldi
Multiscale modeling: from the atom to the cell	24	M. Calandra, F. Pederiva,R. Potestio
Data Analysis methods for Physics	24	G.A .Prodi
Advanced interferometry	24	A. Perreca
Advanced statistical mechanics: Relaxation to equilibrium and transport phenomena	24	R. Menichetti - G. Marini (IIT)
Casmolsim - Critical Assessment of Molecular Simulations Literature	24	G. Lattanzi
Electron-Atom Collisions and Spin-Polarization Phenomena	24	M. Dapor (ECT*)
Entanglement in many-body systems: from concepts to algorithms	24	M. Rizzi
Many-Body Physics In Open Quantum Systems	24	A. Biella – CNR-INO BEC
Molecular Dynamics and Path Integral Molecular Dynamics	24	T. Morresi
Numerical relativity and computational fluid dynamics		F. M. Guercilena (TIFPA – INFN)
Optical and spectroscopic diagnostic of materials for photonics	24	A. Chiasera (CNR- IFN)
Quantum sensing	24	A. Quaranta
Radiation Chemistry	24	E. Scifoni (TIFPA – INFN)
Bayesian Data Analysis in Cosmology	24	M. Liguori
Space-based observation techniques and methods	48	R. Battiston, L. Bruzzone, S. Vitale
To be defined	45	TALENT (Training in Advanced Low-Energy Nuclear Physics)
ECT* doctoral training programme 2023: high energy and nuclear physics within quantum technologies	6	ECT* (European Centre For Theoretical Studies in Nuclear Physics And Related Areas)
https://www.isapp-schools.org/	tbd	ISAPP

Courses offered by Doctoral Programme in Biomolecular Sciences - CIBIO

IMPORTANT:

- all courses listed below with duration of <18 hours have to be integrated with a project activity to reach 18 hours. For such purpose, students have to arrange the project with the course's lecturer;
- the combination of two short courses (summing up at least 18 hours) may be considered as well in order to get 3 credits recognized.

Courses' description and scheduling are available at: https://www.unitn.it/drbs/36/teaching-activities

Course title	Hours	Lecturer
Laboratory safety course	12	Alessandro Provenzani, Ines Mancini
Laboratory Techniques	6	Various
Biostatistics - Module 1	8	Veronica Vinciotti
Scientific Publishing & Communication	20	Ralph Dahm (IMB Mainz), Marie-Laure Baudet
The rules of research: introduction to biolaw and research integrity	6	Lucia Busatta
Introduction to the CIBIO Core Facilities	6	Facility Managers (CIBIO)
Make scientific figures better and faster	6	Facility Advanced Imaging Managers (CIBIO)
Biomolecular Sciences Curriculum		
Molecular Spectroscopic Techniques	12	Graziano Guella
RNA Molecular Biology and Biotechnology	12	Michela A. Denti
Chemical modifications and organic synthesis of biomolecules	12	Ines Mancini
Origins of Life	12	Sheref S. Mansy
Developmental Biology. Mini-series of talks	12	Marie-Laure Baudet, Paola Bellosta, Matthias Carl, Lucia Poggi
Genomic and proteomic biomarkers: from target discovery to drug development applications	12	Enrico Domenici
Advanced imaging approaches in Biomedicine	12	Alessio Zippo
Neural Stem cell	12	Luciano Conti
Epigenetics mechanisms and their role during Cell Differentiation and transformation, Metabolism, Neuronal diseases	12+6	Marta Biagioli Fulvio Chiacchiera
Regenerative medicine and Artificial Intelligence applications to biomedicine	12	Paola Bellosta, Alessandro Romanel, Luciano Conti, Flavia Ravelli, Antonella Motta, Nicola Pugno
Bio - Industry Curriculum		
Entrepreneurial Basic Skills for Biotech Module 1: From innovation to a business model	12	Alberto Nucciarelli
Entrepreneurial Basic Skills for Biotech Module 2: Working on a business plan	12	Stefano Milani (Milani & Partners, Milano)
Preclinical research and clinical development programs of drugs	12	Borlak Jürgen (Medical School of Hannover)
Liquid biopsy: principles, technologies and diagnostic perspectives	8	Salvatore Pernagallo (Destina Genomics)

Quantitative Biology Curriculum		
Module 1: Machine learning techniques for classification and regression tasks in bioinformatics	8	Enrico Blanzieri
Module 2: Artificial intelligence techniques for the analysis and interpretation of single cell and spatial sequencing data	12	Dr. Toma Tebaldi (Yale University)
Introduction to metagenomics	12	Nicola Segata
Getting started with R and RStudio: a hands-on introduction	12	Pietro Franceschi (Edmund Mach Foundation)
Data Exploration	12	Pietro Franceschi (Edmund Mach Foundation)
Applied Statistics for High-Throughput Biology	12	Levi Waldron (City University of New York School Graduate of Public Health and Health Policy)

SOFT SKILLS/INNOVATION/ENTREPRENEURSHIP/ECONOMICS/MANAGEMENT (SKIEEM) COURSES

Courses offered by UNITN

Course title	Hours	Description
Academic Writing for the Sciences and Engineering	24	**Course n. 4135: 12/01 – 21/02** Tue 11.00 – 12.30 Thurs 11.00 – 12.30 **Enrolment:** 12/12-16/12 **Course n. 4136: 11/01 - 22/02** Mon 10.00 – 11.30 Wed 10.00 – 11.30 **Enrolment: 12/12-16/12** Next editions will be communicated by the secretariat
Research support seminars	-	https://www.unitn.it/en/ricerca/77172/train-your-talent

Courses offered by HIT – Hub Innovazione Trentino

Course title	Hours	Period
From research to business: a technology transfer approach (mandatory) Available on 2 tracks: • **Digital transformation, Ai, Industry 4.0, Robotics, materials and sensors** • **Energy, sustainable mobility, quality of life, smart agriculture, biotech**	25	**February 13-17, 2023** **May 8-12, 2023**

Courses offered by Doctoral Programme in Economics and Management – DEM

Courses' information at https://www.unitn.it/drss/em/221/curriculum

Courses' scheduling (and changes) is available at: https://www.unitn.it/drss/em/222/schedule-and-course-materials

IMPORTANT NOTE:

- all courses listed below with duration of <18 hours have to be integrated with a project activity to reach 18 hours. For such purpose, students have to arrange the project with the course's lecturer;
- for all courses listed below with duration longer than 40 hours, please refer to the course credit recognition rules.

Course title	Hours	Lecturer
Statistics and Regression	36	Emanuele Taufer UNITN*
Behavioural Economics (joint course - master BEA)	48	Luigi Mittone
Game Theory (joint course - master BEA)	48	Luciano Andreozzi
Applied Microeconometrics (UNIBZ*)	18	Steven Stillman
Time Series (UNIBZ*)	30	Francesca Marta Lilja Di Lascio, Francesco Ravazzolo
Applied Econometrics	24	Carlo Fezzi UNITN*
Experimental Economics: Data Workflow	16	Matteo Ploner

Managerial decision making	36	Fabio Zona
Performance analysis and business analytics	20	Enrico Zaninotto
Research Methodology	32	Fabrizio Costa, Maria Laura Frigotto

***** courses in cooperation with the Free University of Bolzano - Bozen (UNIBZ).

Courses offered by School of Innovation

For the recognition of 3 credits, three courses (6 hours each course) or two courses (6 + 12 hours each course) must be completed.

Courses' description and scheduling are available within each course's webpage from: http://www.soi.unitn.it/school-of-innovation-courses-program/

Course title	Hours	Lecturer
SEMESTER 1		
Basics of Management (online)	12	Erica Santini
International Entrepreneurship – From idea to business idea	12	Pablo Soler Bach
Basics of Data Science	6	Sandro Luigi Fiore
The Challenge Action Plan	12	Roberto Napoli
Data Governance	12	Sandro Luigi Fiore
That's my life	9	Alessandro Rossi
Fintech: disrupting the financial sector	6	Pablo Soler Bach
The drug discovery process and the role of biomarkers in achieving personalized medicine	6	Enrico Domenici
Innovation processes and the new production of users	6	Attila Bruni
Emotional Intelligence (online)	12	Oksana Tokarchuk
Business models – Value Proposition Canvas VPC & Business Model Canvas BMC	12	Andrea Bolner
Organizing for novelty, creativity and innovation	6	Maria Laura Frigotto
Venture Capital Funding	6	Pablo Soler Back
Innovation Ecosystems	12	Erica Santini
Negotiation Skills (online)	6	Andrea Caputo
Teams and Team Working in Organizations	6	Stefano Cirella
Managing the New Product Development Process	12	Oksana Tokarchuk
Science Communication: how to engage your stakeholders	6	Ana Prieto Rodriguez, Chiara Trevisin
Innovating Supply Chains	6	
Pitch yourself	6	Clelia Calabrò
Empathy and Innovation	6	Alessandra Scroccaro
SEMESTER 2		
Intellectual Property Rights	6	Paolo Guarda
From product to business model innovation	6	Alberto Nucciarelli
Personal Branding	6	Andrea Bolner
Business Plan	6	Pablo Soler Bach
How to be a better speaker: Golden rules for presenting your work with style	6	Cristina Rigutto
Theater teaches innovation	18	Mariasole Bannò

Data Science in action	6	Sandro Luigi Fiore
That's my life	9	Alessandro Rossi
Industrial innovation in communications, radars and sensing systems	6	Paolo Rocca
An introduction to FinTech: blockchains and all that	12	Fabio Massacci, Galena Pisoni
AI Strategy for business	12	Alberto Todeschini
Business Analytics (online)	12	Sandro Luigi Fiore
Fundamentals of Quality Engineering	6	Dario Petri
Understanding Megatrends (online)	6	Roberto Poli
Internationalization of SMEs	6	Paola Baldracchi
Circular economy	6	Micol Chiesa
Learning processes and technological innovation	12	Erica Santini
Creativity and Collective Creativity in Organizations (online)	12	Stefano Cirella
Ethics and Law of Artificial Intelligence	6	Carlo Casonato
Leadership: theory and case studies	6	Paolo Carta
Social Impact Investing	6	Pablo Soler Bach
Go to market	6	Andrea Bolner
Web strategy in community destinations (online)	12	Luisa Mich, Federica Buffa
Master Mind	12	Oksana Tokarchuk
Principles of Marketing	6	Oksana Tokarchuk

Annex B – RESEARCH PLAN AND PROGRESS REPORT

RESEARCH PLAN

By the end of June, PhD students submit a **research plan** (maximum 5 pages) which outlines the research activities they will carry out during the 3-year PhD programme and which must be approved by both the academic advisor and the industrial tutor.

By the end of July, the plan must be approved by an evaluation committee.

In case of:

- **positive assessment by the academic advisor and the industrial tutor, and negative assessment by the evaluation committee:** a revised version of the research plan must be submitted by the PhD student to the committee in 30 days (and no later than the end of August).
  The committee makes a new assessment by mid - September.
  If the assessment is positive, the research plan is approved.
  If the assessment is negative, the Executive Committee decides whether to approve or not the plan. In the latter case, the PhD student is excluded from the PhD programme;

- **negative assessment by the academic advisor and the industrial tutor, and positive assessment by the evaluation committee:** the Executive Committee decides whether to approve or not the plan.
  If the Executive Committee does not approve the plan the PhD student is excluded from the PhD programme;

- **negative assessment by the academic advisor, the industrial tutor and the evaluation committee:** the PhD student is excluded from the PhD programme.

PROGRESS REPORT

By the end of June, PhD students submit a **progress report** (approximately 10-pages) which should include the state of progress of the research, the plan of the remaining research activities, the list of publications or the plan to achieve them. The report must be approved by both the academic advisor and the industrial tutor.

By the end of July, the report must be approved by an evaluation committee of three professors*.

In case of:

- **positive assessment by the academic advisor and the industrial tutor, and negative assessment by the evaluation committee:** a revised version of the progress report must be submitted by the PhD student to the committee in 30 days (and no later than the end of August).
  The committee makes a new assessment by mid - September.
  If the assessment is positive, the progress report is approved.
  If the assessment is negative, the Executive Committee decides whether to approve or not the report. In the latter case, the PhD student is excluded from the PhD programme;

- **negative assessment by the academic advisor and the industrial tutor, and positive assessment by the evaluation committee:** the Executive Committee decides whether to approve or not the report.
  If the Executive Committee does not approve the report, the PhD student is excluded from the PhD programme;

- **negative assessment by the academic advisor, the industrial tutor and the evaluation committee:** the PhD student is excluded from the PhD programme.

Annex C – DEADLINES AND INSTRUCTIONS REGARDING FINAL EXAMINATION FOR PHD STUDENTS AND ADVISORS

PhD Students have to request the admission to the thesis review procedure.

PhD students who have been admitted to the procedure by the Doctoral School Committee shall submit their thesis for evaluation to two external referees.

Both referees will propose either admission to the final examination/PhD defence or Postponement for a period of no longer than six months in the case of major revision.

In the case of major revision, the student must submit a new version of the thesis together with a rebuttal letter before the deadline. The referees will then submit a new evaluation according to the changes made to the thesis by the student. In any case the student is admitted to the final examination.

For PhD Students whose doctoral career has been extended due the Covid-19 emergency, all the deadlines (beneath) of the PhD programme are postponed for the same period (up to 3 months)
For PhD Students whose doctoral career has been suspended, all the deadlines (beneath) of the PhD programme are postponed for the same period.

DEADLINES FOR PHD STUDENTS		
Step	**Activity**	**Deadline**
1	Request for admission to thesis review procedure (final examination) or for an extension	By the end of September 2022
2	Submission of a report on the PhD activities	By the end of September 2022
3	Submission of the thesis	By 12:00, January 20, 2023
4	Delivery of the final version of the thesis to the final examination committee and to the referees	No later than 10 days before the date of the final examination
5	Upload of the final version of thesis and of the Deposit Disclaimer	No later than 10 days before the date of the final examination
6	Delivery of the abstract of the final version of the thesis	No later than 10 days before the date of the final examination
7	Delivery of the university computer/hardware (if applicable)	By the day of the final examination
8	Final examination	a. By April 30, 2023 (Minor revision) b. By July 31, 2023 (Major revision - 3 months); By October 31, 2023 (Major revision - 6 months)

Step 1 - Thesis review procedure (Final examination) or Extension request	By the End of September 2022

- **Request for admission to the thesis review procedure (Final examination)**

Before applying, the student must discuss the state of the thesis with his/her academic advisor and industrial tutor.

Mandatory for admission to the final examination is completion of a period of research of at least 6 months in a company and publication of at least two ISI- or SCOPUS-indexed publications.

The request for admission to the final examination must be submitted online by means of the **Esse3 system** http://www.esse3.unitn.it/Start.do

The request implies the payment of a contribution ("final examination contribution") of € 72,00 (which includes two duty stamps of € 16,00). PhD students must have regularly paid all the three-year PhD course fees when they submit the online final examination form.

Information about the online application is available at https://www.unitn.it/en/ateneo/1932/final-examination

PhD students are asked to fill in the AlmaLaurea questionnaire together with the request for admission to the final examination, in order to gather their opinions about the services provided by our university.

- **Award of the label "Doctor Europaeus"**

The additional label of "Doctor Europaeus" may be awarded to those PhD students who fulfil the prerequisites proposed by the European University Association as follows:

1) positive judgement on the thesis by two referees from two higher education institutions of two European countries, other than the one where the doctoral thesis will be defended;
2) at least one member of the final examination committee comes from a higher education institution in a European country other than the one where the doctoral thesis will be defended;
3) period abroad of at least 3 months spent in another European country;
4) the doctoral thesis must have been partly prepared as a result of a period of research of at least one trimester spent in another European country.

PhD students interested in obtaining the title of "Doctor Europaeus" should indicate their interest in the AlmaLaurea questionnaire (see previous point)

Information is available at http://www.unitn.it/en/ateneo/50322/doctor-europaeus

- **Request for Postponement**

Just for important reasons that do not allow to submit the thesis on schedule, the student can request a postponement period. **All the deadlines are postponed for the same period requested.**

Step 2 - Submission of a report on the PhD activities	By the End of September 2022

PhD students have to send to industrial-innovation@unitn.it and their academic advisor/industrial tutor in cc a report on the PhD activities carried out during the programme (file extension .pdf).
The report should contain:

- list of publications
- periods spent abroad for study/research reasons
- Summer/winter schools, Conferences
- participation in research projects
- other

Step 3 - Submission of the thesis	By January 20, 2023

PhD students have to send to the referees and industrial-innovation@unitn.it in cc the thesis (file extension .pdf);
Referees will have to submit their evaluation for the thesis within 30 days from the thesis submission.

As an **overall evaluation of the student's thesis**, referees may propose one of the following results:

- MINOR Revision: admission of the student to the final examination/PhD defence

- MAJOR Revision: the student must resubmit a new version of the thesis with a rebuttal letter within 3 months (Final Exam to be discussed by July 31, 2023)
- MAJOR Revision: the student must resubmit a new version of the thesis with a rebuttal letter within 6 months (Final Exam to be discussed by October 31, 2023)

Each PhD student will receive the reviews via email as soon as both referees have submitted their evaluations.

Step 4 - Delivery of the final version of the thesis to the final examination committee and to the referees	**No later than 10 days before the date of the final examination**

PhD students send the final version of the thesis (.pdf) to each member of the final examination committee and to both the referees via e-mail.

No hard copy must be submitted.

Step 5 - Upload of the final version of the thesis and of the Deposit Disclaimer	**No later than 10 days before the date of the final examination**

PhD students must upload the **final version of the thesis** (.pdf) and the **Deposit Disclaimer** to the **online open-access archive IRIS https://iris.unitn.it/**

PhD students may decide to let the thesis be made public or to restrict its access. 'Embargo' is a period during which the thesis is kept secret. Only bibliographic metadata are made visible. PhD students can request a period of embargo (up to 24 months).

NB: PhD students have to consult the industrial tutor and academic advisor to determine whether any imposing secrecy restriction is foreseen.

Once the thesis has been submitted to the online University archive, it can no longer be replaced with another version.

Those PhD students who do not self-archive both their thesis and Deposit Disclaimer in the online University archive, will not receive the PhD diploma on the date of the final examination.

The Guidelines for uploading Doctoral theses in IRIS is available in the Box Download on the web page Research outputs management https://www.biblioteca.unitn.it/en/404/research-outputs-management

Intellectual property rights: https://www.unitn.it/en/ricerca/1767/protection-and-valorization-of-intellectual-property

All materials regarding the upload of the required documents to the online University archive and the copyright issues are available from the box "Download" at the following link https://www.unitn.it/en/ateneo/1932/final-examination

Step 6 - Delivery of the abstract of the final version of the thesis	**No later than 10 days before the date of the final examination**

PhD students should send title and abstract of the thesis to the Secretariat.

The PhD defence will be advertised via the program's website and social channels.

Step 7 - Delivery of the university computer/hardware (if applicable)	**By the day of the final examination**

PhD students who got a computer and/or other hardware using research budget funds, must return it to the Doctorate Program in Industrial innovation Secretariat on the day of the final examination.

The computer must be formatted before being returned.

Step 8 - Final examination	**By April 30, 2023 (Minor revision)** **By July 31, 2023 (Major revision - 3 months);** **By October 31,2023 (Major revision - 6 months)**

In the case the referees require minor amendments to the thesis, the final examination must be held by no later than April 30, 2023.
If referees ask for relevant integrations or changes that must be completed within:

- 3 months: the final examination must be held by July 31, 2023;
- 6 months: the final examination must be held by October 31, 2023.

The Final examination will take place before the examination committee and will consist of a public discussion of the thesis.
The PhD School organizes a proclamation ceremony for each PhD student who concludes the doctoral programme.
The advisor should introduce the candidate as well as the committee members. The candidate will then present his/her thesis (around 45 minutes), which will be followed by questions from the committee (around 20-30 minutes). The defence is open to the public.

In the case of negative judgement by the final examination committee, the PhD student is excluded from the Doctoral Programme.

DEADLINES FOR ACADEMIC ADVISORS AND INDUSTRIAL TUTORS		
Step	**Activity**	**Deadline**
1	Approval of the request for admission to the thesis review or for postponement of the thesis evaluation	By 12:00, October 15, 2022
2	Suggestion of two referees	By 12:00, January 15, 2023
3	Communication of the final examination committee and date of the final examination	No later than 30 days before the date of the final examination
4	Final examination	a. By April 30, 2023 (Minor revision) b. By July 31, 2023 (with a 3 months Major revision); By October 31, 2023 (with a 6 months Major revision)

Step 1 - Approval of the request for admission to the thesis review or for postponement of the thesis evaluation	**By 12:00, October 19, 2022**

Academic advisors, in agreement with industrial tutors, should approve their PhD students' admission to the thesis review procedure (final examination) or its postponement.

In case of request for admission to the thesis evaluation (final examination), advisors should submit an evaluation on the research carried on by the candidate during her/his PhD leading to the thesis proposal to the Doctorate Student Career https://iid-dsc.disi.unitn.it/

Step 2 – Suggestion of two referees	**By 12:00, January 12, 2023**

Advisors should send all the details below concerning the two referees who will review their PhD students' thesis to industrial-innovation@unitn.it:

- surname, name;
- affiliation;
- academic/work position;
- email contact
- if either of the referees will be part of the final examination committee as well. In this case they may be reimbursed (only travel expenses); otherwise it is not possible.

Advisors should suggest referees who have already confirmed their availability.

Referees eligibility criteria:

- experts selected among highly qualified tenured academic staff or tenured lecturers belonging to other institutions (**NO UniTrento**)
- at least one referee must be academic staff (professor or researcher)
- researchers who work for companies that deal with research
- no previous collaborations with the student (e.g. thesis co-tutorship, internship, research collaboration)
- adjunct lecturers/instructors are not eligible
- possessors of titles such as Emeritus Professor, Emeritus Reader, Senior Fellow are not eligible unless they have a teaching contract or are in service at a foreign research institute or university.

Referees submit their evaluation for the thesis within 30 days from when the thesis is available.
The two referees may be part of the final examination committee as well. In this case they may be reimbursed (only travel expenses).

Step 3 - Proposal of the final examination committee and date of the final examination	**No later than 30 days before the date of the final examination**

Once the student has been admitted to the final examination by the two referees, the advisor should send to industrial-innovation@unitn.itt:

- composition of the final examination committee;
- date of the final examination.

The final examination committee should be composed of:

a) from three to five members selected among tenured academic (university) staff and/or researchers at Italian and/or foreign institutions, specialized in the topics of the dissertation;
b) "two-thirds" of the commission must be external to UniTrento and "two-thirds" must be academic staff
c) up to two external experts may be added. They can be lecturers/researchers or experts selected from universities and public and private research centres.

NB:

- Advisors should suggest a committee whose members have already confirmed their availability.
- The advisor cannot be part of the committee.
- Referees can be part of the committee (they can be any of the 3 - 5 + additional 2 members, see above two points).
- Researchers who work for companies that deal with research may be part of the committee (they can be any of the 3 - 5 + additional 2 members, see above two points).
- Possessors of titles such as Emeritus Professor, Emeritus Reader, Senior Fellow are not eligible unless they have a teaching contract or are in service at a foreign research institute or university.

Step 4 - Final examination	**a. By April 30, 2023 (Minor revision)** **b. By July 31, 2023 (Major revision - 3 months);** **By October 31,2023 (Major revision - 6 months)**

The advisor should support the committee during the entire proclamation ceremony of the candidate.
The Doctorate program in Industrial innovation Secretariat will send advisors all details on the ceremony and in particular on the advisor's duties.