A thriving University in the heart of the Alps
Top 150 universities in the world
Shanghai Ranking of World Universities

33rd most innovative university in Europe
Thomson Reuters

Top 50 worldwide in 6 subjects:
Remote sensing, Earth Sciences, Metallurgical Engineering, Physics, Clinical Medicine, Quantum engineering

UGA is one of 8 universities in France to have the IDEX Label and is recognized as an internationally competitive centers of excellence in higher education and scientific research

UGA Interdisciplinary Strengths

- Sustainable development & prosperity
- Health, well-being and technology
- Digital Technology
- Innovation

- 59,000 students, of which
- 35,500 undergraduates
- 20,600 graduates
- 2,900 PhD students
- 10,000 international students
Grenoble INP - UGA
Graduate schools of Engineering and Management

**Education**

- **8,300** students
- **1,700** Engineering degrees/year
- **1,160** Master degrees/year (Engineering & Management)
- **170** PhDs/year
- Of which **800** doctoral students
- **70,000** alumni worldwide (Engineers & Managers)

- **34** Engineering training courses &
- **53** Master degrees specialities, among which **25** in Management

**Fields**

- Energy & environment
- Geomaterials & civil engineering
- Materials, bio-based materials & processes
- Micro nanotechnologies
- Digital
- Production, management & organizations

**Research**

- **39** Labs
- **21** technological platforms & fablabs

**Business**

- **410** Patent & software families

Key figures 2022-2023 - Grenoble INP - UGA
Grenoble INP - UGA in the World University Rankings
(August 2022)

Shanghai Ranking 2021
Since 2020, the results of Grenoble INP - UGA contribute to UGA ranking

Global Ranking: World #150

Ranking by subjects:

World Top 20:
- Remote Sensing (12 - France 2nd)

World Top 50:
- Metallurgical Engineering (35 - France 2nd)
- Physics (40 - France 5th)

World Top 75 - France 2nd:
- Water Resources

World Top 100:
- Computer Science & Engineering (2nd)
- Automation & Control (2nd)

World Top 101-150:
- Nanosciences & nanotechnologies (France 3rd)
- Engineering Electrical & Electronic (2nd)
- Environmental Science & Engineering (3rd)

QS by Subjects 2022

Top 10 France in the field Engineering & Technology:
- #7 in the global field
- #5 in Engineering - Electrical & Electronic
- #6 in Computer Science & Information Systems
- #7 in Engineering - Civil & Structural
- #8 in Engineering - Mechanical

Top 10 France in the field Natural Sciences:
- #4 in Materials Sciences
- #7 in Physics & Astronomy
8 schools in Engineering & Management

Grenoble INP - Ense³, UGA
Energy, Water & Environmental Sciences

Grenoble INP - Ensimag, UGA
Applied Mathematics & Computer Sciences

Grenoble INP - Esisar, UGA
Advanced Systems & Networks

Grenoble INP - Génie industriel, UGA
Industrial Engineering & Management

Grenoble INP - Pagora, UGA
Paper, print Medias & Biomaterials

Grenoble INP - Phelma, UGA
Physics, Electronics, Materials Sciences

Polytech Grenoble - INP, UGA
7 specialities of Engineering

Grenoble IAE - INP, UGA
Graduate school of management
First job insertion
2021 Grenoble INP - UGA engineering graduates

- 73% of graduates found a job
- 27% are still searching

15 days to get a job
95% executive

Economic sectors of activity:
- 26.9% consulting companies, research consulting, engineering
- 25.4% IT activities and services
- 5.7% Energy

Region of employment:
- 25% Île-de-France
- 44% Auvergne-Rhône-Alpes
- 23% in other French regions
- 8% abroad

84% permanent contract (French CDI)

35,950 euros/year in France
Average salary excluding bonus (excluding thesis)

Company size:
- 63% 250 to +5,000 employees
- 34% 10 to 249 employees
- 3% less than 10 employees

Data: 2022 Enquête (2021 graduates)
Grenoble, a city in the heart of a dynamic French entrepreneurial ecosystem
France attractive business ecosystem

- 6th WW economy (FMI 2023)
- 2nd largest economy in the Euro zone (FMI 2023)
- 1st most attractive country in Europe for industrial foreign investment
- 1st European country for venture capital fundraising
- Strong governmental support
- 28,000 foreign companies in France
- Highly trained and productive workforce (Grandes Ecoles)
- Highly creative and innovative workforce
- High quality infrastructure (speed train, highways, airports, hospitals, public schools)
- Robust financial system + best WW research tax credit
- Flourishing “Tech” ecosystem
- Highest demographic growth in Europe
- Excellent quality of life
France dynamic entrepreneurial ecosystem

- 1 million start-ups +30% per year; 50% Ile de France
- 26 “unicorns” (>1 billion value)
- 13,5 billions euros of fund raising by start-ups in 2022 (+17%)
- 1.5 million employees +10% of job creations
- Almost 60 billions euros Public investments over 5 years
- 85 000 companies financially supported by Bpifrance [https://www.bpifrance.fr/](https://www.bpifrance.fr/)
France dynamic entrepreneurial ecosystem

- 240 Incubators (Station F, one of the world's largest)
- 50 Accelerators (Le Village by CA
  https://www.euratechnologies.com/entreprises/gotouch-vr-2/)
- Competitiveness clusters
- Support structures
- Coworking spaces
- Technopoles, Science Parks
- Innovation and Entrepreneurship Centers, part of EBN, EU Business and Innovation Centers) https://ebn.eu/
- Bpifrance
56 Competitiveness clusters
A strong network of supporting structures

- Réseau Entreprendre
- France Business Angels
- French Tech
- To sensitize young people: https://www.100000entrepreneurs.com/; Entreprendre Pour Apprendre
- Initiative France (3 year support: tutoring, financing, counselling)
- CCI /CMA: public services for industry and artisan (compulsory trainings, counselling)
- EGEE: retired senior experts helping entrepreneurs
- Specific for seniors, women, students, SSRE: ADIE, Entrepreneurs dans la ville, Les déterminés, Haut les Femmes, Bouge ta boite, Ronalpia, Réseau Initiative France, 60000 Rebonds...
Grenoble, city of innovation

- 7.1% of the population works in R&D (2nd in France)
- Most patents filed in France
- 5th most inventive city in the world (Forbes 2013)
- In top 50 (FINOM 2021)
An exceptional business and scientific environment

- **5 International laboratories and instruments**
  - ESRF, ILL, EMBL, LNCMI-G, IRAM

- **8 National research organizations**
  - CNRS, CEA, Inria, Inserm, Irstea, CRSSA, IRD, CHU Grenoble Alpes

- **Major companies**
  - Sun Microsystems, HP, Orange, STMicroelectronics, Schneider Electric, Alstom, Xerox, Thales, Apple (image sensor R&D), CapGemini, SOITEC, Applied Materials, Air Liquide, Solvay, Arkema, EDF, Rossignol, Caterpillar, ARaymond, Alstom Bombardier, Becton Dickinson, Roche,...

https://www.investingrenoblealpes.com
MIAI: Multidisciplinary Institute of Artificial Intelligence

- One of **4 centers** in France for artificial intelligence research
- **55 companies** have already contributed to MIAI with **€5.8 million** per year
- **1,600** scientific articles published by MIAI contributors

https://miai.univ-grenoble-alpes.fr/miai-institute/miai-grenoble-alpes-institute-799002.kjsp
The Quantum Engineering project

Building on the unique concentration of expertises in Grenoble, the Quantum Engineering Project fosters an ecosystem for quantum technologies, connecting science, the humanities and entrepreneurship/

We investigate the whole spectrum of challenges, from the industrial transfer of a quantum processor to the philosophical and societal implications of quantum theory and technologies.
Innovation at UGA

Grenoble is recognized as an outstanding place to be for its potential and its culture of innovation.

- **340** software products
- **755** patents filed annually
- **220** valorisation projects
- **180** exploitation contracts for 3.7 M€ of exploitation revenues over 2017-2020
- **20 to 35** start-ups created annually
  - Success stories: **Vulkam** and **BeFC**
- Over **700** contracts involving companies, including 300 with SMEs and 50 industrial funded PhDs (CIFRE)
Industrial Partnerships

- 360 special partner companies
- 1 partnership foundation including 18 industrial chairs
- 70,000 alumni world-wide (Engineers & Managers)
- 1 technology transfer affiliates & 66 start-ups created from research

Innovation and Transfer Office
Entrepreneurship at Grenoble INP UGA

CEI, Cellule Entreprise et Innovation is in charge of Entrepreneurship for the 7 engineering schools

- A multidisciplinary team with varied profiles **Management, Economics, Sociology**

Global teaching hours

+ 5 000 h

Between 15 and 20 contractors for 1000H teaching hours
Our Vision

Engineers with **solid technical skills and expertise** and able to respond to **human, social and societal challenges**

The **entrepreneurial spirit** is therefore a key issue:

- Addressed over the 3 years of the curriculum
- 3 goals/steps: raising awareness, training, supporting
- In relationship with the local entrepreneurial ecosystem
- Including entrepreneurship, business takeover, intrapreneurship
1st year: Creativity challenges

✓ 270 students (per school)
✓ 9 challenges, 36 teams (per school)
✓ Coaching by 2 creativity trained teachers
✓ Lectures + work in small teams
✓ A 3-steps method based on Design Thinking
✓ From 10 hours per students to a full week of seminar

TARGETED ABILITIES

- Acquire creativity method (Design Thinking, CPS)
- Think out-of-the box
- Basis of entrepreneurial spirit
- Communication
Objective: introduction to strategy, marketing, finance and accounting, human resources and management => basic understanding of Business world

Organization

- Over 1 000 students, 650 hours
- Pagora – Ensimag - Ense3 – Phelma
- 16 to 20 hours/students during 2 (1/2) days

Method: team competition based on a business serious game, oral presentation
Objective:
Introduce students to project management both on methodological aspects/tools, AND team management

Pédagogie:
Through a scenario on a real student project or through a simulation

In a nutshell
- 360 hours
- Over 1000 students in 4 engineering schools
- Around 170 projects
- 7 to 8 external speakers with a solid professional experience of project management in business, in IT development and/or in an industrial context
- Practiquement tous les domaines de l’ingénierie : du développement de logiciel aux ouvrages de génie civil, en passant par l’électronique, la mécanique, l’automatique, etc …
- Close collaboration with school pedagogical teams in their field of engineering
2\textsuperscript{nd} year 1\textsuperscript{st} semester: Elective course

- **Objective:**
  Introduce students to Marketing OR Finance and Accounting OR Business Laws, both on concepts, methodological aspects/tools

*Innovative pedagogies*
*Basis for entrepreneurial projects*
Objective:

Introduce students to Innovation OR Management OR Entrepreneurship, both on concepts, methodological aspects/tools, based on real projects.

Parcours Innovation: Learning about the innovation process from the technical object to the business model, by carrying out a project from a Grenoble INP laboratory.

⇒ Develop the spirit of innovation
⇒ Master the financial, commercial, technical and human aspects of a venture set up, through a real project

Parcours Management: Business strategy to change management, through applied teaching and the study of concrete cases.
3rd year Elective : MANINTEC

Management de l’Innovation Technologique

• Innovative project management skills
• Objective: to articulate technology and market

Exploration and creativity / technological analysis and qualification / market study / business model Scenario on a real innovative project

Project / course time alternation

Projects led by companies, start-ups, labs

Innovative pedagogies

Basis for Tech entrepreneurial projects
3rd year Elective: PISTE

Pour une Ingénierie Sobre Techno et Eco Responsable
- Environmental and socially responsible project management skills
- Objective:
  Develop a systemic vision taking into account planetary boundaries and environmental and societal impacts
  Promote an open science approach
  Maintain a strong technical and scientific base linked to research

Innovative pedagogies – project based
Basis for ESRE entrepreneurial projects
2\textsuperscript{nd} year: Main Entrepreneurial Education program – Elective course

Entrepreneurial education – project based: from \textbf{IDEA} to \textbf{BUSINESS PLAN}, by developing a team project that will be \textbf{TESTED ON THE MARKET}

✓ \textbf{PUBLIC CONCERNED}
  All 2\textsuperscript{nd} year Grenoble INP students (GI, ENSE3, Phelma, Ensimag)
  42 hours
  1 teacher/coach for 20-30 students
  150 to 250 (1/3 promos) students each year
  \textbf{30 \textasciitilde 50 BUSINESS VENTURE PROJECTS}

✓ \textbf{Skills built}
  Entrepreneurial spirit and competencies
  Combined mastery of the financial, commercial, technical and human aspects of the company, through a \textbf{REAL PROJECT}
Over 25 years of experience!
Objectives

- Entrepreneurial Mindset
- Business environment deep understanding
- Learning by doing
- Experiential learning based on self developed projects (fictitious or real...or to be real!)
- Teamwork
- Soft skills: communication, leadership...
- Business plan
- Feedback from experts – incubators, investors – and real potential customers
Curriculum: 1st step

From a first idea to a complete business plan and a pitch to potential investors

- Idea, project set-up
- Team management
- Project management
Curriculum: 2\textsuperscript{nd} step

From a first idea to a complete business plan and a pitch to potential investors

- Ideate, prototype
- Empathize, Test
- Convince

- Market study
- Strategy
- Business model
Curriculum : 3rd step

From a first idea to a complete business plan and a pitch to potential investors

- Set up a Business Plan (written report)
- Convince a jury – all entrepreneurial experts and professionals
KEY SUCCESS FACTORS

Engagement, Responsibilities

Individual choice of elective, team and project

Motivation, Participation
Pedagogical approach

• Key strengths
  – Theoretical up to date content and robust tools/methods: DT, CK, Effectuation, Lean
  – Time 2 Meet: an opening ceremony with all students from all schools, pitch competition and student entrepreneur keynote speaker
  – Expert day: one day to challenge the underconstruction business plans by experts/professionals
  – Jury: mix teachers/professionals

• Multiple choices for further enhancement
  – Manintec
  – Pépite
  – Masteriales
  – Foreign experience
  – PFE (end of school training period)
Opinion on the link between training and business

- Your training has allowed you to better understand the business world:
  - CECA: 67%
  - Non CECA: 34%

- Your training has brought you a more attractive vision of business creation:
  - CECA: 69%
  - Non CECA: 9%

- Your training has given you more capacities for business creation:
  - CECA: 66%
  - Non CECA: 15%

- During your training, the openness to business creation was good:
  - CECA: 65%
  - Non CECA: 15%
Startup INP

- **H3C-énergies**
  (CECA 2003)

- **Clément Jacquelin Athletics 3D**

- **Enhancia**

- **Prise de tête**

- **Phoenix Mobility**
- **Reveho**
- **Xplora**
- **Astucix**
Our partners

BPI
French Tech in The Alps
Village By CA
Linksium
Réseau Entreprendre
Grenoble Business Angels
Tarmac
Start-Up Week End
Co-Working places

Training
Incubating
Coaching
Funding
Networking
Evaluating
Advising
An ambitious renovation project

- Integrate societal and environmental issues throughout the entrepreneurial process
- Rely on ecosystem experts
- Rejuvenate pedagogy by experimenting: experiential learning + learning journeys + new creativity + KX platform and mindmap
- Feed research networks
What, when, for whom?
What is a learning expedition?

**PARTEZ EN LEX**

*LEX = Learning Expedition*
Why a learning expedition in Sustainable/responsible Entrepreneurship?
Our Partners

Les Minimes

Grenoble De Projets

Les Minimes
Par Trois Entrepreneurs Grenoblois:
Mathieu Genty, Marie Pesenti et Auriane Marsan

Ronalpia
Entreprendre pour les fragilités

Impact
By Réseau Entreprendre

Grenoble Angels
Center for innovation, transfer and entrepreneurship for students

Pépite oZer
PEPITE ?
Pôle Étudiant pour l’Innovation, le Transfert et l’Entrepreneuriat

- **Initiated in 2002** in Grenoble, this pioneering action in France aims to develop the entrepreneurial culture and skills of young people in order to improve professional integration.

- In 2014, the French Ministry of Higher Education defined what these Centers for Innovation, Transfer and Entrepreneurship for students should be. It selected **33 poles in France**, including that of the UGA, which offers actions aimed at all students in the academic district of Grenoble (~100,000 students).

- Its strategic development project is one of the 9 projects of excellence distinguished by the ministry during a national call for projects in 2020.

- A team of **9 people**. Approximately 700 k€/year budget.
Three missions

1. Develop the general culture of students:
   ➔ Discover the entrepreneurial spirit.

2. Support the acquisition of skills by students:
   ➔ Offer training modules favoring the experimentation of entrepreneurial approaches.

3. Support student initiatives:
   ➔ Allow students to progress in their studies and to develop their business project at the same time.
   ➔ Support initiatives, from the maturation of ideas to the realization of a project.
1. Develop the general culture of students:

**Discover the entrepreneurial spirit**

Allow each student to discover the idea of entrepreneurship, to identify the collective and personal issues, to understand the basic concepts and mechanisms. For example:

**• Meetings with inspiring entrepreneurs**
  – End of the day monthly mini-conferences: the *Apér’Ozer*
    • Testimonial from an inspiring entrepreneur
    • Pitches from student entrepreneurs currently incubated at PEPITE
    • A friendly networking moment
  – Meetings at lunchtime: The *Midi de l’entrepreneuriat*
    • During the lunch break
    • At the heart of a university school
    • The meeting-testimonial with an entrepreneur of this school
  – A student-entrepreneur forum: *Proj’Expo*
    • At the heart of the campus, a day of exhibition and meeting of students with business projects.

**• Initiation workshops to creative approaches**
  – Example: discovery days
    • Multi-day workshops involving multidisciplinary teams, in challenge mode, to imagine and design innovative products and services, on an imposed theme.
2. Support the acquisition of skills by students:

Training modules favoring the experimentation of entrepreneurial approaches

Offer training workshops allowing students to complete their course, favoring learning through experimentation on real or realistic cases.

• **Immersion programs in the entrepreneurial spirit**

  - **Intensive programs, 3 to 5 days of seminars with team projects:**
    *Les Mastériales, Les Doctoriales*
    - Training workshops on basic knowledge and skills (creativity / Validation of the idea / Market study / Business Model / Marketing strategy / Financing plan / Written summary / Oral presentation, etc.)
    - Realistic collective projects, assessed by professionals
    - Support provided by "senior" students from master's programs in "Entrepreneurship"

  - **A 3-month program (3h/week) to put yourself in the shoes of an entrepreneur:**
    *Campus Création*
    - Workshops once a week with coaches or experts
    - Training workshops on basic knowledge and skills
    - Realistic collective projects, assessed by professionals
3. Support student initiatives:
Allow to study and develop a business at the same time
Support initiatives, from the maturation of ideas to the realization of a project

➔ Running an incubator at the heart of our campuses.

• Currently, about 150 entrepreneur-students/year (target: 400/year by 2029).

• A national "entrepreneur student" status, awarded by the PEPITE on behalf of the French State (application on file + hearing).

• Build a community of entrepreneur-students and offer individualized support:

  – **Advice and support:**
    Mentoring; access to equipment and workspaces (coworking); meetings with experts; access to dedicated competitions...

  – **Integration into business communities:**
    Events to forge a group spirit, solidarity, emulation; networking events...

  – **Strengthen one's capacities (knowledge, skills, attitudes, methods, etc.):**
    Possibility of accessing courses and training on all types of skills, including outside the university world; access to training-action workshops focused on student projects.

  – **Support to adapt and succeed in studies:**
    Facilitate program adjustments or the substitution of the internship by working on your entrepreneurial project.
PEPITE: 4 core measures

1. Implementation of the culture of entrepreneurship and innovation:
   - cross learning modules with European credits (ECTS) in syllabus
   - 120,000 students reached per year

2. The creation of the 1st student-entrepreneur national status in the world:
   - students working on professional projects during their studies
   - graduates, in particular those under 28, who can benefit from the student status
   - 646 students entrepreneurs in 2014/15, and 3,500 in 2017-18

3. Founding 30 student centers (PEPITEs):
   - entrepreneurial awareness
   - entrepreneurial training programs coordination
   - support for student-entrepreneurs’ projects

4. The establishment of the PEPITE national prize:
   - 150 regional awards
   - 53 national awards
Thanks for listening!

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