UFR PhITEM
Physics, Engineering, Earth & Environmental Sciences, Mechanics

Diplomas and Programs
ELECTRONICS, ELECTRICAL ENERGY, CONTROL SYSTEMS • CIVIL ENGINEERING • MECHANICS • NANOSCIENCES AND NANOTECHNOLOGIES • PHYSICS • EARTH & ENVIRONMENTAL SCIENCES, SCIENCES OF THE UNIVERSE • NUCLEAR ENGINEERING
L’UFR PhITEM

Programs

Our Training and Research Unit (UFR) brings the University’s strengths in the Science, Technology and Health fields together as well as in five key scientific disciplines: Physics; Electronics; Electrical Energy, Control Systems; Mechanics; Civil Engineering, Earth Sciences and Sciences of the Universe.

We combine our scientific and professional programs, enabling graduates to rapidly enter employment.

- 1,300 Bachelor’s and Masters students
- 250 lecturers and research professors and 40 administrative staff
- 5 degree programs, 3 professional degrees and 7 Masters programs
- 42,000m² assigned buildings, located on campus and at the Polygone Scientifique

Experimental teaching

Programs using experimental teaching and project work are vital for science and technology learning.

10 THEMATIC FACILITIES FOR PRACTICAL WORK
UFR PhITEM offers its students access to 7,000 m² of facilities for practical work, fitted out with modern equipment in line with the latest developments in research.

LABORATORY EXPERIMENTS
The CESIRE (Center for Higher Education and Initiation in Research through Experiments) provides cutting-edge tools for Bachelors and Masters students to carry out laboratory experiments.

FIELD PLACEMENTS
Field placements, a specificity of UFR PhITEM disciplines and one of the strengths of our Earth Sciences and Sciences of the Universe programs, enable teachings to be directly put into practice.

Research

The program benefits from the outstanding research potential of UFR PhITEM affiliate labs.

LABORATORIES
UFR PhITEM partner labs are affiliated with both of the UGA community research hubs: The Physics, Engineering, Matter hub and the Particle Physics, Astrophysics, Geosciences, Environment and Ecology hub.

LABORATORIES OF EXCELLENCE (LABEX)
The “Investment in the future” calls for projects have seen 7 laboratories certified Laboratories of Excellence (LabEX), bringing together UFR PhITEM partner research teams and labs.

• 25 partner labs
UFR PhITEM is proud to have in its ranks:
- 1 member of the French Academy of Sciences
- 1 CNRS crystal medal, 3 silver medals and 5 bronze medals (award winners since 2011)
- 38 members and emeritus members of the Institut Universitaire de France
- 18 winners of the European Research Council grant (Starter Consolidator, Advanced Grant) since 2011.
International

We value talent mobility, a source of mutual discovery and enrichment. For many years the site's scientific potential, the presence of key European research infrastructures and the quality of life in Grenoble have attracted numerous students, researchers and research professors.

UFR PhITEM supports three doctoral and post-doctoral European schools: European Research Course on Atmosphere (ERCA), Higher European Research Course for Users of Large Experimental Systems (HERCULES), European School On Nanosciences and Nanotechnologies (ESONN), as well as ESIPAP (European School of Instrumentation in Particle & Astroparticle Physics) and JUAS (Joint Universities Accelerator School).

INTERNATIONAL ENGAGEMENT
UFR PhITEM has signed a large number of bilateral agreements. Many of the programs are taught in English favoring international engagement.
Studying at UGA is all about discovering this center of excellence, perfecting your language skills, throwing yourself into the cultural experience and increasing your chances of recruitment at a high level position.

STUDYING ABROAD
UFR PhITEM favors international exchanges and experiences. Help in studying abroad can be requested for both a full year or for shorter-term courses (semester, international internship).

Corporate relations

More than one in two students are enrolled in a vocational program at the end of their Bachelors or Masters degree with the aim of finding work on graduation.

INTERNSHIPS
The vast majority of UFR PhITEM's Bachelors and Masters students obtain internships in laboratories or businesses in the Grenoble area.

VOCATIONAL COURSES can be carried out on a professional contract or as an internship, depending on the company's wishes.

FRENCH APPRENTICESHIP TAX enables UFR PhITEM to constantly improve the quality of its teaching by maintaining at the highest level, the educational means made available to the students: experimental facilities, computing tools, external lecturers etc. By paying the French apprenticeship tax, companies support quality training for their future collaborators.

CONTINUING EDUCATION OFFER
In order to meet the needs of company managers, heads of HR, members of large and medium-sized companies, UFR PhITEM offers short programs to develop employee skills and is committed to building a knowledgeable and innovative society.

- Roughly 100 international students are welcomed every year through the student exchange program
- 17 international programs and 2 Erasmus Mundus programs
- Roughly 35 exchange students abroad

- 130 vocational students
  - Degree internships: from 1 to 2 months
  - Masters internships: from 2 to 6 months
### INDUSTRY: INDUSTRIAL DESIGN
- Industrialization of product processes

### ENVIRONMENTAL PROTECTION & MANAGEMENT
- Design and surveillance of hydraulic systems
- Prospection and protection of underground resources

### DEGREE
- **ELECTRONICS, ELECTRICAL ENERGY, CONTROL SYSTEMS**
- **CIVIL ENGINEERING**
- **MECHANICS**
  - Mechanics
  - Production and mechanical engineering

### PHYSICS
- Physics & Chemistry
- Physics

### EARTH SCIENCES
- Earth & Environmental Sciences
- Physics, Earth & Environmental Sciences, Mechanics

### 1st & 2nd YEAR MASTERS DEGREES

#### ELECTRONICS, ELECTRICAL ENERGY, CONTROL SYSTEMS

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<thead>
<tr>
<th>1st Year Masters</th>
<th>2nd Year Masters</th>
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<tbody>
<tr>
<td>Electrical Energy Systems</td>
<td>Electrical Energy Systems Design</td>
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<tr>
<td>Electronic Systems</td>
<td>Systems control and information technologies</td>
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<td>Microelectronics integration of real-time embedded systems</td>
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<td>Wireless integrated circuits and systems</td>
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<td>Multiscale and multiphysics modeling for electrical engineering</td>
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#### CIVIL ENGINEERING

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<th>1st Year Masters</th>
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<tr>
<td>Civil Engineering</td>
<td>Urban Engineering</td>
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<tr>
<td>Applied mechanics</td>
<td>Sustainable Construction and the Environment</td>
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<td>Mountain Construction, risks</td>
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<td>Geomechanics, civil engineering and risks</td>
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#### MECHANICS

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<th>1st Year Masters</th>
<th>2nd Year Masters</th>
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<tr>
<td>Mechanics &amp; Engineering</td>
<td>Simulation and Instrumentation in Mechanics</td>
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<td>Applied mechanics</td>
<td>Mechanical Engineering</td>
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<td>Environmental fluid mechanics</td>
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#### NANOSCIENCES AND NANOTECHNOLOGY

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<th>1st Year Masters</th>
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<td>Nanochemistry</td>
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<td>Nanophysics</td>
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<td>Nanobiosciences</td>
<td>Nanobiosciences</td>
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<tr>
<td>Research intensive track</td>
<td>Micro and Nanostructural Engineering</td>
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### PHYSICS

**1ST YEAR MASTERS**
- Pure Research
- Research & Innovation

**2ND YEAR MASTERS**
- Astrophysics
- Complex matter living matter
- Quantum Matter
- Subatomic Physics & Cosmology
- Nanophysics
- Medical Physics
- Commercialization technique in Optics

### SCIENCES OF THE EARTH AND UNIVERSE, ENVIRONMENT

**1ST YEAR MASTERS**
- Geodynamics
- Georesources
- Georisks
- Geophysics
- Hydroresources
- Atmosphere - Climate – Continental Surfaces

**2ND YEAR MASTERS**
- Géodynamiques
- Georesources
- Georisks
- Geophysics
- Hydroresources
- Atmosphere - Climate – Continental Surfaces
- Earthquake engineering and engineering seismology - em

### NUCLEAR ENGINEERING [ VALENCE ]

**1ST YEAR MASTERS**
- Nuclear Engineering

**2ND YEAR MASTERS**
- Remediation and Dismantling of Nuclear Facilities
- Scientific and Technologic Radioactive Waste Management
- Nuclear Safety

All Masters programs are co-accredited with Grenoble INP; Only programs supported by UFR PhITEM are presented here.

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### UD AND UC

#### UNIVERSITY DIPLOMAS (UD)
- PHYSICS MA
- DEIR – EUROPEAN DIPLOMA INITIATION IN RESEARCH
- THE SUSTAINABLE BUILDING, ENERGY TRANSITION TOOL

#### UNIVERSITY CERTIFICATE (UC)
- SUPPLEMENTARY MATHS FOR PHYSICS
- ENTREPRENEURIAL PROJECT MANAGEMENT
- KNOWLEDGE AND INNOVATION
- CLIMATE TRANSITION AND COMPANIES
- BACHELOR SUMMER PROGRAM

**Vocational**
**Programs taught partially or entirely in English**
**All courses are available to continuing education students**
Université Grenoble Alpes

The UGA is a large, multidisciplinary university. It is the result of a merger between three Grenoble universities: the Université Joseph Fourier, the Université Pierre Mendès France and the Université Stendhal (on January 1st 2016). It is a major player in secondary education and research in France.

The University is a member of the IDEX project: “Université Grenoble Alpes: an innovative university” whose aim is to create a unique university with strong international engagement in Grenoble. In an increasingly competitive world our establishment aims to better respond to all the challenges universities face in the world of today as well as the future, and to be increasingly visible and attractive internationally. UGA offers its students a wide range of programs covering all university disciplines from Bachelors to Masters Degrees.

Its range of programs are divided into four main educational fields:
• Arts, Literature, Languages
• Law, Economics, Management
• Humanities and Social Sciences
• Science, Technologies, Health

This multidisciplinary approach enables students to access a rich study program, opening career gateways and career changes.

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