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# WELCOME TO UNIVERSITE GRENOBLE ALPES

**Come Study at the Faculty of Pharmacy!**

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# UNIVERSITÉ GRENOBLE ALPES

## AN INTERNATIONALLY ENGAGED UNIVERSITY

The Université Grenoble Alpes (UGA) is one of France's leaders in higher education and research. As a comprehensive, global university, the UGA was created in order to respond to the challenges of higher education and the world today. Enrolling about 45.000 students each year, the university offers academic programs in all disciplines, and represents a major center for research and innovation in the heart of Europe.

The university and its students, faculties, and staff have close ties to the world around us. We believe these local and global ties make our research, our teaching, and our communities rich and strong, and you will see them reflected in all our key activities. Internationally ranked, the UGA is profoundly committed to its international partnerships, maintaining collaborative projects with more than 650 universities in over 80 countries. Our researchers collaborate with their peers worldwide on innovative projects in every discipline.

International relations also have pride of place in teaching and learning. The UGA's traditions - innovation, diversity, excellence - are embodied in our expertise in education, creating a welcoming

environment for international students, faculty, and staff and fostering the necessary skills in those who wish to broaden their horizons with an international experience.

The UGA's UNESCO Chair in International Communication has spent the last 15 years helping institutions worldwide to build their own master's and doctoral programs. We also participate in prestigious international degree programs, such as our 5 Erasmus Mundus master's programs and more than 50 double-degree programs created with the expertise of our world-wide partners. The UGA is also proud to offer 20 international degree programs taught entirely in English.







## A TRADITION OF EXCELLENCE IN RESEARCH

Our faculties produce high quality research in all disciplines, and work across disciplinary boundaries to bring innovative solutions to the important problems the world is facing. Researchers in over 80 research centers, supported by national and international funding, work on timely and essential topics such as climate change, cyber-security, big data, and digital technologies in the health sciences.

Taking advantage of its close ties to Grenoble's thriving community of R&D, innovation, and international business, the university has participated in the creation of over forty start-ups, maintains patents for its state-of-the-art research, and actively supports student entrepreneurs. This extraordinarily vital and productive environment is part of the reason that Grenoble has been named 5th most innovative city by Forbes Magazine.

The UGA's Foundation supports interdisciplinary initiatives such as innovative approaches to language learning, health and nutrition in an ageing population, and nanotechnology in satellite construction for space exploration.

## INNOVATION AND INTERDISCIPLINARITY IN TEACHING AND LEARNING

The UGA offers a wide range of degree programs in all disciplines, ranging from undergraduate, master's and doctoral programs to professional degrees and certificate programs. The university maintains close ties to business and industry in order to equip its students for the challenges of the professional world. The UGA has built flexibility into its programs, allowing students to engage in interdisciplinary training, distance learning, or adult and continuing education.

The university is particularly focused on cutting-edge programs in fields such as energy, biotechnology, nanomedicine and nanotechnology. Interdisciplinary programs allow our students to take advantage of the expertise of professors in multiple fields. This same spirit of innovation is present in our approach to pedagogy; the UGA makes the most of digital technology and distance learning to make its programs accessible to students with specific needs, such as handicapped students, student athletes, and working adults.



## AN UNPARALLELED ENVIRONMENT

Nestled in the heart of the Alps, residents of Grenoble enjoy an unparalleled quality of life. Each year, Grenoble is voted among the top three cities by French students who appreciate the spectacular environment that Grenoble has to offer. Easily accessible by bus, tram, or bike, the UGA's principal location is a 180-hectare self-contained campus, offering extensive student services and a rich student life. Additional locations throughout the Grenoble region place students and faculty close to important European research facilities and innovative international businesses.

The university also offers affordable, dedicated housing for students and international researchers, a variety of cafés and restaurants, and extensive athletic facilities. The UGA offers 35 sports: in addition to mountain sports such as skiing, climbing, hiking, and snowboarding, students, faculty and staff can participate in swimming, rugby, archery, horseback-riding, volleyball, and much more.

Campus life is enlivened by more than 200 student organizations and over 400 cultural events each year. A student-run radio station ties the university to the city of Grenoble, and the UGA's theater - Amphidice - organizes performances, films, lectures, and arts events for the university community. The student center - EVE - provides both a space for social interaction and specific funding for student initiatives.

**45000**  
STUDENTS

 **13%** ARE  
INTERNATIONAL

RESEARCH  
CENTERS

 **80**  
 **20**

LANGUAGES  
TAUGHT

**3000**

FACULTY

**2500**

STAFF MEMBERS

**24**

ACADEMIC  
DEPARTMENTS,  
SCHOOLS,  
AND INSTITUTES

**650**

UNIVERSITY  
PARTNERS

**80** in more than  
COUNTRIES

**180**

NATIONALITIES  
REPRESENTED  
ON THE CAMPUS

**1000** INTERNS ABROAD EACH YEAR



The background features a large, abstract geometric composition. A central element is a large triangle pointing upwards, composed of several smaller triangles in shades of grey, yellow, and light blue. Below this, a wide orange horizontal band contains the text. To the right of the orange band, a dark blue triangle points downwards. In the bottom left corner, there is a green triangle pointing downwards, partially overlapping a grey triangle. The entire design is set against a background of a light grey dot pattern that forms a faint world map.

# THE HEALTH CAMPUS

# HEALTH CAMPUS

## «AN INTEGRATED ENVIRONMENT TO PREPARE FOR THE FUTURE HEALTHCARE»

The Health Campus welcomes 8000 students every year and prepares them to enter the healthcare sector by delivering a very wide set of diplomas: doctors, pharmacists, biologists, nurses, midwives, physiotherapists, technicians, engineers...

Situated near the main campus of UGA and a few minutes away from the city center of Grenoble, it offers to the students the best environment for studies and for the learning by the practice, thanks to innovative educational approaches and state-of-the-art equipment. This Health Campus groups Faculty of Pharmacy and Medicine, the University hospital of Grenoble (CHUGA), Research laboratories of very high level in the field of the health: Biomedical Engineering for Health (TIMC-IMAG Lab), Institute for Advanced Biosciences (IAB), Grenoble Institute for Neurosciences (GIN), Physio Pathology of Hypoxia (HP2), as well as the business incubator, BIOPOLIS, to welcome start-ups and SMEs in MedTech and BioTech.

The campus offers numerous services to the students with catering services and possibilities of accommodation nearby. Working rooms, computing resources, as well as university library welcome the students for their personal work. A raised park and a botanical garden Dominique Villars (therapeutic and toxic plants) decorates the site and favors serenity for effective studies. More than 2000 m<sup>2</sup> of rooms of practical class and experimental devices are used by the teachers to dispense interactive and lively courses, widely based on the practice and the simulation.



## «A SHARED STRATEGY»

Over the past years, average life expectancy has increased by approximately 4-5 years per generation. The number of older people in long-term care has grown due to chronic diseases, and the gap between the active and inactive has widened, while the pressure on health and social care costs for society has increased. Awareness of the need to improve lifestyles, urban/natural environment and medical literacy amongst citizens, employers and policy-makers has risen and citizen-centered approaches to encourage behavioral change have been initiated. This situation demands that the barriers to innovation be removed. Only if this occurs will industry leaders, entrepreneurs and SMEs be able to effectively turn knowledge and ideas into new products and services that improve the health and quality of life of citizens and drive economic growth. A cross-disciplinary and approach must be taken to address the three main challenges –education and talents, innovation barriers, and enabling technologies and data – that have been identified.

To answer to the new stakes the challenges of Healthcare, the Faculties of Medicine and Pharmacy developed new educational strategies with numerous innovations accessible to the set of the students. The proposed trainings have a large focus on the international, widely calling on to the learning by the practice and the simulation. Numerous teachings are now done by inverted pedagogy and on the basis of multidisciplinary approaches. We are developing the concept of schools, allowing an integrated, intensive, and multidisciplinary education, particularly in the field of the engineering and the new technologies for the health.

## KEY FIGURES

MORE THAN



ON THE HEALTH CAMPUS

(Pharmacy, Medecine, Maieutics, Paramedical trainings, Bachelor's degrees, Masters and continuing education).

**1 600** STUDENTS IN FIRST YEAR OF THE STUDIES OF HEALTH (PACES)

• APPROXIMATELY **1100** STUDENTS IN PHARMACY,  
• **176** IN BACHELOR'S DEGREES,  
• **161** STUDENTS IN M1 AND **197** IN M2  
• **358** IN MASTER'S DEGREES



# A STRONG ORIENTATION TOWARDS THE HEALTH APPLICATIONS

## «A UNIVERSITY HOSPITAL»

The UGA works along with the University Hospital Grenoble Alps (CHU Grenoble Alpes), in a close partnership with the Faculties of Medicine and Pharmacy, participating actively in the training of the future medical doctors and pharmacists. It also manages 10 schools and institutes of staff training paramedical which welcome more than 1100 students every year. With more than 2100 beds and places, the CHU is beyond the 12th most important hospitals of France. It employs 8.000 professionals among whom 1.700 are medical doctors and pharmacists. It has successful technical services and provides highly specialized medical care. More than one hundred sorts of specialized teams are contributing directly or indirectly to its vocation of care, education, research and prevention.

## RESEARCH

The CHUGA benefits from a high potential in numerous domains of research on which it bases its scientific fame. It contributes to the progress of the medical and pharmaceutical sciences in contact with all the partners of the research units, faculties, INSERM (National center for scientific Research) and European Synchrotron Facility (ESRF).

## CARE

The CHUGA assures common and highly specialized medical and surgical care and welcomes the whole Emergency patients 24 hours a day. It is organized in 20 poles including additional activities: Clinical units (9); Laboratories and technical units (6); Administrative, logistics and technical (5).

## PREVENTION

The Hospital participates in numerous actions of public health, prevention and educational therapeutic of the patients as well as in the information campaigns of the general public by actions coordinated with the networks of health and within the framework of the Educational Transverse Unit of the Patient (UTEP).



<http://www.chu-grenoble.fr>



The image features a white background with a light gray dot pattern. Several overlapping triangles in various colors (green, blue, yellow, orange, gray) are scattered across the page. A prominent orange triangle is positioned in the lower right, partially overlapping a horizontal orange bar. The text 'LABORATORIES and RESEARCH' is centered within this bar in white, bold, uppercase letters.

**LABORATORIES and RESEARCH**



# INFORMATION ON SOME LABORATORIES

21 research teams welcome international students. These teams are attached to national research organizations such as INSERM, CEA and CNRS or work in collaboration with the Grenoble University Hospital Center.



## TIMC-IMAG LAB

(Biomedical Engineering for Health)

[www-timc.imag.fr](http://www-timc.imag.fr)

The TIMC-IMAG lab gathers 300 scientists and clinicians distributed in teams, linking computer science and applied mathematics for understanding and controlling normal and pathological processes in biology and medicine. This multi-disciplinary activity both contributes to the basic knowledge of those domains and to the development of systems for computer-assisted diagnosis and therapy. For several years, TIMC-IMAG has been very active in the industrial dissemination of its research results. Some of these actions have resulted in the development of industrial companies in the field of Biomedical Engineering (23 start-ups). This dissemination activity has been rewarded by "Trophée National de l'Innovation" (INPI, French National Agency for Industrial Property). TIMC-IMAG is a joint UGA-CNRS-CHUGA organization (UMR5525), which employs approximately 300 people divided in twelve groups.



## IAB

(Institute for Advanced Biosciences)

[iab.univ-grenoble-alpes.fr](http://iab.univ-grenoble-alpes.fr)

The IAB is an institute of international standing in basic and translational biomedical research. The scientific strategy of IAB is based on an unique blend of scientific expertises encompassing the entire biological continuum from molecules to populations and covering genetics, epigenetics and signaling through chromatin, cell biology and cell-matrix interactions, cell signaling, molecular pathology, host-parasite interactions, immunology and environmental epidemiology. IAB is committed to scientific excellence and promotes an intense and dynamic collaborative culture, supporting risk-taking and cross-disciplinary research towards groundbreaking discoveries. IAB is a joint UGA-INSERM-CHUGA organization (U1209).



## GIN

(Grenoble Institute for Neurosciences)

[neurosciences.univ-grenoble-alpes.fr](http://neurosciences.univ-grenoble-alpes.fr)

The GIN's mission is to study central and peripheral nervous systems, in order to understand their functioning and propose innovative therapies for neurological, neuromuscular and psychiatric diseases. The GIN's strategy is to develop a research continuum beginning with molecules and ending with humans, based on fundamental high-quality basic research associated with the development of unique and original technological and therapeutic innovations. As a result, there are several ongoing clinical studies that implement concepts or tools developed at the GIN. GIN is a joint UGA-INSERM-CHUGA organization (U 836).



## HP2

(Physio-Pathology of Hypoxia)

[hp2.univ-grenoble-alpes.fr](http://hp2.univ-grenoble-alpes.fr)

The HP2 laboratory has been created in 2001 with the objective of bringing together around a clinical entity, sleep apnea syndrome (SAS), and an experimental model, Intermittent Hypoxia, a set of Competencies and physiological, pharmacological, biochemical and clinical research techniques. A constant interaction between experimental hypotheses and clinical questions is thus implemented, aiming at a better knowledge of the cardiovascular, neurological and metabolic effects of the SAS and optimization of the management of the patients. HP2 is a joint UGA-INSERM-CHUGA organization (U1042).



### **LBFA**

(Basic and Applied Bioenergetics)

[www.lbfa.ujf-grenoble.fr](http://www.lbfa.ujf-grenoble.fr)

The LBFA develops advanced concepts and applies innovative tools (e.g. imaging, interactomics, etc) in bioenergetics. LBFA is working on molecular bioenergetics, in particular structure and function of key kinases and their role in energy and metabolic homeostasis in cellular systems, animal models or clinical patients, induced by exercise, drugs or chronic disease. LBFA develops specific fields of interest in: (i) mitochondrial physiology and cell death, and (ii) energy metabolism, exercise and nutrition. LBFA is a joint UGA-INSERM organization (U1055).



### **LRB**

(Bioclinics Radiopharmaceuticals)

The LRB aims to develop radiolabelled molecules for nuclear medicine -diagnosis and therapy- in the fields of cardiology, metabolism, oncology and neurodegenerative diseases. Including both «biological» and «clinical» expertise, LRB can implement all development stages of tracers, from the design of an original molecule to its transfer into the Clinics. Clinical transfer of two molecules developed in the laboratory has been recently successful (glucose transport, and vulnerable atheroma plaque, neurodegenerative). The LRB is a joint UGA-INSERM-CHUGA organization (U1039).



### **IBS**

(Institute of Structural Biology)

[www.ibs.fr](http://www.ibs.fr)

The IBS is a research center for integrated structural biology, performing interdisciplinary research at the interface of biology, physics and chemistry, and combines basic science, applied science and technical innovation. IBS's research themes, grouped around 3 research programs: (1) Infection and Molecular Medicine; (2) Membrane Signaling and Transport; (3) Frontiers in Biophysics and Chemistry for Structural Biology. The IBS, which has been funded by the UGA, the CEA, and the CNRS (UMR 5075) employs approximately 270 people divided in eighteen groups.

## **OTHER LABS**

- Centre de Recherches sur les Macromolécules Végétales (CERMAV) [www.cermav.cnrs.fr](http://www.cermav.cnrs.fr)
- Clinattec Lab [www.clinattec.fr](http://www.clinattec.fr)
- Département de chimie moléculaire (DCM) [dcm.ujf-grenoble.fr](http://dcm.ujf-grenoble.fr)
- Département de pharmacochimie moléculaire (DPM) [dpm.ujf-grenoble.fr](http://dpm.ujf-grenoble.fr)
- European Molecular Biology Laboratory (EMBL) [www.embl.fr](http://www.embl.fr) ▫
- European Synchrotron Radiation Facility (ESRF) [www.esrf.eu](http://www.esrf.eu) ▫
- Institut Laue-Langevin (ILL) [www.ill.eu](http://www.ill.eu)
- Laboratoire d'écologie alpine (LECCA) [www.leca.ujf-grenoble.fr](http://www.leca.ujf-grenoble.fr)
- The French Alternative Energies and Atomic Energy Commission (CEA) [www.cea.fr](http://www.cea.fr)

The local innovation ecosystem of Grenoble Alpes region has attracted leading multinationals and has spurred the creation of a growing cohort of start-ups in the field of biomedical technologies. Alongside UGA local organisations, including Medic@Ips, Tasda, Minalogic and Lyonbiopôle clusters are active participants in the Medtech/Biotech industry, providing a range of services to support innovation, from training through R&D project engineering and help securing financing. 160 companies are dedicated to medical technologies, biotechnologies and e-health. The turnover of the healthcare sector in Grenoble Alpes exceeds € 4 billion. This sector employs more than 8,500 jobs. Grenoble Alpes have developed partnerships with similar groups abroad, be it BioAlpes (Switzerland) and Bioindustry Park Silvano Fumero on the Alpine pathway or the Montreal Health Technologies Campus and MassMedic (Boston, USA) in North America.

## **MAIN BIOTECHNOLOGY AND SOME HEALTH INDUSTRIES**

- Roche Diagnostics [www.roche-diagnostics.fr](http://www.roche-diagnostics.fr)
- Becton Dickinson (BD) [www.bd.com](http://www.bd.com)
- Biomerieux [www.biomerieux.com](http://www.biomerieux.com)
- Trixell [www.trixell.com](http://www.trixell.com)
- Eveon [www.eveon.eu](http://www.eveon.eu)
- Stem cell technologies [www.stemcell.com](http://www.stemcell.com)
- Ecrins therapeutics [ecrins-therapeutics.com](http://ecrins-therapeutics.com)
- Synthelis [www.synthelis.com](http://www.synthelis.com)
- CreaCell [www.creacell.com](http://www.creacell.com)

The background features a complex geometric design. A large, light gray dot pattern is overlaid on a white background. Several triangles of various colors and orientations are scattered across the page. A prominent orange horizontal band spans the width of the page, containing the text. Other triangles include dark blue, green, light blue, yellow, and light gray. The overall aesthetic is modern and technical.

**PHARMACY and BIOTECHNOLOGY**



# GRENOBLE, A DYNAMIC INTERNATIONAL SITE FOR STUDYING PHARMACY AND BIOTECHNOLOGY

The Faculty of Pharmacy of Grenoble Alps University (UGA) has a long story of international exchanges for students and professors in order to promote cultures, civilizations and skills sharing and further enrich research, teaching and communities. As an International Institution, we welcome students from different countries around the world to study and follow internships in Grenoble Alps University Hospital, Research laboratories or Companies. Our Faculty promotes innovative education for students in Therapeutics, Diagnostics and Medical devices with a strong emphasis on Biotechnologies. We also organize exchanges for academic members to boost international collaborations in research and teaching.

In 2016, UGA received the IDEX label, an excellence national program to enhance interdisciplinary teaching and research worldwide. As part of the excellence, the Faculty obtained 3 IDEX financing and we are partner of IDEX equipment. Several of our teachers are involved in IDEX Research (CDP). And numerous international students of our faculty benefit from IDEX scholarships.

We propose innovative education in French or English languages (international masters, reversed pedagogy, e-learning, interdisciplinary formation altogether in strong collaboration with Grenoble Alps University Hospital (CHU), Research laboratories or Companies in Pharmacy and biotechnology). In this context, we provide our students and professors a very dynamic and international environment, enabling success for their projects

## PHARMACY EDUCATION

- **What:** We prepare our students to basic and essential knowledge for pharmacists who pretend to work in hospitals, dispensaries, university laboratories and industries in strong collaboration with the CHUGA.
- **Who:** Pharmacy students (from 2<sup>nd</sup> year to 5<sup>th</sup> year)
- **Language:** French
- **Calendar:** Autumn session (End of August - beginning of January), **30 ECTS**  
Spring session (Beginning of January – beginning of July), **30 ECTS**

### ▫ Programs

After a selection of the Pharmacist students at the end of the first year, our pharmacy education proposes for these second year courses on basic knowledge in biology, chemistry, physics, statistics and clinical aspects. From the third year, our students are going further with a reversed pedagogy view, e-learning sessions, resolved problem learning and practical sessions on clinical pharmacy, quality control, drugs chemistry commercialization and production, biotechnology, toxicology, experimental pharmacology, regulation and safety. To accompany courses, students apply each year for an internship in hospital, pharmacy, dispensary, companies or research laboratories.

## BIOTECHNOLOGY EDUCATION

- **What:** We propose a comprehensive range of courses dedicated to Biotechnologies and Health Engineering. Practical sessions are organized using experimental training platforms and Technological Research infrastructures.
- **Who:** Bachelor (2<sup>nd</sup> and 3<sup>rd</sup> years) and Master students (1<sup>st</sup> and 2<sup>nd</sup> years)
- **Language:** French and/or English
- **Calendar:** Autumn session (End of August - beginning of January), **30 ECTS**  
Spring session (Beginning of January – beginning of July), **30 ECTS**

secteur-sante.univ-  
grenoble-alpes.fr/ufr-  
pharmacie



# PHARMACY CURRICULUM – YEAR 2 AND 3

YEAR 2		autumn semester sept-dec	ect s	reference	langue
Apprentissage des techniques et gestes de base	Learning basic techniques and acts	3.5	MCPH3U02	french	
Biodiversité et bioévolution des règnes animal et végétal	Biodiversity and bioevolution of the animal and plant reigns	3.5	MCPH3U04	french	
Voie d'accès aux substances médicamenteuses	Route of Access to Drug Substances	3.5	MCPH3U05	french	
Sciences analytiques - partie 1	Analytical Sciences	2.5	MCPH3U06	french	
Sciences biologiques - partie 1	Biological Sciences	9	MCPH3U07	french	
Cycle de vie du médicament et des dispositifs médicaux	Drug and medical devices life cycle and pharmaceutical system	2	MCPH3U08	french	
Formulation, fabrication et aspects biopharmaceutiques des médicaments – partie 1	Formulation, manufacture and biopharmaceutical aspects of medicinal products - part 1	3	MCPH3U09	french	
Bases physicochimiques pour l'analyse et le contrôle du médicament	Physicochemical bases for the analysis and control of medicinal products	3	MCPH3C01	french	
Santé environnementale	Environmental Health	3	MCXAU001	french	
YEAR 2		spring semester jan-june	ect s	reference	langue
Communication en santé	Health communication	2	MCPH4U12	french	
Voie d'accès aux substances actives médicamenteuses - partie 2	Route of Access to Drug Substances - part 2	3.5	MCPH4U03	french	
Sciences biologiques - partie 2	Biological Sciences - part 2	5	MCPH4U04	french	
Sciences analytiques - partie 2	Analytical Sciences - Part 2	3.5	MCPH4U05	french	
Sciences pharmacologiques	Pharmacological Sciences	4	MCPH4U06	french	
Formulation, fabrication et aspects biopharmaceutiques des médicaments – partie 2	Formulation, manufacture and biopharmaceutical aspects of medicinal products - part 2	3	MCPH4U07	french	
Qualité des produits de santé	Quality of health products	1.5	MCPH4U08	french	
Immunologie	Immunology	2	MCPH4U09	french	
Obtention de médicaments par synthèse organique	Drugs organic synthesis	3	MCPH4C01	french	
Maladies infectieuses : environnement et épidémiologie	Infectious disease, epidemiology	3	MCPH4C02	french	
Plantes et champignons médicinaux et toxiques	Medicinal and toxic plants and fungi	3	MCXBU001	french	
YEAR 3		autumn semester sept-dec	ect s	reference	langue
Bases de la conception des substances actives d'origine naturelle	Basis for the design of active substances of natural origin	1.5	MCPH5U01	french	
Hématologie	Hematology	3	MCPH5U02	french	
Troubles respiratoires	Respiratory disorders	3	MCPH5U04	french	
Pathologies infectieuses	Infectious diseases	3	MCPH5U05	french	
Endocrinologie	Endocrinology	3	MCPH5U06	french	
Méthodes en pratique pharmaceutique - partie 1	Methods in pharmaceutical practice - part 1	2	MCPH5U07	french	
Biopharmacie	Biopharmaceuticals	3.5	MCPH5U09	french	
Contrôle Qualité	Quality control	3.5	MCPH5U10	french	
Rédaction et critique d'article	Writing and article reviews	0.5	MCPH5U11	french	
Notions approfondies de pharmacologie	In-depth knowledge of pharmacology	3	MCPH5C03	french	
Pharmacognosie	Pharmacognosy	1.5	MCPH5U12	french	
Action humanitaire et inégalité en santé	Humanitarian action and health inequality	3	MCPH5C06	french	
YEAR 3		spring semester jan-june	ect s	reference	langue
Technologies de médicaments biologiques	Biological Drug Technologies	4	MCPH6U01	french	
Diabétologie	Diabetology	2.5	MCPH6U02	french	
Prise en charge des maladies infectieuses	Management of infectious diseases	6	MCPH6U03	french	
Système nerveux et addictologie	Nervous System and Addictology	4.5	MCPH6U04	french	
Troubles digestifs et hépatiques	Digestive and Hepatic Disorders	2.5	MCPH6U05	french	
Douleurs, antalgiques, anti-inflammatoires	Pain, analgesics, anti-inflammatory drugs	3	MCPH6U06	french	
Méthodes en pratique pharmaceutique - partie 2	Methods in pharmaceutical practice - part 2	2.5	MCPH6U07	french	
Santé connectée	Connected Health	2	MCPH6U08	french	
Pharmacologie expérimentale	Experimental Pharmacology	3	MCPH6C03	french	
Adaptation et physiologie des agents pathogènes	Adaptation and physiology of pathogenic agents	3	MCPH6C04	french	
Physiologie adaptative	Adaptive Physiology	3	MCPH6C05	french	
Addictologie	Addictology	3	MAXOADD1	french	

# PHARMACY CURRICULUM – YEAR 4 AND 5

YEAR4	autumn semester sept-dec	ects	reference	language
Cancérologie, onco-hématologie, anticancéreux	Cancerology, oncohematology	6	MCPH7U01	french
Système nerveux 2	Nervous System - part 2	2	MCPH7U02	french
Immunopathologie	Immunopathology	2	MCPH7U03	french
Cardiologie, néphrologie	Cardiology, nephrology	6	MCPH7U04	french
Education thérapeutique	Therapeutic Education	2	MCPH7U05	french
Toxicologie Clinique	Clinical Toxicology	4	MCPH7U06	french
Organisation Gestion	Organization Management	2	MCPH7U07	french
Economie en santé	Health Economy	3	MCPH7U08	french
YEAR4	spring semester jan-june	ects	reference	language
Santé publique	Public Health	3	MCPH8U01	french
Vaccins	Vaccines	2	MCPH8U14	french
Dispensation médicamenteuse et autres produits de santé : gestion des interactions médicamenteuses et effets indésirables	Drug Dispensing and Other Health Products: Managing Drug Interactions and Adverse Reactions	2	MCPH8U04	french
Activités spécialisées à l'officine : Dermatologie	Specialized activities at the pharmacy: Dermatology	2	MCPH8U05	french
Activités spécialisées à l'officine : Gestion des risques à l'officine	Specialised activities in the pharmacy: Risk management in the pharmacy	1	MCPH8U06	french
Soins pharmaceutiques : Formulation et conseils à l'officine	Pharmaceutical care: Formulation and advice at the pharmacy	1	MCPH8U08	french
Statistiques	Statistics	2	MCPH8U10	french
Drug design en recherche et développement du médicament	Drug design in drug research and development	2	MCPH8U11	french
Enregistrement des médicaments & Maîtrise des risques et de la qualité	Drug registration & Risk and quality control	2	MCPH8U12	french
Obtention d'un principe actif biotechnologique	Obtaining a biotechnological active ingredient	3	MCPH8C01	french
Formulation	Formulation	3	MCPH8C04	french
Obtention d'un principe actif chimique	Obtaining a chemical active ingredient	3	MCPH8C02	french
Contrôle analytique du médicament	Analytical control of the medicinal product	3	MCPH8C03	french
Biologie et Pharmacie clinique	Biology and Clinical Pharmacy	12	MCPH8U20	french
Méthodologie en recherche clinique	Clinical Research Methodology	6	MAWB0008	french
YEAR5	autumn and spring semester sept-june	ects	reference	language
Suivi Pharmaceutique et biologie des patients - partie 1	Pharmaceutical monitoring and patient biology - part 1	3	MCPH9U02	french
Préparation aux fonctions hospitalières	Preparation for hospital duties	3	MCPH9U03	french
Prise en charge du patient à l'officine partie 1	Patient care in the pharmacy - part 1	8	MCPH9U05	french
Comestibilité et toxicité des champignons	Compatibility and toxicity of fungi	2	MCPH9U06	french
Suivi Pharmaceutique et biologie des patients - partie 2	Pharmaceutical monitoring and patient biology - part 2	3	MCPHXU02	french
Droit commercial	Commercial law	2	MCPHXU03	french
Comptabilité, gestion à l'officine	Accounting, pharmacy management	2	MCPHXU04	french
Prise en charge du patient à l'officine - partie 2	Patient care in the pharmacy - part 1	8	MCPHXU05	french
économie du médicament et autres produits de santé	Drug and other health products economics	7	MCPHXU10	french
Distribution des produits de santé	Distribution of Health Products	8	MCPHXU12	french
Stage hospitalier	Hospital internship	12	MCPHXU01	french



# BIOTECHNOLOGY CURRICULUM

YEAR 1		not accessible to exchange students			
YEAR 2		autumn semester sept-dec	ects	reference	language
Introduction aux biotechnologies	Introduction to Biotechnologies	3	BTS 301	french	
Biotechnologie, épigénétique et génétique moléculaire	Engineering Sciences 1	3	BTS302	french	
Chimie Organique Générale	The cell and its environment: general cellular biology	6	BTS303	french	
La cellule et son environnement : Biologie Cellulaire générale	Immunology: molecules and associated cell functions	3	BTS304	french	
Bases de l'immunologie	Biotechnology, epigenetics and molecular genetics	3	BTS305	french	
Thermodynamique et Cinétiques Chimiques	Thermodynamics and Chemical Kinetics	6	CHI305	french	
Sciences de l'ingénieur 1	General Organic Chemistry	3	BTS307	french	
YEAR 2		spring semester jan-june	ects	reference	language
Interface Chimie – Biologie	Engineering Sciences 2	3	BTS401	french	
Physiologie et intégration des fonctions biologiques	Interface chemistry - biology	3	BTS402	french	
Biotechnologies autour de la pathologie	Instrumentation and Organic Chemistry	3	BTS403	french	
Expérimentation avancée en Biotechnologies Santé	Issues and molecular Bases in Health	6	BTS404	french	
Instrumentation et chimie organique	Physiology and integration of important biological functions	3	BTS405	french	
Connaissance de l'entreprise	Biotechnologies for pathologies	3	BTS406	french	
Sciences de l'ingénieur 2	Advanced Experimentation in Health Biotechnologies	3	BTS407	french	
Enjeux et bases moléculaires en santé	Micro-economic perspectives: Knowledge on entrepreneurship	3	BTS408	french	
YEAR 3		autumn semester sept-dec	ects	reference	language
Sciences de l'ingénieur 3	Engineering Sciences 3	3	NNSPI351	french	
Microbiologie et applications	Microbial biotechnology	6	NNBIO351	french	
Pharmacologie générale et Biomédicaments	General pharmacology and biodrugs	3	NNPHA351	french	
Biomathématiques - Statistiques 1	Biomathematics-Statistics 1	3	NNBIO352	french	
Méthodes d'analyse	Biotechnologies and cancer	6	NNBIO354	french	
Biotechnologies autour de la pathologie cancéreuse	Analytical methods	3	NNBIO355	french	
Chimie Organique : de la réactivité à la synthèse des biomolécules	Organic chemistry: from reactivity to synthesis of biomolecules	3	NNCHI351	french	
YEAR 3		spring semester jan-june	ects	reference	language
Sciences de l'ingénieur 4	Engineering Sciences 4	3	NNSPI361	french	
Ethique et sécurité des biotechnologies	Ethics and safety of biotechnologies	6	NNBIO361	french	
Biotechnologie et Ingénierie Diagnostique	Biotechnology and Diagnostic Engineering	3	NNBIO362	french	
Biomathématiques - Statistiques 2	Statistical Biomathematics 2	3	NNBIO363	french	
Expérimentation avancée en Biotechnologies	Advanced Experimentation in Biotech	6	NNBIO364	french	
Biotechnologie et production de molécules d'intérêt	Biotechnology and production of molecules of interest	3	NNBIO366	french	
Stage en milieu professionnel	Internship	3	NNOPR361	french/eng	



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