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SCIENCES, TECHNOLOGIES, SANTÉ, INGÉNIERIE

Parcours Biohealth engineering 2nd year

Master Ingénierie de la santé

Université Grenoble Alpes

Niveau d'étude visé
Bac +5

ECTS
60 crédits

Durée
1 an

Composante
UFR Pharmacie

Langue(s) d'enseignement
Anglais

Présentation

The master's program in BioHealth Engineering (BHE) provides a solid foundation for the development of sustainable biotechnological solutions and their use in health care. Students acquire knowledge about state-of-the-art techniques, experience in operating technological platforms and analyzing big data in the context of human health. Graduates have the competence necessary to research and develop diagnostics, disease prevention tools and therapies

With the rapid advance of biomedical engineering, life sciences and physical sciences have converged to create a new discipline: biomedicine. This convergence is helping scientists to make important breakthroughs, such as innovative tools for diseases detection and drug design and delivery, for modeling diseases progression and drug response aiming at improving our skills in personalized medicine.
Over the past 150 years, thanks to basic and translational science, average life expectancy has increased leading to an increased occurrence in chronic diseases. There is consequently a growing need for scientists to increase their knowledge in multi-pathologic models in order to adjust biomedical innovations. Postgraduate recruits to the fast-growing sector of biomedical engineering will need to bring not only their expertise in a particular field, but also a thorough grounding in a range of technologies and the ability to apply their knowledge and skills to the design of new products and services.

Thus, the first year of the Master BHE aims at teaching basic sciences (basic technical skills in biology and chemistry, statistics, drug design and modeling, physiology, English) and initiation in innovative biomedical engineering (DNA/ membrane/cell system technologies, data training). The 1st year of the master's program in BioHealth Engineering (BHE) consists in two terms (S7 and S8) of courses. Each term consist of approximately 30 ECTS credits. The courses presented on this page apply to studies starting in autumn 2022.

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Formation internationale : Formation ayant des partenariats formalisés à l'international

Organisation

Aménagements particuliers

Informations non contractuelles.
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L'UGA s'attache à offrir aux personnes en situation de handicap des conditions d'accueil et d'accompagnement adaptées à leurs besoins et à leurs projets.
Se faire reconnaître travailleur handicapé et **Bénéficiaire de l'Obligation d'Emploi (BOE)**, par la **Reconnaissance de la Qualité de Travailleur Handicapé (RQTH)**, peut vous permettre de bénéficier de tous les accompagnements techniques et humains possibles et de prétendre à des droits particuliers.

Page web et contact

Vous trouverez toutes les informations sur la **validation d'acquis** (VAE - VAPP) ici.

Stage à l'étranger : En France ou à l'étranger

Admission

Conditions d'admission

The master of Health Engineering is open in initial training and continuing education. The 2nd year is accessible on file (and / or interview) to the candidates having validated the 1st year of master of a compatible course or else by a validation of studies or acquired according to the conditions determined by the university or training.

Public continuing education : You are in charge of continuing education :

- if you resume your studies after 2 years of interruption of studies
- or if you followed training under the continuous training regime one of the previous 2 years
- or if you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training, you can undertake a validation of personal and professional achievements (VAPP)

You can also consult the prices applying to the public of the continuing education (link : https://www.univ-grenoble-alpes.fr/consulter-nos-tarifs/)

Candidature

How to apply depends on your profile ? You are a student of French nationality, or you reside in the EU, or you reside in a country not covered by the Studies in France procedure (see below), you must apply via the ecandidat application on the dates below :

- Only the 2nd year of the Master in health engineering is in English language**:** application from the **28th of february 2026 to the 29th of april 2026.**
- You live in one of the countries below. You are therefore subject to the Studies in France procedure: online applications entered on the Campus France site.
  - The application dates are as listed on the Campus France website.
- The "Studies in France" procedure only concerns students residing in one of the 73 following countries: Afrique du Sud, Angola, Arménie, Azerbaïdjan, Algérie, Arabie Saoudite, Argentine, Bahreïn, Bénin, Birmanie, Bolivie, Brésil, Burkina Faso, Burundi, Cambodge, Cameroun, Canada, Chili, Chine, Colombie, Comores, Congo, Corée du Sud, Côte d'Ivoire, Djibouti, Émirats arabes unis, Égypte, Equateur, États-Unis, Ethiopie, Gabon, Géorgie, Ghana, Guinée, Haïti, Hong Kong, Inde, Indonésie, Iran, Israël, Japon, Jordanie, Kenya, Koweït, Liban, Madagascar, Malaisie, Mali, Maroc, Maurice, Mauritanie, Mexique, Népal, Nigeria, Pakistan, Pérou, Qatar, République Centrafricaine, République démocratique du Congo, République dominicaine, Royaume-Uni, Russie, Rwanda, Sénégal, Singapour, Taïwan, Tchad, Thaïlande, Togo, Tunisie, Turquie, Ukraine, Vietnam.
- For more information, we invite you to consult the master of Health engineering website or the training catalog

Public cible

Non French speaking students with a background in :

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- Molecular biology, cellular biology and biotechnologies (biotechnology courses)
- Biology, biochemistry, toxicology (health-environement courses)
- Medical imaging, signal processing, informatics... (innovative medical devices courses)

This program is also open to students with a medical or pharmaceutical background. This MSc can also be selected by french speaking students wishing to follow courses in english and to include a mobility in their 2nd year (courses or internship).

- Students from the first year of Master's programme (M1) « Ingénierie de la Santé »
- Students who have validated 4 years of higher education in biology, chemistry- biology…
- Students who validated 5 years of Pharmacy studies – industrial or research track
- MD or PharmD students with a strong scientific background, students in veterinary medicine
- Students in life sciences engineering
- Other profiles, after examination by the selection committee

Droits de scolarité

3500 € specific participation costs + national costs

Les + de la formation

Students investigate important questions at the interfaces of biomedical engineering, molecular and nanoscale biotechnology, computational mathematics and clinical research. They undertake individually mentored thesis research projects in laboratories at uga or in partner universities, affiliated spin-offs and teaching hospitals.UGA and its partner institutions provide students with a broad but high-level programme of courses in core subjects which they choose in relation to their individual field of research. these are further enriched by a series of advanced courses in the fundamentals of engineering and biomedical science. students also acquire key transversal skills such as teamwork, management of complex processes, conceptual approaches, entrepreneurship and intercultural awareness.
Biohealth computing schools Unique to health4life's curriculum are the interdisciplinary and intensive biohealth computing schools (biohc), organised and hosted by the european scientific institute in archamps (greater geneva). as well as meeting and interacting with leading experts from academia, industry and international organisations, students are coached in the use of design thinking methodology to address unmet needs in human and environmental health, with the opportunity to pitch their innovation ideas to a panel of international experts. Health4life is heavily research & innovation- oriented. The programme benefits from the region's rich ecosystem offering a level of technological know-how unrivalled in Europe, and a truly multidisciplinary approach to scientific research. Grenoble is at the crossroads of three internationally recognised hubs of healthcare, micro-nanotechnology and it-iot. Home to some of the world's best research centres, grenoble has spurred the creation of a growing cohort of start-ups and has attracted leading multinationals (bioMérieux, GE healthcare, Becton Dickinson, Roche Diagnostics, and Covidien) seeking to carve out a position in the rapidly-growing medtech industry.
Biohealth engineering brings together these strengths in biomedical practice, research, innovation, and entrepreneurship and offers students attractive internships from affiliated teaching hospitals, research institutes (including the cea, europe's largest independent research centre in nanoelectronics and technology), biotech and medical device companies. Moreover, the programme collaborates with local and regional innovation service providers such as CIC-IT, Biopolis, Linksium, Eccami, Medic@lps, Tasda, Minalogic and Lyonbiopôle.

Biohealth engineering is part of the eit health master on technological innovation on health, founded on long-standing partnerships with major european universities, such as Universitat de Barcelona, Universidad Politecnica de Madrid, Universidade de Lisboa, Universita de Torino. students are also recruited from world-class universities outside Europe, including Manipal (India), Soochow (China) , Beyrouth (Lebanon) ...

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Et après

Poursuite d'études

Health4life leads on naturally to PhD positions and/or R&D careers in world-leading industries, high-potential start-ups, teaching hospitals and universities, where students are able to utilise their skills in collaborative cutting-edge research and innovation projects, translating technologies into viable applications for the benefit of all.

Our multidisciplinary, two-summer school programme offers diverse perspectives in all areas of health.

Examples of prospects :

- Pursuing doctoral thesis studies (around 40% of students are doing a thesis in France or elsewhere)
- Executive in hospital and industrial teams in the health sector
- Research engineer in academia
- Creation of start-ups in the field of engineering for health

Insertion professionnelle statistiques

Find all the information concerning the success rate at the diploma and the future of our graduates
(link: https://www.univ-grenoble-alpes.fr/formation/devenir-de-nos-diplomes/)

It is also possible to consult our resource documents From studies to employment classified by fields of training (link:

https://prose.univ-grenoble-alpes.fr/metiers-secteurs/choisir-une-thematique-ou-un-secteur/)

Secteur(s) d'activité(s)

Research in the biohealth field, particularly in the following areas: biotechnologies, environmental toxicology, public health, innovative medical devices.

Infos pratiques

Contacts

Responsable pédagogique

Ahcene Boumendjel

Ahcene.Boumendjel@univ-grenoble-alpes.fr

Responsable pédagogique

Michel Seve

Michel.Seve@univ-grenoble-alpes.fr

Responsable pédagogique

Valerie Guieu

Valerie.Guieu@univ-grenoble-alpes.fr

Responsable pédagogique

David Warther

david.warther@univ-grenoble-alpes.fr

Secrétariat de scolarité

Scolarité BHE

masterbhe@univ-grenoble-alpes.fr

Établissement(s) partenaire(s)

ESI - BioHC Summer Schools

http://www.esi-archamps.eu/Thematic-Schools/Discover-bioHC

Lieu(x) ville

Grenoble

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Campus

Grenoble - La Tronche domaine de la Merci

En savoir plus

Site web du master Ingénierie de la santé

https://master-ingenierie-sante.univ-grenoble-alpes.fr/

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Programme

Spécificités du programme

Programme en cours de saisie, se référer aux MCCC dans les pièces à télécharger.

Master 2e année

Semestre 9

	Nature	CM	TD	TP	Crédits
French as a foreign language (Fall or Spring semester)	UE				3 crédits
UE Anglais	UE		24h		3 crédits
UE Application of AI for Healthcare	UE	12h	12h		3 crédits
UE Treatment and prophylaxis of infectious diseases	UE	27h	3h		3 crédits
Data management technologies, policies and ethics (Fall or Spring semester)	UE				3 crédits
UE Ethical and societal aspects of Artificial Intelligence	UE	12h	10h		3 crédits

Semestre 10

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