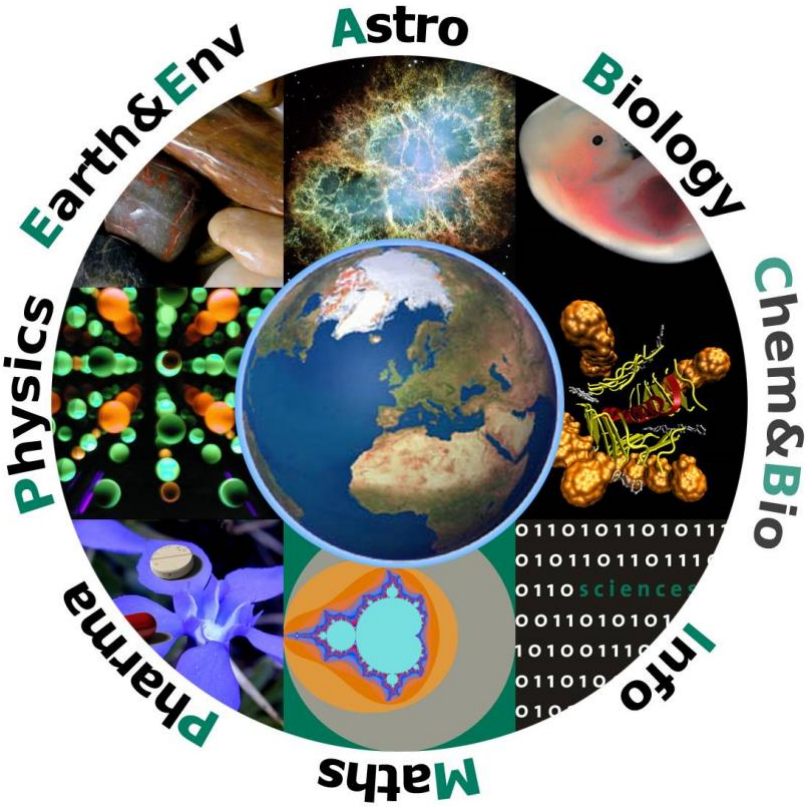
UNIVERSITÉ DE GENÈVE
FACULTY OF SCIENCE

Sciences

Studying Astrophysics

2024 - 2025



IMPORTANT DATES

AUTUMN SEMESTER 2024 – 2025

Start of the courses	*Monday 16 September 2024*
Astro student welcome	*Wednesday 18 September 2024*
Dies academicus	*Friday 11 Oct 2024*
Course registration	*Tuesday 15 → Monday 21 Oct 2024*
Exam registration	*Tuesday 29 Oct → Monday 4 Nov 2024*
Graduation ceremony	*Friday 15 November 2024*
End of exam cancellation	*Thursday 5 December 2024*
End of the courses	*Friday 20 December 2024*
Exam period start	*Monday 20 January 2025*
Exam period end	*Friday 7 February 2025*

SPRING SEMESTER 2025

Start of the courses	*Monday 17 February 2025*
Application for Master of Excellence Scholarships	*Deadline: Friday 28 February 2025*
Course registration	*Tuesday 4 → Monday 10 March 2025*
Exam registration	*Tuesday 18 → Monday 24 March 2025*
End of exam cancellation	*Thursday 15 May 2025*
End of the courses	*Friday 30 May 2025*
Exam period start	*Monday 9 June 2025*
Exam period end	*Friday 27 June 2025*
Exam registration	*Tuesday 15 → Monday 21 July 2025*
End of exam cancellation	*Thursday 14 August 2025*
Exam period start	*Monday 25 August 2025*
Exam period end	*Friday 5 September 2025*

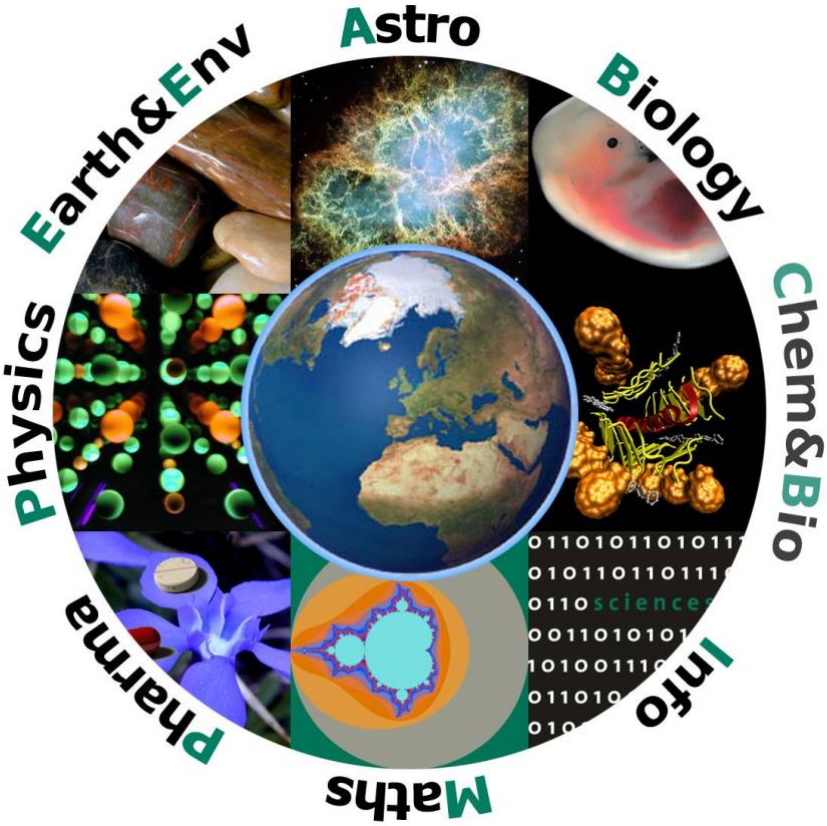
HOLIDAYS

Easter vacation	*Friday 18 April → Sunday 27 April 2025*
Labor Day	*Thursday 1 May 2025*
Ascension Day	*Thursday 29 May 2025*
Whit Monday	*Monday 9 June 2024*
« Jeûne Genevois »	*Thursday 11 September 2025*

AUTUMN SEMESTER 2025 – 2026 Monday 15 September 2025

See here:
www.unige.ch/sciences/en/informationspratiques/dates/

General Information



CONTENTS

UNIVERSITÉ DE GENÈVE
FACULTY OF SCIENCE

PREAMBLE

The Faculty of Science of the University of Geneva is known worldwide for its research work. The Nobel Prize in Physics in 2019 for the discovery of the first planet outside the solar system, a second Fields Medal, considered the equivalent of the Nobel Prize in mathematics, the achievements in quantum teleportation, and studies of the genetics of embryonic development are just a few examples of intense activity in a wide range of fields: astronomy, biology, chemistry, computer science, mathematics, physics, pharmaceutical sciences, and Earth and environmental sciences. Another important mission of the Faculty of Science is teaching and training. These missions are strongly linked, with teachers expected to be at the forefront of research at the university level.

This document consists of two parts: a first "Faculty" part, containing information on the organization of the University and the Faculty of Science, as well as useful addresses and various practical information. The second part is the student guide, which gives practical information (schedules, course information, etc.) specific to your sector. A reminder of the important dates as well as the site plan of the main buildings is included on the inside pages of the cover. It is our hope that students will quickly feel at home in this Faculty, which delivers the broadest diversity of teaching and titles of the University.

Each branch (Biology, Chemistry, Biochemistry, Computer Sciences/informatics, Mathematics, Physics, Earth and Environmental Sciences, and Pharmaceutical Sciences) is under the responsibility of a subdivision called Section (except for IT, which is a department). In addition, Earth and Environmental Sciences, and Astronomy are organized in Departments.

As a student, you are primarily interested in your training. Nevertheless, we encourage you to participate equally in the life of the institution, whether it is to elect members representing you at the various councils or to be part of it. It should be noted that there are councils at all levels, bringing together faculty representatives, teaching and research associates, students, and administrative and technical staff:

- University Assembly
- Participatory Council of the Faculty
- Section/Department Council

You are also encouraged to join the student association of your sector.

Finally, I would like to wish the students success in their studies, which they will undoubtedly find demanding but exciting, as sciences are. In case of difficulties, faculty members, counsellors, and administrative services are also at your disposal.

The Dean

THE FACULTY OF SCIENCE PRESENTS ITSELF

The University of Geneva is one of thirteen European universities, and the only Swiss university, founding member of the European League of Research Universities. Recently, the University entered the very closed club of the hundred best academic institutions in the world according to the Shanghai ranking. With the University and the ETH of Zurich, the researchers of the University of Geneva also lead in securing competitive research grants from the National Science Foundation. In addition, the University of Geneva offers the opportunity to become science teachers (one of only two Swiss universities with a teaching and research team at the faculty level). Finally, our University is the most international, both in the diversity of its students and teachers.

The Faculty of Science is one of the spearheads of this success. It includes more than 2850 students (49% of whom are female), 190 professors, 1120 teaching and research staff (teaching assistants research masters, lecturers, assistant professors, full professors etc.) and some 525 administrative and technical staff. The Faculty comprises eight subdivisions corresponding to the fields of research and teaching: six Sections and two Departments directly attached to the Faculty. An attached Section or Department often also has its own academic advisor.

The Faculty of Science awards *bachelor*, *master*, and *doctorate* (PhD) degrees in the European Higher Education Area and Bologna Process. This process harmonizes the titles and corresponding study durations. It also introduces a system of transferable credits (ECTS) that allows a European university to recognize full or partial studies at another European university. The training offer of the Faculty of Science is extensive, both in terms of basic and advanced training. The teaching is divided into more than 900 courses, practical work and seminars. Students have access to more than 50 different titles (bachelor, master, bi-disciplinary master's, doctorate, as well as complementary certificates and Master of Advanced Studies (MAS), including a master's degree in secondary education).

At the Faculty of Science, research occupies a very important place. Approximately 600 students prepare a doctoral thesis, and more than 120 doctoral titles being delivered annually. This research results in more than 1000 scientific publications per year. Regarding teaching and research, the Faculty of Science maintains collaborations with numerous regional, national and international institutions. The Faculty of Science has also developed links with organizations such as CERN, WHO, the European Life Sciences Organisation, and the European Space Agency.

Finally, the annual budget of the Faculty of Science is about 150 million francs. The value of scientific equipment is around 135 million. We should also mention the importance of funds from sources other than the Canton of Geneva, such as the Swiss National Science Foundation, European funds or industry. These resources now make up more than 50 million francs, or 33% of the budget of the Faculty of Science.

ADDRESSES

FACULTY OF SCIENCE

30, quai Ernest-Ansermet, 1211 Genève 4
T 022 379 66 52 – F 022 379 66 98

DEAN'S OFFICE AND ADMINISTRATION

Dean

Prof. Costanza BONADONNA, Sciences II, office 4-506
T 022 379 66 51 and 379 66 52

Vice-deans

Professor Enrica BORDIGNON Sciences II, 220 T 022 379 65 39	Professor Christoph RENNER Ecole de physique, 010C T 022 379 35 44	Professor Jean-Luc WOLFENDER CMU, B06.1716.a T 022 379 33 85	Professor Jonas LATT Secrétariat des étudiants T 022 379 66 62

Administrator

M. Bernard SCHALLER, Sciences III, office 4-504
T 022 379 32 30

SECTION PRESIDENTS AND DEPARTMENT DIRECTORS

Biology Section:	Prof. Michel MILINKOVITCH Quai Ernest-Ansermet 30, 1211 Genève 4 T 022 379 33 38
Chemistry and biochemistry Section:	Prof Nicolas WINSSINGER Quai Ernest-Ansermet 30, 1211 Genève 4 T 022 379 61 05
Mathematics Section:	Prof. Rinat KASHAEV Rue du Conseil-Général 7, 1211 Genève 4 T 022 379 11 48
Physics Section:	Prof. Jean-Pierre WOLF Rue de l'Ecole-de-Médecine 20, 1211 Genève 4 T 022 379 05 03
Pharmaceutical sciences Section:	Prof. Gerrit BORCHARD Rue Michel-Servet 1, 1211 Genève 4 T 022 379 69 45
Earth and environmental sciences Section:	Prof. Luca CARICCHI Rue des Maraichers 13, 1205 Genève T 022 379 66 30
Department of Astronomy:	Prof. Francesco PEPE Chemin des Maillettes 51, 1290 Versoix T 022 379 23 96
Department of Informatics:	Prof. Svyatoslav VOLOSHYNOVSKYY Route de Drize 7, 1227 Carouge T 022 379 01 58

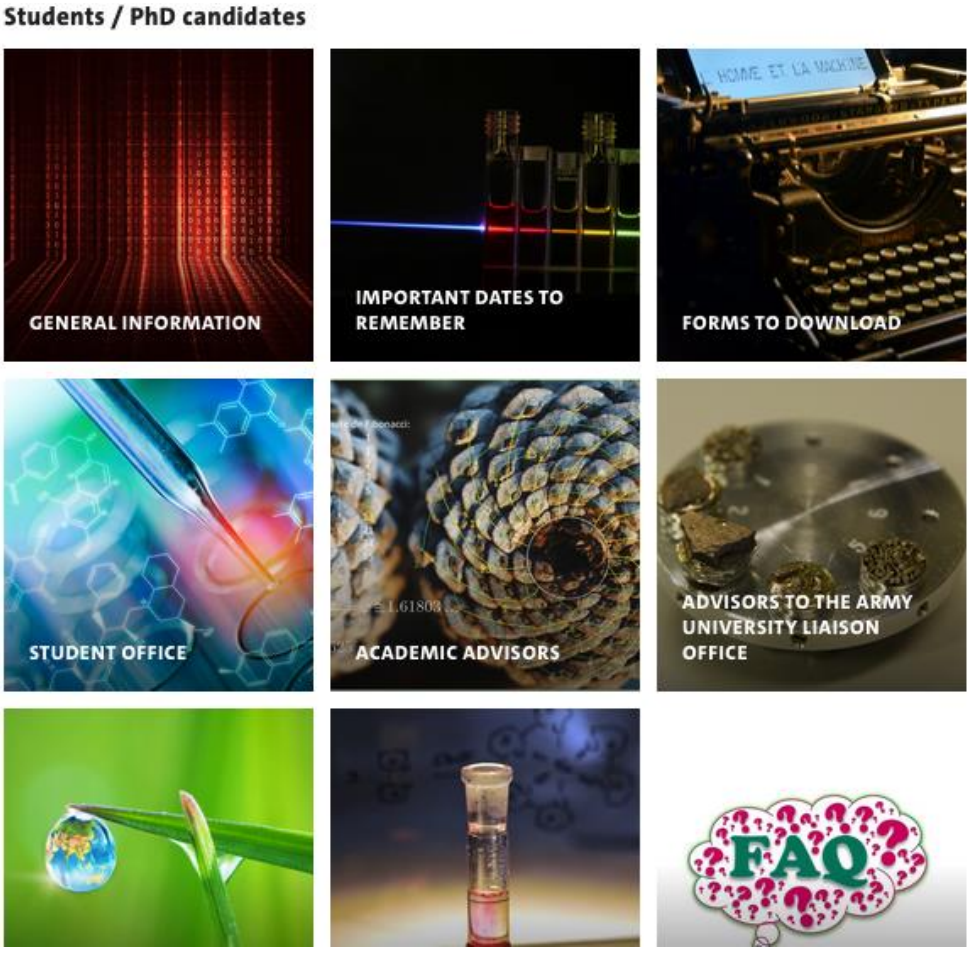
QUESTIONS?

Student Secretariat
The student secretariat is located on the ground floor of building Sciences III, office 0003. The secretariat manages student files, receives examinations, sets examination schedules, submits diploma request and change of address forms, issues test reports after examination sessions.
T 022 379 66 61/62/63 - F 022 379 67 16 - Secretariat-etudiants-sciences@unige.ch

Faculty Advisor
Dr. Xavier CHILLIER is available all year by appointment (registration on his door) in the 0001 office on the ground floor of the building Sciences III. In addition, during class periods, a permanence (without appointment) is set up on Monday between 17-18h and Tuesday from 10-12h.

The student counsellors are open to all students. They propose a personalized orientation on the paths of training offered by the Faculty of Science, present the study plans and the subjects, discuss a possible reorientation. In case of any difficulty in the studies (school, material, health, language, comprehension or other), it is advisable to inform without delay the student advisor/counsellor.
T 022 379 67 15 – Conseiller-etudes-sciences@unige.ch

You will find all the answers to your questions on the "Students / Doctoral students" pages at https://www.unige.ch/sciences/en/secretariatetudiants/



STRUCTURE OF THE TEACHING STAFF

PROFESSORS

Professeur ordinaire (PO)
teaching + research+ direction

Professeur associé (PAS)
teaching + research+ management

Professeur titulaire (PT)
teaching + research
main activity outside the University

Professeur titulaire "ancienne loi" (PTI)
teaching + research

Professeur assistant (PAST)
teaching + research

Professeur invité (PI)
teaching + research
maximum stay one year

RESEARCH AND TEACHING COLLABORATORS

Maître d'enseignement et de recherche (MER)
teaching + research

Chargé de cours (CC)
engaged for particular teaching
part time

Privat-docent (PD)
teaching, unpaid
part time

Chargé d'enseignement (CE)
teaching + research in some cases

Conseiller aux études (CET)
student counseling

Collaborateur scientifique (COLS) I et II
research

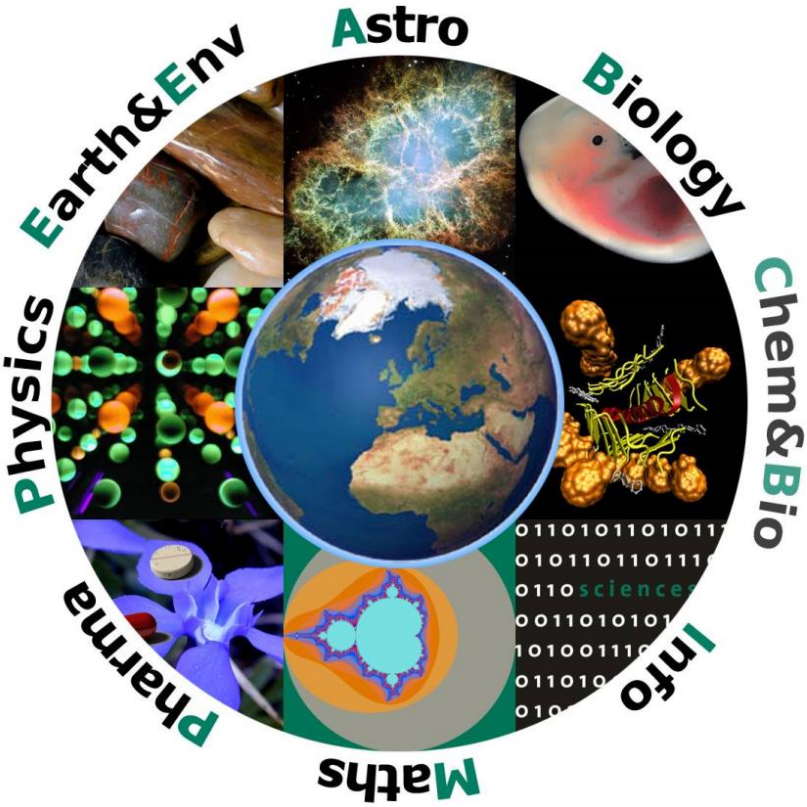
Maître-assistant (MA)
teaching + research
PhD with experience in research

Post-doctorant (PDOC)
assisting students + research
PhD

Assistant (AS) A1 et A2
assisting students + research
Ongoing PhD study

Auxiliaire de recherche et d'enseignement (ARE)
part time assistant
student in training

Studying Astrophysics



UNIVERSITÉ
DE GENÈVE
FACULTY OF SCIENCE
Department of Astronomy

UNIVERSITÉ DE GENÈVE
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OBSERVATOIRE DE GENÈVE
FONDÉ EN 1772

Department of Astronomy

The Department of Astronomy of the University of Geneva is located on two sites in and outside Versoix

The main site is the Geneva Observatory at Sauverny/Versoix, which also hosts the Laboratory of Astrophysics of the EPFL

The second site is located at Ecogia/Versoix, hosting the ISDC (Integral Science Data Centre), and a large activity related to space missions and ground-based projects.

The Astronomy Department of the Geneva University is located on two sites of the Versoix town. The main site is the Geneva Observatory at Sauverny/Versoix, which also hosts the EPFL Laboratory of Astrophysics. The second site is located at Ecogia/Versoix, hosting the ISDC (Integral Science Data Center) and a large activity related to space missions and ground-segment projects (Euclid, Gaia, CTA, etc).

About 180 persons are employed on the two sites of Sauverny and Ecogia, including scientists, post-doctoral researchers, PhD candidates, technical staff (computer and electronics specialists, mechanics, etc.), and administrative staff.

The Department of Astronomy manages a permanent astronomical observation station: a 1.2m telescope on the site of La Silla (ESO, Chile). Astronomers also actively participate to large consortia of other telescopes: at St-Michel (Observatory of Haute Provence, OHP, France), La Palma (Canary Islands, Spain), etc. Our astronomers also benefit access to exceptional instruments made available, as part of the Swiss participation in the ESO European Southern Observatory. Telesto, a new telescope for Science, Teaching and Outreach, was inaugurated in November 2018. It is located in the AstroDome on the Sauverny site.

ESO site, La Silla, Chile

Observatory Haute-Provence, France

La Palma Canary Islands, Spain

Research Groups and Projects Overview

Research in the Department of Astronomy includes four main themes: Exoplanetary systems, Stars formation & evolution, Galaxies & Universe, Extreme Universe. It is based on, and combines, different approaches, including observations covering the entire electromagnetic spectrum (using ground-based and space-borne telescopes), theoretical work, simulations, modelling, data analysis, and instrumentation.

The Department is involved in many national and international projects for the construction and exploitation of new instruments and satellites, for data analysis, observational surveys, and wide diversity of other international collaborations.

On the Department webpages an overview of the main activities of the research groups and projects is available:
https://www.unige.ch/sciences/astro/en/research/
https://www.unige.ch/sciences/astro/en/projects

- **Exoplanetary Systems**
  Prof. Francesco PEPE
  Prof. Stéphane UDRY
  Prof. François BOUCHY
  Prof. Christophe LOVIS
  Prof. Xavier DUMUSQUE
  Prof. Vincent BOURRIER
  Prof. Michel MAYOR (Emeritus)
  Prof. David EHRENREICH
  Prof. Damien SÉGRANSAN
  Prof. Emeline BOLMONT
  Prof. Monika LENDL
  Prof. Adrien LELEU
  Dr Jean-Baptiste DELISLE

- **Stars formation & Evolution**
  Prof. Georges MEYNET
  Prof. Corinne CHARBONNEL
  Prof. Tassos FRAGKOS
  Dr Marc AUDARD
  Dr Patrick EGGENBERGER
  Dr Laurent EYER

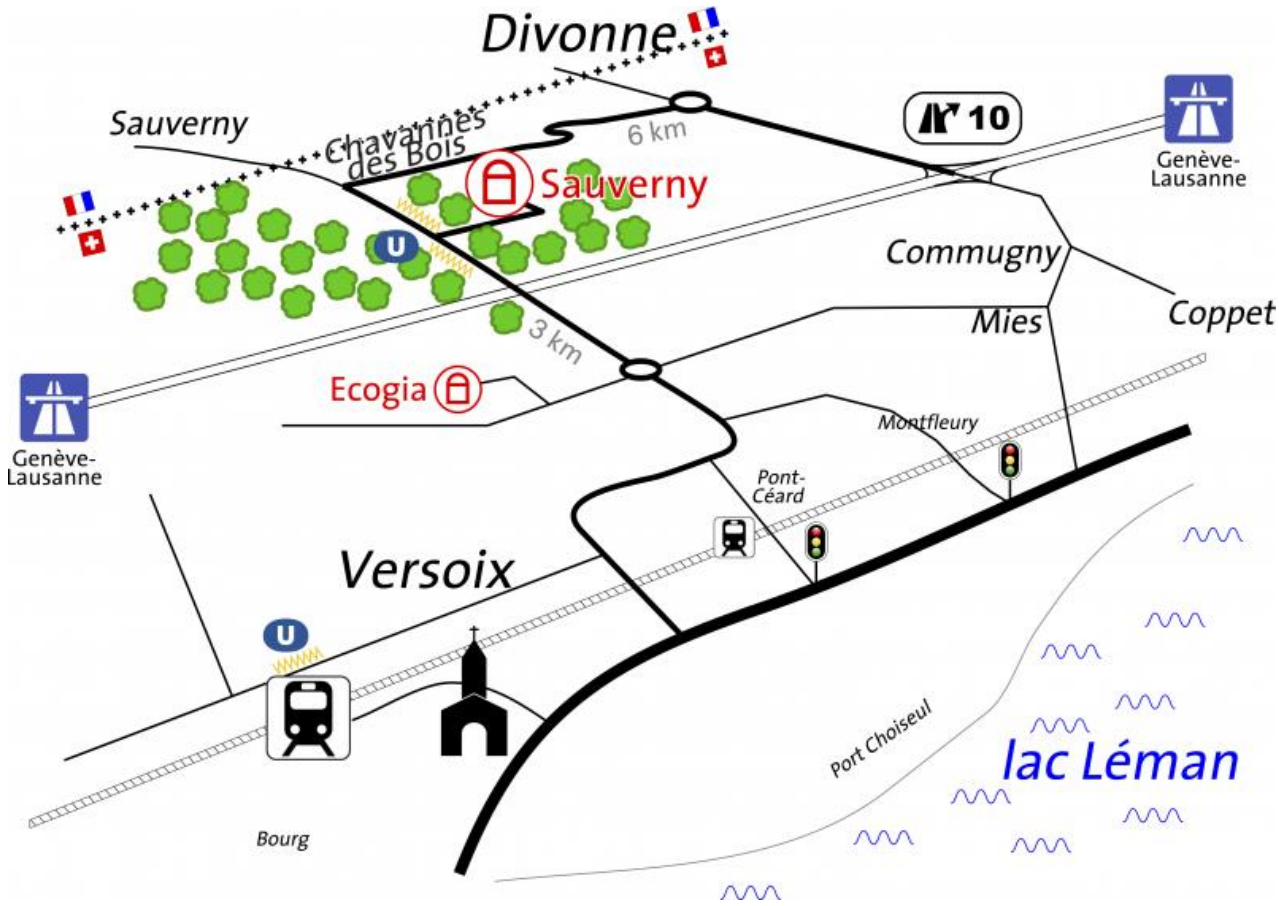
- **Galaxies & Universe**
  Prof. Daniel SCHAERER
  Prof. Pascal OESCH
  Prof. Anne VERHAMME
  Dr. Miroslava DESSAUGES

- **Extreme Universe**
  Prof. Stéphane PALTANI
  Prof. Roland WALTER
  Dr Dominique ECKERT
  Dr Nicolas PRODUIT

Quick facts

- Telephone number of the reception of the Department:
  Site of Sauverny: +41 (0) 22 379 22 00 mornings from Monday to Friday (8:30 am to 12:00)
  Site of Ecogia: +41 (0) 22 379 21 00 from Tuesday to Friday (8:00 am to 12:00 / 13:00 pm to 17:15)
- Web address: https://www.unige.ch/sciences/astro/en/
- Postal address: Département d'astronomie de l'Université de Genève
  - Site of Sauverny : chemin Pegasi 51, 1290 Versoix (e-mail address: reception-obs@unige.ch)
  - Site of Ecogia : chemin d'Ecogia 16, 1290 Versoix (e-mail address: marie-claude.dunand@unige.ch)

Location of the institutes: Sauverny and Ecogia



How to get there (TPG bus, taxi, private transportation)

Location **map** (both sites): https://www.unige.ch/sciences/astro/en/contacts/contact-observatoire/
There is public transportation (trains and buses) to reach the institute of Sauverny located in the woods!

Using public transportation TPG: The «Tout Genève» (all Geneva) ticket entitles you to use all the TPG lines (regional train CFF, tram, trolleybus, bus and even "Mouettes" (ferry boats) for one hour (60 minutes) from the time of purchase. The whole system uses the same tickets https://www.tpg.ch/en
From Cornavin main train station (center of Geneva city): Platform 1 regional train: Geneva – Versoix Station, every 15 minutes during daytime; from Versoix take the Bus "55" direction Chavannes:
- Bus stop "Ecogia"; then 5 minutes' walk to join the institute of Ecogia.
- Bus stop "Observatoire"; then 10 minutes' walk to join the site of Sauverny.
- Bus "50" also possible but takes a longer route: check the line through: https://www.tpg.ch

More information available here: https://www.tpg.ch/en

By taxi: in the Versoix area: "Taxi Too Blu" +41 (0) 79 22 44 55 4

By private transport: At both sites of Sauverny and Ecogia* there are parking spaces for cars, motorcycles, bicycles. (*Paid parking after a certain period of time for cars)

New: 6 e-bikes (in total) are now available at both sites Sauverny & Ecogia in order to have a connection between the two sites.

Internal organisation

Cafeteria: The cafeteria of the observatory is located on the ground floor of the main building at the Sauverny site.
From Monday to Friday, you may choose between either two daily meals, one vegetarian and one traditional, or various salads. You will have to register online on the dedicated FAP page https://fap.obsuks3.unige.ch/ (connected to your local account of the Astronomy department) to reserve your selected menu. Different snacks can be taken at your own discretion during the day as a new "Lightspeed-Ikentoo" cash register is available for payment by debit card (except Postcard) or Twint payment and by pre-paid and reloadable virtual card (QR-Code) (payment by credit card for expenses over CHF 20.-). Master/Bachelor/TP students will benefit from a special price for the meals of the day. There are also microwaves available to warm your own dishes.

Library: most journals are available online and the bookshelves are well stocked. You may also contact our librarian Mélissa Jaquier (Melissa.Jaquier@unige.ch) should you have any question. More info on: https://www.unige.ch/sciences/astro/en/services/library/

Good to know

What to do in case of an emergency? Important emergency numbers at a glance

EMERGENCY phone numbers in Switzerland:

118 Fire brigade, alarm centre

117 Police

144 Ambulances, cardio mobile and doctors

145 Toxicity centre

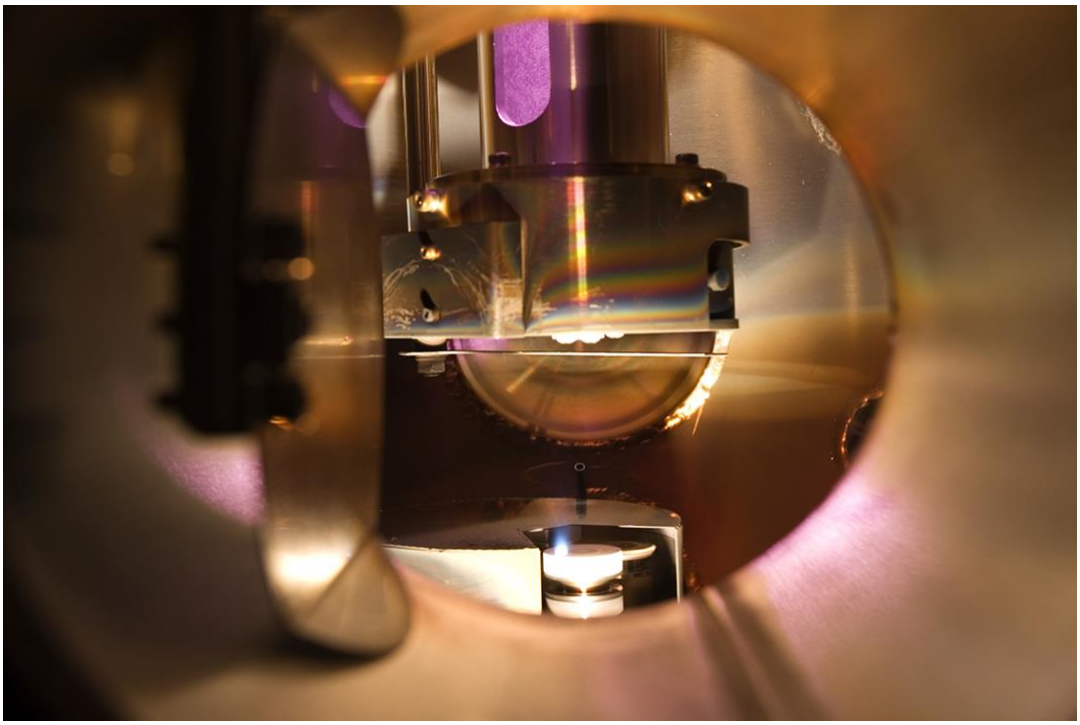
112 International emergency number (Police)

These numbers are to be used in case of an emergency only

Guardian of the Sauverny site /H24/D7:
Mrs Jailda Veraguth - mobile phone: +41 (0) 79 955 83 22

BACHELOR IN PHYSICS

The Bachelor in Physics includes an introduction to Astrophysics mainly taught in French. More information on:
https://www.unige.ch/sciences/fr/enseignements/formations/bachelors/physique/



DURÉE DES ÉTUDES
3 ans (6 semestres)

LANGUE D'ENSEIGNEMENT
Français
Bonne connaissance de l'anglais recommandée.

CONDITIONS D'IMMATRICULATION
www.unige.ch/conditions/BA

Baccalauréat universitaire / Bachelor

LE BACHELOR EN PHYSIQUE

permet d'acquérir une solide formation dans les domaines de la mécanique classique et quantique, de l'électrodynamique, de la thermodynamique et de la mécanique statistique. Il propose également une introduction à la physique du solide, à l'astronomie et l'astrophysique, à la physique appliquée ainsi qu'à la physique des particules. Font également partie de la formation l'acquisition et le développement des outils mathématiques et informatiques utilisés en physique et dans les sciences naturelles en général. L'obtention du bachelor permet l'accès aux Masters en physique, astrophysique et bi-disciplinaire en sciences.

www.unige.ch/sciences/physique/enseignement/bachelor

PROGRAMME D'ÉTUDES

6 semestres (max. 10 semestres) | 180 crédits ECTS

Enseignements 1re année
60 crédits
- Algèbre I
- Analyse I
- Méthodes mathématiques pour physiciens I
- Mécanique I
- Électrodynamique I
- Introduction à l'informatique
- Méthodes numériques pour physiciens I
- Physique macroscopique
- Laboratoires

Cours de soutien optionnel en mathématiques

Enseignements 2e année
60 crédits
- Analyse complexe II
- Analyses II
- Mécanique II
- Électrodynamique II
- Électrodynamique III
- Physique quantique I
- Méthodes mathématiques pour physiciens II
- Calculs numériques
- Laboratoires

Enseignements 3e année
60 crédits
- Physique quantique II
- Physique statistique
- Astronomie générale et astrophysique
- Particule et noyaux
- Physique du solide
- Optique quantique
- Cours à option
- Laboratoires

CALENDRIER ACADÉMIQUE

www.unige.ch/calendrier

MOBILITÉ

Départ possible pour une université suisse ou étrangère dès l'obtention de 60 crédits. Le règlement permet d'obtenir jusqu'à 60 crédits du bachelor à l'extérieur de la Faculté. Selon les sections, on conseille aux étudiant-es d'effectuer leur programme de mobilité soit en 2e année, soit en 3e année de bachelor, pour une durée de 2 semestres.
Pour toutes les destinations, l'étudiant-e doit s'assurer que les examens passés dans l'université d'accueil sont reconnus comme équivalents par la Faculté des sciences.

www.unige.ch/exchange

DÉBOUCHÉS ACADÉMIQUES

- Master en physique, spécialisation Science et information quantiques
- Master en physique, spécialisation Physique des systèmes complexes
- Master en physique, spécialisation Physique des particules
- Master en physique, spécialisation Physique théorique
- Master en physique, spécialisation Cosmologie et astrophysique des particules
- Master en astrophysique
- Master en sciences de l'environnement | Admission sur dossier
- Master interdisciplinaire en neurosciences | Admission sur dossier
- Master bi-disciplinaire en sciences
- Master en biologie chimique | Admission sur dossier

TAXES UNIVERSITAIRES

CHF 500.- par semestre

INSCRIPTION

Délai d'inscription: 30 avril 2024
(28 février 2024 pour les candidat-es soumis-es, d'après leur nationalité, à un visa selon les prescriptions de la Confédération)

www.unige.ch/immatriculations

CONTACTS RELATIFS AUX ÉTUDES

FACULTÉ DES SCIENCES
Sciences II
30 quai Ernest-Ansermet
1211 Genève 4

SECRÉTARIAT AUX ÉTUDES
T. +41 (0)22 379 66 62
secretariat-etudiants-sciences@unige.ch

CONSEILLER ACADÉMIQUE
Xavier Chillier
T.+41 (0)22 379 67 15
conseiller-etudes-sciences@unige.ch

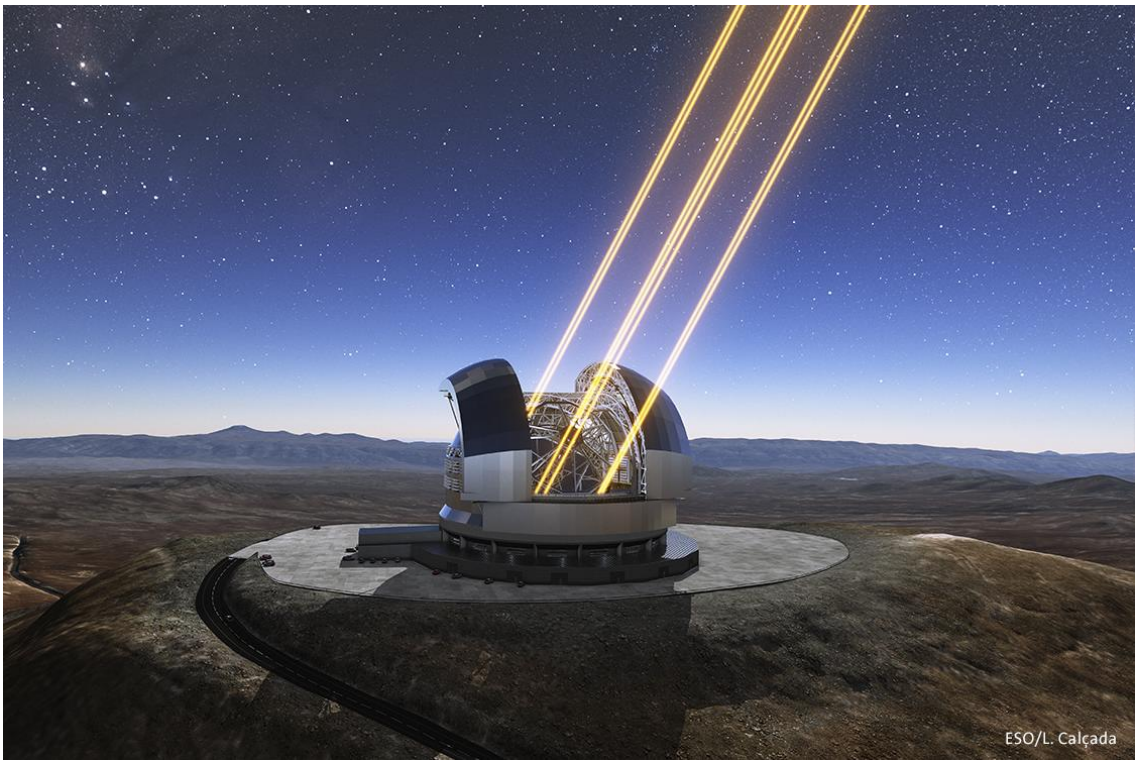
SECTION DE PHYSIQUE
Martin Kunz
T. +41 (0)22 379 63 50
conseiller-etudes-bachelor-physique@unige.ch

www.unige.ch/sciences

Tous les programmes sont susceptibles de modifications. Les règlements font foi.

MASTER IN ASTROPHYSICS

The up-to-date webpage of the Master programme is available on:
https://www.unige.ch/sciences/astro/en/education/master-in-astrophysics/



DURATION OF STUDIES
2 years (4 semesters)

LANGUAGE OF INSTRUCTION
English

CONDITIONS OF REGISTRATION
www.unige.ch/conditions/MA

ADMISSION CONDITIONS
A Bachelor in Physics, or an equivalent degree.

Master's Programme

THE MASTER IN ASTROPHYSICS

provides advanced training in astrophysics with an emphasis on exo-planetology, stellar and extra-galactic physics, ground- and space-based instrumentation, and concepts and tools of modern data science. It includes common courses and a specialisation in one of the above domains. The programme and dissertation work take place in a renowned research institute (the Department of Astronomy of the University, also known as the "Geneva Observatory"), offering direct contacts with the local research groups and with international collaborations which use and contribute to state-of-the-art facilities of the field (ESO, ESA, NASA, and others).

Through the programme, students acquire both a solid foundation in modern astrophysics and expertise in their field of specialisation. The programme leads to careers in areas such as research, teaching and industry, and develops valuable skills for future.

AVAILABLE ORIENTATIONS:

- Exoplanetology
- From stars to the Universe
- Instrumentation and data analysis

www.unige.ch/sciences/astro/en/education/master-in-astrophysics

FACULTY OF SCIENCE

UNIVERSITÉ DE GENÈVE

STUDY PROGRAMME

4 semesters (max. 8 semesters) | 120 ECTS credits

Specialisation courses and electives, seminars, course work
60 credits

Dissertation
60 credits

PLANET S

Origin, evolution and characterisation of planets in the solar system and beyond. Since the discovery of exo-planets by the UNIGE back in 1995, planetology now not only focuses on discovery, but on the physical and chemical characterisation of these new worlds. In this context the activities of PlanetS concern three main themes: the origin, evolution, and characterization of planets and planetary systems as a whole. Ultimately, PlanetS lays the foundations of a Swiss Institute of Planetary Sciences that will carry on these activities beyond the lifetime of the National Centre of Competence in Research.

nccr-planets.ch

ACADEMIC CALENDAR

www.unige.ch/calendar

LEVEL OF FRENCH REQUIRED BY UNIGE

No French proficiency test required for non-Francophones.

MOBILITY

Students may conduct research outside the university, under the supervision of a faculty member, or do a work placement at a leading external laboratory in order to complete their Master's degree.

unige.ch/exchange

PROFESSIONAL PROSPECTS

The Master in Astrophysics leads to a number of opportunities both in Switzerland and abroad, including:

- Research
- Data Science
- International organisations (ESA, ESO)
- Industry
- Teaching
- Communication and science outreach

UNIVERSITY TAXES

500 CHF / semester

REGISTRATION

Deadline for candidates that hold a foreign bachelor's degree: 28 February 2024
(30 April 2024 for candidates that hold a Swiss bachelor's degree at the start of the next academic year AND, according to their nationality, are not subject to a visa for entry into Switzerland for more than 90 days, according to Swiss government requirements and regardless of their current place of residence, or for candidates holding a Swiss residence permit that is valid beyond 30 April.)

www.unige.ch/enrolment

CONTACTS FOR STUDIES

FACULTY OF SCIENCE
Sciences II
30 quai Ernest-Ansermet
1211 Genève 4

STUDENT AFFAIRS
T. +41 (0)22 379 66 61/62/63
secretariat-etudiants-sciences@unige.ch

ACADEMIC ADVISOR
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All programs are subject to changes. Please consult the program regulations.

ORGANISATION OF THE MASTER IN ASTROPHYSICS

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Programme secretary

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Office hours Tuesday-Thursday / Wednesday (afternoon)
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Student Secretariat of the Faculty

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Secretariat-Etudiants-sciences@unige.ch
https://www.unige.ch/sciences/en/secretariatetudiants/secretariat-des-etudiants/

The student secretariat of the Faculty, located in Sciences III, Geneva, will answer all your questions related to your studies.

PROGRAMME OF THE MASTER IN ASTROPHYSICS

About the Programme

The Master in Astrophysics is a 2-years research and technique Master (120 ECTS) with the following structure.

Semester 1 (30 ECTS): Mandatory and Elective courses common to all specialisations

Semester 2 (30 ECTS): Courses from one specialisation among:

- Exoplanetology
- From Stars to the Universe
- Instrumentation and data analysis

Semesters 3 & 4 (60 ECTS):

- Major research project (Master thesis)
- Astrophysics Colloquium

The detailed courses list is available on:
https://www.unige.ch/sciences/astro/en/education/master-in-astrophysics/program/

The regulations (legal text in French) of the Master Programme are available on:
https://www.unige.ch/sciences/files/9616/6576/2925/B12.pdf

COMMON PROGRAMME (ALL SPECIALISATIONS) – SEMESTER 1

Semester 1 (Autumn): 30 ECTS

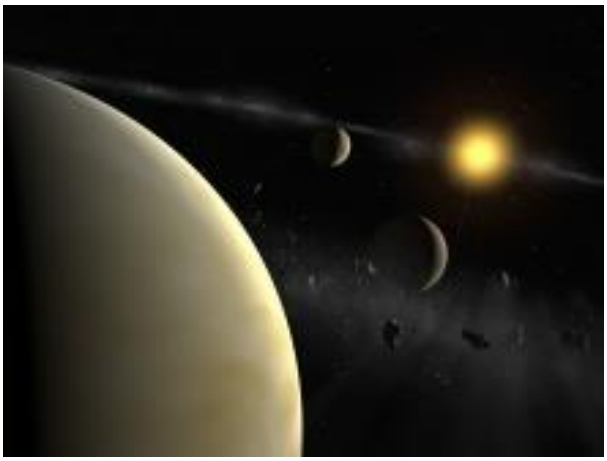
Mandatory:

- Physical processes in astrophysics (microscopic) (2h, 3.5 ECTS)
  - *Dr. P. Eggenberger*
- Physical processes in astrophysics (macroscopic) (2h, 3.5 ECTS)
  - *Prof. A. Fragkos*
- Star and planets – an introduction (2h, 3.5 ECTS)
  - *Prof. C. Charbonnel / Prof. E. Bolmont / Prof. A. Fragkos*
- Galaxies and cosmology – an introduction (2h, 3.5 ECTS)
  - *Prof. D. Schaerer / Prof. P. Oesch*
- Astronophysical observables (2h, 3.5 ECTS) - *Prof. S. Paltani*
- Astrophysics & Data Science (2h + 1h, 5 ECTS) - *Prof. D. Ségransan / Dr. J.-B. Delisle*
- Astrophysics Lab I (7.5 ECTS) - *Dr. M. Audard*

Elective:

- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

SPECIALISATION EXOPLANETOLOGY (SEMESTER 2)



Semester 2 (Spring): 30 ECTS

Mandatory:

- Dynamics of planetary systems (2h+0.5h, 4.5 ECTS)
  - *Prof. S. Udry / Prof. E. Bolmont*
- Planet formation and evolution (2h+0.5h, 4.5 ECTS)
  - *Prof. D. Ehrenreich / Prof. S. Udry / Dr. J. Venturini*
- Detection and characterisation techniques (2h+0.5h, 4.5 ECTS) - *Prof. F. Bouchy / Prof. X. Dumusque / Prof. M. Lendl*
- Planetary atmospheres (2h+0.5h, 4.5 ECTS)
  - *Prof. D. Ehrenreich / Prof. E. Bolmont / Prof. V. Bourrier / Prof. C. Lovis*
- Astrophysics Lab II (7.5 ECTS) – *Dr. M. Audard*

Elective:

- Course(s) from other specialisations or other courses
- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

Other Courses

- Astroparticle Physics (3.5 ECTS) - *Prof. T. Montaruli*
- Cosmology II (8 ECTS) - *Prof. C. Bonvin*

Other courses can be chosen from the offer of the Faculty of Sciences, in agreement with the Coordinator of the Master.

SPECIALISATION FROM STARS TO THE UNIVERSE (SEMESTER 2)

Semester 2 (Spring): 30 ECTS

Mandatory: 4 out of 5 courses from this list + Astrophysics Lab II

- Stellar structure and evolution (2h+0.5h, 4.5 ECTS) - *Prof. T. Fragkos / Dr. Eggenberger / Dr. L. Eyer*
- Galaxies and cosmology II - Galaxy evolution in a cosmological context (2h+0.5h, 4.5 ECTS) - *Prof. P. Oesch / Dr. D. Eckert*
- High energy astrophysics (2h+0.5h, 4.5 ECTS) - *Dr. R. Walter / Dr. M. Audard / Dr. C. Ferrigno / Dr. N. Produit*
- From stars to galaxies: spectroscopic diagnostics in astrophysics (2h+0.5h, 4.5 ECTS) - *Prof. D. Schaerer*
- From interstellar medium to stars: the diffuse media and its link to star formation
- (2h+0.5h, 4.5 ECTS) - *Dr. M. Audard / Prof. A. Verhamme*
- From stars to the Universe: exercices (2h+0.5h, 4.5 ECTS, 0 ECTS)
- Astrophysics Lab II (7.5 ECTS) - *Dr. M. Audard*

Elective (other courses):

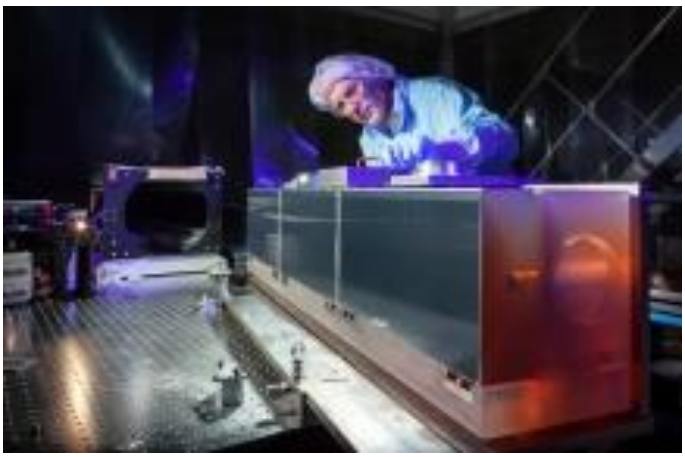
- Course(s) from other specialisations or other courses
- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

Other Courses

- Astroparticle Physics (3.5 ECTS) - *Prof. T. Montaruli*
- Cosmology (8 ECTS) - *Prof. C. Bonvin*

Other courses can be chosen from the offer of the Faculty of Sciences, in agreement with the Coordinator of the Master.

SPECIALISATION INSTRUMENTATION AND DATA ANALYSIS (SEMESTER 2)



Semester 2 (Spring): 30 ECTS

Mandatory:

- Observational techniques (2h, 3.5 ECTS) - *Prof. F. Pepe*
- Optics and detectors for astronomy (2h, 3.5 ECTS)
  - Dr. B. Chazelas / Dr. F. Wildi / Prof. F. Pepe / Dr. N. Blind / Dr. A. Lanotte / Dr. N. Produit
- Optics and detectors for astronomy – Exercices + projects (2h, 3.5 ECTS)
  - Dr. F. Wildi / Dr. B. Chazelas / Dr. N. Blind / Dr. N. Produit / Prof. F. Pepe
- Observations, data acquisition, data analysis (2h + 2h, 7.5 ECTS)
  - Prof. C. Lovis / Dr. D. Eckert / Prof. M. Lendl / Prof. S. Paltani / Prof. D. Ségransan / Dr. M. Dessauges / Dr. L. Eyer
- Astrophysics Lab II (7.5 ECTS) – *Dr. M. Audard*

Elective:

- Course(s) from other specialisations or other courses
- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

Other Courses

- Astroparticle Physics (3.5 ECTS) - *Prof. T. Montaruli*
- Cosmology (8 ECTS) - *Prof. C. Bonvin*

Other courses can be chosen from the offer of the Faculty of Sciences, in agreement with the Coordinator of the Master.

ALL SPECIALISATIONS – SEMESTERS 3 & 4

Semester 3 (Autumn) & 4 (Spring): 60 ETCS

- Major research project (Master thesis, 60 ECTS)
- Astrophysics Colloquium - *Prof. A. Fragkos et al.*

COURSE SCHEDULE

Master in Astrophysics (Department of Astronomy, University of Geneva)
Complete schedule for the **fall semester** – 16 September – 20 December 2024

Monday	Tuesday	Wednesday	Thursday	Friday
8h45 - 17h30 M. Audard Astrophysics Lab I	8h45 - 10h30 S. Paltani Astrophysical observables 10h30 - 11h00 Science coffee 11h00 - 12h00 Astrophysics Colloquium UniGE-EPFL	10h15 - 12h00 T. Fragkos Physical processes in astrophysics (macroscopic)	10h15 – 12h00 D. Schaerer/ P. Oesch Galaxies and cosmology - an introduction	
	13h30 – 16h00 D. Ségransan / J.-B. Delisle / N. Hara Astrophysics and data science (course + exercises)	13h15 - 15h00 C. Charbonnel / E. Bolmont / T. Fragkos Stars and planets - an introduction	14h15 - 16h00 P. Eggenberger Physical processes in astrophysics (microscopic)	

V1-20240722/ds

Courses in room 263 (ground-floor), Dept. of Astronomy, Versoix

Master in Astrophysics (Department of Astronomy, University of Geneva)
Complete schedule for the **spring semester** – 17 February 2025 – 30 May 2025

Monday	Tuesday	Wednesday	Thursday	Friday
08h45 - 17h30 M. Audard Astrophysics Lab II	08h45 – 10h30 T. Fragkos / L. Eyer / P. Eggenberger Stellar Structure and Evolution 10h30 - 11h00 Science coffee 11h00 - 12h00 Astrophysics Colloquium UniGE-EPFL	08h45 – 10h30 B. Chazelas / F. Wildi / F. Pepe / N. Blind / A. Lanotte / N. Produit Optics and Detectors for Astronomy 10h45 – 12h30 D. Schaerer From stars to galaxies: Spectroscopic diagnostics in astrophysics	08h45 – 10h30 S. Udry / E. Bolmont Dynamics of Planetary Systems 10h45 – 12h30 F. Wildi / B. Chazelas N. Blind / N. Produit / F. Pepe Optics and Detectors for Astronomy (Ex+projects) 10h45 – 12h30 all Stars to Universe: Exercises	08h45 – 10h30 all Exoplanetology Exercises 10h45 – 12h30 R. Walter / M. Audard / C. Ferrigno / N. Produit High energy astrophysics
	13h15 – 15h00 M. Audard / A. Verhamme Diffuse Media, Star Formation 15h15 – 17h00 F. Bouchy / X. Dumusque / M. Lendl Detection and characterisation techniques	13h15 - 15h00 P. Oesch / D. Eckert Galaxies and cosmology II – Galaxy evolution in a cosmological context 15h15 – 17h00 F. Pepe Observational techniques	13h15 – 15h00 D. Ehrenreich / E. Bolmont / V. Bourrier / C. Lovis Planetary atmospheres 15h15 – 17h00 D. Ehrenreich / S. Udry / J. Venturini Planet formation and evolution	13h15 – 15h00 C. Lovis + Observation, data acquisition, data analysis (course + exercises) 15h15 – 17h00 C. Lovis + Observation, data acquisition, data analysis (course + exercises)

V1-20240722/ds

Courses in room 263 (ground-floor), Dept. of Astronomy, Versoix

Specialisations : Exoplanetology / From Stars to the Universe / Instrumentation and Data Analysis

COURSE LIST AND DESCRIPTIONS

For a detailed online description of each course please follow the links given in the document.

MASTER IN ASTROPHYSICS

Semester 1 - Common Courses

Mandatory

Code	Name	Faculty	Type/Semester	ECTS credits
14A030	Physical processes in astrophysics (microscopic)	S	CR 2h A THU 14h15 - 16h00, Obs room 263	3,5
14A031	Physical processes in astrophysics (macroscopic)	S	CR 2h A WED 8h45-10h30, Obs room 263	3,5
14A032	Star and planets - an introduction	S	CR 2h A WED 13h15-15h00, Obs room 263	3,5
14A033	Galaxies and cosmology - an introduction	S	CR 2h A THU 10h15-12h00, Obs room 263	3,5
14A034	Astrophysical observables	S	CR 2h A TUE 08h45-10h30, Obs room 263	3,5
14A035	Astrophysics and Data Science	S	CX 2h A TUE 13h30-16h00, Obs room 263	5
14A900	Astrophysics Lab I	S	TP 8h A MON 08h45-17h30, Obs	7,5

Elective

Code	Name	Faculty	Type/Semester	ECTS credits
14A730	Astrophysics colloquium	S	SE 1h AN TUE 11h00-12h00, Obs Aula	
10A001	Lunes, planètes naines et petits corps du système solaire	S	SE 1h A MA 17-19, SCII-A300	

Semester 2 – Specialisation: Exoplanetology

Mandatory

Code	Name	Faculty	Type/Semester	ECTS credits
14A040	Dynamics of planetary systems	S	CX 2h P THU 08h45-10h30, Obs room 263	4,5
14A041	Planet formation and evolution	S	CX 2h P TUE 15h15-17h00, Obs room 263	4,5
14A042	Detection and characterization techniques	S	CX 2h P THU 15h15-17h00, Obs room 263	4,5
14A043	Planetary atmospheres	S	CX 2h P THU 13h15-15h00, Obs room 263	4,5
14A044	Exoplanetology: exercises	S	EX 2h P FRI 08h45-10h30, Obs room 263	0
14A901	Astrophysics Lab II	S	TP 8h P MON 08h45-17h30, Obs	7,5

Elective

Code	Name	Faculty	Type/Semester	ECTS credits
14A730	Astrophysics colloquium	S	SE 1h AN TUE 11h00-12h00, Obs Aula	

Semester 2 – Specialisation: From stars to the Universe

Mandatory: 4 out of 5 courses from this list + Astrophysics Lab II

Code	Name	Faculty	Type/Semester	ECTS credits
14A050	Stellar structure and evolution	S	CX 2h P TUE 08h45-10h30, Obs room 263	4,5
14A051	Galaxies and Cosmology II - Galaxy Evolution in a Cosmological Context	S	CX 2h P WED 13h15-15h00, Obs room 263	4,5
14A052	High energy astrophysics	S	CX 2h P FRI 10h45-12h30, Obs room 263	4,5
14A053	From stars to galaxies: spectroscopic diagnostics in astrophysics	S	CX 2h P WED 10h45-12h30, Obs room 263	4,5
14A054	From interstellar medium to stars: diffuse media and their link to star formation	S	CX 2h P TUE 13h15-15h00, Obs room 263	4,5
14A055	From stars to the Universe: exercises	S	EX 2h P WED 15h15-17h00, Obs room 263	0
14A901	Astrophysics Lab II	S	TP 8h P MON 08h45-17h30, Obs	7,5

Elective

Code	Name	Faculty	Type/Semester	ECTS credits
14A730	Astrophysics colloquium	S	SE 1h AN TUE 11h00-12h00, Obs Aula	

Semester 2 – Specialisation: Instrumentation and Data Analysis

Mandatory

Code	Name	Faculty	Type/Semester	ECTS credits
14A060	Observational techniques	S	CR 2h P WED 15h15-17h00, Obs room 263	3,5
14A061	Optics and Detectors for astronomy	S	CR 2h P THU 10h45-12h30, Obs room 263	3,5
14A062	Optics and detectors in astrophysics (Ex + projects)	S	CX 2h P WED 08h45-10h30, Obs room 263	3,5
14A063	Observations, data acquisition, data analysis	S	CX 4h P FRI 13h15-17h00, Obs room 263	7,5
14A901	Astrophysics Lab II	S	TP 8h P MON 08h45-17h30, Obs	7,5

Elective

Code	Name	Faculty	Type/Semester	ECTS credits
14A730	Astrophysics colloquium	S	SE 1h AN TUE 11h00-12h00, Obs Aula	

2nd Year – All specialisations

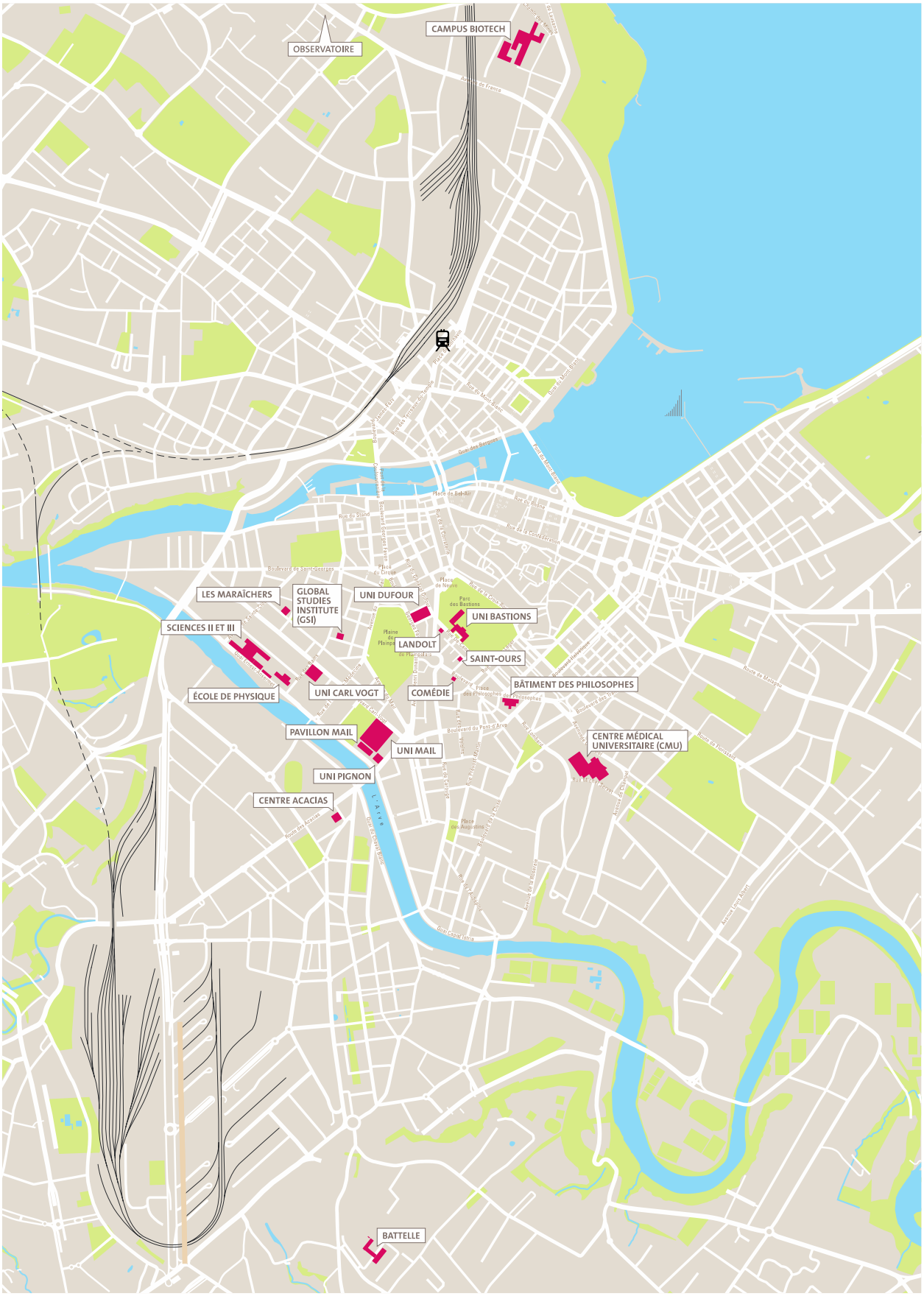
Code	Name	Faculty	Type/Semester	ECTS credits
	Major research project	S	AN	60
14A730	Astrophysics colloquium	S	SE 1h AN TUE 11h00-12h00, Obs Aula	

FACULTY OF SCIENCE

Uni Carl Vogt	66 bd Carl-Vogt
Sciences II et III	30 quai Ernest-Ansermet
École de physique	24 quai Ernest-Ansermet
Les Maraîchers	13 rue des Maraîchers
Centre Acacias	2-4 rue du Lièvre
Observatoire	51 chemin Pegasi, Versoix
Centre médical universitaire (CMU)	1 rue Michel-Servet
Battelle	7 route de Drize, Carouge
Campus Biotech	9 chemin des Mines

Other **UNIVERSITY** buildings

Uni Dufour	24 rue du Général-Dufour
Uni Bastions	5 rue De-Candolle
Saint-Ours	5 rue de Saint-Ours
Comédie	10-12 bd des Philosophes
Landolt	2 rue De-Candolle
Bâtiment des Philosophes	22 bd des Philosophes
Uni Mail	40 bd du Pont-d'Arve
Uni Pignon	42 bd du Pont-d'Arve
Pavillon Mail	40A bd du Pont-d'Arve
Global Studies Institute (GSI)	10 rue des Vieux-Grenadiers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