



CORE TRAINING | GENOMICS AND DIGITAL HEALTH

10 credits must be obtained from the core training. You need to choose a minimum of 3 modules (each worth 1.5 to 2.5 ECTS) and 8 'Journal Clubs' (0.5 ECTS per 4 Journal Clubs, including at least one personal presentation). Credits from conferences, from courses and workshops, from volunteering, and from attending PhD retreats are all capped at 3 ECTS. There is no upper limit to credits obtained from core training.

Teaching activities

The doctoral school does not currently provide a list of teaching activities. The students interested by such activities should look themselves for opportunities. Public announcements to recruit tutors happens on regular basis within the University.

Before starting a teaching activity, we recommend contacting your program coordinator to confirm the number of ECTS that can be gained.

Supervision of an intern

PhD students are strongly encouraged to supervise interns. However, the PhD students should contact the doctoral school prior to the supervision and provide the following documents:

- A proposal describing a comprehensive project (context, aim, strategies, duration...). The intern should have his/her own project and cannot be used as a "technician" for the PhD student.
- A document signed by the PI where he/she agree on the supervision.
- At the end of the internship, a report for the intern and her/his evaluation of the supervision by the PhD student should be sent to the doctoral school. In this report, the name of the PhD student should be mentioned as a supervisor. The scientific report should include a small introduction, a result section and a short discussion (there is not length lower limit, and the doctoral school is very flexible on the format. For example, a poster is an acceptable format). The PhD student can correct this report. The evaluation of the PhD student by the intern is confidential and should be sent separately to the doctoral school by the intern.

As a general guideline, a 2 months student supervision part time will give 1 ECTS, a PREM for 2 months full time will give 2 ECTS, a master student for 6 months full time will give 3 ECTS.

Modules

Modules of the program "[Genomics and Digital Health](#)" of the doctoral school in "[Life Sciences from the Faculties of Medicine and Science](#)", are [open to all programs of the PhD school of Life Science](#). It is taught by PIs participating in the program and several external teachers.

Title	Teachers (contact email: GESAN-info@unige.ch)	Dates	ECTS	Evaluation
Data Visualization	C. Lovis J. Rochat V. Garretas Ruiz A. Villaverde M. Vogel M. Bjelogrljic H. Turbé D. Keszthelyi	8 th ,9 th ,15 th ,16 th of November 2021	2	attendance at all sessions is mandatory
AI&Health	C. Lovis M. Bjelogrljic R. Liégeois	5 days TBD 2021 spring session	2.5	attendance at all sessions is mandatory
Precision Medicine	MOOC: https://www.coursera.org/learn/precision-medicine?action=enroll&aid=true	All year long	2.5	Q/A
Medical Genetic (MBM9)	E. Zdobnov	TBD	1.5 ECTS	TBD

See full descriptions in section **Modules descriptions**.

Journal Club

Journal Clubs are in the program "[Genomics and Digital Health](#)" of the doctoral school in "[Life Sciences from the Faculties of Medicine and Science](#)" and are open to all programs of the PhD school of Life Science, and [external participants](#). It is taught by PIs participating in the program and several external teachers. It will cover a wide range of selected topics in Digital Health and Data Science for Digital Health.

See full course dates & content on [Moodle platform](#).

Course coordinator [C. Lovis](#), [M. Bjelogrljic](#), [J-P. Goldman](#)-> contact via GESAN-info@unige.ch

Schedule [On Wednesday morning \(11.00 to 12.00\)](#) from September to the end of June. Students can start the class anytime during the year. Attendance to 4 sessions is rewarded by 0.5 ECTS. One of the 4 sessions should be a session prepared by the student, where the student presents a paper in the **thematic areas** of interest to the audience (30min) and moderates the discussion (30min). The Journal Club will vary between lectures, or paper reviews from external teachers, and sessions prepared and moderated by the student.

Place [Campus Biotech](#), (exact room will soon be communicated) and [zoom](#)

Thematic areas	<ul style="list-style-type: none"> • Digital Health (DH) • Methodology in Research • Ethical and Security Issues in DH • Semantics and Interoperability • Natural Language Processing in Health • Python for Health Data Analytics • Machine Learning in Health • Health Data Representation • Biomedical Signal Processing
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Teaching objectives	<ul style="list-style-type: none"> • Become familiar with the local scientific environment. • Foster critical scientific thinking. • Critical reading and discussion of scientific papers. • Become familiar with available platforms and services. • Learn about the challenges arising in Digital Health. • Complement scientific knowledge with additional skills.
Teaching format	<ul style="list-style-type: none"> • Paper discussions: students are expected to study all assigned papers and be prepared to present and discuss them during interactive sessions. • Attendance to 4 sessions is rewarded by 0.5 ECTS. One of the 4 sessions should be a session prepared by the student, where the student presents a paper in the thematic areas of interest to the audience (30min) and moderates the discussion (30min).
Prerequisites	No previous knowledge is required.
Level	Basic-Intermediate
Practical Information	<p>Please register via the Moodle platform and follow the second step confirmation email contact before each session.</p> <p>Note that the course is open to students in both Faculties (Science, Medicine).</p>

Modules descriptions

Course title	Module [VIS2]: Data Visualization
General description	This course is in the program " Genomics and Digital Health " of the doctoral school in " Life Sciences from the Faculties of Medicine and Science ", and is open to all programs of the PhD school of Life Science. It is taught by PIs participating in the program and several external teachers. It will cover both theoretical (ergonomics criteria) and technical aspects arising when attempting to visualize multivariate, heteroscedastic, and time-dependent bigdata. See full course dates & content on Moodle.
Course coordinator	M. Bjelogrljic and D. Keszthelyi -> contact via GESAN-info@unige.ch
Course teachers	C. Lovis J. Rochat V. Garretas Ruiz A. Villaverde M. Vogel M. Bjelogrljic H. Turbé D. Keszthelyi
Schedule	Monday 8 th of November 2021-> 8:15AM-12:00AM and 2:15PM-6PM Tuesday 9 th of November 2021-> 8:15AM-12:00AM and 2:15PM-6PM Monday 15 th of November 2021-> 8:15AM-12:00AM and 2:15PM-6PM Tuesday 16 th of November 2021-> 8:15AM-12:00AM and 2:15PM-6PM
Place	CMU, (exact room will soon be communicated) or zoom
Teaching objectives	<ul style="list-style-type: none"> • Foster critical scientific thinking. • Become familiar with available platforms and services. • Learn about the challenges arising in Data Visualization. • Complement scientific knowledge with additional skills.
Teaching format	<ul style="list-style-type: none"> • 8x half-day sessions of interactive teaching and sessions, combining theoretical background course, practical workshops and hands-on personal project presentations and focus group discussions. • The module is rewarded by 2 ECTS.
Prerequisites	<ul style="list-style-type: none"> • No previous knowledge is required.
Level	Basic-Intermediate
Practical Information	Please register via the Moodle platform and follow the second step confirmation email contact. Note that the course is open to students in both Faculties (Science, Medicine) with a maximum of 15 people.

Course title	Module [AI1]: AI&Health
General description	This course is in the program " Genomics and Digital Health " of the doctoral school in " Life Sciences from the Faculties of Medicine and Science ", and is open to all programs of the PhD school of Life Science. It is taught by PIs participating in the program and several external teachers. It will cover both theoretical aspects such as the introduction to general concepts of Artificial Intelligence and more specifically Machine Learning main concepts, and technical aspects including workshops in Natural Language, time-series and Imaging processing for modelling, automatic classification, and information extraction tasks. See full course dates & content on Moodle.
Course coordinator	C. Lovis and M. Bjelogrljic -> contact via GESAN-info@unige.ch
Course teachers	M. Bjelogrljic R. Liégeois
Schedule	TBD
Place	Via interactive zoom sessions
Teaching objectives	<ul style="list-style-type: none"> • Foster critical scientific thinking. • Become familiar with available platforms and services. • Learn about the challenges arising in Artificial Intelligence in Health. • Complement scientific knowledge with additional skills.
Teaching format	<ul style="list-style-type: none"> • 10x half day sessions of interactive teaching and sessions, combining theoretical background course, practical workshops and hands-on personal project presentations and focus group discussions. • The module is rewarded by 2 ECTS.
Prerequisites	<ul style="list-style-type: none"> • No previous knowledge is required.
Level	Basic-Intermediate
Practical Information	Please register via the Moodle platform and follow the second step confirmation email contact . Note that the course is open to students in both Faculties (Science, Medicine) with a maximum of 15 people.