

# Bachelor in Geology

The program consists of 1/3 of lectures on theory and modeling, 1/3 of practical training in the laboratory and 1/3 of fieldwork. It will allow one to **study the major phenomena related to geology**, from plate tectonics to interactions between geosphere, hydrosphere, atmosphere and biosphere. The techniques implemented cover all tools of the geologist, such as geological mapping, field sampling and laboratory analysis or global modeling of the functioning of our planet. An important component of the curriculum is also dedicated to geo-materials in its microscopic as well as macroscopic organization.

The lectures are accompanied by practical work conducted in the laboratory. They will help acquire specialized training in modern analytical methods in areas such as **geochemistry, optical and electron microscopy, crystallography, petrography of the rocks and computer modeling**.

After his/her BA, if he/she wishes to move towards other MA, the student can orient himself/herself in areas such as geophysics, coastal planning, environmental management and hydrogeology. The student can also be directed towards research in volcanology, oceanography and environmental geochemistry.

## Bloc 1 | BA-GEOL

### Cours obligatoires

BIOL-F102	<b>Biologie générale</b>   Patrick MARDULYN (Coordinator) and Etienne MEYLAN ⌚ 5 credits [lecture: 48h] 📅 second term 🗨 French
CHIM-F101	<b>Chimie générale</b>   Thierry VISART DE BOCARME (Coordinator), François RENIERS and Laurence RONGY ⌚ 20 credits [lecture: 96h, tutorial classes: 60h, practical work: 84h, project: 75h] 📅 first and second terms 🗨 French
ENVI-F1001	<b>Sciences de la Terre, Environnement et Société</b>   Pierre REGNIER (Coordinator), Jean-Michel DECROLY and Frank PATTYN ⌚ 5 credits [lecture: 48h, field trips: 12h] 📅 first and second terms 🗨 French
GEOL-F104	<b>Les temps géologiques : concepts et méthodes</b>   Sandra ARNDT (Coordinator) and Goulven Gildas LARUELLE ⌚ 5 credits [lecture: 24h, practical work: 24h] 📅 second term 🗨 French
GEOL-F105	<b>Géologie de l'Europe</b>   Vinciane DEBAILLE (Coordinator) and Steeve BONNEVILLE ⌚ 5 credits [lecture: 16h, field trips: 16h] 📅 second term
MATH-F119	<b>Mathématiques</b> ⌚ 10 credits [lecture: 60h, tutorial classes: 60h] 📅 academic year 🗨 French
PHYS-F104	<b>Physique 1</b>   Barbara CLERBAUX (Coordinator), Sébastien CLESSE and Michele SFERRAZZA ⌚ 10 credits [lecture: 72h, tutorial classes: 36h] 📅 first and second terms 🗨 French

# Bachelor in Geology

## Bloc 2 | BA-GEOL

### Cours obligatoires

- BIOL-F201 **Evolution et diversité des eucaryotes : botanique** | Pierre Jacques MEERTS (Coordinator)  
 ⌚ 5 credits [lecture: 42h, practical work: 12h] 📅 first and second terms 🗨️ French
- GEOG-F102 **Géomorphologie structurale et dynamique** | Frank PATTYN (Coordinator)  
 ⌚ 5 credits [lecture: 20h, practical work: 24h, field trips: 8h, project: 10h] 📅 second term 🗨️ French
- GEOG-F2001 **Introduction à la minéralogie et à la pédologie** | Steeve BONNEVILLE (Coordinator) and Thomas DROUET DE LA THIBAUDERIE  
 ⌚ 5 credits [lecture: 28h, practical work: 12h, field trips: 12h] 📅 first term 🗨️ French
- GEOG-F202 **Éléments de cartographie géologique et de géologie structurale** | Sandra ARNDT (Coordinator)  
 ⌚ 5 credits [lecture: 12h, practical work: 24h, field trips: 16h] 📅 first term 🗨️ French
- GEOG-F204 **Sédimentologie** | Xavier DEVLEESCHOUWER (Coordinator)  
 ⌚ 5 credits [lecture: 24h, practical work: 12h, field trips: 24h] 📅 second term 🗨️ French
- GEOG-F211 **Introduction à la pétrologie** | Nadine MATTIELLI (Coordinator)  
 ⌚ 5 credits [lecture: 12h, practical work: 34h, field trips: 16h] 📅 second term 🗨️ French
- GEOG-F301 **Minéralogie** | Karen FONTIJN (Coordinator)  
 ⌚ 5 credits [lecture: 24h, practical work: 26h] 📅 first term 🗨️ French
- INFO-F206 **Informatique** | Olivier MARKOWITCH (Coordinator)  
 ⌚ 5 credits [lecture: 24h, tutorial classes: 24h, project: 12h] 📅 first term 🗨️ French
- LANG-F201 **Anglais scientifique I** | Alexander CORNFORD (Coordinator)  
 ⌚ 5 credits [tutorial classes: 48h] 📅 second term 🗨️ English
- MATH-F115 **Compléments d'analyse et algèbre linéaire** | Joel FINE (Coordinator) and Michele D'ADDERIO  
 ⌚ 5 credits [lecture: 30h, tutorial classes: 24h] 📅 second term 🗨️ French
- PHYS-F205 **Physique 2** | Michel TYTGAT (Coordinator) and Michele SFERRAZZA  
 ⌚ 5 credits [lecture: 24h, tutorial classes: 14h, practical work: 22h] 📅 first term 🗨️ French

### Cours optionnels

*A total of five credits chosen from the following*

- CHIM-F201 **Chimie analytique 1** | Thomas DONEUX (Coordinator)  
 (optional) ⌚ 5 credits [lecture: 24h, practical work: 36h, project: 12h] 📅 first term 🗨️ French
- ETHI-F201 **Sciences, éthique, histoire et société** | Grégoire Wallenborn (Coordinator) and Eric MURAILLE  
 (optional) ⌚ 5 credits [lecture: 48h] 📅 second term 🗨️ French
- ETHI-F301 **Science et Société : analyse de controverses scientifiques** | Patrick MARDULYN (Coordinator) and Grégoire Wallenborn  
 (optional) ⌚ 5 credits [lecture: 24h, project: 70h] 📅 first term 🗨️ French
- GEOG-F103 **Fondements de la géographie humaine** | Jean-Michel DECROLY (Coordinator)  
 (optional) ⌚ 5 credits [lecture: 36h, project: 20h] 📅 second term 🗨️ French























- GEOG-F203  
(optional) **Climatologie et glaciologie** | Frank PATTYN (Coordinator)  
⌚ 5 credits [lecture: 24h, practical work: 24h, project: 10h] 📅 second term 🗨️ French
- GEOG-F210  
(optional) **Géographie de l'Europe** | Gilles VAN HAMME (Coordinator)  
⌚ 5 credits [lecture: 24h] 📅 second term 🗨️ French
- GEOG-S101  
(optional) **Géographie économique** | Gilles VAN HAMME (Coordinator)  
⌚ 5 credits [lecture: 48h] 📅 second term 🗨️ French
- PHYS-F105  
(optional) **La structure de l'univers** | Alain JORISSEN (Coordinator) and Rodrigo ALVAREZ  
⌚ 5 credits [lecture: 48h] 📅 first term 🗨️ French
- TRAN-F201  
(optional) **Introduction aux enjeux de la durabilité** | Wouter ACHTEN (Coordinator) and Chiara ARMENI  
⌚ 5 credits [lecture: 24h, project: 24h] 📅 second term 🗨️ French



# Bachelor in Geology

## Bloc 3 | BA-GEOL

### Cours obligatoires

- GEOL-F205 **Thermodynamique appliquée à la géologie** | Sandra ARNDT (Coordinator)  
 5 credits [lecture: 24h, tutorial classes: 24h]  first term  French
- GEOL-F3001 **Levés cartographiques et géologie de la Belgique** | Steeve BONNEVILLE (Coordinator)  
 5 credits [field trips: 54h]  second term  French
- GEOL-F304 **Micropaléontologie et microfaciès** | Xavier DEVLEESCHOUWER (Coordinator)  
 5 credits [lecture: 20h, practical work: 24h, field trips: 16h]  second term  French
- GEOL-F305 **Géodynamique et Pétrologie Magmatique et Métamorphique** | Nadine MATTIELLI (Coordinator)  
 10 credits [lecture: 24h, practical work: 60h, field trips: 60h]  first and second terms  French
- GEOL-F306 **Crystallographie et Minéralogie Appliquée** | Karen FONTIJN (Coordinator)  
 5 credits [lecture: 12h, practical work: 34h, project: 20h]  second term  French
- GEOL-F307 **Cycle de la matière et de l'énergie dans les systèmes géologiques** | Pierre REGNIER (Coordinator) and Steeve BONNEVILLE  
 5 credits [lecture: 36h, tutorial classes: 24h]  second term  French
- GEOL-F309 **Géophysique et tectonophysique** | Corentin CAUDRON (Coordinator), Thomas LECOCQ and Frank PATTYN  
 5 credits [lecture: 32h, tutorial classes: 12h, field trips: 16h]  first term  French
- GEOL-F312 **Projet de recherche et communication scientifique** | Sandra ARNDT (Coordinator) and Karen FONTIJN  
 5 credits [lecture: 10h, project: 50h]  academic year  French
- GEOL-F319 **Introduction à la métallogénie et industrie minérale** | Johan YANS (Coordinator)  
 5 credits [lecture: 12h, practical work: 24h, field trips: 8h]  second term  French
- LANG-F301 **Anglais scientifique II** | Hugh MURPHY (Coordinator) and Alexander CORNFORD  
 5 credits [tutorial classes: 48h]  first term  English
- MATH-F316 **Biogéostatistiques** | Thomas VERDEBOUT (Coordinator)  
 5 credits [lecture: 30h, tutorial classes: 24h]  second term  French