

# 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 **Biologie générale** | Patrick MARDULYN (Coordinator) and Etienne MEYLAN  
 ⌚ 5 credits [lecture: 48h] 📅 second term 🗨️ French
- CHIM-F101 **Chimie générale** | Laurence RONGY (Coordinator), François RENIERS and Thierry VISART DE BOCARME  
 ⌚ 20 credits [lecture: 96h, tutorial classes: 60h, practical work: 84h, project: 75h] 📅 first and second terms 🗨️ French
- ENVI-F1001 **Sciences de la Terre, Environnement et Société** | Pierre REGNIER (Coordinator), Jean-Michel DECROLY and Frank PATTYN  
 ⌚ 5 credits [lecture: 48h, field trips: 12h] 📅 first and second terms 🗨️ French
- GEOL-F104 **Les temps géologiques : concepts et méthodes** | Sandra ARNDT (Coordinator) and Goulven GILDAS LARUELLE  
 ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨️ French
- GEOL-F105 **Géologie de l'Europe** | Vinciane DEBAILLE (Coordinator) and Steeve BONNEVILLE  
 ⌚ 5 credits [lecture: 16h, field trips: 24h] 📅 second term
- MATH-F112 **Mathématiques 1** | Dimitri LEEMANS (Coordinator), Michele D'ADDERIO and Bruno PREMOSSELLI  
 ⌚ 10 credits [lecture: 60h, tutorial classes: 60h] 📅 first and second terms 🗨️ French
- PHYS-F104 **Physique 1** | 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) and Jason VLEMINCKX  
 5 credits [lecture: 42h, practical work: 12h] first and second terms French
- GEOG-F102 **Géomorphologie tectonique** | 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: 36h, field trips: 16h] second term French
- GEOG-F301 **Minéralogie** | Karen FONTIJN (Coordinator)  
 5 credits [lecture: 24h, practical work: 36h] first term French
- INFO-F206 **Informatique** | Olivier MARKOWITCH (Coordinator)  
 5 credits [lecture: 24h, tutorial classes: 12h, project: 24h] first term French
- LANG-F201 **Anglais scientifique I** | Alexander CORNFORD (Coordinator), David Albert BEST and Hugh MURPHY  
 5 credits [tutorial classes: 48h] second term English
- MATH-F115 **Compléments d'analyse et algèbre linéaire** | Joel FINE (Coordinator), Michele D'ADDERIO and Laurent LA FUENTE-GRAVY  
 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] 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 géomorphologie glaciaire](#) | 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]  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: 18h, practical work: 60h, field trips: 40h] 📅 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) and Thomas LECOCQ  
 5 credits [lecture: 22h, tutorial classes: 12h, seminars: 10h, field trips: 16h] 📅 first term 🗨️ French
- GEOL-F312 **Projet de recherche et communication scientifique** | Sandra ARNDT (Coordinator) and Karen FONTIJN  
 5 credits [lecture: 6h, 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), David Albert BEST 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