

# Master in Geology

## Focus Research - 1st year

### Bloc 1 | M-GEOLA | MA-GEOL

## Cours obligatoires

- GEOL-F4002 **Volcanology** | Karen FONTIJN (Coordinator) and Corentin CAUDRON  
 5 credits [lecture: 24h, tutorial classes: 8h, practical work: 8h, project: 30h] second term English
- GEOL-F4003 **Origine de la vie et son évolution sur Terre** | Steeve BONNEVILLE (Coordinator)  
 5 credits [lecture: 36h] first term French
- GEOL-F408 **Volcanic Terrains Field Trip** | Karen FONTIJN (Coordinator)  
 5 credits [field trips: 60h] second term English
- GEOL-F411 **Géochimie élémentaire et isotopique** | Vinciane DEBAILLE (Coordinator)  
 5 credits [lecture: 30h, practical work: 15h] first term French
- GEOL-F412 **Applied Geochemical Dynamics** | Corentin CAUDRON (Coordinator) and Vinciane DEBAILLE  
 5 credits [lecture: 26h, practical work: 20h] second term French
- GEOL-F414 **Éléments d'hydrogéologie** | Philippe Orban (Coordinator) and Pascal Goderniaux  
 5 credits [lecture: 24h, practical work: 24h, field trips: 12h] first term French
- GEOL-F427 **Géologie structurale** | Sara VANDYCKE (Coordinator)  
 5 credits [lecture: 24h, field trips: 24h, project: 12h] first term French
- GEOL-F428 **Earth System Modeling** | Pierre REGNIER (Coordinator) and Sandra ARNDT  
 5 credits [lecture: 24h, practical work: 24h] first term French
- GEOL-F436 **The Global Coastal Ocean on a Changing Planet** | Sandra ARNDT (Coordinator) and Pierre REGNIER  
 5 credits [lecture: 12h, practical work: 24h, field trips: 24h] second term French

## Cours optionnels

*A total of 15 credits chosen from the following*

- BIOL-F4002 (optional) **Pédologie et écosystèmes** | Thomas DROUET DE LA THIBAUDERIE (Coordinator)  
 5 credits [lecture: 36h] first term French
- CHIM-F102 (optional) **Chimie organique 1** | Cécile MOUCHERON (Coordinator)  
 5 credits [lecture: 30h, tutorial classes: 18h] second term French
- CHIM-F405 (optional) **Photophysique des atmosphères et des milieux interstellaires** | Nathalie VAECK (Coordinator), Sophie Bauduin and Lieven CLARISSE  
 5 credits [lecture: 36h, project: 12h] second term English/French
- CHIM-H302 (optional) **Pollution du milieu physique** | Michel VERBANCK (Coordinator) and Gilles BRUYLANTS  
 5 credits [lecture: 40h, tutorial classes: 8h, practical work: 12h] second term French
- ENVI-F405 (optional) **Climat: sciences et politiques** | Frank PATTYN (Coordinator)  
 5 credits [lecture: 40h] second term French
- ENVI-F432 (optional) **Cycles biogéochimiques globaux : processus, quantification, attribution** | Steeve BONNEVILLE (Coordinator), Goulven Gildas LARUELLE and Pierre REGNIER  
 5 credits [lecture: 30h] second term French

ENVI-F451 (optional)	<p><b>Téledétection des variables climatiques et environnementales</b>   Pierre-François COHEUR (Coordinator), Sophie Bauduin and Lieven CLARISSE</p> <p>🕒 5 credits [lecture: 36h, practical work: 12h, project: 28h] 📅 second term 🗨 English/French</p>
ENVI-F526 (optional)	<p><b>Sciences de l'atmosphère et changements climatiques</b>   Pierre-François COHEUR (Coordinator) and Cathy CLERBAUX</p> <p>🕒 5 credits [lecture: 36h, project: 24h] 📅 second term 🗨 French</p>
ENVI-F527 (optional)	<p><b>Matière et énergie dans l'environnement: analyse, transport et instabilités</b>   François FRIPIAT (Coordinator) and Anne DE WIT</p> <p>🕒 5 credits [lecture: 36h, practical work: 24h] 📅 second term 🗨 French</p>
GEOG-F211 (optional)	<p><b>Systèmes d'information géographique et projections</b>   Eléonore WOLFF (Coordinator) and Michele D'ADDERIO</p> <p>🕒 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 French</p>
GEOG-F400 (optional)	<p><b>The Earth system and its interactions</b>   François FRIPIAT (Coordinator)</p> <p>🕒 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English</p>
GEOG-F408 (optional)	<p><b>Modélisation en géosciences : glaciologie et climatologie</b>   Frank PATTYN (Coordinator)</p> <p>🕒 5 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 French</p>
GEOG-F410 (optional)	<p><b>Paléoclimatologie</b>   François FRIPIAT (Coordinator)</p> <p>🕒 5 credits [lecture: 36h, practical work: 12h] 📅 second term 🗨 French</p>
GEOG-F425 (optional)	<p><b>Téledétection</b>   Eléonore WOLFF (Coordinator)</p> <p>🕒 5 credits [lecture: 30h, practical work: 30h] 📅 first term 🗨 French</p>
GEOL-F4004 (optional)	<p><b>Cosmoschimie et planétologie</b>   Vinciane DEBAILLE (Coordinator) and Alain JORISSEN</p> <p>🕒 5 credits [lecture: 36h] 📅 first term</p> <p>Ce cours est donné un an sur deux.</p>
GEOL-F408 (optional)	<p><b>Volcanic Terrains Field Trip</b>   Karen FONTIJN (Coordinator)</p> <p>🕒 5 credits [field trips: 60h] 📅 second term 🗨 English</p>



# Master in Geology

## Focus Research - 1st year

### Bloc 2 | M-GEOLA | MA-GEOL

## Cours obligatoires

MEMO-F519 **Mémoire** | Nadine MATTIELLI (Coordinator)  
 25 credits [mfe/tfe: 300h] first and second terms

Dans le cadre de la mobilité et du mémoire, l'étudiant peut être amené à suivre des cours ou à réaliser des analyses dans des laboratoires d'universités partenaires (voir liste ERASMUS).

### One course chosen from the following

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GEOL-F528 (optional) **Mobilité** | Nadine MATTIELLI (Coordinator)  
 10 credits [personal assignments: 120h] first and second terms French

GEOL-F528 (optional) **Mobilité** | Nadine MATTIELLI (Coordinator)  
 20 credits [personal assignments: 360h] academic year French

## Cours optionnels

### 15 to 25 credits chosen from the following

BIOL-F4002 (optional) **Pédologie et écosystèmes** | Thomas DROUET DE LA THIBAUDERIE (Coordinator)  
 5 credits [lecture: 36h] first term French

CHIM-F102 (optional) **Chimie organique 1** | Cécile MOUCHERON (Coordinator)  
 5 credits [lecture: 30h, tutorial classes: 18h] second term French

CHIM-F405 (optional) **Photophysique des atmosphères et des milieux interstellaires** | Nathalie VAECK (Coordinator), Sophie Bauduin and Lieven CLARISSE  
 5 credits [lecture: 36h, project: 12h] second term English/French

CHIM-H302 (optional) **Pollution du milieu physique** | Michel VERBANCK (Coordinator) and Gilles BRUYLANTS  
 5 credits [lecture: 40h, tutorial classes: 8h, practical work: 12h] second term French

ENVI-F405 (optional) **Climat: sciences et politiques** | Frank PATTYN (Coordinator)  
 5 credits [lecture: 40h] second term French

ENVI-F432 (optional) **Cycles biogéochimiques globaux : processus, quantification, attribution** | Steeve BONNEVILLE (Coordinator), Goulven Gildas LARUELLE and Pierre REGNIER  
 5 credits [lecture: 30h] second term French

ENVI-F451 (optional) **Télétection des variables climatiques et environnementales** | Pierre-François COHEUR (Coordinator), Sophie Bauduin and Lieven CLARISSE  
 5 credits [lecture: 36h, practical work: 12h, project: 28h] second term English/French

ENVI-F455 <small>(optional)</small>	<b>Géoressources du sous-sol et anthropocène</b>   Corentin CAUDRON, Adel EL Gammal and Nadine MATTIELLI ⌚ 5 credits [lecture: 34h, seminars: 10h, field trips: 16h] 📅 second term 🗨 French
ENVI-F526 <small>(optional)</small>	<b>Sciences de l'atmosphère et changements climatiques</b>   Pierre-François COHEUR (Coordinator) and Cathy CLERBAUX ⌚ 5 credits [lecture: 36h, project: 24h] 📅 second term 🗨 French
ENVI-F527 <small>(optional)</small>	<b>Matière et énergie dans l'environnement: analyse, transport et instabilités</b>   François FRIPIAT (Coordinator) and Anne DE WIT ⌚ 5 credits [lecture: 36h, practical work: 24h] 📅 second term 🗨 French
GEOG-F103 <small>(optional)</small>	<b>Fondements de la géographie humaine</b>   Jean-Michel DECROLY (Coordinator) ⌚ 5 credits [lecture: 36h, project: 20h] 📅 second term 🗨 French
GEOG-F211 <small>(optional)</small>	<b>Systèmes d'information géographique et projections</b>   Eléonore WOLFF (Coordinator) and Michele D'ADDERIO ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨 French
GEOG-F313 <small>(optional)</small>	<b>Géographie régionale</b>   Jean-Michel DECROLY (Coordinator), Gilles VAN HAMME and Eléonore WOLFF ⌚ 5 credits [lecture: 48h, practical work: 12h, project: 80h] 📅 first and second terms 🗨 French
GEOG-F400 <small>(optional)</small>	<b>The Earth system and its interactions</b>   François FRIPIAT (Coordinator) ⌚ 5 credits [lecture: 36h, tutorial classes: 24h] 📅 first term 🗨 English
GEOG-F408 <small>(optional)</small>	<b>Modélisation en géosciences : glaciologie et climatologie</b>   Frank PATTYN (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 24h] 📅 first term 🗨 French
GEOG-F410 <small>(optional)</small>	<b>Paléoclimatologie</b>   François FRIPIAT (Coordinator) ⌚ 5 credits [lecture: 36h, practical work: 12h] 📅 second term 🗨 French
GEOG-F414 <small>(optional)</small>	<b>Analyse des espaces urbains</b>   Mathieu VAN CRIEKINGEN (Coordinator) ⌚ 5 credits [lecture: 24h, practical work: 6h, project: 30h] 📅 first term 🗨 French
GEOG-F425 <small>(optional)</small>	<b>Téledétection</b>   Eléonore WOLFF (Coordinator) ⌚ 5 credits [lecture: 30h, practical work: 30h] 📅 first term 🗨 French
GEOG-F4004 <small>(optional)</small>	<b>Cosmoschimie et planétologie</b>   Vinciane DEBAILLE (Coordinator) and Alain JORISSEN ⌚ 5 credits [lecture: 36h] 📅 first term Ce cours est donné un an sur deux.
GEOG-F438 <small>(optional)</small>	<b>Géochimie isotopique de l'environnement : Concepts, applications, et méthodes</b>   Nadine MATTIELLI (Coordinator), François FRIPIAT and Steven Goderis ⌚ 5 credits [lecture: 24h, practical work: 16h] 📅 second term 🗨 French