# Studies Plan

## Génie civil 2019-20

### Master project

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<tr>
<th>Language Code</th>
<th>Section</th>
<th>Teacher</th>
<th>Specialization</th>
<th>Master 1</th>
<th>Master 2</th>
<th>MP Autumn</th>
<th>MP Spring</th>
<th>Exam Session</th>
<th>Exam</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>Engineering internship (master in Civil engineering)</strong></td>
<td>CIVIL-597</td>
<td>GC</td>
<td>Profs divers</td>
<td>320h</td>
<td>320h</td>
<td>320h</td>
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<td>Sum Win</td>
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### Master project in Civil Engineering

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<th>Master 1</th>
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<tr>
<td><strong>CIVIL-599</strong></td>
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<tbody>
<tr>
<td><strong>Building energetics</strong></td>
<td>ENG-445</td>
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<td>Khovaly Licina</td>
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<td><strong>Dynamic analysis of structures</strong></td>
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<td><strong>Fundamentals of traffic operations and control</strong></td>
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<td><strong>Geomechanics</strong></td>
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<td>Koliji Laloui</td>
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<td><strong>Hydraulic and hydroelectric structures and schemes</strong></td>
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<tr>
<td><strong>Civil engineering teaching unit: Sustainable construction</strong></td>
<td>CIVIL-474</td>
<td>GC</td>
<td>Gnansounou Nussbaumer Wienold</td>
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### Pré-étude obligatoire

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#### Group "Option courses"

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**Existing structures : basis**  
**CIVIL-436** GC  
Brühwiler  
2h 1h  
Win  
During the semester 3

**Existing structures : selected topics**  
**CIVIL-437** GC  
Brühwiler  
2h 1h  
Sum  
During the semester 3

**Flood and dam break waves**  
**CIVIL-515** GC  
Ancey  
2h 1h  
Sum  
Oral 3

**Fluvial hydraulics and river training works**  
**CIVIL-410** GC  
André Arborino De Cesare  
2h 1h  
Win  
Oral 3

**Geology for construction and environment**  
**CIVIL-463** GC  
Tacher  
2h 1h  
Win  
During the semester 3

**Geophysics for engineers**  
**CIVIL-448** GC  
Violay  
2h 1h  
Sum  
During the semester 3

**Impact studies**  
**ENG-474** GC  
Devantier Helfer Schmidt  
2h 1h  
Win  
Oral 3

**Indoor air quality and ventilation**  
**CIVIL-460** GC  
Licina  
2h 2h  
Sum  
During the semester 3

**Innovation for construction and the environment**  
**CIVIL-424** GC  
Laloui Terzis  
2h  
Win  
During the semester 2

**Integrated planning of energy infrastructures**  
**CIVIL-442** GC  
Gnansounou  
2h 1h  
Sum  
Oral 3

**Materials and structures**  
**CIVIL-532** GC  
Denarie  
2h 1h  
Win  
Oral 3

**Modelling of energy systems**  
**CIVIL-447** GC  
Gnansounou  
2h 1h  
Win  
Oral 3

**Nonlinear analysis of structures**  
**CIVIL-449** GC  
Beyer Lignos  
2h 1h  
Win  
Written 3

**Optional transdisciplinary project**  
**CIVIL-493** GC  
Profs divers  
4h 4h  
Sum  
Win  
During the semester 4

**Programming concepts in scientific computing**  
**MATH-458** GC  
Anciaux  
2h 2h  
Win  
During the semester 4

**Project management and risk analysis**  
**MGT-427** MTE  
Wieser  
2h 1h  
Win  
During the semester 4

**Public transportation systems**  
**CIVIL-461** GC  
2h 1h  
Sum  
During the semester 3

**Risk analysis and management**  
**CIVIL-438** GC  
Defert Vulliet  
2h 1h  
Win  
Oral 3

**River eco-morphology**  
**ENV-418** GC  
De Cesare Juez Jiménez  
2h 1h  
Win  
During the semester 3

**Seismic engineering**  
**CIVIL-522** GC  
Beyer Wilding  
2h 1h  
Sum  
Written 3

**Selected topics in mechanics of solids and structures**  
**CIVIL-527** GC  
2h 1h  
Win  
Oral 3

**Slope stability**  
**CIVIL-530** GC  
Ferrari Laloui  
2h 1h  
Sum  
Written 3

**Steel structures**  
**CIVIL-526** GC  
Nussbaumer Yildirim  
2h 1h  
Win  
Written 3

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