## Studies Plan

### Génie civil 2023-24

#### Block 4

<table>
<thead>
<tr>
<th>Courses</th>
<th>Language</th>
<th>Section</th>
<th>Teacher</th>
<th>Bachelor 3</th>
<th>Bachelor 4</th>
<th>Bachelor 5</th>
<th>Bachelor 6</th>
<th>Exam Session</th>
<th>Exam</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensioning of Timber structures</td>
<td>F</td>
<td>CIVIL-331 GC</td>
<td>Natterer</td>
<td>2h 1h</td>
<td>Win</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Numerical analysis</td>
<td>E</td>
<td>MATH-251(a) MA</td>
<td>Antolin Sanchez Sande</td>
<td>2h 1h</td>
<td>Win</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Reinforced concrete structures</td>
<td>E</td>
<td>CIVIL-323 GC</td>
<td>Ruggiero</td>
<td>3h 2h</td>
<td>Win</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Rock mechanics</td>
<td>F</td>
<td>CIVIL-308 GC</td>
<td>Sandrone Violay</td>
<td>3h 2h</td>
<td>Win</td>
<td></td>
<td></td>
<td>During the semester</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Traffic engineering</td>
<td>E</td>
<td>CIVIL-349 GC</td>
<td>Geroliminis</td>
<td>2h 2h</td>
<td>Win</td>
<td></td>
<td></td>
<td>During the semester</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Urban Thermodynamics</td>
<td>E</td>
<td>CIVIL-309 GC</td>
<td></td>
<td>2h 1h</td>
<td>Win</td>
<td></td>
<td></td>
<td>During the semester</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

#### Block 5

<table>
<thead>
<tr>
<th>Courses</th>
<th>Language</th>
<th>Section</th>
<th>Teacher</th>
<th>Bachelor 3</th>
<th>Bachelor 4</th>
<th>Bachelor 5</th>
<th>Bachelor 6</th>
<th>Exam Session</th>
<th>Exam</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geotechnical engineering</td>
<td>F</td>
<td>CIVIL-306 GC</td>
<td>Lecampion</td>
<td>3h 2h</td>
<td>Sum</td>
<td>Written</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Hydraulic structures and schemes</td>
<td>F</td>
<td>CIVIL-312 GC</td>
<td>De Almeida Manso De Cesare</td>
<td>3h 2h</td>
<td>Sum</td>
<td>Written</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Numerical modelling of solids and structures</td>
<td>F</td>
<td>CIVIL-321 GC</td>
<td>Anciaux Molinari</td>
<td>2h 2h</td>
<td>Sum</td>
<td>Written</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Project in civil engineering</td>
<td>F</td>
<td>CIVIL-390 GC</td>
<td>Profs divers</td>
<td>6h</td>
<td>Sum</td>
<td>During the semester</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Urban public transport systems</td>
<td>E</td>
<td>CIVIL-324 GC</td>
<td>Zhang</td>
<td>2h 1h</td>
<td>Sum</td>
<td>During the semester</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

#### Block 6

<table>
<thead>
<tr>
<th>Courses</th>
<th>Language</th>
<th>Section</th>
<th>Teacher</th>
<th>Bachelor 3</th>
<th>Bachelor 4</th>
<th>Bachelor 5</th>
<th>Bachelor 6</th>
<th>Exam Session</th>
<th>Exam</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis IV</td>
<td>F</td>
<td>MATH-207(d) MA</td>
<td>Basterrechea</td>
<td>2h 2h</td>
<td>Sum</td>
<td>Written</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Bridge design and equipment</td>
<td>F</td>
<td>CIVIL-335 GC</td>
<td>Burdet Nussbaumer</td>
<td>2h 1h</td>
<td>Sum</td>
<td>Oral</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Data Science for infrastructure condition monitoring</td>
<td>E</td>
<td>CIVIL-332 GC</td>
<td>Fink</td>
<td>2h 1h</td>
<td>Sum</td>
<td>During the semester</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Estimation methods</td>
<td>F</td>
<td>ENG-267 SIE</td>
<td>Skaloud</td>
<td>2h 1h</td>
<td>Win</td>
<td>Written</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Geographic information system (GIS)</td>
<td>F</td>
<td>ENV-342 SIE</td>
<td>Joost</td>
<td>2h 2h</td>
<td>Sum</td>
<td>Written</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Heat and mass transfer</td>
<td>E</td>
<td>ME-341 GM</td>
<td>Tagliabue</td>
<td>3h 1h</td>
<td>Sum</td>
<td>Written</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Hydrology for engineers  
E  
ENV-221  
SIE  
Benettin  
Bonetti  
Rinaldo  
3h 2h  
Win  
Written  
5  

Numerical representation & BIM  
F  
CIVIL-307  
GC  
Domer  
2h 1h  
Sum  
During the semester  
3  

Signals, instruments and systems  
E  
ENG-366  
SIE  
Martinoli  
2h 3h  
Win  
Written  
5  

Block "Cross-disciplinary team projects"  

<table>
<thead>
<tr>
<th>Language Code</th>
<th>Section</th>
<th>Teacher</th>
<th>Exam Session</th>
<th>Exam</th>
<th>Credit</th>
</tr>
</thead>
</table>
| F  
ENAC  
Sum  | 4  |

Unités d'enseignement ENAC  
F  
ENAC  
Sum  | 4  |

Block 1  

<table>
<thead>
<tr>
<th>Language Code</th>
<th>Section</th>
<th>Teacher</th>
<th>Bachelor 3</th>
<th>Bachelor 4</th>
<th>Bachelor 5</th>
<th>Bachelor 6</th>
<th>Exam Session</th>
<th>Exam</th>
<th>Credit</th>
</tr>
</thead>
</table>
| F  
Analysis III  
MATH-203(b)  
MA  | Strütt  | 2h 2h  | 4  |
| E  
Fundamentals of indoor climate  
CIVIL-212  
GC  | Licina  | 1h 1h  | 2  |
| E  
Introduction to optimization and operations research  
MATH-265  
GC  | Bierlaire  | 2h 2h  | 2  |
| F  
Probability and statistics  
MATH-234(a)  
MA  | Zemel  | 2h 1h  | 3  |

Block 2  

<table>
<thead>
<tr>
<th>Language Code</th>
<th>Section</th>
<th>Teacher</th>
<th>Bachelor 3</th>
<th>Bachelor 4</th>
<th>Bachelor 5</th>
<th>Bachelor 6</th>
<th>Exam Session</th>
<th>Exam</th>
<th>Credit</th>
</tr>
</thead>
</table>
| F  
Continuum mechanics (for GC)  
CIVIL-225  
GC  | Molinari  | 2h 2h  | 3  |
| F  
Geology  
CIVIL-211  
GC  | Münntener  
Pilet  
Violay  | 3h 1h  | 4  |
| E  
Introduction to machine learning for engineers  
CIVIL-226  
GC  | Alahi  | 2h 3h  | 5  |
| E  
Structural mechanics (for GC)  
CIVIL-238  
GC  | Vassilopoulos  | 2h 2h  | 4  |

Block 3  

<table>
<thead>
<tr>
<th>Language Code</th>
<th>Section</th>
<th>Teacher</th>
<th>Bachelor 3</th>
<th>Bachelor 4</th>
<th>Bachelor 5</th>
<th>Bachelor 6</th>
<th>Exam Session</th>
<th>Exam</th>
<th>Credit</th>
</tr>
</thead>
</table>
| F  
Design of steel structures  
CIVIL-235  
GC  | Nussbaumer  | 3h 2h  | 5  |
| F  
Fluids mechanics (For GC)  
CIVIL-210  
GC  | Ancey  | 3h 2h  | 5  |
| F  
Fundamentals of geomatics  
ENV-140  
SIE  | Gilliéron  
Tula  | 1h 1h  | 2  |
| E  
Introduction to transportation systems  
CIVIL-355  
GC  | Bierlaire  | 2h 1h  | 3  |
| F  
Soil mechanics and Groundwater seepage  
CIVIL-203  
GC  | Vacat  | 3h 2h 1h  | 5  |
## Transverse block HSS

<table>
<thead>
<tr>
<th>Language Code</th>
<th>Connect</th>
<th>Section</th>
<th>Teacher</th>
<th>Exam</th>
<th>Exam</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHS : Bachelor cycle BA6</td>
<td>F</td>
<td>SHS</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>HSS : Bachelor cycle BA5</td>
<td>F</td>
<td>SHS</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>HSS : Bachelor cycle BA4</td>
<td>F</td>
<td>SHS</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>HSS : Bachelor cycle BA3</td>
<td>F</td>
<td>SHS</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

C : Courses, E : Exercice, P : Pratic courses, " : option courses / F : French courses, D : Deutsch courses, E : English Courses / Sum : Summer, Win : Winter