# Studies Plan

## Génie mécanique 2019-20

### Master project

<table>
<thead>
<tr>
<th>Courses</th>
<th>Master 1</th>
<th>Master 2</th>
<th>MP Autumn</th>
<th>MP Spring</th>
<th>Exam Session</th>
<th>Exam Credit</th>
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<tbody>
<tr>
<td>Engineering internship credited with master</td>
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<tr>
<td>project (master in Mechanical engineering)</td>
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- **Language Code**: F
- **Section**: ME-597
- **Teacher**: Gautsch, Premiélopou
- **Credit**: 320h
- **Exam Session**: Sum
- **Win**: Term paper

**Master project in Mechanical Engineering**

<table>
<thead>
<tr>
<th>ME-599</th>
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<tbody>
<tr>
<td>GM</td>
</tr>
<tr>
<td>Profes</td>
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<tr>
<td>divers</td>
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</table>

- **Credit**: 900h
- **Exam Session**: Sum
- **Win**: Oral
- **Credit**: 30

### Block "Projects"

<table>
<thead>
<tr>
<th>Courses</th>
<th>Master 1</th>
<th>Master 2</th>
<th>Exam Session</th>
<th>Exam Credit</th>
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<tbody>
<tr>
<td>Mechanical engineering project I</td>
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- **Language Code**: ME-401
- **Section**: GM
- **Teacher**: Profes divers
- **Credit**: 2h
- **Exam Session**: Sum
- **Win**: During the semester

**HSS : Introduction to project**

- **SHS**: Win
- **Credit**: 3

**HSS : Project**

- **SHS**: Sum
- **Credit**: 3

### Group "options"

<table>
<thead>
<tr>
<th>Courses</th>
<th>Master 1</th>
<th>Master 2</th>
<th>Exam Session</th>
<th>Exam Credit</th>
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<tbody>
<tr>
<td>Acoustic Hydrodynamic</td>
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- **Language Code**: ME-434
- **Section**: GM
- **Teacher**: Nicolet
- **Credit**: 2h
- **Exam Session**: Sum
- **Win**: Oral
- **Credit**: 3

**Advanced additive manufacturing technologies**

- **Language Code**: MICRO-413
- **Section**: MT
- **Teacher**: Briand, Brugger, Moser
- **Credit**: 2h
- **Exam Session**: Sum
- **Win**: Oral
- **Credit**: 3

**Advanced control systems**

- **Language Code**: ME-524
- **Section**: GM
- **Teacher**: Karimi
- **Credit**: 2h
- **Exam Session**: Sum
- **Win**: Written
- **Credit**: 3

**Advanced energetics**

- **Language Code**: ME-451
- **Section**: GM
- **Teacher**: Mariécha
- **Credit**: 3h
- **Exam Session**: Win
- **Win**: Oral
- **Credit**: 5

**Advanced heat transfer**

- **Language Code**: ME-465
- **Section**: GM
- **Teacher**: Haussemer
- **Credit**: 2h
- **Exam Session**: Sum
- **Win**: Written
- **Credit**: 3

**Advanced solid mechanics**

- **Language Code**: ME-437
- **Section**: GM
- **Teacher**: Curtin
- **Credit**: 3h
- **Exam Session**: Win
- **Win**: Written
- **Credit**: 5

**Aerodynamics**

- **Language Code**: ME-445
- **Section**: GM
- **Teacher**: Muller
- **Credit**: 2h
- **Exam Session**: Win
- **Win**: Written
- **Credit**: 4

**Aeroelasticity and fluid-structure interaction**

- **Language Code**: ME-435
- **Section**: GM
- **Teacher**: Farhat
- **Credit**: 2h
- **Exam Session**: Win
- **Win**: Written
- **Credit**: 3

**Applied mechanical design**

- **Language Code**: ME-403
- **Section**: GM
- **Teacher**: Schiffmann
- **Credit**: 1h
- **Exam Session**: Win
- **Win**: During the semester
- **Credit**: 4

**Basics of robotics**

- **Language Code**: MICRO-450
- **Section**: MT
- **Teacher**: Bouri
- **Credit**: 3h
- **Exam Session**: Win
- **Win**: Written
- **Credit**: 3

**Biomechanics of the cardiovascular system**

- **Language Code**: ME-481
- **Section**: GM
- **Teacher**: Stergiou
- **Credit**: 2h
- **Exam Session**: Sum
- **Win**: Written
- **Credit**: 3

**Biomechanics of the musculoskeletal system**

- **Language Code**: ME-482
- **Section**: GM
- **Teacher**: Pioletti
- **Credit**: 2h
- **Exam Session**: Sum
- **Win**: Written
- **Credit**: 5

**Cavitation and interface phenomena**

- **Language Code**: ME-462
- **Section**: GM
- **Teacher**: Farhat
- **Credit**: 2h
- **Exam Session**: Win
- **Win**: Oral
- **Credit**: 3

**Computational multi-scale modeling of solids**

- **Language Code**: ME-414
- **Section**: GM
- **Teacher**: Dellet
- **Credit**: 3h
- **Exam Session**: Sum
- **Win**: During the semester
- **Credit**: 5
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<td>Engines and fuel cells</td>
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<td>Experimental methods in engineering mechanics</td>
<td>ME-412</td>
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<td>ME-432</td>
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<td>Oral</td>
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<td>Fundamentals of computer aided manufacturing</td>
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<td>Hydraulic turbomachines</td>
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<td>Hydrodynamics</td>
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<td>Industrial and applied robotics</td>
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<td>Instability</td>
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<td>Mechanical product design and development</td>
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<td>Modelling and optimization of energy systems</td>
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<td>Model predictive control</td>
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<td>Multi-body simulation</td>
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<td>Multivariable control</td>
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<td>Polymer composites + Laboratory Work</td>
<td>F MSE-340</td>
<td>MX</td>
<td>Bourbar Michaud</td>
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<td>Production management</td>
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<td>GM</td>
<td>Kaboli</td>
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<td>Renewable energy (for ME)</td>
<td>E ME-460</td>
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<td>Hausse Van Herle</td>
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<td>System identification</td>
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<td>Karimi</td>
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<td>Thermal power cycles and heat pump systems</td>
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<td>Schneider</td>
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<td>Two-phase flows and heat transfer</td>
<td>E ME-446</td>
<td>GM</td>
<td>Gallaire</td>
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C : Courses, E : Exercise, P : Pratic courses, * : option courses / F : French courses, D : Deutsch courses, E : English Courses / Sum : Summer, Win : Winter