STUDY REGULATION
FOR THE MASTERS OF SCIENCE
AND TECHNOLOGY
2019-2020
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REFERENCE

Texts


Decree n° 2015-1176 dated September 24, 2015, relating to the organization and the administrative and financial status of École Polytechnique.

The recommendation of the École Polytechnique Board of Directors dated June 23, 2016, relating to the creation and organization of the Graduate Degree programs and diplomas.

Decision n° 2018-011/DER dated March 12, 2018, setting the tuition fees for the Graduate Degree / Masters of Science and Technology programs.
This study regulation defines the general principles governing selection of candidates, their admission to the Masters of Science and Technology programs offered by École Polytechnique, and academic procedures for the two years of the degree.

It applies to students entering the program in the 2019-2020 academic year and is subject to annual revision, after consultation, by the pre-planning board or the post-planning board of École Polytechnique.

A Master of Science and Technology program at École Polytechnique is a specialized course of study taught entirely in English, for which a “Master of Science and Technology of École Polytechnique” diploma is issued upon its completion. All classes of the Masters of Science and Technology are described on the following website: [https://portail.polytechnique.edu/graduatedegree/](https://portail.polytechnique.edu/graduatedegree/).

École Polytechnique’s Masters of Science and Technology may be run directly by École Polytechnique or in partnership with other institutions of higher education. In the latter case, the organization of certain educational activities may be carried out with partner institutions.

The fundamental principle for graduation is the obligation for students to obtain successful results in their studies, which validates the level of quality of students receiving a Master of Science and Technology diploma from École Polytechnique. Students’ successful completion of their studies must be certified by the appropriate Committee.
Each program covers a period of two years and a total of 140 ECTS credits, except in special cases. It consists of a coherent set of educational activities, some of which may be organized in collaboration with partner institutions.

The annual curriculum comprises:
➤ A minimum of 30 ECTS credits for classes in Science, Technology and Engineering Science
➤ A minimum of 10 ECTS credits for classes in Management, Innovation and Entrepreneurship

All programs also include the following classes:
➤ Humanities and French Culture: 3 ECTS credits per year
➤ Languages: 3 ECTS credits per year
➤ Sports: 2 ECTS credits per year
➤ Internship: minimum of 20 ECTS credits for a minimum internship duration per year
• 4 months in Year 1
• 5 months in Year 2
And no longer than six months long

The number of ECTS credits per course is indicated on the following website:
https://portail.polytechnique.edu/graduatedegree/.

Class descriptions can be found on the Moodle or SynapseS platforms:
RECRUITMENT
and admission of candidates

1. Application process

Preselected candidates must hold a bachelor’s degree or equivalent for admission at graduate level.

Applications are made using the online application form. The academic section of this form must include a résumé, a statement of purpose describing the applicant’s career plan, a copy of grade transcripts for each year of their past studies, and the names of two references. Candidates are required to pay a €90 application fee. If they apply to several programs, they must pay application fees for each program.

For the 2019-2020 academic year, candidates who have obtained a master’s degree, or who have validated at least 60 ECTS credits for a first year of graduate study, may be exceptionally allowed to apply for the second year of the Economics, Data Analytics & Corporate Strategy program, the Environment Management in Energy Science & Technology program (STEEM) and the Artificial Intelligence program. The application procedure is the same as above; applicants must submit the above-mentioned supporting documents and a grade transcript for their first year of graduate study.

2. Admissions Committee

Applications are considered by an Admissions Committee chaired by the Vice President for Academic Affairs and Research of École Polytechnique (or this person’s representative). The Admissions Committee is composed of:

➤ Professors from École Polytechnique
➤ Professors from partner institutions, if appropriate
➤ The program director
➤ The Dean of the Master and PhD programs
➤ A representative of the Vice Presidency for International Relations and external stakeholders may also be invited.

The selection criteria principally take into account candidates’ academic excellence, but candidates’ personal motivations and professional plans are also key factors, given the purpose of the academic offer.
After the meeting of the Admissions Committee, admissions decisions are sent to applicants through the online application system within five days. Following this, proof of confirmation of admission is sent by mail. This document mailed to the candidate constitutes the sole authentic document for proving the candidate’s admission.

3. Admission confirmation

Admission of candidates in the Masters of Science and Technology programs at École Polytechnique is determined by the President of École Polytechnique.

All notices given by Admissions Committees at various meetings of the same annual recruitment campaign are collated in a single document, which is signed by the Vice President for Academic Affairs and Research. If a committee from a partner institution is involved in the admissions process, the list of candidates admitted by said committee is also included in this document.

Based on this document, the Vice President for Academic Affairs and Research submits the list of admitted candidates to the President of École Polytechnique.
Official

Enrollment

Enrollment at École Polytechnique is conditional upon payment of fees. However, if the Accounting Department of École Polytechnique allows a student to pay in several installments, the student is enrolled only upon payment of a €1500 deposit with the exception of students who hold a scholarship. (In that particular case, students may be allowed to pay the deposit after the Accounting Department has received their first installment.)

It is compulsory for students to subscribe to a health insurance plan.

Students must also provide proof of civil liability insurance.

Enrollment at École Polytechnique and access to the campus are conditional upon the results of security checks carried out by the Ministry of the Armed Forces.

Students must also complete a compulsory medical examination.

Students must provide proof of payment of the “Student and Campus Life Contribution” (CVEC).

A student who has not completed enrollment, or who is in debt to École Polytechnique, is not eligible to attend any examination.

Upon his/her arrival, each student is given a badge, which is also used as a student card. This badge must be returned to École Polytechnique at the end of the student’s course of study. The badge gives access to the campus, including the research laboratories, the library and the school canteen.

Students may wish to be housed on campus, in which case they must confirm their request during completion of their application process, and no later than June 30.
1. Individual study plan
Once the student has chosen the list of classes he/she will attend, an individual study (“Learning Agreement”) plan, written in both French and English, is created. This study plan describes the list of Teaching Units (TUs) the student will take, and the number of ECTS credits granted for each unit. The study plan must be approved by the program director.

During the first class of each TU, the student will be given a definition and explanation of the methods of assessment for the class.

École Polytechnique reserves the right not to open a non-mandatory TU.

The individual study plan must be signed by the student and the Head of the Masters of Science and Technology programs. This study plan may be reassessed if the student obtains the program director’s consent.

2. Course exemptions
Students are entitled to three types of exemption:

- Medical exemption request for sports: Students may be exempt from playing sports if they are able to provide a medical exemption certificate from a doctor. In order to validate the sports module required for the award of the degree, exempt students are required to write up a dissertation on a sport-related topic. This academic work must be submitted by the end of Term 2. The choice of topic is defined with the Office for Physical Education (Bureau de la Formation Sportive – BFS) after the medical exemption request has been approved.
- French language classes: students whose level of French is higher than B2 are exempt from French language classes. As language classes are compulsory, they must select another class in the course catalogue of the Department for Languages and Cultures.
➤ Humanities and French Culture: students who have previously completed a full academic year in Social Sciences and Humanities in France may request an academic equivalency evaluation. The Head of the Master of Science and Technology programs will assess the relevance of the request, based on the transcripts provided by the student. The student may then be exempt from taking the class, or asked to complete some additional work.

3. Tutoring

Students are entitled to tutoring sessions if they feel they require further academic assistance. In particular, students who are required to retake exams, or students who have failed one or several exams, are highly encouraged to attend tutoring sessions during Term 2. Tutoring sessions are held once a week in order to prepare retake exams and/or for the whole length of the term. Sessions consist of a small group of students led by a professor or a PhD student.

4. Attendance requirement

Attendance in all scheduled courses is mandatory and any absences must therefore be justified and documented. The Masters of Science and Technology Office is charged with validating the authenticity of supporting documents provided to justify absences from class and/or exams.

Beyond three unjustified absences, the student will be summoned by the Head of the program, who will analyze the student’s reasons for absence. More specifically, three unjustified absences in classes, labs, seminars, sports and language classes or tutorials will result in a maximum coursework grade of C.

Repeated unjustified absences in class activities or unjustified absences from exams are grounds for exclusion, which may be determined by the President of École Polytechnique.

5. Leave of absence

Leaves of absences are not authorized within the Master of Science and Technology programs.
The role of the student representative is to provide faculty and administrative staff with a student’s perspective on the program (with regard to classes, curriculum on the whole, exams, internships, life on campus, etc.). He/she is expected to canvas opinions from all students enrolled in the program, especially students facing academic and/or personal difficulties.

In the first year, the student representative is required to attend all meetings of the Academic Committees and the Examination Committee.

In the second year, the student representative is required to attend all meetings of the Academic Committees and the Validation Committee.

These Committees are primarily concerned with academic matters, but also take into account any other factors that may affect academic achievement.

Elections are held during the first term of the year and one representative is elected for each year of every Master of Science and Technology program. If a class contains more than 20 students, two representatives may be elected. The student representative must also nominate a substitute representative in the case that the former be unavailable to attend Committee meetings. The normal period of service is one academic year. However, students are able to be reelected for the second year.
ASSESSMENT

Validation of the academic program is subject to the validation of its various modules: classes, seminars, exams and internships.

1. Module assessment
For each course, students will receive a numerical grade (from 0 to 20) and a letter grade (from A to F).

At the beginning of each course, the instructor will explain the way students’ work will be assessed.

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<thead>
<tr>
<th>Grade</th>
<th>Pass/Fail</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: &gt;= 16</td>
<td>Pass</td>
<td>Excellent</td>
</tr>
<tr>
<td>B: &gt;= 13 and &lt;16</td>
<td>Pass</td>
<td>Good</td>
</tr>
<tr>
<td>C: &gt;= 10 and &lt;13</td>
<td>Pass</td>
<td>Satisfactory/Average</td>
</tr>
<tr>
<td>D: &gt;= 7 and &lt;10</td>
<td>Fail</td>
<td>Insufficient</td>
</tr>
<tr>
<td>E: &lt; 7</td>
<td>Fail</td>
<td>Very Insufficient</td>
</tr>
<tr>
<td>F: 0</td>
<td>Fail</td>
<td>Disciplinary Grade</td>
</tr>
</tbody>
</table>

A TU is validated on the condition that the student receives a C grade or higher. F corresponds to a disciplinary grade in the case of admitted or suspected academic/behavioral misconduct (e.g. unauthorized communication during exams, unauthorized materials during exams, copying, disorderly conduct, identity fraud, plagiarism, false information, etc.). This grade represents a warning and students are usually directly required to attend a retake exam. In the case of a serious violation or frequent violations of the study regulations, the following decisions may be made by the appropriate Committee (see articles 7.5 and 7.6): probation, suspension (for the current academic year) or expulsion from the institution.

Right of appeal: to request a review of their grades, students must write and sign a letter to the relevant professor and program director, and to the Head of the Master of Science and Technology program within a week after the results have been released.

2. Plagiarism and cheating
Evaluation of knowledge acquired throughout the course seeks to assess students’ individual and group work skills. All coursework produced by students must be his/her own personal work, or the work of his/her group for instances involving group work.
Plagiarism is defined as the representation of another person’s published or unpublished work as one’s own or as new and original, in any academic writing (e.g., essay, thesis, research report, project or assignment) submitted for evaluation, whether the represented material constitutes part of or the entirety of the work submitted. École Polytechnique reserves the right to employ the necessary means to identify plagiarism and cheating, and to prosecute such offences in accordance with the rules and regulations of the institution.

3. Compensation

The Examination Committee (see article 7.6) or the Validation Committee (see article 7.6) can decide to compensate a non-validated TU with another TU. As such, ECTS credits will be awarded even if the grade is lower than C. This compensation is not automatic. It may only occur under the following specific circumstances:

➤ The TU grade must be E or higher
➤ One TU can be used only once to compensate another TU during one academic term
➤ Not all TUs may compensate other TUs

• A scientific TU can only be compensated by another scientific TU
• Internships and sports cannot be compensated

See Annex for details on each program.

1. Classes from the same field in Biology (BIO), Chemistry (CHI), Economics (ECO), Computer Science (INF), Pure Mathematics (MAT), Applied Mathematics (MAP), Mechanics (MEC), Physics (PHY), and Management and Innovation Entrepreneurship (MIE) compensate one another. Occasional exceptions may occur with MIE courses. Scientific courses cannot compensate seminar courses and vice versa. Sports, Languages and Humanities classes cannot compensate scientific courses, and vice versa.
4. Retake examinations

Retake examinations are offered to students with a D, E or F grade. Students cannot retake an exam if they have received a B or C grade.

The grade obtained following a retake exam will take the place of the original one, if higher than the original grade. The maximum grade for a retake exam is C.

If a student is absent during the original examination for medical reasons, he/she can attend a retake examination. A medical certificate must be sent to the professor. The full grading scale is then used (no restriction to C). Sports, languages and internships do not have retake exams.

Retake examination sessions take place at the end of each term and must be taken before the end of the academic year, that is, the period during which exams are taken.

5. Academic Committees (Conseils des études)

Academic Committees meet at the end of each term (usually 4 to 5 weeks following the last exam). An Academic Committee comprises the following members:

➤ Program directors
➤ Professors involved in the programs who wish to attend
➤ The head of the Master of Science and Technology programs
➤ The Dean of the Master and PhD programs
➤ The Student representatives

Based on the survey and feedback data from students and professors as well as the student academic results of the previous period, the role of the Academic Committee is threefold:

1. Confirming the validity of grades and, if necessary, reviewing grading criteria and standardizing grades (As grades may be awarded by different evaluators in a course, they are subject to uniform grade standardization. If the Committee identifies significant differences in grading between evaluators, they may decide to standardize grades.).

2. Reviewing academic progress for each student; granting or refusing compensations (i.e. if a non-validated course can be compensated by another); identifying students who must retake exams and who may need tutoring; and suggesting actions on how to help each student facing academic difficulties.

3. Monitoring the quality of classes and of the curriculum as a whole; highlighting learning, resolving teaching and assessment issues; identifying classes in which grades are unsatisfactory; and suggesting actions to improve assessment outcomes.
6. Examination Committee and Validation Committees

These Committees meet at the end of each year and comprise the following members:
- The Vice President for Academic Affairs and Research or this person’s representative
- Program directors
- For double/joint degrees: representative of partner institution
- Professors involved in the programs who wish to attend
- Representative from the Office for Physical Education
- The Head of the Master of Science and Technology program
- The Dean of the Master and PhD programs
- Student Representatives

The Examination Committee (*Jury de passage*) meets at the end of first year and decides for each student, based on his/her academic performance, whether he/she should advance to the next year, advance conditionally, repeat the year, or withdraw from the program.

2. Confirming cumulative GPA and honors for each student.

3. For students who do not receive a degree: determining if they should repeat the year, or which additional exams they should retake in order to meet the requirements. In the case of very unsatisfactory results, students may be excluded from the program by the Validation Committee.

7. Transcripts

At the end of each semester when Academic Committees have met, students can access their grades (numerical and letter grades) as well as Transcripts. Official Transcripts with the student’s GPA and rank are available at the end of each academic year.

8. Repeating the year

Under specific circumstances, repeating the year may be authorized for a student only once by the appropriate Committee (Examination or Validation Committee). Tuition fees will have to be paid in part or in their entirety. All passed TUs may be kept, while all TUs with a grade lower than C must be repeated. The above-mentioned compensation system is not applicable in such cases.
Students who have successfully met their learning requirements and complied with administrative requirements will receive a diploma with the title of “Master of Science and Technology of École Polytechnique” followed by the name of their specific program.

Diplomas are issued in French and English.

Students may not receive their diploma unless all administrative formalities have been completed, including payment of required fees.

Successful students will be graded with a cumulative GPA at the end of second year.

Each TU ratio used in GPA calculation is equal to the number of ECTS credits of the TU in comparison with the total number of ECTS credits awarded.

The Validation Committee decides if the diploma is issued with distinction, and its decisions are based on GPA results and the results of each individual course. In cases where compensation of a scientific TU has occurred, no distinction will be delivered.

Detailed validation criteria specific to each program are defined by an individual study plan, which is given to each student at the start of the academic year.
TUITION Fees

The amount of tuition fees is determined by the President of École Polytechnique and fees are non-refundable*.

Students are expected to pay all required fees to École Polytechnique’s Accounting Department (Agence Comptable) within the timelines developed and communicated by the Master of Science and Technology programs Office.

Students must commit to paying the entirety of their annual tuition fees by October 15.

Terms of payment can be adapted for each student by the Accounting Department at the beginning of the program; students must meet with the Accounting Department to conclude a special arrangement before October 15.

Tuition fees must be paid annually in order for students to progress from one year to the next.

Unpaid tuition fees may result in the student’s deregistration from the program; this entails loss of access to his/ her École Polytechnique email account, inability to access the institution’s online platforms and to request transcripts or official documents, and ineligibility to take exams.

All tuition fees must be paid in full before graduation.

Deposit: during the official registration process, students are required to pay a deposit of €1,500 of their tuition fees for first year, with the exception of scholarship holders. This amount is non-refundable in the case of withdrawal from the course.

The deposit may only be refunded in the following case:

- If the student has to withdraw due to medical issues, in which case a medical certificate must be provided

Eric Labaye
President of the Board of Directors

This is a copy of the original document signed by Eric Labaye on July 16, 2019.

*There are two exceptional cases in which students may claim a refund if they withdraw from study at École Polytechnique (before completion of their course, but after payment of some or all of their tuition fees):
1. Serious medical problems due to which the student is unable to continue studying on the program (for which an official physician’s statement is required)
2. Resignation

The following rules apply:

- ➤ In the case of serious medical problems:
  - École Polytechnique will refund 50% of the tuition fee amount if the student provides proof of serious medical problems before December 31
  - École Polytechnique will refund 30% of the tuition fee amount if the student provides proof of serious medical problems between January 1 and March 1
  - No refunds will be given after March 2

- ➤ In the case of resignation:
  - Prior to September 1, a €1,500 deposit will be refunded by École Polytechnique
  - After September 1, no refund will be given. Tuition fees must be paid for the entire relevant academic year.
Assessment for modules is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Pass/ Fail</th>
<th>Classification</th>
<th>Compensation Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: &gt;= 16</td>
<td>Pass</td>
<td>Excellent</td>
<td></td>
</tr>
<tr>
<td>B: &gt;= 13 and &lt; 16</td>
<td>Pass</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>C: &gt;= 10 and &lt; 13</td>
<td>Pass</td>
<td>Satisfactory/Average</td>
<td>Compensation option (with grade A or B) varies according to program</td>
</tr>
<tr>
<td>D: &gt;= 7 and &lt; 10</td>
<td>Fail</td>
<td>Insufficient</td>
<td>Compensation option (with grade A only) varies according to program</td>
</tr>
<tr>
<td>E: &lt; 7</td>
<td>Fail</td>
<td>Very Insufficient</td>
<td></td>
</tr>
<tr>
<td>F: 0</td>
<td>Fail</td>
<td>Disciplinary Grade</td>
<td>No compensation option – retake exam is compulsory</td>
</tr>
</tbody>
</table>

Two retake exam sessions: one in Term 1, one in Term 2

Specific Compensation Rules and Internships

1. Artificial Intelligence – Advanced Visual Computing, Year 2 program

   Term 1
   - MAP631 – Deep Learning cannot compensate another class/cannot be compensated.
   - INF633 – Advanced 3D Graphics can compensate INF634 – Computer Vision.

   Term 2
   - MAP641 – Reinforcement Learning cannot compensate another class/cannot be compensated.
   - INF644 – Immersion and Interaction with Virtual Worlds can compensate INF642 – Socio-emotional Embodied Conversational Agents.

Internship duration in Year 1: 16 weeks
Internship duration in Year 2: 20 weeks (to no longer than 24 weeks)

2. STEEM

Classes for which a student has obtained an E grade must be automatically retaken. No compensation will be authorized.
MIE classes (considered as scientific classes) can be compensated by PHY or MEC classes.

Internship duration in Year 1: 16 weeks
Internship duration in Year 2: 20 weeks (to no longer than 24 weeks)

3. Data Science for Business
   Term 1
   ➤ MAP536 – Python for Data Science can compensate MAP531.

   Term 2
   ➤ MAP536P – Database can compensate one of the elective courses: either MAP540 or MAP546 or MAP544
   ➤ MAP535 Regression, MAP534 Machine Learning I, MAP541 Machine Learning II MAP545 cannot compensate one another

Internship duration in Year 1: 16 weeks
Internship duration in Year 2: 20 weeks (to no longer than 24 weeks)

4. Ecotechnologies for Sustainability and Environment Management
   A scientific class can only compensate another scientific class.
   An MIE class cannot compensate scientific classes, and vice versa.
   Classes for which a student has obtained an E grade must be automatically retaken. No compensation will be authorized.

5. Economics, Data Analytics & Corporate Strategy
   A scientific class can compensate an MIE class. However, an MIE class cannot compensate a scientific class.

Project courses ECO682 and ECO683 taught at ENSAE Graduate School cannot be retaken.

Internship duration in Year 1: 16 weeks
Internship duration in Year 2: 20 weeks (to no longer than 24 weeks)

   A scientific class can compensate an MIE class. However, an MIE class cannot compensate a scientific class.

Internship duration in Year 1: 16 weeks
Internship duration in Year 2: 20 weeks (to no longer than 24 weeks)

General compensation Rules (see article 7.3) apply to:
   ➤ Artificial Intelligence – Advanced Visual Computing, Year 1 program
   ➤ Internet of Things, Year 1 and 2 programs
   ➤ Cybersecurity, Year 1 program

MIE courses

An MIE course is a project course. Due to its organization (students are split into groups from day one and start working on a case), withdrawing from the course and enrolling in another one is not authorized.

This is a copy of the original document signed by Eric Labaye on July 16, 2019.