

APPENDIX 2: List of questions for supervisor and student

QUESTIONS FOR THE STUDENT⁴

Before beginning the program

- Have I clearly identified my training and supervision needs and the goals I wish to achieve in pursuing my studies?
- Have I evaluated and planned my financial needs to be able to pursue my studies?
- Have I obtained clarification from my supervisor or department regarding the nature and duration of the financial support provided to me, and if so, do I know what I am committing to in accepting that assistance?
- Have I obtained clarification from my supervisor or department regarding the physical or material resources (laboratories, computers, office, etc.) I will have at my disposal for carrying out my studies or research?
- Have I planned my program of study in keeping with the steps to achieve in a reasonable time frame?
- Have I discussed my work plan with my supervisor and agreed upon steps and deadlines in keeping with my program of study?
- Have I discussed with my supervisor the possibility of signing up for language courses?

During the course of studies

- Have I familiarized myself with the available scientific documentation and information as well as the analysis techniques to be used?
- Have I targeted my topic, clearly set out an internship or project process, or developed a clear research question, and set out the main steps for carrying out the project or research?
- Am I systematically taking note of the progress of my work and of my results, and am I able to answer questions about the steps I have completed?
- What progress have I logged with regard to my program of study in the last few months?
- Have I provided a progress report to my supervisor according to the established schedule?
- Have I written a preliminary version of the portion of work completed, and are there tables, graphs or other complementary information elements to prepare at this time?
- Have I submitted the preliminary version and results of my work for publication to my colleagues, and did they find my presentation to be clear and my arguments well articulated?
- What is my schedule for completing the final steps of my work or my research?
- Considering my program of study, have I checked the conditions to meet in order to complete my program within the authorized timetable?

QUESTIONS FOR DIALOGUE WITH THE RESEARCH SUPERVISOR

Before beginning the program

- Have we discussed my objectives in the pursuit of my studies, my program of study and the financial support and material and physical resources that will be at my disposal?
 - Have I been informed by my supervisor as to whether the internship, project or research topic with which I am engaging will raise controversial opinions or approaches, and, if applicable, did I ask for his or her opinion and work methods?
 - Have I been informed of the work context (inter-university or industrial partnerships, multidisciplinary research groups) in which I must operate?
 - Have I been informed about my supervisor's time management (group or research centre direction, participation in committees, editing of science journals, upcoming sabbatical, etc.), of his or her involvement in my work and of the supervision that he or she is prepared to offer me?
- Has my supervisor taken steps to ensure that I am properly integrated into his or her research group or team?

⁴ Excerpted from the pamphlet *Pour un encadrement de qualité: Un instrument de dialogue à l'École Polytechnique*

- Have I been informed of any particular requirements with regard to attendance at departmental seminars and participation in group seminars?
- Have we discussed the possible dependence or similarity of my study or research project with those of other students?
- Have we discussed the steps to complete in the coming months in order to complete my program of study in respect of the graduate studies regulations?
- Has my supervisor set a schedule of individual meetings in order to evaluate my progress in consideration of the planning of my activities?
- Does my supervisor feel that my project or research topic is properly defined and possible to accomplish within a reasonable time frame?

During the course of study

- Have we discussed the possible strategies and different methodological approaches after having agreed on my project or research topic?
- Does my supervisor expect to verify whether I am regularly and adequately taking note of the results of my work?
- Have we addressed the question of intellectual property rights and copyright ownership in the case of joint research, in consideration of the policies in effect at Polytechnique Montréal?
- Have I been fully informed of the scope of an internship report, project, thesis or dissertation in my discipline?
- Have we discussed the possibility of presenting my thesis or dissertation in the form of scientific article(s) if this activity is part of my program of study?
- Have I been properly informed about the directives regarding the writing and presentation of my work to Polytechnique Montréal and the documents available on the topic?
- Have I been given the chance to take part in research seminars and colloquia in order to present my work?
- Could I benefit from appropriate training if I am called upon to initiate research work or take part in the supervision of other students?
- Have I explored, with my supervisor, the career perspectives available to me after I obtain my diploma?

QUESTIONS FOR DIALOGUE WITH THE ADMINISTRATIVE UNITS

Before beginning the program

- Have we scheduled an integration activity for my arrival at Polytechnique Montréal?
- Are there instruments or procedures aimed at helping me choose an academic or research supervisor?
- What information should I expect to receive with regard to income available in the form of bursaries, grants, teaching assistant positions and research assistant positions?
- What are the possibilities for financing for a student registered at Polytechnique Montréal, and what policy does the school hold on this question?
- Is there a document that clearly sets out the objectives, steps and decision-making process surrounding the general comprehensive exam (written and oral parts)? Does this document include a detailed bibliography for each of the topics submitted for the written exam?
- Is there a document that describes the available computer resources and the conditions for their use?
- Is there a document that describes the customs of the unit of which I am a part?

During the course of study

- What methods have we put into place to monitor my program of study, considering the training objectives I am pursuing and the administrative regulations that must be respected?
- What mechanism will allow us to regularly touch base to evaluate my challenges and progress with regard to the projected schedule of completion?
- Am I invited to take part, as part of institutional or departmental activities, in research seminars, colloquia or planning and development activities?

List of documents to consult

- Graduate Studies Calendar
- Bursary listings
- Presentation guide for thesis defence
- Presentation guide for dissertation defence
- Presentation guide for internship or project reports
- Policy on integrity
- Policy on technological intellectual property
- Supervision Policy for Graduate Students

APPENDIX 3: Suggested discussion items for students and professors

Formative evaluation process for the supervision of students when supervising a thesis or dissertation (excerpt from Bernard, 1992)⁵

I – Project design

1. The professor ensures that the student is properly informed of the institution's policies and regulations with regard to program terms and conditions.
 2. The professor, with the student, establishes the work plan, the terms and conditions of supervision and the frequency of meetings.
 3. The professor informs the student of his or her availabilities and absences.
 4. The professor helps the student choose academic activities complementary to the program, if applicable.
 5. The professor encourages the student to regularly evaluate his or her progress.
 6. The professor is coherent in his or her criticism and comments.
 7. The feedback provided is useful to the student.
 8. The professor's comments are provided within a reasonable timeframe.
- In the case where the student's research is part of the professor's research:
9. The professor specifies the student's role in the research plan undertaken.
 10. The materials necessary for the completion of the student's research program are placed at the student's disposal.

II – Project implementation

1. The professor encourages the student in the pursuit of his or her research.
2. The professor is available to meet with the student as needed (according to the agreement set out at the project design phase).
3. The professor demonstrates openness to the student's ideas.
4. As needed, the professor refers the student to resource people and facilitates his or her access to other sources of information that may assist him or her in the research.
5. The feedback provided by the professor is sufficiently frequent (according to the established agreement).
6. The professor is coherent in his or her criticism and comments.

III – Writing of the thesis or dissertation

1. The professor helps the student to develop critical thinking and a capacity for analysis and synthesis.
2. The professor ensures that the student knows and applies the ethics rules pertaining to research and publication.
3. The professor encourages the student to communicate the results of the work: publications, papers.
4. The professor supplies clear and constructive criticism during the writing of the thesis or dissertation.
5. The professor's comments are supplied within a reasonable timeframe.

⁵ Bernard, Huguette. *Processus d'évaluation de l'enseignement supérieur – Théorie et pratique*. Éditions Études Vivantes, Laval, 1992, 174 p.

Process for the formative evaluation of the quality of a graduate student's work by his or her academic or research supervisor

List of statements useful for the evaluation (this list is not exhaustive)

1. The student demonstrates in-depth knowledge in science and engineering.
2. The student applies his or her knowledge and competencies in his or her research project or in carrying out major works.
3. The student shows a methodical approach in his or her research work or in carrying out major works.
4. The student demonstrates rigour and critical thinking in his or her research process or in carrying out major works.
5. The student demonstrates a sense of responsibility and autonomy in organizing and carrying out his or her work.
6. The student produces clear and explicit scientific articles, technical reports or various other documents dealing with scientific concepts.
7. The student verbally communicates scientific concepts in a clear and logical manner.
8. The student uses the information technologies placed at his or her disposal effectively for various purposes in his or her research or in carrying out major works.
9. The student collaborates effectively and in a transparent fashion with his or her peers.
10. The student respects the established and discussed deadlines.