

BEING A GRADUATE STUDENT- What does it mean?

Graduate studies involve the experimental research and coursework. **Coursework** means going to classes according to schedule, doing homework and taking exams (it is almost like being in high-school again). With your professor, you will make a plan on the courses you need, or like to take that fit your interests. Subject-wise, these always revolve around the research topic. Each department has its own rules how many courses have to be taken from the department (cannot study engineering and take all courses from the School of Music), and how many outside the department (a good percentage) elsewhere on campus. The level of courses has to be also adequately high (usually designated by a course code number, for example Corrosion, MSE 423, versus Introduction to Thermodynamics, MSE 308). The nice thing about the system is that you are regarded as a university student, and as such you can take any course available within the university (yes, you can take Dancing- it will even count for you GPA), i.e. you are not bound by the department (in Europe called Faculty) only as in European schools. Thus, the system allows you to graduate with multiple degrees (engineering and music, for example), which often happens. Only upper division courses (400 level and above) are acceptable for graduation, however. If you are taking a lower division course, say Organic Chemistry, Chem 200, this will be regarded as a deficiency course, and will not count toward your credit hours.

In addition to a regular coursework, you also have to register for **Thesis hours**, which is nothing else but your research. The thesis course has a high registration number, say PhD Thesis, MSE 600. Each course has number of credits assigned to it, which is typically the number of hours you attend the class per week. Thus, if you take Corrosion course and go to class three times a week (Monday, Wednesday, Friday), the number of credit hours is 3. If Corrosion has a lab, then the number of credit hours is perhaps by one higher, 4 (it can be 5 depending on the number of hours the lab requires). Every semester, you must register a minimum number of credit hours of 9. This rule applies to the foreign students, who must be fulltime enrolled, otherwise their visas will not be extended. You are expected to register for both, courses and thesis. As an example, you decided that the following semester you would take only two classes Corrosion, MSE 423, without the lab (3cr) from materials science and engineering department and Numerical Analysis, Math 430, from math department (3cr). Therefore, you must register minimum 3cr toward the research hours, PhD Thesis, MSE 600 (3cr), but you can register more. The university charges for tuition according to the number of registered credit hours. To graduate with PhD, the total number of credit hours of course-credits and thesis-credits has to be **78** (it depends on the department). Usually the split is 38 credits of course hours (about 10-courses) and 40 credits of thesis hours. In the meantime, in some schools early on, in the others in advanced stages of your PhD program you will be required to also prepare your own **PhD proposal** and pass the so called **preliminary PhD exam** (set of written exams and one big oral exam). This is the most important exam while being on the PhD program. The purpose of this exam is to prove to the examining committee that you can stand firmly on your feet while being examined and that you can clearly demonstrate that you should stay in the PhD program (it can be regarded as some kind of a PhD entrance exam).

A graduate student when placed on a funded project is expected to spend half of the time on studies (to take care of the registered courses) and the other half on research. This is very typical regardless of the school. A typical duration to complete the PhD studies depends on many factors, the main being the input level of the grad student, because not all grad students have the privilege to be placed on the funded projects some have to work and study. Most of them work by teaching undergrad courses, or grading the homework of the lower level courses. In that case, like in chemistry and physics departments for example, it may take anywhere between 5-7 years to clear all your own coursework and do your own research.

If you are placed on a paid project, then all your time is invested in your own studies and the research. In that case, you should finish the PhD within 4-years. For obvious reasons, PhD students placed on a paid project are more rigorously scrutinized (number of hours spent in the lab, requirements to work during the weekends, ability to prepare papers and reports, etc.) by the major professor (adviser), than the other students. If placed on a project, a graduate student must realize that he/she has a responsibility to get the research done. **Effectively, this is your real professional job.** (Professional means that you are not paid for the overtime, and that you are expected to work as long hours as the research requires). It is a misconception on the part of a student to think that he/she is in school only to graduate, and that all is needed is to “walk” through the program. It should be realized upfront that the only reason a graduate student is placed on a paid project is because there is a contracted work to be done. The contract with the funding agency is signed on all administrative levels, starting from the professor, via the departmental chair, and dean’s office, all the way to the university research office. These signatures on the contract are a legal guarantee that the proposed research will be successfully completed. It is critically important to be cognizant of this role and every professor must clearly present it to a student at the very start of the project. The bottom line is that if the student fails, for whatever reasons, then the project will fail. With the project failure, many negative side effects occur, as one can only imagine. This is why the **student selection process is the most critical stage** of any research project.
