Master of Philosophy (MPhil) and Doctor of Philosophy (PhD) Programs in Chemical and Biomolecular Engineering

Curriculum for Master of Philosophy (MPhil) Program in Chemical and Biomolecular Engineering

The Master of Philosophy (MPhil) program requires students to complete at least 12 credits of PG courses, with at least 6 credits in Chemical and Biomolecular Engineering. Full-time students must take CENG 6800 Chemical Engineering Seminar every regular term, and present at least one seminar during their study. They must pass CENG 6800 three times, including once in the term when they present their seminar. Part-time students must take and pass CENG 6800 at least once in the term when they present their seminar. In addition to the 12 credits, full-time students must complete LANG 5001 Postgraduate English for Academic Purposes. Students may be exempted from taking LANG 5001 with the agreement of the Department Head and PG Coordinator. In addition, students must complete a thesis in order to demonstrate their competence in engineering research. If the student participates in an industrial project and writes a thesis on a work-related topic, the thesis will be supervised jointly by a faculty member of the Department and a representative from the participating company.

Nanotechnology Concentration

In addition to the program requirements specified above, students who opt for the Nanotechnology concentration are required to:

- Take one NANO course;
- Complete NANO 6010 Advanced Topics in Nano Science and Technology for one term. They can use NANO 6010 to replace one term of registration of CENG 6800; and
- Conduct research in nano area.

Energy Technology Concentration

In addition to the program requirements specified above, students who opt for the Energy Technology concentration are required to:

- Take one ENEG course;
- Complete ENEG 6010 Advanced Topics in Energy Technology for one term. They can use ENEG 6010 to replace one term of registration of CENG 6800; and
- Conduct research in energy area.

Curriculum for Doctor of Philosophy (PhD) Program in Chemical and Biomolecular Engineering

The Doctor of Philosophy (PhD) program requires students to complete at least 18 credits of PG courses, with at least 9 credits in Chemical and Biomolecular Engineering, and a doctoral thesis of original research work. Students entering with a master's or equivalent degree in Engineering or related discipline from outside the Department may be granted credit transfer of up to 9 credits by the Department Head and PG Coordinator. Students entering with a master's degree from the Department will be granted credit transfer of up to 12 credits by the Department Head and PG Coordinator. Students entering without a Chemical and Biomolecular Engineering degree are encouraged to take some CENG undergraduate core courses, subject to the approval of their thesis supervisor. Full-time students must take CENG 6800 Chemical Engineering Seminar every regular term, and present at least two seminars during their study. They must pass CENG 6800 five times, which should include the terms when they present their seminars. Part-time students must take and pass CENG 6800 at least twice in the terms when they present their seminars. In addition to the 18 credits of coursework, full-time students must pass LANG 5001 Postgraduate English for Academic Purposes. Students may be exempted from taking LANG 5001 with the agreement of the Department Head and PG Coordinator.

Nanotechnology Concentration

In addition to the program requirements specified above, students who opt for the Nanotechnology concentration are required to:

- Take one NANO course;
- Complete NANO 6010 Advanced Topics in Nano Science and Technology for one term. They can use NANO 6010 to replace one term of registration of CENG 6800; and
- Conduct research in nano area.

Energy Technology Concentration

In addition to the program requirements specified above, students who opt for the Energy Technology concentration are required to:

- Take one ENEG course;
- Complete ENEG 6010 Advanced Topics in Energy Technology for one term. They can use ENEG 6010 to replace one term of registration of CENG 6800; and
- Conduct research in energy area.

To become a doctoral candidate, the student must pass a qualifying examination within the first one and a half years of his PhD studies. The qualifying examination consists of an oral examination given by the Thesis Supervision Committee. The purpose of the oral examination is to establish the student's ability to formulate and conduct original research in his chosen discipline. Upon completion of the postgraduate study program and the thesis, the candidate is required to defend the thesis before a Thesis Examination Committee.