

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

Curriculum for Master of Philosophy (MPhil) Program in Mechanical Engineering

Students enrolled in the Master of Philosophy (MPhil) program in Mechanical Engineering are required to:

- Take 12 credits of PG courses (excluding courses from SBM and SHSS), in which 9 credits must be from MECH courses;
- Take LANG 5001 Postgraduate English for Academic Purposes, the one credit earned from which cannot be counted toward the degree requirements. Students can be exempted from taking LANG 5001 with the approval of the Department Head and PG Coordinator;
- Take MECH 6090 Seminar in Mechanical Engineering for at least three terms. Subject to the approval of the Department, students can take MECH 6090 for less than three terms;
- Register in MECH 6990 MPhil Thesis Research every regular term; and
- Present and oral defend the MPhil thesis.

Nanotechnology Concentration

Students who opt for the Nanotechnology Concentration are required to:

- Take 12 credits of PG courses (excluding courses from SBM and SHSS), in which 6 credits must be from MECH courses and 3 credits from NANO courses;
- Take LANG 5001 Postgraduate English for Academic Purposes, the one credit earned from which cannot be counted toward the degree requirements. Students can be exempted from taking LANG 5001 with the approval of the Department Head and PG Coordinator;
- Take MECH 6090 Seminar in Mechanical Engineering for at least three terms. Subject to the approval of the Department, students can take MECH 6090 for less than three terms;
- Complete NANO 6010 Advanced Topic in Nano Science and Technology for one term. Students can use NANO 6010 to replace one term of registration of MECH 6090;
- Register in MECH 6990 MPhil Thesis Research every regular term;
- Conduct research in nano area; and
- Present and oral defend the MPhil thesis.

Energy Technology Concentration

Students who opt for the Energy Technology Concentration are required to:

- Take 12 credits of PG courses (excluding courses from SBM and HSS) in which 6 credits must be from MECH courses and 3 credits from ENEG courses;
- Take LANG 5001 Postgraduate English for Academic Purposes, the one credit earned from which cannot be counted toward the degree requirements. Students can be exempted from taking LANG 5001 with the approval of the Department Head and PG Coordinator;
- Take MECH 6090 Seminar in Mechanical Engineering for at least three terms. Subject to the approval of the Department, students can take MECH 6090 for less than three terms;
- Complete ENEG 6010 Advanced Topics in Energy Technology for one term. They can use ENEG 6010 to replace one term of registration of MECH 6090;
- Register in MECH 6990 MPhil Thesis Research every regular term;
- Conduct research in energy area; and
- Present and oral defend the MPhil thesis.

Curriculum for Doctor of Philosophy (PhD) Program in Mechanical Engineering

Students enrolled in the Doctor of Philosophy (PhD) program in Mechanical Engineering are required to:

- Take 24 credits of PG courses (excluding courses from SBM and SHSS), in which 18 credits must be from MECH courses. Subject to the approval from the departmental PG committee, students admitted with a master's degree may be granted a maximum of 12 transferred credits, on a case-by-case basis;
- Take LANG 5001 Postgraduate English for Academic Purposes, the one credit earned from which cannot be counted toward the degree requirements. Students can be exempted from taking LANG 5001 with the agreement of the Department Head and PG Coordinator;
- Pass an oral qualifying examination (QE) which can be attempted twice at most.
 - i) All PhD students admitted with only a bachelor's degree should attempt the first QE within the first four regular terms of study, or if failed, the second QE within the fifth regular term of study.
 - ii) PhD students admitted with a master's degree should attempt the first QE within the first three regular terms of study, or if failed, the second

QE within the fourth regular term of study.

- iii) Student who fails the second attempt of QE is not allowed to continue with the PhD studies. Subject to approval, he may be recommended for transfer to the MPhil program.
- Take MECH 6090 Seminar in Mechanical Engineering for at least five terms. Subject to Department's approval, students can take MECH 6090 for less than five terms;
 - Register in MECH 7990 Doctoral Thesis Research every regular term; and
 - Present and oral defend the PhD thesis.

Nanotechnology Concentration

Students who opt for the Nanotechnology concentration are required to:

- Take 24 credits of PG courses (excluding courses from SBM and SHSS), in which 12 credit must be from MECH courses, 3 credits from NANO courses and 3 credits from NANO/MECH courses;
- Take LANG 5001 Postgraduate English for Academic Purposes, the one credit earned from which cannot be counted toward the degree requirements. Students can be exempted from taking LANG 5001 with the agreement of the Department Head and PG Coordinator;
- Pass an oral qualifying examination (QE) which can be attempted twice at most (with details as specified above);
- Take MECH 6090 Seminar in Mechanical Engineering for at least five terms. Subject to Department's approval, students can take MECH 6090 for less than five terms;
- Complete NANO 6010 Advanced Topics in Nano Science and Technology for one term. Students can use NANO 6010 to replace one term of registration of MECH 6090;
- Register in MECH 7990 Doctoral Thesis Research every regular term;
- Conduct research in nano area; and
- Present and oral defend the PhD thesis.

Energy Technology Concentration

Students who opt for the Energy concentration are required to:

- Take 24 credits of PG courses (excluding courses from SBM and SHSS), in which 12 credits must be from MECH courses, 3 credits from ENEG courses and 3 credits from ENEG/MECH courses;
- Take LANG 5001 Postgraduate English for Academic Purposes, the one credit earned from which cannot be counted toward the degree requirements. Students can be exempted from taking LANG 5001 with the

agreement of the Department Head and PG Coordinator;

- Pass an oral qualifying examination (QE) which can be attempted twice at most (with details as specified above);
- Take MECH 6090 Seminar in Mechanical Engineering for at least five terms. Subject to Department's approval, students can take MECH 6090 for less than five terms;
- Complete ENEG 6010 Advanced Topics in Energy Technology for one term. They can use ENEG 6010 to replace one term of registration of MECH 6090;
- Register in MECH 7990 Doctoral thesis Research every regular term; and
- Conduct research in energy area; and
- Present and oral defend the PhD thesis.