Materials Chemistry Path Requirements

YEAR 1:
• **Start Coursework**
  The Core (major) courses for Materials Chemistry are:
  - Sign up for 3 core courses: one soft, one hard, and a 3rd course from either. Hard materials courses: Chem 613, 624, 630, 652, or 653. Soft materials courses: Chem 654, 664, or 842. Research for materials students is Chem 996.
  - Students must sign up for Chem 901 (fall), Seminar 920 (all semesters) and Chem 607 (safety course offered in January only) and Chem 964 (group meeting, 1 credit, section of your PI). Take other graduate courses in line with student interests to fulfill the minor course work requirement, and file a Minor Agreement Form in the second semester after joining a research group. Students should consult closely with their faculty advisor with regard to these courses.
• **Join a research group**
  - Carry out three rotations.

YEAR 2:
• **Assemble Faculty Mentoring committee** during the fall. The mentor committee will consist of three faculty members, including the research advisor. The mentor committee chair will not be the research advisor.
• **Thesis Preliminary Examination**
  - Written component consisting of project title and overview (1 pg.), student CV/resume (1-2 pgs.), research plan (max of 4500 words, exclusive of figures and schemes). More details available on TBE Requirements document. Give document to the mentoring committee seven days before the exam, and complete during January through March.
  - Oral component: A 20-25 minute presentation (open to the public) with subsequent questions from the mentoring committee (closed to the public).

The written summary and oral presentation should outline the background, aims, and methods of the Ph.D. research that you will pursue. Student should present preliminary results, if available. A period of questioning by the mentoring committee will follow. For example, the student will answer questions about pertinent background literature to demonstrate familiarity with some of the techniques discussed, or to describe the significance of the research and the rationale for the methods you will employ.

YEAR 3:
• **Original Research Proposal Examination**
  - Written component consisting of cover page, student CV/resume (1-2 pgs.), abstract (1 pg.), and research plan (maximum of 3000 words). See details on RP Requirements document. Give the document to the mentoring committee seven days before the exam. There are two opportunities to submit the RP – one in fall, and one in spring.
  - Oral component: A 20-25 minute presentation (open to the public) with subsequent questions from the mentoring committee (not open to the public).

The purpose of the original research proposal is to provide experiences that develop the skills required to function as an independent scientist and diversify students' background and knowledge. Students identify a research goal outside the areas of research represented in their research group that is significant, achievable, and acceptable to their major professor. They then develop a suitable research plan that describes the major steps and techniques required to reach that goal, and provide arguments for its feasibility.

YEAR 4:
• **Fourth-Year Presentation**
  - Oral component: A presentation with a maximum duration of 10 minutes to the faculty committee, followed by a discussion. A form will be provided to document this meeting and information supplied.
  - The presentation should provide a brief summary of the research done and a plan of what the student needs to do in order to complete the degree, including a tentative time-line. This meeting should be held by the end of the fourth year.

YEAR ~5:
• **Dissertation Defense**
The Written Ph.D. thesis must be submitted to the candidate’s committee at least one week prior to the Oral defense date. Students who have not set a date for their dissertation defense by the end of their fifth year will meet with their committee members at least once annually until completion of the degree.