

# Proposal to the Graduate Curriculum Committee of the College of Engineering:

## IDC GUIDELINES – DEPARTMENT OF CHEMICAL ENGINEERING THE UNIVERSITY OF AKRON

(04/2001)

### Introduction

The Ph.D. Program provides contemporary and significant research topics in advanced materials engineering, biochemical engineering, reaction engineering, molecular thermodynamics, colloid and surface science and engineering, multiphase transport, and environmental engineering. Students are expected to formulate and analyze these problems using modern experimental methods of investigation, numerical simulations, mathematical analysis, and computer modeling. The Program also develops students' interdisciplinary communication skills, thereby enhancing their ability to interact with other professionals.

The following provides guidelines regarding specific program requirements for the Chemical Engineering Dept. For more information the student should consult the document on Interdisciplinary Doctoral Procedures provided by the College of Engineering.

### Academic Matters - Ph.D. Degree in Engineering

Upon arrival, the first year Ph.D. student will meet with the graduate coordinator and prospective advisors to establish an initial plan of study for the first semester. Over the course of the first semester, the student must identify an interdisciplinary field of study, a dissertation director, and finalize plans for coursework, research, and degree requirements throughout the first year. Among these requirements, the student must form an interdisciplinary doctoral committee (IDC).

The chair of the IDC must be in the Department of Chemical Engineering.

The IDC shall consist of at least five faculty members, of whom at least two members must be from the Chemical Engineering Department and one from outside the College of Engineering.

### The Plan of Study

The Plan of Study is established by the IDC in accordance with the following guidelines:

The Plan of Study has a minimum of 96 total credit hours with a minimum of 36 credits of coursework at the 600-700 level. At least 6 credits of the coursework must be from outside of the Chemical Engineering Department.

The intent of the coursework in the Plan of Study is to provide background necessary to perform the dissertation research and prepare the student for a career in research. The Plan of Study must include a language requirement as specified by the IDC.

## The Qualifying Examinations

The Qualifying Examinations consist of open-book and closed-book sections covering the three topics of thermodynamics, kinetics, and transport phenomena and is composed by the faculty of the Chemical Engineering Department. Scores on each topic will be averaged between the two sections and an average score of 60 will satisfy the qualifying exam requirement. Students achieving between 40-60 shall be required to satisfactorily complete remedial work on the subject in question as designated by the IDC.

The Qualifying Examinations will be offered at least once per year, normally in May, and must be taken no later than the end of the student's first year of study. At most one retake of the examination is allowed should the student fail in the first attempt. Topics passed during one examination do not need to be retaken during the second examination.

## The Candidacy Examination

The purpose of the Candidacy Examination is to test the student's ability to conduct independent research. [The student must pass the Candidacy Examination composed and administered by the IDC within one year after passing the Qualifying Examination.](#) The student cannot enroll in doctoral dissertation credits before becoming a doctoral candidate upon passing the Candidacy Examination.

## The Dissertation Proposal

The student must present an acceptable Proposal for Dissertation Research to the IDC. This should be done within two years after passing the Qualifying Examinations. The proposal shall be in written form and given to the IDC at least 10 days prior to the scheduled date of the Dissertation Proposal oral presentation.

## The Dissertation and Oral Defense

The dissertation must be a scientifically acceptable and comprehensive study whose format meets all accepted standards of the College of Engineering and the IDC. The written dissertation should be given to the IDC at least 10 days prior to the scheduled date of the oral defense. The doctoral candidate must successfully pass this oral defense [allowing no "fail" vote](#) from the members of the IDC.