Doctor of Philosophy in Engineering

The University of Alabama in Huntsville
Department of Industrial and Systems Engineering
and Engineering Management
Technology Hall, Room N143, Huntsville, AL 35899
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SYSTEMS ENGINEERING CONCENTRATION

Major Courses: (18 hrs)

ISE 627 Systems Engineering
ISE 723 Engineering Economic Analysis
ISE 670 Integrated Product and Process Design
ISE 637 Systems Analysis and Modeling
ISE 638 Reliability
ISE 734 Value and Decision Theory

Supporting Courses: (15 hrs)

Selected to support student's professional and academic goals.

1st Minor: (15 hrs) Select from one of the following areas

Engineering Management
Quality Engineering
Systems Engineering
Industrial Engineering
Operations Research
Reliability Engineering
Human Factors

2nd Minor: (12 hrs) Math/Statistics

ISE 526 Design and Analysis of Experiments
ISE 690 Statistical Methods for Engineers
ISE 790 Advanced Statistical Applications
elective

Recommended Ancillary Skills: (6 hrs)

ISE 761 Evolving Theory of Industrial and Systems Engineering
ISE 767 Contemporary Applications in Industrial and Systems Engineering

Dissertation: (18 hrs minimum)

Distance Learning:
The Systems Engineering concentration is supported by the Distance Learning (DL) Program at The University of Alabama in Huntsville. For more information, please contact the DL Office at 256-824-6976.

Further Information: Dr. Paul J. Componation
Phone: (256) 824-6738
Email: pjc@ise.uah.edu

Doctor of Philosophy in Industrial and Systems Engineering

I. Admission

Unconditional: ABET-accredited BS degree in engineering; GPA of 3.0 or better at the undergraduate level, 3.5 at the graduate level; GRE score of 460 or better on the Verbal, 600 or better on the Quantitative, and a combined score of 1100 or better; GRE Analytical Writing score of 4.5 or better; undergraduate Probability & Statistics course or equivalent; and undergraduate Engineering Economy course or equivalent.

Conditional: Conditional admission may be granted to students meeting all requirements above except the Probability & Statistics and Engineering Economy courses. A conditional admission requires successfully completion of the undergraduate equivalent of these courses within the first year of admission.

II. Curriculum

A minimum of 66 hours beyond the bachelor's degree is required. These hours are required in the following areas: Major – 18 hours; Supporting Courses – 15 hours; First Minor – 15 hours; Math/stat Minor – 12 hours; Ancillary Skills – 6 hours.

Every student's background and preparation is different. Each student's program must be approved by his/her doctoral supervisory committee. A maximum 6 hours of Master's thesis may be included in the program of study. Each student will be initially assigned a faculty advisor to direct the student's work until the preliminary examination is taken.

III. Preliminary Examination

The ISEEM Preliminary Examination Policy: Students must take the Preliminary Examination within the first academic year or prior to completing 12 hours of graduate work beyond the Master's degree, whichever comes first. Student must pass all sections to pass the exam unconditionally. The student has a total of two attempts in which to pass the exam. A second failure disqualifies the student from further doctoral work in the ISEEM Department. Grading: Scores of 70% and above are considered passing;

IV. Supervisory Committee

Each doctoral candidate is advised by a supervisory committee of at least five members. The committee consists of at least three members representing the major field of study and each of the minor fields. All committee members must be members of the UAH graduate faculty. The candidate requests an individual to chair his/her committee; the committee chair must be a full-time graduate faculty member. The chair appoints the remaining committee members in consultation with the doctoral candidate. The candidate's supervisory committee will not be officially convened until the Preliminary Examination has been successfully completed.

V. Program of Study

The student submits a program of study to the supervising committee for review and approval.

VI. Comprehensive Exam, Qualifying Examination and Dissertation

Upon completion of the approved coursework and the ancillary skills/foreign language coursework, the written portion of the Comprehensive Examination may be scheduled. The examination is a one-week take home exam prepared by the Supervisory Committee. The responses to the questions are submitted in formal report fashion with one copy of the entire set of responses for each committee member. The oral portion of the Comprehensive Examination is normally scheduled within a month after the submission of the written portion.

Upon successfully completing the written and oral portions of the Comprehensive Examination, the candidate develops a dissertation proposal for Supervisory Committee approval. Once approved, the candidate is said to have completed the Qualifying Exam. After successful completion of the Qualifying Examination, the doctoral candidate is permitted five years to complete his or her dissertation.

Supervisory Committee approval of the draft copy of the dissertation permits the scheduling of the dissertation defense. Before the defense can be taken, student must fill out the Application for Advanced Degree. The final step is the dissertation defense and final approvals of the dissertation document by the committee, College Dean, and Graduate Dean.

VII. Residency and Transfer Credits

UAH residency can be fulfilled in one of two ways: 1) Student can take at least nine semester hours of graduate work in each of two consecutive semesters; or 2) the student can take six semester hours of graduate work in each of three out of four consecutive semesters.

Students who have completed the courses on their Program of study must register for a minimum of three semester hours of graduate credit (to include dissertation credit) each fall and spring semester until all degree requirements are complete.