

## PhD Degree Requirements for the Health Systems Engineering Specialization

The PhD qualifying examination (QE) in the Health Systems Engineering (HSE) area is given as a seminar oral presentation requirement. Prior to registering for the QE, students must satisfy the HSE depth requirement<sup>1</sup>. The objective of the QE is to assess the ability to succeed in the PhD program. Please refer to department policy ISyE P 08.1 for details on when QE requirements need to be satisfied, how to sign up for the QE, and other procedural details.

The specific aims of the QE presentation are for students to demonstrate :

- 1) Depth in knowledge of the context of their specific topic/area
- 2) Depth in knowledge of the methodological approaches used in their specific topic/area
- 3) Ability to synthesize, assess, identify, and communicate gaps within the current state of knowledge regarding their specific problem/topic area
- 4) Ability to select and appraise methods or tools to address gaps within the current state of knowledge regarding their specific problem/topic area

Planning for the QE is individualized for every student and faculty advisor. Students will discuss and determine the topic and boundaries of the QE with the major advisor and two faculty members comprising the committee. The student will invite two ISyE faculty members to serve on their QE committee in consultation with their major advisor.

The seminar typically involves a 30-minute public presentation, followed by a question and answer period. The student will coordinate with their committee to schedule the oral presentation. The oral presentation is open to other students and faculty members. The question and answer period is closed to other students. The full committee will assess the student's performance on the QE based upon the oral presentation and answers to committee questions. The focus of the assessment of the oral presentation will be on meeting the four objectives described above as guided by the qualifying exam grading rubric.<sup>2,3</sup> The student's major advisor will report the outcome of the assessment to the Student Services Office.

1 To take the qualifying exam, a student will have to have received a grade of AB or better in at least two courses from one area, and a grade of AB or better in at least one course in the other area: Human Factors Engineering, and Data Analytics/Operations Research

2 Refer to Department of Industrial and Systems Engineering policy ISyE P 08.1 for details on when qualifying exam requirements need to be satisfied, grading system, how to sign up for the qualifying exam, and other procedural details.

3 Qualifying exam grading rubric can be found at the Department website.