

The School of Electrical Engineering and Computer Science

Graduate Qualifying Exam

The goals of the graduate qualifying exam (GQE) are as follows

- Assess the student's ability to independently learn technical subject matter in their area of research
- Assess the student's potential for independent research
- Assess the student's ability to explain technical material in both written and oral forms

The GQE is comprised of the following elements:

- 1) A collection of publications from the open literature are assigned to the student at the beginning of the semester in which the GQE will take place
- 2) These publications should be relevant to the student's research area and are assigned by the student's Faculty Advisory Committee
- 3) Over the course of the semester, the student studies these publications and prepares a report for the committee's review.
- 4) Toward the end of the semester, the student provides an oral presentation to the committee that is comprised of 2 parts:
 - a. An overview/survey of the assigned publications
 - b. An oral exam by the committee

Evaluator: _____

Student Name: _____

Technical Expertise						
Score	Criteria	1 – Poor	2 – Fair	3 – Good	4 – Very Good	5 – Excellent
	Demonstrates mastery of open literature in the research area	Does not adequately demonstrate knowledge of the topic; critical details are missing	Demonstrates some knowledge of the topic; a few details are missing	Adequately demonstrates knowledge of the topic; sufficient level of detail is provided	Extensively describes topic; level of detail provides great insights	Comprehensively describes the topic; level of detail offers additional breadth, depth, and/or greatest insights
	Analyzes the topic at an appropriate level (PhD or MS)	Does not adequately analyze the topic at the appropriate level; important aspects of analysis or evaluation is missing	Topic is analyzed near the appropriate level; some aspects of analysis or evaluation is missing	Adequately analyzes topic at the appropriate level; sufficient level of analysis or evaluation is provided	Extensively analyzes the topic at the appropriate level; extensive analysis or evaluation is provided	Comprehensively analyzes topic at the appropriate level; level of analysis or evaluation offers additional breadth, depth, and/or new insights
	Interprets results within appropriate scope and context	Does not adequately interpret results within scope and context; interpretation is incomplete or lacks rational	Interprets most results within scope and context; interpretation is mostly complete and rational.	Adequately interprets results within scope and context; interpretation is complete and rational	Extensively interprets results within scope and context; interpretation is complete and rational and offers some additional insight.	Comprehensively interprets results within scope and context; interpretation is complete, rational, and offers additional breadth, depth, and/or new insights.
	Makes recommendations and/or identifies next steps	Does not make recommendations or identify next steps or recommendations and next steps are not justified based on results	Makes a recommendation, next step, or some recommendations and next steps are not justified based on results	Makes recommendations and identifies next steps that are commensurate with results	Makes recommendations and identifies some next steps beyond the scope of the project, but which have other relevance	Makes recommendations and identifies numerous steps beyond the scope of the project, but which have relevance
Technical Expertise Score: _____/20						

Written Report					
Score	Criteria	1 – Poor	2 – Fair	3 – Good	4 – Very Good
	Objective and Context	Little focus on the audience, objective of the document, and context.	Moderate focus on the audience, objective of the document, and context.	Strong focus on the audience, objective of the document, and context.	Thorough focus on the audience, objective of the document, and context.
	Content	Content is relevant and centered around simple concepts that are inconsistently developed throughout the work.	Content is relevant and centered around complex concepts that are consistently developed throughout the work	Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.	Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.
	Conventions	A basic structure is employed to drive document organization	Implements an appropriate document organizational structure	Consistently employs conventions of the field to drive document organization	Conventions are employed extensively and appropriately in forming document organization and stylistic expression
	Logical Flow	Content is presented in a haphazard way; chapters and sections do not generally relate to each other	Content is organized in a moderately logical way; chapters and sections generally relate to each other and flow from one idea to the next.	Content is organized in a very logical way; chapters and sections always relate and flow from one idea to the next.	Content is organized in an expertly logical way; chapters and sections are expertly chosen to lead the reader on a logical journey from background to the conclusion.
	Mechanics	Explanation is difficult to understand with little clarity; errors are present in critical locations.	Explanation is generally understandable with moderate clarity; some errors are present	Solid explanation of the message with mostly clear word choices and few errors	Expertly explains the message with clarity and fluency with minimal errors.
Written Report Score: _____/20					

Oral Communication					
Score	Criteria	1 – Poor	2 – Fair	3 – Good	4 – Very Good
	Logical Organization	No discernible logical organization used throughout the presentation	A Logical organizational structure is employed intermittently throughout the presentation	A Logical organizational structure is employed clearly and consistently throughout the presentation	A Logical organizational structure is employed clearly and consistently; structure is expertly employed
	Language Clarity	Confusing and obscure language is used that is not aligned with the audience.	Mundane language is used that partially supports the presentation. Language is aligned with the audience.	Thoughtful language is used that generally supports the presentation. Language is well-aligned with the audience	Language is imaginative, memorable and compelling that enhances comprehension; language is expertly tailored to the audience.
	Presentation	Presentation techniques (eye contact, gestures, etc) distract from the goals of the presentation; presenter is uncertain.	Presentation techniques (eye contact, gestures, etc) minimally support the goals of the presentation; the presenter is hesitant.	Presentation techniques (eye contact, gestures, etc) strongly support the goals of the presentation; the presenter is comfortable.	Presentation techniques (eye contact, gestures, etc.) strongly support a compelling presentation; the presenter is confident and professional
	Slides	Slides poorly support the goals of the presentation and detract from the credibility of the presenter. Figures, tables, and other artifacts are of poor quality, but are properly cited.	Slides adequately support the goals of the presentation, and marginally supports the credibility of the presenter. Figures, tables, and other artifacts are of average quality, and properly cited.	Slides strongly support the goals of the presentation, and establishes the credibility of the presenter. Figures, tables, and other artifacts are of high quality and properly cited.	Slides are well crafted and comprehensively justify the goals of the presentation; the credibility of the presenter is placed on a strong foundation; figures, tables, and other artifacts are of publication quality, and properly cited.
	Central Message	The central message is discernible with some effort	The central message is reasonably discernible but is not memorable.	The central message easily discernible and well supported by the slides	The central message is comprehensively established and strongly supported.
Oral Presentation Score: _____/20					

Technical Expertise:

Committee Member

- 1) _____ Raw Score: _____
- 2) _____ Raw Score: _____
- 3) _____ Raw Score: _____
- 4) _____ Raw Score: _____
- 5) _____ Raw Score: _____

Total Raw Score: _____ Percent Score: _____

Written Report:

Committee Member

- 1) _____ Raw Score: _____
- 2) _____ Raw Score: _____
- 3) _____ Raw Score: _____
- 4) _____ Raw Score: _____
- 5) _____ Raw Score: _____

Total Raw Score: _____ Percent Score: _____

Oral Presentation:

Committee Member

- 1) _____ Raw Score: _____
- 2) _____ Raw Score: _____
- 3) _____ Raw Score: _____
- 4) _____ Raw Score: _____
- 5) _____ Raw Score: _____

Total Raw Score: _____ Percent Score: _____