Marquette University
Department of Electrical and Computer Engineering

Registration Form and Rules   for
Doctoral Written Qualifying Exam (WQE)
and
Written Comprehensive   Exam   (MS COMP)

Last updated : March 23, 2023

MS Written Comprehensive Exam (MS COMP)

1. Fundamentals Exam Requirement: covering topics from EECE 601, 10; this is the Math Exam on Page 9

2. Major Exam Requirement: One major exam in the declared specialization area
   see the specialization y06 (n j3 TI(3lo10.I(3w13.6 (m)a4.5h(eic6u6s(n)a6né t)r3n(m)9e(m)eg-St(asto2.2 (e)-37aj)-1.1 (

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form should exactly match the name of the exam as listed in this document (both Major and Minor exams).
Refer to the list and definition of the EECE major and minor exams in this document

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<u>Doctoral Written Qualifying Exam (WQE)</u>

1. Signal Processing

Major Requirements:

Probability Exam	(Weight = 0.25)	[3 hours]
Signal Processing Exam	(Weight = 0.35)	[3 hours]

Minor Requirements

Minor exam1*	(Weight =0.2)	[2 hours]
Minor exam2*	(Weight =0.2)	[2 hours]

* Choose from the list of Signal Processing specialization minor exams shown below

- Communications

- Either Control Systems or Modern Control

- Either Machine Learning or Algorithms

- Computer Vision and Image Processing

- Embedded Systems and Internet of Things (IoT)

- One from: Basic Power Electronics, Basic Electrical Machine and Drives, Electrical Transients, or Power and Energy

2. Communications

Major Requirements:

Probability Exam   (Weight = 0.25)   [3 hours]

Communications Exam (Weight = 0.35)   [3 hours]

Minor Requirements
Minor exam1*   (Weight =0.2)   [2 hours]

Minor exam2*   (Weight =0.2)   [2 hours]

* Choose from the list of Communications specialization

3. Control Systems

Major Requirements:

    Probability Exam   (Weight = 0.25)   [3 hours]

    Modern Control Exam   (Weight = 0.35)   [3 hours]

Minor Requirements
    Minor exam1*   (Weight =0.2)   [2 hours]

    Minor exam2*   (Weight =0.2)   [2 hours]

* Choose from the list of Control2 (t)-2 liss( )Tj Tc 0.004 Tw -24.326 -2.054Tj 0.002 Tmh2ö Choom Ex z Tc 6 (0 Tct)-2

4. Power and Energy Systems

Major Requirements:

Basic Electrical Machine and Drives Exam (Weight= 0.25)   [3 hours]

Power and Energy Systems Core Exam   (Weight=0.35)   [3 hours]
- Basic Power Electronics Exam   (Weight=0.2)
- One of   (Weight= 0.15)

- Electrical Transients Exam

- Power and Energy Systems Protection Exam

- Control Systems Exam

Minor Requirements

Minor Exam1*   (Weight =0.2)   [2 hours]

Minor Exam2*   (Weight =0.2)   [2 hours]

* Choose from the list of Power a -0.00

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EECE Major Exams

Exam Name	Topics covered in	Duration
Math (also used as the Fundamentals Exam)	EECE 6010	3 hours
Probability	EECE 6020	3 hours
Signal Processing	EECE 5510	3 hours
Communications	EECE 560	3 hours
Modern Control	EECE 6310	3 hours
Basic Electrical Machine and Drives	EECE 5210	3 hours
Power and Energy Systems Core		3 hours
Basic Power Electronics	EECE 5220	
+ one of		
Electrical Transients	EECE 5250	
Power and Energy Systems Protection	EECE 5240	
Control Systems	EECE 5310	
Solid State Physics	EECE 5430	3 hours