University of Mississippi Department of Electrical and Computer Engineering

Graduate Programs Handbook

Approved by the Department Faculty in August 2022 If conflicting, UM Graduate School policies supersede those in this handbook.

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1. Introduction

This handbook pulls together the relevant polices, instructions and descriptions of the most common issues Electrical and Computer Engineering graduate students may encounter during their application process and their graduate programs.

The information presented here also appears elsewhere including the Graduate Catalog, the websites of the Graduate School, the Office of Global Engagement, and the ECE department. In case of conflicts, the University policies stated in the Graduate Catalog supersede those presented in this handbook.

Students are responsible for reviewing the <u>Graduate Catalog</u>, following the university policies, and meeting the deadlines set in the programs. Should students have questions specific to their own program, they may check with their academic advisors and the Graduate Program Coordinators (GPCs) of the department for advisement. The Graduate School is the best source for definitive answers to questions involving Graduate School policy.

2. Graduate Degrees Offered and GPCs

M.S. degrees

The Department of Electrical and Computer Engineering offers a Master of Science degree in engineering science with emphasis in the following areas:

- computer engineering,
- electrical engineering,
- electromagnetics, and
- telecommunications.

These M.S. degrees prepare a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or doctoral work.

Ph.D. degrees

In addition, the department offers a Doctor of Philosophy degree in engineering science with emphasis in the following areas:

- computer engineering,
- electrical engineering, and
- electromagnetics.

These Ph.D. degrees prepare a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, or public/government service.

Descriptions of these emphasis areas can be found in the Graduate Catalog.

Graduate Program Coordinators

The following are points of contact for the emphasis areas: General questions and Electrical Engineering: Dr. Lei Cao, <u>lcao@olemiss.edu</u>, (662) 915-5389 Electromagnetics: Dr. Alexander Yakovlev, <u>yakovlev@olemiss.edu</u>, (662) 915-7196 Telecommunications: Dr. John Daigle, <u>wcdaigle@olemiss.edu</u>, (662) 915-5799 Computer Engineering: Dr. Md Sakib Hasan, <u>mhasan@olemiss.edu</u>, (662)-915-5384

3. M.S. Program Descriptions and Course Requirements

Minimum Total Credit Hours: 30

General Course Requirements: A student must complete the requirements for an emphasis area with one of the following options:

- Thesis option (30-hour program, to include 6 hours of thesis). This option is required for Telecommunications and available in all other emphases.
- Nonthesis option (30- hour program, to include a minimum of 3 hours of a design-oriented project course). This option is available for all emphases other than Telecommunications.

For either option, a candidate must pass a final oral examination. For emphasis areas except the Telecommunications emphasis, the course work must include 1 hour of ENGR 695 Seminar.

The following information regarding each emphasis area is summarized from the Graduate Catalog. An updated list of typical courses for different emphasis areas is provided in Appendix A.

3.1. Emphasis - Computer Engineering

General Education Requirements

The M.S. with emphasis in computer engineering can be completed as either a thesis or nonthesis option.

The **thesis option** requires at least 24 hours of course work and at least 6 hours of thesis credit. Of the 24 hours of course work, 3 to 6 hours can be in an approved minor area, at least 1 hour must be in seminar, and no more than 3 hours can come from research credit outside the thesis.

The **nonthesis option** requires 27 hours of course work and a 3-hour project or research course with a written report, final oral presentation, and final oral exam.

Course work for either option must be approved by the student's advisory committee.

3.2 Emphasis - Electromagnetics

Course Requirements

The M.S. with emphasis in electromagnetics can be taken as a thesis or nonthesis option.

Either option requires 10 semester hours of core courses in electromagnetics theory and applications: Numerical Methods in Electromagnetics (Engr 626); Advanced Electrodynamics (Engr 721); Passive Microwave Circuits (Engr 723); and Seminar (Engr 695).

Also required are 8 semester hours in specific areas of electromagnetics, including microwave circuits, antennas, electromagnetics, and computational electromagnetics courses (from among Engr 590, Engr 593, Engr 622, Engr 624, Engr 627, Engr 687, Engr 691, Engr 693 (no more than 2 semester hours), Engr 719, Engr 725, Engr 728, and Engr 699).

For the **thesis option**, the student must complete 6 hours of electives, including 3 to 6 hours in a minor field. The thesis candidate must take at least 6 hours of thesis.

For the **nonthesis option**, the student also must complete 9 hours of electives, including 3 to 6 hours as a minor from mathematics, physics, or another area with approval, and technical electives from the areas listed above. The nonthesis candidate also must complete a 3-hour project or research course with written report and oral presentations, and a final oral exam.

3.3 Emphasis - Electrical Engineering

Course Requirements

The M.S. with emphasis in electrical engineering can be completed as either a thesis or nonthesis option.

The **thesis option** requires at least 24 hours of course work and at least 6 hours of thesis credit. Of the 24 hours of course work, 3 to 6 hours can be in an approved minor area, at least 1 hour must be in seminar, and no more than 3 hours can come from research credit outside the thesis.

The **nonthesis option** requires 27 hours of course work and a 3-hour project or research course with a written report, final oral presentation, and final oral exam.

Course work for either option must be approved by the student's advisory committee.

3.4 Emphasis – Telecommunications

Course Requirements

The M.S. with emphasis in telecommunications must be completed as a **thesis option only**.

The telecommunications M.S. requires at least 24 hours of course work and at least 6 hours of thesis credit. Course work typically will include courses in wireless communications, digital communications, communications networking, probabilistic modeling, telecommunications policy, and optimization.

Coursework must be approved by the program director.

4. Ph.D. Program Descriptions and Course Requirements

Minimum Total Credit Hours: 66

General Course Requirements

A student must complete the requirements for one of the emphasis areas. All doctoral programs require completion of a comprehensive exam, dissertation prospectus, and a dissertation. See the department chair or advisor for specific requirements for an emphasis area.

The written part of the comprehensive exam is taken during the first year of residency. The course work must include 2 hours of ENGR 695 Seminar.

The following information is summarized from the Graduate Catalog. An updated list of typical courses for different emphasis areas is provided in Appendix A.

4.1 Emphasis - Computer Engineering

Students entering this program come from a variety of engineering and non-engineering disciplines such as physics and computer science.

Course Requirements

The Ph.D. with an emphasis in computer engineering requires at least 48 hours of course work and at least 18 hours of dissertation credit. Of the 48 hours of course work, 12 hours must be in an approved minor area, at least 2 hours must be in seminar, and no more than 6 hours can come from research credit outside the dissertation. Course work must be approved by the student's advisory committee.

4.2 Emphasis - Electromagnetics

Students entering this program come from a variety of engineering and non-engineering disciplines such as physics and mathematics.

Course Requirements

The Ph.D. with an emphasis in electromagnetics requires 36 semester hours in the major field out of a required total of 48 semester hours of graded course work beyond the bachelor's degree. Included in these requirements are the following core courses: Advanced Electrodynamics (Engr 721); Numerical Methods in Electromagnetics (Engr 626); Passive Microwave Circuits (Engr 723); and Seminar (Engr 695, two semester hours). Other courses are to be taken in specific areas of electromagnetics, including microwave circuits, antennas, electromagnetics, and computational electromagnetics. These related courses include Engr 590, Engr 593, Engr 622, Engr 624, Engr 627, Engr 655, Engr 687, Engr 691, Engr 693 (no more than 2 semester hours), Engr 699, Engr 719, Engr 725, Engr 728, Engr 729,

or other courses with approval. The candidate must take 12 semester hours of graded courses in a minor area (mathematics, physics, or another appropriate field with approval).

4.3 Emphasis - Electrical Engineering

Students entering this program come from a variety of engineering and non-engineering disciplines such as physics and computer science.

Course Requirements

The Ph.D. with an emphasis in electrical engineering requires at least 48 hours of course work and at least 18 hours of dissertation credit. Of the 48 hours of course work, 12 hours must be in an approved minor area, at least 2 hours must be in seminar, and no more than 6 hours can come from research credit outside the dissertation. Course work must be approved by the student's advisory committee.

5. Admission

5.1 Application for Prospective Students

Application must be online through the portal https://gradschool.olemiss.edu/apply-now/ and follow the instructions there.

- For application information, see the Graduate School webpage for <u>Prospective Students</u>.
- International students are encouraged to visit the website of the <u>Office of International</u> <u>Programs</u>.

ECE department recruits new graduate students in both MS and PH.D. levels in regular Fall semesters and Spring semesters. The due dates for applications are April 1 and November 1, respectively. However, applicants are encouraged to complete the application well before the due dates.

5.2 Admission Requirements

- Minimum GPA of 3.0. Official undergraduate and graduate (if applicable) transcript(s) must be provided to the Graduate School for the admission consideration.
- Students whose primary language is not English and who do not hold a degree from an institute in one of a group countries listed on the <u>English Language Test Requirement exemption list</u> while residing in that country are required to have a minimum score on one of the English proficiency tests. Please consult the Office of International Programs' <u>English Language</u> <u>Proficiency Requirements</u>. Note that the School of Engineering requires a 6.5 minimum score on the IELTS.
- Three letters of recommendation
- A statement of purpose and research

• The submission of GRE scores for admission to all graduate degree programs offered by the ECE department is NOW optional, but not required. BOTH applications with and without GRE scores will be given full consideration for admission. However, the department STILL requires GRE scores for assistantships and fellowships considerations.

Applicants who meet all the admission requirements may be admitted in full standing. Applicants who meet most but not all of the above requirements may be admitted conditionally. For students admitted conditionally, they usually need to take some undergraduate level courses offered by our ECE department before their status can be changed to a full standing. The conditions of admission will be stated in the admission letter.

5.3 Program for Accelerated Advanced Degrees (PAAD)

PAAD offers our outstanding advanced undergraduate students the opportunity to begin earning credit towards a graduate degree while they complete the final requirements for their undergraduate degree. Details can be found at https://gradschool.olemiss.edu/gradsharklaunchpaad/

6. Cost of Attendance and Financial Aid

6.1 Tuition estimates

For tuition rates, check the Office of Financial Aid <u>Cost of Attendance page</u> or the Office of the Bursar <u>Tuition Estimator</u>.

6.2 Assistantships

The ECE department offers both Teaching Assistantship (TA) and the Research Assistantship (RA) positions. Determination of funding from the ECE Department is made by professors in areas of interest or the chair of the Department based on the information provided in the application package. There is no application required for the financial assistantship. All admitted students will be entered into a pool of candidates automatically to compete for the available assistantship positions in the ECE department. Students will be notified if they are awarded an assistantship position, in addition to the notification of admission decisions. Students may also contact the faculty member(s) in their interest area for sponsorship.

6.3 Fellowship programs

There are also fellowship programs offered through the Graduate School that include the Elite Scholars Program, the University of Mississippi Recruiting Fellowship and Scholarship Program, the Dissertation Fellowship Program and the Summer Graduate Research Assistantship. Details of these programs can be found in the Graduate School's page on <u>Financial Aid Information</u>. Candidates and application of these positions are generally recommended through ECE department based on the academic background of those newly admitted or current graduate students. All the financial assistance are granted on a merit, not need, basis.

There are also some other funding opportunities available now and then from different schools and

some centers on campus that ECE students may apply by themselves directly after they have been formally enrolled into the graduate program.

7. Faculty

The latest listing of the department's faculty and their research interests can be found in the <u>Faculty/Staff Directory</u>.

8. Wellness

8.1 Graduate Student Health Insurance

The Graduate School offers subsidized health insurance to all graduate students holding an assistantship with appointments of 1/4 time or higher. Graduate students not on assistantships are not eligible for the subsidized plan, however, those students are eligible to enroll on a voluntary basis. Voluntarily enrolled students must pay the full premiums directly to United Healthcare. Details can be found at the <u>Graduate Student Health Insurance Program</u>.

8.2 Academic Disputes

In any cases, if a graduate student has disputes with other students in academic affairs, the student may approach to his/her academic advisor to seek guidance. If the dispute is with his/her academic advisor, the student may approach to the Graduate Program Coordinator or the Chair of the ECE department. If necessary, a proper committee will be formed to resolve the disputes.

8.3 UM Title IX Policy

The University of Mississippi adheres to the guidelines set forth by <u>Title IX</u> of the Education Amendments of 1972. Title IX prohibits discrimination based on sex in educational programs and activities. Prohibited conduct under Title IX also includes sexual harassment and sexual assault. Title IX protects students, faculty, and staff alike, and applies to both men and women.

8.4 Counseling Services

The <u>University Counseling Center (UCC)</u> provides a variety of services including consultation, group therapy, triage services and crisis intervention, and the Employee Assistance-Mental Health Program (EAP-MH). Students with the need are encouraged to consult with a Counseling Center professional staff member. A variety of issues will be discussed, including how to make a referral and how to respond to a student or colleague that you are concerned about.

9. Academic Conduct and Research Integrity

The University of Mississippi is dedicated to supporting and sustaining a safe and scholarly community of learning dedicated to nurturing excellence inside and outside of the classroom. Graduate students are expected to conduct themselves professionally and ethically. Each

student has a duty to become familiar with the university values and standards reflected in university policies. These policies are outlined in the <u>M Book</u>.

From the <u>M Book</u>, **policy ACA.AR.600.001:** "The University is conducted on a basis of common honesty. Dishonesty, cheating, or plagiarism, or knowingly furnishing false information to the University, are regarded as particularly serious offenses." Plagiarism consists of "copying published material verbatim, paraphrasing the work of another without properly citing that work, keeping the content and/or structure of another's work and changing the words, and unfairly using material, such as taking large portions of another's work without substantial addition of one's own ideas or commentary.... a student who copies another's homework, copies answers to test questions, or allows someone else to do work for him/her on homework or tests also violates the standards of honesty and fairness and is subject to academic discipline."

<u>Plagiarism</u> and cheating are serious offenses and may be punished by failure on the exam, quiz, or project; failure in the course; and/or expulsion from the University. *Any student found cheating will go through the University's academic discipline process.*

Students should also be familiar with the Graduate School's regulation on <u>Academic Conduct</u> and the Office of Research and Sponsored Programs page on <u>Research Integrity and Compliance</u>. Additionally, graduate students may be required to take the free online 6-hour course <u>Responsible</u> <u>Conduct of Research</u>.

10. Academic Regulations and Links

Steps and Forms: Each graduate program includes a number of steps that a graduate student needs to complete. These steps include the selection of academic advisor, the selection of the program committee, the application for qualifying exam and comprehensive exam (for the Ph.D. program), and the application for graduation and defense. Students should be familiar with these steps, the due dates and various forms associated with these steps.

<u>Good Standing and Probation</u>: Graduate students must have a 3.0 GPA in order to be in good standing and graduate. Students whose GPA falls below 3.0 in any regular semester will be placed on probation and expected to improve their grades to an acceptable level before the end of their next period of enrollment. If the GPA of a graduate student for a semester or term has been unsatisfactory, the dean of the Graduate School may refuse permission for the student to register for further work or change the student's classification.

<u>**Time Limit for the M.S. Program</u>**: All work applying to a master's degree must be completed within a six-year time period.</u>

Time Limit for the Ph.D. Program: All required formal course work and the comprehensive exam should be completed within four calendar years of initial enrollment into degree seeking (conditional or full-standing) status, whether a student begins the doctoral program following completion of a bachelor's or a master's degree. After passing the comprehensive exam, a student becomes a candidate for the doctoral degree and must complete all remaining requirements, including the written dissertation and its defense, within five calendar years.

<u>**Transfer of Graduate Credit from Another Institution:</u> The conditions under which the credits can be transferred and the number of hours can be either transferred or reduced for M.S. and Ph.D. programs are as follows.</u>**

MS programs: With department approval, a student may transfer up to one half, but no more than 12 hours, of the graded coursework credit hours required for a master's degree program offered by the ECE department. Students need to submit GS-3 form to the graduate school.

Ph.D. programs: A Ph.D. student in the ECE department may seek approval for a maximum of 24 semester hours of graduate coursework completed at another institution. Students need to submit GS-3 form to the graduate school.

<u>Academic Regulations of the Master's Degree:</u> To obtain a master's degree, M.S. students in the ECE department must successfully complete, in addition to the university's general requirements, the final oral defense of the thesis (or the project) for the thesis option (or the nonthesis option).

Academic Regulations of the Doctoral Degree: To obtain a doctoral degree, Ph.D. students in the ECE department must successfully complete, in addition to the university's general requirements, the qualifying exam, comprehensive exam, and the final oral defense of the dissertation. In the ECE department, the qualifying exam may be considered as the written part of the comprehensive exam, and the prospectus defense will be considered as the oral part of the comprehensive exam.

Qualifying Exam Policy: Doctoral students in the ECE department must take a qualifying exam during the first year of their graduate study, and may not defend a Dissertation Prospectus in the comprehensive exam until they receive a rating of Qualified as described in the document attached as Appendix B. The qualifying exam is offered during the Spring Semester of each year and is based on core material included in every ABET accredited undergraduate electrical engineering curriculum. If there is sufficient demand, the qualifying exam may also be offered during the Fall Semester.

The qualifying exam is a written exam and is administered over a two-day period. Exam questions come from the six areas identified with corresponding University of Mississippi undergraduate courses listed in Appendix B.

<u>The End Game</u>: Students must carefully review the information on this site, meet the deadlines listed, and follow the instructions early in the semester in which they will graduate.

For all Master's and Ph.D. students, a final oral examination occurs in the student's last semester at the university. This final oral examination consists of a dissertation defense for Ph.D. students, a thesis defense for Master's thesis students, a project presentation for Master's nonthesis students. Note that two important forms, <u>GS8 and GS7</u>, are involved in this process.

The student must submit form GS8 early in the semester before the due date to apply for graduation in that semester. Failure to follow the due date will prevent the student from graduation in that semester. After the submission of form GS8, the student continues working on the dissertation/thesis/project/presentation, following advisement by the academic advisor and committee.

Early in the final semester, the student schedules the final oral examination with the committee by

reserving a location and time (at least 2 hours) upon consultation with the faculty advisor and the committee and submitting form <u>GS7</u>. The final oral examination should be scheduled at least 7 days before the last Friday of classes in the semester, when the final dissertation/thesis is due to the Graduate School. This 7-day minimum is the time needed for the student to revise the dissertation/thesis based on the committee's comments and revisions during the defense.

A complete draft of the dissertation/thesis/project report is due to the committee one week before the scheduled defense (but two weeks is preferred). The draft should obtain the permission from the academic advisor first before sending to the committee.

The Report of Final Oral/Written Examination must be signed by all the committee members and must be submitted to the Graduate School.

Students should refer to the <u>Thesis and Dissertation Format Manual</u> when preparing their thesis or dissertations. Students should follow the instructions in the site for the final electronically submission of the thesis or the dissertation.

Appendix A – Typical Courses

For the M.S. program, courses listed under telecommunications emphasis/Electromagnetics emphasis/Computer Engineering emphasis are counted for graduate requirements as approved by the major advisor/Graduate Program Coordinator/Department Chair.

For the Ph.D. program, courses listed under Electrical Engineering emphasis/Electromagnetics emphasis/Computer Engineering Emphasis are counted for graduate requirement as approved by the major advisor and the program committee

Courses followed by '(*)' are core courses.

Engr 695 (*)

Seminar

M.S. Program with the emphasis in Telecommunications and M.S. and Ph.D. Programs with the emphasis in Electrical Engineering

El E 534 (*)	Wireless Mobile Communications
El E 535 (*)	Digital Communications
EI E 586	Digital Signal Processing
Engs 627 (*)	Applied Probability Modeling
Engr 718 (*)	Coding for Error Code
Engr 691 sec. 30	Information Theory and Graphic Codes
Engr 691 sec. 33	Bayesian Inference
Engr 691 sec. 3	Detection Theory
Engr 691 sec. 3	Estimation Theory
Engr 691 sec. 37	Advanced Wireless Communications
Engr 691 sec. 37	Spread Spectrum Communications
Engr 691 sec. 31	Queuing theory
Engr 661 (*)	Computer Networks II
Math 575	Mathematical Statistics I
Math 576	Mathematical Statistics II
Math 671	Statistics Method II
Math 672	Statistics Method II
Math 673	Advanced Probability I
Math 775	Advanced Statistics I
Math 781	Graph Theory I
Csci 531	Artificial Intelligence
Csci 533	Analysis of Algorithms
Csci 561 (*)	Computer Networks I
Csci 632	Machine Learning

M. S and Ph.D. Programs with the emphasis in Electromagnetics

ENGR 626 (*) ENGR 721 (*) ENGR 723 (*) ENGR 719 (*) EL E 525 EL E 523 ENGR 729 ENGR 691 sec. 38 ENGR 691 sec. 38 ENGR 691 sec. 38 ENGR 691 sec. 38 ENGR 691 sec. 38 PHYS 651/652 PHYS 721/722 PHYS 731/732 PHYS 725/726	 Numerical methods in Electromagnetics Advanced Electrodynamics Passive Microwave Devices Microwave Measurements Introduction to Antennas Microwave Engineering Special Topics in Electromagnetics Electromagnetics of Metamaterials Frequency Selective Surfaces Artificial magnetic Conductors Green's Functions in Electromagnetics Operator Theory in Electromagnetics Complex Plane Analysis I/II Mathematical Methods of Physics I/II Advanced Electromagnetic Theory I/II Quantum Field Theory I/II Solid State Physics I/II
PHYS 711/712	Quantum mechanics I/II

M.S. and Ph.D. Programs with the emphasis in Computer Engineering

ENGR 691 sec. 32	Testing of Computing Systems
ENGR 692 sec. 39	Digital VLSI Design
ENGR 691 sec. 39	Advanced Programming and Simulation Techniques
ENGR 691 sec. 39	Applied Machine Learning
ENGR 691 sec. 39	Analog IC Design in CMOS

Appendix B – Qualifying Exam Policy (for the Ph.D. program)

Department of Electrical and Computer Engineering Qualifying Exam Policy

September 16, 2013

Doctoral students must take a qualifying exam during the first year of their graduate study, and may not defend a Dissertation Prospectus until they receive a rating of Qualified as described in this document. The qualifying exam is offered during the Spring Semester of each year and is based on core material included in every ABET accredited undergraduate electrical engineering curriculum. If there is sufficient demand, the qualifying exam may also be offered during the Fall Semester.

The qualifying exam is a written exam and is administered over a two-day period. Exam questions come from the six areas identified with corresponding University of Mississippi undergraduate courses in the description shown below.

Area I Mathematics: (a) Differential Equations MATH 353 (b) Complex Variables and Matrices (either ENGR 410 or MATH 459 and ENGR 310) **or** Discrete Math MATH 301

Area II Systems Theory: (a) Linear Systems EL E 331 (b) Control Systems Theory EL E 431

Area III Electrical, Electronic Devices and Circuits: (a) Electric Circuits ENGR 360 (b) Electronics EL E 351

Area IV Digital Systems: (a) Principles EL E 235 (b) Advanced Digital Systems EL E 385 or Microprocessor Systems EL E 485

Area V Communications/Networks: (a) Probability and Random Processes EL E 391 (b) Communications Theory EL E 447 **or** Computer Networks (either EL E 425 or Csci 561)

Area VI EM Theory: EM Theory: Static and Propagation EL E 341 and EL E 441

All Ph.D. students will take exams in four areas, with the areas for a particular student chosen in consultation with and approval of that student's advisor.

Students are advised to consult the University of Mississippi website to find the current syllabus and textbook for the UM Courses listed above. Exam questions will cover the central ideas and concepts and the most important problem solution techniques covered in the listed courses and will resemble the type of problems and questions that would appear on a comprehensive final examination for an undergraduate course. The qualifying exam for a student will consist of four chosen subject areas, each consisting of three questions. The exam will be administered over two separate days, with two of the subject area exams being given on the first day and two of the subject area exams being given on the first day and two subject areas given on the first day and three hours total for the two subject areas given on the second day. At the end of each exam period students are expected to turn in solutions for all problems on all subject areas given during the

exam period. Students failing to turn in a solution for a problem will receive zero points for that problem. Each problem will be graded on a 100-point basis (i.e. 100 for 100% correct, 90 for 90% correct and so forth). In general, students will pass a subject area if their average score for the three problems in the subject area is greater than 70. The faculty may lower the passing average for an area if this is deemed necessary to compensate for unforeseen problem complexity.

Based on the number of subject areas they pass, students will receive one of the following ratings: Qualified, Qualified with Conditions, or Probationary Status.

Students who pass all four areas will receive a rating of Qualified. A student who receives the rating of Qualified and has satisfied all other necessary conditions may prepare and defend a Dissertation Prospectus.

Students who pass three areas will receive a rating of Qualified with Conditions and will be required to retake the sections of the qualifying exam that they did not pass the next time the qualifying exam is offered. When retaking the qualifying exam, students rated as Qualified with Conditions will have one and one-half hours for the section they must attempt. Students must pass the retaken area to move to a rating of Qualified. Students who fail to pass an area will continue to be rated Qualified with Conditions and must repeat the section of the qualifying exam that they did not pass. At the discretion of the faculty, other conditions may be applied in lieu of retaking the section.

Students who pass less than three areas will receive a rating of Probationary Status and will be required to repeat all areas of the qualifying exam the next time the qualifying exam is offered. After retaking the qualifying exam, students with a Probationary Status rating will either retain that rating or move to a Qualified or Qualified with Conditions rating based on the number of areas they pass.