INTRODUCTION:

This guide to graduate study in the Department of Materials Science & NanoEngineering contains information about degree programs, financial support, academic regulations and procedures, how to get started in graduate school, and other miscellaneous information of interest to graduate students. It is intended to supplement the General Announcements and the Code of Conduct by providing a more detailed description of the graduate program in MSNE. In case of error, omission, or conflict, policies of the General Announcements supersede those stated within this handbook. If the policies of the program change during a student's tenure at Rice University, the student can elect to continue studies under the complete set of policies in place at the time of matriculation or may choose to follow the updated policies in full. Students may not choose some regulations from one set of policies and some from another. The student must be familiar with the rules, procedures, and requirements of the MSNE Department, the Office of Graduate and Postdoctoral Studies, and Rice University. It is ultimately the responsibility of the student to know and follow all policies and timelines to allow for a timely graduation. A student failing to meet department or university requirements is subject to dismissal from the program.

ADMINISTRATION:

Students have access to the MSNE Administrative staff for assistance. The primary contact person for graduate students is Jae Lockhart, MSNE Graduate and Undergraduate Administrator. Please see the contact information provided below:

Name	Title	Email	Location	Ext
Shanequea White	Senior Department Administrator	sw123@	411 O'Connor	3329
Manuel González	Lab Specialist II	Mag36@	109 MEB	4895
Jae Lockhart	Graduate & Undergraduate Program Administrator	JL633@	410 C O'Connor	2003
Jessica Lee	Academic Administrator	JL199@	410 O'Connor	3698
Linda Lerma	Financial & Research Administrator	Lindac@	410A O'Connor	3605
Kuan-Wen Liu	Financial & Research Administrator	KL160@	410B O'Connor	3625
Thu Nguyen	Temporary Finance Assistant	tn51@	Remote	

Shanequea White – Senior Department Administrator:
Manages departmental funds and supervises MSNE staff members.
Go to Shanequea for:

- Funding questions.
- Research guidelines.
- Department's physical facilities.
- University policies.
- Special circumstances.

Manuel González – Lab Management Specialist II:
Manages MSNE lab safety, lab supply, equipment orders, and equipment maintenance. All new students should contact Manuel to arrange a safety tour of MSNE laboratories before entry.
Go to Manuel for:

- Lab and equipment issues.
- Lab supply orders.
- Lab safety training.
- Lab safety issues.

Jae Lockhart – Graduate & Undergraduate Administrator:
Assists students with academic and administrative issues while in MSNE and coordinates student recruitment. The graduate administrator is your first stop to seek consultation on academic issues. The graduate administrator will keep discussions confidential but encourage action.
Go to Jae for:

- Questions about academic policies and procedures.
- Assistance with processing forms related to your academic progress.
- Questions about the stipend.
- Requests for verification letters (student status, etc.).
- Questions about course schedules and classroom locations.

Jessica Lee – Academic Administrator:

Provides administrative support for faculty members and students, maintains the MSNE departmental reception area, and coordinates MSNE seminars and other special events.

Go to Jessie for:

- Office/Lab Access & Logistics
  - Assign desk space in shared offices or labs
  - Issue keys (track deposits and returns)
  - Troubleshoot ID card building access issues
- Forms & Administrative Support
  - Guide students on how to fill out academic or university forms (e.g., tax exemptions forms)
  - Provide tax-exemption forms for Rice-related purchases
- Event & Seminar Participation
  - Inform students about upcoming seminars, events, and opportunities
  - Help them sign up to volunteer or present
  - Provide logistics or A/V assistance for student-led events
- Mail & Shipments
  - Help locate incoming mail or FedEx packages
  - Assist with outgoing mail and departmental shipping needs
- Technology & Workroom Support
  - Troubleshoot common copier, printer, or fax issues
  - Replenish office supplies or assist in using shared equipment
- Room Reservations
  - Reserve study rooms, meeting rooms, or presentation spaces upon request
- General Departmental Questions
  - Answer questions about department policies, where to find people or offices
  - Direct them to appropriate university departments (e.g., GPS, OISS, Financial Aid)
- Onboarding & Orientation
  - Onboard new academic visitors and student assistants
  - Provide orientation packets, welcome materials, and walk-throughs of MSNE resources
- Emotional Support & Referral
  - Listen to concerns, especially during high-stress times (defense prep, deadlines)
  - Refer students to the appropriate support offices (e.g., Wellbeing, Registrar, Counseling)

Linda Lerma – Financial & Research Administrator:

Provides financial support for faculty members and students for Dr. Barrera, Dr. Han, Dr. Hautier, Dr. Lou, Dr. Marega, Dr. Tang, Dr. Yakobson and Dr. Zhu.

Go to Linda for:

- Research Accounting and questions about group funding
- Expense reports for faculty members

Kuan-Wen Liu

Provides administrative support to Dr. Ajayan, Dr. Keene, Dr. Lee, Dr. Ma, Dr. Martin, Dr. Pirie, and Dr. Tringides.

Go to Kuan-Wen for:

- Research accounting and questions about group funding.
- Expense reports for faculty members.

Thu Nguyen-Temporary Finance Assistant:

- Travel and general expense reimbursements, out of the pocket.

FACULTY:

Faculty members in the department have a broad range of responsibilities that are central to the academic and research missions of the university. These include:

- Advising and mentoring undergraduate and graduate students, as well as postdoctoral fellows.
- Supervising research activities in their specific areas of interest and expertise.
- Managing all aspects of their research laboratories, including personnel, budgets, and compliance.
- Teaching and curriculum development at both the undergraduate and graduate levels.

2026-27 MSNE Department Chair: Dr. Karen Lozano

2026-27 MSNE Graduate Committee: Dr. Marega, Dr. Tringides, Dr. Martin, Dr. Tang, Dr. Lee, and Dr. Keene.

2026-27 MSNE Professional Master's Student (MMSNE) Advisor: Dr. Tang

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Doctor of Philosophy (PhD) and Master of Science (MS) Student Advisors

The primary faculty contact for PhD and MS students is their individual faculty advisor. Advisors play a critical role in guiding students through their academic and research progress, providing mentorship, and supporting their professional development.

Information on the research interests and areas of expertise of each faculty member is available on the MSNE Faculty Page.

Lozano, Karen	Trustee Professor, Materials Science and NanoEngineering Chair, Department of Materials Science and NanoEngineering
Ajayan, Pulickel	Benjamin M. and Mary Greenwood Anderson Professor of Engineering
Barrera, Enrique	Professor of Materials Science and NanoEngineering
Han, Yimo	Assistant Professor of Materials Science and NanoEngineering
Hautier, Geoffroy	Trustee Professor, Materials Science and NanoEngineering.
Keene, Scott	Assistant Professor of Materials Science and NanoEngineering
Lee, Hae-Yeon	Assistant Professor of Materials Science and NanoEngineering
Lou, Jun	Karl F. Hasselmann Professor of Materials Science and NanoEngineering
Ma, Xuedan	Associate Professor, Materials Science and NanoEngineering

Marega, Guilherme	Assistant Professor of Materials Science and NanoEngineering
Martin, Lane	Welch Professor of Materials Science and NanoEngineering
Penev, Evgeni	Associate Research Professor
Pirie, Harris	Assistant Professor of Materials Science and NanoEngineering
Tang, Ming	Associate Professor of Materials Science and NanoEngineering and Associate Chair of Graduate Studies
Tringides, Christina	Assistant Professor of Materials Science and NanoEngineering
Vajtai, Robert	Research Professor of Materials Science and NanoEngineering
Yakobson, Boris I.	Karl F. Hasselmann Professor of Materials Science and NanoEngineering
Zednik, Ricardo	Professor in the Practice
Zhu, Hanyu	Associate Professor of Materials Science and NanoEngineering and Associate Chair of MSNE Undergraduate Studies

MSNE 2026-27 GRADUATE STUDENT ASSOCIATION:

Meer Mahfuz	President	mm378@rice.edu
Vacant	Vice President	Vacant
Zi Cheng Wang	Secretary	zw125@rice.edu
Ethan Mackey	Treasurer	em152@rice.edu
Cesar Sanchez	GSA Representative	cs277@rice.edu
Ryan Yetishefsky	Social Chair	ry32@rice.edu

STUDENT RESOURCES:

Esther: is the web portal for students to register for classes, view grades, and access academic records.

Graduate Student Association (GSA): The GSA represents all degree-seeking graduate students at Rice University. Its mission is to enhance the graduate student experience by:

- Advocating for student well-being (physical and mental health)
- Promoting professional development resources
- Organizing social programming and community engagement

MSNE Mentor Program: The MSNE Mentor Program connects current MSNE students with incoming students. This peer mentorship program helps new students adjust to Rice by offering insights and lessons learned from more experienced students, easing their transition, and supporting future success.

Shared Equipment Authority (SEA): SEA supports research across Rice University by managing shared, state-of-the-art research equipment and providing access to specialized resources and technical support for the Rice community.

Student Health Insurance: All registered, degree-seeking students must maintain health insurance coverage while enrolled at Rice. You must either:

- Enroll in the Rice Student Health Insurance Plan, or
- Submit a waiver.

Important note for International Students: All F-1 and J-1 Rice-sponsored students must enroll in the Rice Student Health Insurance Plan. Please contact the Office of International Students and Scholars (OISS) for further guidance.

Student Employment: Students on F-1 or J-1 visas may work on campus or participate in practical training (off-campus), but must obtain proper work authorization in advance.
Working without authorization, even for one day, is a violation of visa regulations and may result in serious consequences, including deportation.

Title IX and Support Services: Rice University strongly encourages students who have experienced sexual, relationship, or other interpersonal violence, harassment, or gender discrimination to seek support. There are many options available both on and off campus for all graduate students, regardless of whether the perpetrator was a fellow student, a staff or faculty member, or someone not affiliated with the university. Confidential Resources:

- Rice Counseling Center therapists
- Student Health Services medical staff

Students should be aware when seeking support on campus that most employees are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. The therapists at the Rice Counseling Center and the doctors at Student Health Services are confidential, meaning that Rice will not be informed about the incident if a student discloses to one of these Rice staff members. Rice prioritizes student privacy and safety, and only shares disclosed information on a need-to-know basis. If you need assistance or simply would like to talk to someone, please call the Rice Wellbeing and Counseling Center, which includes Title IX Support: 713-348-3311. Policies, including the Sexual Misconduct Policy and Student Code of Conduct, and more information regarding Title IX can be found at https://safe.rice.edu/.

RESOURCES:

General Announcements

Office of the Registrar

Graduate and Postdoctoral Studies

Office of International Students and Scholars

Office of Information Technology

Student Health Services

Wellbeing and Counseling Center

ACADEMIC POLICIES & PROCEDURES:

The following regulations for graduate students in the Department of Materials Science & NanoEngineering (MSNE) are in addition to the regulations and deadlines outlined in the Rice University General Announcements**.**

It is the student's responsibility to ensure compliance with both University and Department requirements and deadlines.

MSNE Graduate Degrees Offered: The Department of Materials Science & NanoEngineering offers three graduate degree programs:

- Doctor of Philosophy (PhD)
- Master of Science (MS with Thesis)
- Master of Materials Science and NanoEngineering (MMSNE – Non-Thesis)

Doctor of Philosophy (PhD): The PhD degree requires the completion of at least 90 credit hours of advanced, relevant study. Of these, a minimum of 18 credit hours must be formal coursework. The degree also requires an approved doctoral thesis based on original research.

To fulfill the degree requirements, students must:

- Pass the Preliminary Candidacy Evaluation (PCE)**.**
- Pass the Oral Qualifying Examination (OQE)
- Complete and defend a doctoral thesis in a public oral examination**.**
- Submit the final approved thesis to the Office of Graduate and Postdoctoral Studies**.**

The residency requirement is four semesters of full-time study at Rice University.

For more detailed information, please refer to the PhD degree requirements.

Master of Science (MS): The MS degree requires completion of at least 30 credit hours of study, with a minimum of 18 credit hours in formal coursework**.** The degree also requires an approved master's thesis based on original research.

To fulfill the degree requirements, students must:

- Pass the Preliminary Candidacy Evaluation (PCE)**.**
- Original research reported in a written thesis.
- A public oral examination defending the thesis**.**
- Submit the final approved thesis to the Office of Graduate and Postdoctoral Studies**.**

Most students complete the MS requirements in three to four semesters, although the duration may vary by program.

Students must also meet a minimum residency requirement of two full-time semesters in a graduate program at Rice University.

For more detailed information, please refer to the MS degree requirements.

Professional Master of Materials Science & NanoEngineering (MMSNE)**:** The MMSNE degree requires the completion of at least 32 credit hours of approved coursework.

Key features of the MMSNE program include:

- No thesis requirement.
- A minimum residency enrollment of one fall or spring semester of full-time graduate study at Rice University.

This professional master's program is designed to prepare students for careers in industry, government, or research organizations without the need for a research thesis.

For more detailed information, please refer to the MMSNE degree requirements.

Advisor Selection: Incoming PhD and MS students without assigned advisors are required to register for MSNE 599: Lab Rotations and Advisor Selection, a course designed to help students explore various research groups before formally selecting a faculty advisor.

Course Guidelines:

Enrollment & Rotation Schedule

• Students must register for MSNE 599 during their first semester if they do not have an advisor.
• At the beginning of the semester, students must submit the MSNE Rotation Form to the Graduate Administrator.
• Lab rotations occur approximately every four weeks for each lab.

Advisor Selection Deadline

• By mid-December, students must complete the Lab Rotation and email the MSNE Advisor Selection Form to the Graduate Administrator or the name of the student's advisor.

Advisor Assignment Notification

• Students will receive formal notification of their assigned advisors at the end of December.

Important note: If a student finds an advisor during the rotation period and wishes to discontinue the remaining rotations, they should email the graduate administrator with the advisor's name. Once this confirmation is received, the student may officially join that advisor's research group.

What this means for you:

- You're to choose 2-3 faculty members for the rotation period.
- If you decide you've found a good fit and want to stop rotating early, let your Graduate Administrator know—just email the graduate administrator the name of the advisor you'd like to work with.
- Once they confirm receipt, you're officially part of that advisor's research group, and no further rotations are required.

Changing Advisors: MSNE graduate students may request to change their research advisor; however, this decision should be made thoughtfully and as early as possible, as it may delay academic progress and graduation.

Policy and Procedure:

• Students considering a change in advisor must consult with the Director of Graduate Studies and receive formal approval before proceeding.
• A request to change the Advisor form must be completed and submitted to the Graduate Administrator for processing.
• It is the student's responsibility to ensure that the change does not adversely impact their research progress, funding, or visa status (for international students).

Transfer of Graduate Program: Graduate students at Rice are admitted into a specific graduate program. Admissions criteria are program-specific; therefore, students who wish to transfer to another program must follow the official Academic Policies & Procedures.

MSNE Department Transfer Process:

1. Speak to your Advisor: Discuss your intention to transfer a degree with your current MSNE advisor and seek their guidance.
2. Submit a written petition: Write a formal request to the MSNE department explaining your reasons for the transfer.

3. Complete the required form:
   - Change of degree form
   - MSNE Department Checklist
4. Obtain all required signatures: Collect signatures from the necessary department personnel and advisors on both forms
5. Email the completed forms: Email the fully completed and signed documents to the MSNE Graduate Administrator.
6. The Graduate Administrator will:
   - Email the form to OISS (if the student is an international student)
   - Submit the documents to the Office of Graduate and Postdoctoral Studies (GPS) for final approval.

Transferring Departments: Students in good standing and not on academic probation who wish to transfer their graduate program to a graduate program in another department must apply for admission to the new department's degree program using the online graduate application system. They must state in the application that they are currently a graduate student in another program at Rice and provide a current Rice transcript. The application must be vetted through the regular admissions process. In addition to admission to the new graduate program, applications for a transfer must also be approved by the dean of graduate and postdoctoral studies.

Annual Performance Review:

Purpose: The annual review ensures that students and their advisors set clear goals and expectations each year, especially around defining *satisfactory progress* in the program.

When: End of the Spring semester, all MS/PhD MSNE graduate students must complete this process.

Steps:

1. Schedule a Meeting**:** The student is responsible for setting up a review meeting with their advisor.
2. Conduct the Review: Discuss with your advisor your progress, expectations, and objectives for the next year.
3. Submit the Annual Performance Review form: After the meeting, the student must ensure the completed annual review form is submitted to the Graduate Administrator by the last week of the Spring semester**.**

Graduate Student Transfer Credit Process: If you want to count graduate-level courses from another university or a different program at Rice toward your MSNE degree, you must provide the Graduate Administrator:

- Course title.
- Detailed course description.
- Course Syllabi.
- The unofficial transcript, grades earned (must be B- or better).

Eligibility:

1. **Institutional Accreditation**
   - U.S. courses: Must be from a regionally accredited institution.
   - International courses: Must be recognized by the country's Ministry of Education or equivalent.
2. **Transcript Requirements**
   - Must be official and sent directly to Rice, or hand-delivered in a sealed envelope.

3. **Formal Approval**

MSNE graduate students who wish to transfer coursework from another institution must follow the procedure outlined below:

- **Submit the Transfer Request form**:
  - Students must complete the Graduate Request for Transfer Credit Form and email it to the Graduate Administrator.
- **Department Review:**
  - The Graduate Administrator will review the submitted form in accordance with departmental guidelines.
- **Notification of Approval**
  - Once the request is approved, the Graduate Administrator will notify the student via email.
- **Completion of Process**
  - The student is responsible for following the instructions outlined on the approved form to complete the transfer credit process.

Note: Transfer credit requests should be submitted well in advance of relevant academic deadlines to ensure timely processing

4. **Grade Policy**
   - Minimum accepted grade: B-
   - Courses taken Pass/Fail or on similar grading bases will not be accepted.
5. **Course Duplication**
   - Courses already used toward a degree elsewhere cannot be transferred.

For the PhD degree, only 6 transferred credit hours will be accepted towards the degree requirement. The candidates must follow the instructions above. PhD candidates must still complete 90 semester hours of advanced study and four semesters of full-time residency at Rice University.

For the MS degree, only 6 transferred credit hours will be accepted towards the degree requirement. The candidates must follow the instructions above.

For the Professional Master's degree, only 6 transferred credit hours will be accepted towards the degree requirement. The candidates must follow the instructions above.

For MSNE students at Rice, if you have earned the MMSNE degree at Rice and have received an offer to the MSNE PhD program, please consult with the Graduate Administrator. They will help you review your core course requirements and determine if any previously completed coursework can be applied toward your PhD.

Replacement Course(s): If you want to substitute a different course for a required MSNE course(s).

1. Download the form: Click the "Graduate Replacement Course".
2. Fill it out: Provide your details and the course you want to replace.
3. Gather signatures.
4. Submit the form: Once fully signed, email the completed form to the Graduate Administrator.

GPA Policy Sheet: This document outlines the GPA requirements and academic probation policies for graduate students in the Department of Materials Science and NanoEngineering (MSNE).

For PhD and MS Students

- Minimum Overall GPA: 3.0
- Minimum Semester GPA: 3.0

If a student's semester GPA falls below 3.0, the student will be placed on academic probation.
If the semester GPA remains below 3.0 for two consecutive semesters, the student's performance will be reviewed by the Graduate Committee in consultation with the Department Chair. The student may be dismissed from the program.

For MMSNE Students

- Minimum Overall GPA: 2.67
- Minimum Semester GPA: 3.0

If a student's semester GPA falls below 3.0, the student will be placed on academic probation.
If the semester GPA remains below 3.0 for two consecutive semesters, the student's performance will be reviewed by the Graduate Committee in consultation with the Department Chair. The student may be dismissed from the program.

It is the student's responsibility to monitor academic progress and maintain the required GPA levels to remain in good standing.

MSNE Graduate Program: Grading Policy

Letter-Graded Courses

- Students must earn at least a B- in all courses.
  - Core Courses with a grade below B- must be retaken.
  - Elective Courses with a grade below B- may be replaced with advisor-approved substitutes (approval must be submitted to the graduate administrator).
- Grades below B- do not count toward degree requirements.

Satisfactory/Unsatisfactory (S/U) Courses

- S = Satisfactory: Counts toward total credits, not GPA.
- U = Unsatisfactory: Does not count toward credit or GPA.
  - Students who receive a U should refer to the General Announcements – Academic Policies & Procedures for guidance on **Academic Probation and Dismissal**.

For full details on Rice University policies, please go to General Announcements.

Stipend for PhD: Eligibility and Enrollment Requirements
PhD students must register for at least 9 credit hours to be eligible for stipend support.
The MSNE department typically provides full or partial funding to most incoming PhD students during their first year.

Advisor Support: After the department's support ends, the student's advisor assumes full financial responsibility for the stipend. Advisors are expected to fund 100% of the stipend unless an external source (e.g., fellowship, scholarship, training grant) covers all or part of the amount. Continued support is contingent upon satisfactory academic progress.

Note: Summer Support, students should coordinate summer plans with their advisor well in advance. To receive summer stipend support from Rice, students must register for at least 9 hours of MSNE 800.
Students who plan to participate in an off-campus summer internship (with advisor approval) must notify the graduate administrator to ensure proper financial arrangements are made.

The Department does not provide financial support to Professional Master's (MMSNE) students.

Termination of Financial Support – General Announcements' section on Academic and Judicial Discipline.

External Fellowships/Scholarships:

- Students are encouraged to apply for external funding opportunities.
- The Office of Proposal Development offers services for writing and preparing funding proposals.
- Students must inform the MSNE graduate administrator immediately upon receiving any award, even if it was before starting their program.

Funding Opportunities:

- The National Science Foundation.
- Opportunities are listed on the George R. Brown School of Engineering website.
- Students are strongly encouraged to apply and should notify the graduate administrator when they do.

Teaching Assistant (TA) Policy:

- All TAs must:
  - Attend a TA workshop.
  - Meet with the course instructor to review responsibilities.
  - Attend course sessions if required by the instructor.

Student Vacation Policy: Must be discussed with and approved by the advisor.

- Students are eligible for two weeks of vacation per academic calendar year. (Fall, Spring, Summer)
- Require submitting a vacation form with the advisor's signature.

Withdrawals and Leaves:

- For withdrawals, refer to General Announcements-Academic Policies & Procedures.
- Medical or **other leaves** must follow university guidelines outlined in the General Announcements.

MSNE AREAS OF SPECIALIZATION:

1. Advanced Manufacturing.
2. Atomic Scale Characterization.
3. Computational Materials Science.
4. Low-dimensional and Nano-materials.
5. Electronic and Opto-Electronic Materials.
6. Energy Conversion and Storage.
7. Metals and 3D Printing.
8. Multifunctional Composites.
9. Nanomechanics.
10. Polymer Science.
11. Quantum Materials and Phenomena.
12. Biomaterials and Neuroengineering.

REQUIREMENTS FOR THE PHD DEGREE:

If you are accepted as a MSNE PhD student but choose an advisor from another department, you will still need to meet all the MSNE PhD program requirements to obtain a MSNE PhD degree.

Full-time students seeking a MSNE PhD degree are expected to complete all the requirements for the degree within five calendar years following entrance into the program. Continuation in the program beyond this time limit will require special approval by your Advisor and the Department Chair.

The MSNE PhD program is a full-time program that requires students to register for at least 9 credit hours each semester.

Residency: The minimum residency requirement for the MSNE PhD degree is four semesters (fall & spring) of full-time study at the University.

Course Requirements:

- At least 90 total credit hours required.
  - 18 credit hours**,** including 12 credit hours of core courses and 6 credit hours of elective courses.
  - Remaining credits can be from non-coursework, like research and seminars.
- Courses from the Rice MSNE BS, and BA degrees (e.g., MSNE 401, 402, 406, 435) cannot count toward the PhD program.
- Students who have taken those BS, and BA courses may substitute core requirements with other approved courses.

Required Core Courses[1]: MSNE 502, MSNE 503, MSNE 506, and MSNE 535.

Elective Courses[2]:

- 500+ or 600+ level MSNE courses.
- Other departments' courses are allowed with advisor approval.

Non-Coursework Credits:

- MSNE 500 – Materials Science Seminar
- MSNE 501 – Graduate Student Seminar
- MSNE 800 – Research and Thesis
- All the above courses are taken for Satisfactory/Unsatisfactory (S/U) grades

*Students who receive a U grade in non-coursework credits should refer to General Announcements-Academic Policies & Procedures for details and the latest information on academic probation and dismissal.

*U grade does **not count** toward the degree requirements.

TA/Grader Requirement: While TA and grader positions are required for PhD students as part of the degree program, there are also additional opportunities for students wanting to gain further teaching experience. The faculty would be happy to have students contribute to the course content and delivery. Graduate students can take an active role in courses such as planning lectures or teaching class sessions. The logistics will vary based on the specific

course and the instructor. Please contact the Graduate Administrator if you would like to explore this option. Additionally, if there is a certain course you are interested in, you can directly contact the instructor to inquire about opportunities. PhD students are required to perform such duties for at least 3 semesters but no more than 4 semesters.

[1] *Students may petition to replace a core course with a related non-MSNE course upon approval from their advisors or one member of the Departmental Graduate Committee. The replacement form must be completed and emailed to the Graduate Administrator. Without the form in your file, the replacement course will not be counted towards your degree.*

2 Students may complete courses that satisfy the Electives requirement from other departmental course offerings upon approval from their advisors or one member of the Departmental Graduate Committee.

MSNE 500, MSNE 501 and MSNE 800. These courses are taken for a Satisfactory/Unsatisfactory grade. For more information, see the Grades section of the MSNE Graduate Student Handbook on the Policies tab and the General Announcement.

MSNE 500, MSNE 501 are not elective courses

Year 1 – First-Year PhD Students

Advisor Selection

- No Advisor Yet?
  - Meet with the MSNE Director of Graduate Studies (DGS) before course registration to plan your coursework.
- Lab Rotations:
  - Complete the MSNE Lab Rotation Form and submit it to the Graduate Administrator by September 15.
- Course Recommendations:
  - Core Courses Required: MSNE 502, MSNE 503, MSNE 506, and MSNE 535.
  - Electives:
    - Choose MSNE 500+ or 600+ level courses.
    - They must be relevant to your research and approved by your advisor.
  - Research Start:
    - Begin research early in your second semester.
- If You Have an Advisor:
  - Meet with the advisor before registration.

Preliminary Candidacy Evaluation (PCE)

- **Deadline:**
  - April 15th – if you matriculated in Fall.
  - November 15th – if you matriculated in Spring.
- **Your PCE committee must include**:
  - Your advisor.
  - Two MSNE faculty members.
- **Documents to submit to the Graduate Administrator:**
  - Completed PCE form [Students are responsible for gathering feedback from their committee]
  - Research Summary - 2 pages, double-spaced
  - Unofficial transcript.
    - Documents must be either scanned or submitted as a pdf – no pictures of documents will be accepted
- **Possible Outcomes:**
  - Approval
  - Disapproval
    - Must repeat PCE, consult with your advisor to schedule a second attempt.
    - Failing twice → Academic Probation.
    - Failing three times → Suspension from the program.

Note: *After completing the required coursework credit hours, students must register as full-time under MSNE 800-Research and Thesis.*

Year 2: Conduct Research & Take Courses Approved by the Advisor

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Year 3: Focus on Research & Pass the Oral Qualifying Examination (OQE)

Oral Qualifying Examination (OQE)

- Purpose: Evaluate your readiness and ability to conduct independent PhD-level research.
- Successful completion of core MSNE courses: MSNE 502, MSNE 503, MSNE 506, and MSNE 535.

Timeline & Required Steps

- Complete the PhD Qualifying Examination schedule form and email the form to the Graduate Administrator by January 15th (if matriculated in Fall) or August 15th (if matriculated in Spring).
- The OQE presentation must be completed by April 15th (if matriculated in Fall) or November 15th (if matriculated in Spring) of the third year.
- Meet with your advisor
  - Discuss your progress, select the committee, and schedule the OQE.
- Form Your OQE Committee: Must include
  - Your Advisor
  - 1 MSNE Faculty
  - 1 Non-MSNE Rice Faculty
- Schedule a Room
  - Email the MSNE front desk to reserve a room for the OQE.
- Please prepare the review proposal and email the document to the Committee and the Graduate Administrator.
  - At least 1 week before the exam.
  - Must be a minimum of 25 pages, double-spaced, 12-point font.
  - Students must provide each of their committee members with the OQE Evaluation form
    - All completed and signed documents must be sent to the Graduate Program Administrator no later than 1 week after the conclusion of the Exam
    - Students are responsible for collecting feedback from their advisor and committee members, and giving a copy of that feedback to the Graduate Program Administrator
- Exam Day:
  - Present your research proposal orally to the committee.
  - The Q&A session will include questions related to the core courses material.

Possible Outcomes

- Pass – You move forward to PhD candidacy.
- Conditional Pass – make minor revisions or meet additional requirements.
- If unsuccessful, consult with your advisor to schedule a second attempt; two failures may result in dismissal from the PhD program.

Year 4: Petition for PhD Candidacy

Candidacy Petition Requirements

To be eligible for PhD candidacy, students must meet the following requirements:

- At least 90 credit hours
- GPA ≥ 3.0
- Pass the Preliminary Candidacy Evaluation (PCE)
- Pass the Oral Qualifying Examination (OQE)

Deadline

- April 15th of your fourth year in the PhD program (if matriculated in Fall); November 15th (if matriculated in Spring)

Thesis Committee Formation

Schedule a meeting with your Advisor to form your Thesis Committee, which must include:

- Your Advisor
- One MSNE faculty member
- One non-MSNE Rice faculty member

We recommend that you maintain the same committee from your Oral Qualifying Exam (OQE). Keeping both committees aligned ensures consistent expectations and feedback for your research.

Steps to Petition

- Complete the following forms:
  - Petition for Approval of Candidacy for a Doctoral Degree.
  - MSNE Department Checklist.
- Submit both forms to the Graduate Administrator by the specified deadline (see the deadline information above).
  - Failure to do so will result in a delay in defense and possible delay in degree completion

***Important Note:** If you have not presented or passed the Oral Qualifying Examination (OQE) by the deadline of April 15 in your fourth year of the PhD program, you will not be eligible to submit the Petition for PhD Candidacy. Instead, you must complete the Extension of Candidacy form and email it to the Graduate Administrator before the petition deadline.

Note: *Students cannot advance to candidacy until the OQE is passed and all requirements are met. For full policy details, refer to the Rice General Announcements.*

Year 5-Oral Examination in Defense of Thesis

Thesis Requirements

- The thesis must demonstrate original, fundamental research.
- Research should be of publishable quality.
- An oral defense is required.

Defense Committee Formation

- Your Thesis Defense Committee is the same committee as the one in the petition for candidacy form. If your committee members change, you will need to complete the Request for Committee Revision and email it to the Graduate Administrator.
- Share the completed thesis with the committee and the Graduate Administrator at least two weeks before the defense date.

Scheduling the Defense

- Defense date must:
  - It was agreed upon by the full committee.
  - Schedule a Room: Email the MSNE front desk to reserve a room for your Thesis Defense.
  - Ensure to meet the deadlines for submitting your final thesis as outlined in the Academic Calendar. Additionally, be sure to select the term in which you wish to graduate.
  - Defense must be publicly announced at **least** 3 weeks (including weekends and holidays) in advance via this form, Rice Events Submission. Failing to do so will result in a delay in your defense and a possible delay in degree completion.
  - Students must provide an Evaluation of MS/PhD Thesis Defense form to each member of their committee – this form MUST be completed, signed, and returned to the Graduate Administrator within 1 week of the defense.

All defense and submission forms/guides can be found at: https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-doctoral-degrees/#text

- If passed:
  - Submit the signed Approval of Candidacy Form within 1 week to the Office of Graduate and Postdoctoral Studies.
- By noon on the deadline date in the Academic Calendar, or within 6 months of defense, whichever comes first.

Additional Notes

- Students who are defending in the first week of classes do not need to register for the current semester or any future semesters.

Typical Time Chart of PhD Degree Candidates

Year 1	**Fall** MSNE 500, 501, 502, 503, and 506 *Register MSNE 599 if you don't have an advisor. *Register MSNE 800 if you have an advisor	**Spring** MSNE 535, 500, 501, MSNE 800, and 2-Elective courses ***Submit the PCE, and Annual Review to the Graduate Administrator by April 15**	**Summer** MSNE 800 (at least 9 credit hours)
Year 2	**Fall** MSNE 500, 501, and 800.	**Spring** MSNE 500, 501, and 800 ***Submit the Annual Review to the Graduate Administrator by April 15**	**Summer** MSNE 800 (at least 9 credit hours)
Year 3	**Fall** MSNE 500, 501, and 800	**Spring** MSNE 500, 501 and 800 ***Submit the OQE schedule to the Graduate Administrator by Feb 15 and need to present by April 15.** ***Submit the Annual Review to the Graduate Administrator by April 15**	**Summer** MSNE 800 (at least 9 credit hours)
Year 4	**Fall** MSNE 500, and 800	**Spring** MSNE 500, and 800 ***Submit the petition for Candidacy to the Graduate Administrator by April 15.** ***Submit the Annual Review to the Graduate Administrator by April 15**	**Summer** MSNE 800 (at least 9 credit hours) and write thesis
Year 5 & Beyond	**Fall** MSNE 500, and 800 Write Thesis	**Spring** MSNE 500, and 800 Write, Defend & Submit Thesis	**Summer** ONLY if go beyond 5 years MSNE 800 (at least 9 credit hours)

RICE ENGINEERING AND COMPUTING
Department of Materials Science and NanoEngineering

REQUIREMENTS FOR THE MS DEGREE:

If you are accepted as a MSNE MS student but choose an advisor from another department, you will still need to meet all the MSNE MS requirements to obtain a MSNE MS degree.

Enrollment & Timeline:

- Students must be enrolled full-time and register for at least 9 credit hours each semester.
- Must complete all requirements within 2 calendar years of entering.
- Extension beyond two years requires special approval from the department.

Course Requirements:

- 30 total credit hours required.
  - 18 credit hours**,** including 12 credit hours of core courses and 6 credit hours of elective courses.
  - Remaining credits can be from non-coursework, like research and seminars.
- Courses from the Rice MSNE BS and BA degrees (e.g., MSNE 401, 402, 406, 435) cannot count toward the MS degree.
- Students who have taken those BS and BA courses may substitute core requirements with other approved courses.

Required Core Courses: MSNE 502, MSNE 503, MSNE 506, and MSNE 535.

Elective Courses:

- 500+ or 600+ level MSNE courses.
- Other departments' courses are allowed with advisor approval.

Non-Coursework Credits (Still count toward 30-hour total):

- MSNE 500 – Materials Science Seminar
- MSNE 501 – Graduate Student Seminar
- MSNE 800 – Research and Thesis
- All above taken for S/U grading (Satisfactory/Unsatisfactory)
- Grading Policy for S/U, please go here for information
- U grade does **not count** toward the degree requirements.

TA/Grader Requirement:

- MS students must serve as a TA/grader for 1–2 semesters**.**
- Please contact the Graduate Administrator if you would like to explore additional opportunities to gain further teaching experience.

Year 1-First Year MS Students

Advisor Selection

- No Advisor Yet?
  - Meet with the MSNE Director of Graduate Studies (DGS) before course registration to plan your coursework.
- Lab Rotations:
  - Complete the MSNE Lab Rotation Form and submit it to the Graduate Administrator by September 15th
  - Complete the MSNE Advisor Selection Form before the end of your first semester

If You Have an Advisor:

- Meet with the advisor before registration.

Recommendations:

- Enroll in core courses: MSNE 502, MSNE 503, MSNE 506, and MSNE 535.
- Begin active research no later than the end of the first semester.

Preliminary Candidacy Evaluation (PCE):

- Deadline:
  - April 15th – if you matriculated in the Fall.
  - October 15th – if you matriculated in the Spring.
- Your PCE committee must include:
  - Your advisor
  - Two MSNE faculty members.
- Documents to submit to the Graduate Administrator
  - Completed PCE form [Students are responsible for gathering feedback from their committee]
  - Unofficial transcript
  - 8-page double-space research summary
  - Students are required to provide a PCE form to each of their committee members
    - Request the complete Evaluation feedback template form from the Graduate Program Administrator
    - All completed and signed documents must be submitted to the Graduate Program Administrator no later than 1 week after the conclusion of the Evaluation
- Possible outcomes:
  - Approval
  - Disapproval, consult with your advisor to schedule a second attempt.
    - Fail twice = Suspension from the MS program

Year 2 – Conduct Research & Petition for MS Candidacy

Candidacy Petition Requirements
To be eligible for MS candidacy, students must:

- Complete all required coursework.
- Maintain GPA ≥ 3.0
- Pass the Preliminary Candidacy Evaluation (PCE)

Deadline

- On August 15th of your second year (if matriculated in Fall), January 15th (if matriculated in the Spring)

Thesis Committee Formation

- Schedule a meeting with your Advisor to form your Thesis Committee, which must include:
  - Your Advisor
  - One MSNE faculty member
  - One non-MSNE Rice faculty member

Steps to Petition

- Complete the following forms:
  - Petition for Approval of Candidacy for Master of Science
  - MSNE Department Checklist
  - Submit both forms to the Graduate Administrator by the specified deadline (see the deadline information above)

Note: *After completing the required coursework credit hours, students may register as full-time under MSNE 800-Research and Thesis.*

Thesis Requirements

- The thesis must demonstrate original, fundamental research
- Research should be of publishable quality
- An oral defense is required

Defense Committee

- The Thesis Defense Committee must include:
    - Your advisor
    - One MSNE faculty
    - One non-faculty member at Rice.

  If your committee members change, you will need to complete the Request for Committee Revision and email it to the graduate administrator.
- Share the completed thesis with the committee and the graduate administrator at least two weeks before the defense date.

Scheduling the Defense

- Defense date must:
    - It was agreed upon by the full committee
    - Schedule a Room: Email the MSNE front desk to reserve a room for your Thesis Defense
    - Ensure to meet the deadlines for submitting your final thesis as outlined in the Academic Calendar
    - Additionally, be sure to select the term in which you wish to graduate
    - Defense must be publicly announced at 3 weeks (including weekends and holidays) in advance via this form, Rice Events Submission. Failing to do so will result in a delay in your defense

All defense and submission forms/guides can be found at:
https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-doctoral-degrees/#text

- If passed:
    - Submit the signed Approval of Candidacy Form within 1 week to the Office of Graduate and Postdoctoral Studies.
- By noon on the deadline date in the Academic Calendar, or within 6 months of defense, whichever comes first.

Additional Notes

- Students who are defending in the first week of classes do not need to register for the current semester or any future semesters.

Typical Time Chart of MS Degree Candidates:

Year 1	**Fall** MSNE 500, 501, 502, MSNE 503, 506 *Register MSNE 599 if you don't have an advisor. *Register MSNE 800 if you have an advisor	**Spring** MSNE 500, 501, 535, and 800 2 MSNE Elective courses ***Submit the PCE, and Annual Review to the Graduate Administrator by April 15**	**Summer** MSNE 800 (at least 9 credit hours)
Year 2	**Fall** MSNE 500, and 800 Write Thesis ***Submit the petition for Candidacy to the Graduate Administrator by October 15.**	**Spring** MSNE 500, and 800 Write, Defend & Submit Thesis	

REQUIREMENTS FOR THE PROFESSIONAL MASTER'S DEGREE (MMSNE)

The Department of Materials Science and NanoEngineering (MSNE) offers a non-thesis Professional Master's degree in Materials Science (MMSNE), with three available areas of specialization:

1. **Materials Science**
2. **NanoEngineering**
3. **Microelectronic and Quantum Materials**

Degree Requirements:

- A minimum of 33 credit hours of approved coursework is required.
- At least 24 credit hours must be completed at Rice University.
- Course selection must align with the student's chosen area of specialization.
- Each student must have a degree plan approved by the MMSNE advisor.

Materials Science Area:

Category	Details
Core Courses[1] (9 hrs)	Required to register for MSNE 502 and MSNE 503 and choose one of these courses: MSNE 505, MSNE 506, MSNE 517, MSNE 521 and MSNE 535. For students with a BS or BA degree from the MSNE Department, *MSNE 502 and MSNE 503 can be replaced by other courses from the list.*
Technical Electives (9 hrs)	Choose from: MSNE 511, MSNE 512, MSNE 513, MSNE 518, MSNE 519, MSNE 522, MSNE 523, MSNE 533, MSNE 540, MSNE 555, MSNE 569, MSNE 580, MSNE 613, MSNE 614, MSNE 615, and MSNE 650
Non-Coursework[2] (3 hrs)	MSNE 500 (at least twice), and MSNE 501 (at least once)
Research Projects (6 hrs)	MSNE 621 and MSNE 622
Professional Development (3 hrs)	Choose from: ENGI 501, ENGI 510, ENGI 529, ENGI 530, ENGI 610; BIOE 513; NSCI 511; RCEL 501, RCEL 502, RCEL 503, RCEL 504, RCEL 505, RCEL 506, RCEL 542, RCEL 615
Remaining Coursework[3] (3 hrs)	See the course catalog for a full list of courses that require MMSNE advisor approval.

NanoEngineering:

Category	Details
Core Courses[1] (9 hrs)	Required to register for MSNE 506 and MSNE 535 and choose one of these courses: MSNE 502, MSNE 503, MSNE 505, and MSNE 517 and MSNE 521. For students with a BS or BA degree from the MSNE Department, *MSNE 506 and MSNE 5535 can be replaced by other courses from the list.*
Technical Electives (9 hrs)	Choose from: MSNE 511, MSNE 512, MSNE 513, MSNE 518, MSNE 519, MSNE 522, MSNE 523, MSNE 533, MSNE 540, MSNE 555, MSNE 569, MSNE 580, MSNE 613, MSNE 614, MSNE 615, and MSNE 650
Non-Coursework[2] (3 hrs)	MSNE 500 (at least twice), and MSNE 501 (at least once)
Research Projects (6 hrs)	MSNE 621 and MSNE 622
Professional Development (3 hrs)	Choose from: ENGI 501, ENGI 510, ENGI 529, ENGI 530, ENGI 610; BIOE 513; NSCI 511; RCEL 501, RCEL 502, RCEL 503, RCEL 504, RCEL 505, RCEL 506, RCEL 542, RCEL 615
Remaining Coursework[3] (3 hrs)	See the course catalog for a full list of courses that require MMSNE advisor approval.

Microelectronic and Quantum Materials:

Category	Details
Core Courses[1] (9 hrs)	Required to register for MSNE 506 and MSNE 521 and choose one of these courses: MSNE 502, MSNE 503, MSNE 505, MSNE 517 and MSNE 535. For students with a BS or BA degree from the MSNE Department, *MSNE 506 and MSNE 521 can be replaced by other courses from the list.*
Technical Electives (9 hrs)	Choose from: MSNE 511, MSNE 512, MSNE 513, MSNE 518, MSNE 519, MSNE 522, MSNE 523, MSNE 533, MSNE 540, MSNE 555, MSNE 569, MSNE 580, MSNE 613, MSNE 614, MSNE 615, and MSNE 650
Non-Coursework[2] (3 hrs)	MSNE 500 (at least twice), and MSNE 501 (at least once)
Research Projects (6 hrs)	MSNE 621 and MSNE 622
Professional Development (3 hrs)	Choose from: ENGI 501, ENGI 510, ENGI 529, ENGI 530, ENGI 610; BIOE 513; NSCI 511; RCEL 501, RCEL 502, RCEL 503, RCEL 504, RCEL 505, RCEL 506, RCEL 542, RCEL 615
Remaining Coursework[3] (3 hrs)	See the course catalog for a full list of courses that require MMSNE advisor approval.

[1]MSNE 502, MSNE 503, MSNE 505, MSNE 506, MSNE 517, MSNE 521 and/or MSNE 535 that are not used towards satisfying core requirements can be taken as Technical Electives.
[2]MSNE 500 is not considered a Technical Elective, and it will not fulfill elective requirements.
[2]MSNE 501 is not considered a Technical Elective, and it will not fulfill elective requirements.
[3]Students can repeat MSNE 621, MSNE 622

Typical Time Chart of MMSNE Degree Candidates:

Year 1	**Fall** 1 MSNE Core Course 1-MSNE Technical Elective MSNE 621 MSNE 500	**Spring** 1 MSNE Core Course 1-Professional Development Course. MSNE 500, 501, and 622
Year 2	**Fall** 1 MSNE Core Course 2 MSNE Technical Electives	**Spring** 1 MSNE 622 (repeat) or 1 course (500+ and above) depending upon each student's interest and will need the MMSNE advisor approval.