

2026-2027

CHEE Graduate Student Handbook



Chemical and
Environmental
Engineering Department

2026-2027

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1 INTRODUCTION TO THE CHEMICAL AND ENVIRONMENTAL ENGINEERING (CHEE) DEPARTMENT

The CHEE Department at the University of Arizona is one of the few combined Chemical and Environmental Engineering departments in the country. We take great pride in having this integration of disciplines that work together to build a better future for Arizona and beyond.

CHEMICAL AND ENVIRONMENTAL ENGINEERING DEPARTMENT	
WHAT WE DO	WHY IT MATTERS
Research – Water and wastewater treatment, aerosols and climate, bioproducts, renewable energy, sensors, and advanced soft materials	Developing sustainable technologies that address critical challenges in energy, water, health, manufacturing, and the environment
Teaching – Rigorous, process-focused curriculum in chemical engineering; environmentally conscious training in environmental engineering	Graduates are prepared to design industrial processes, solve complex technical problems, and create sustainable technologies with global impact
Faculty – NSF CAREER awardees, distinguished professors, center directors, international fellows, and national lab and industry collaborators	Students receive mentorship from leading experts while building professional networks and career opportunities
Students – Small class sizes, hands-on research laboratory experiences, and collaborative research in areas such as biofuels, cancer diagnostics, semiconductor manufacturing, climate-resilient water treatment, solar energy, and flexible electronics	Students work closely with faculty, contribute to cutting-edge research, and join a highly connected and supportive CHEE community

1.1 Graduate Handbook – Quick Overview

Purpose – This handbook is the single reference for all CHEE graduate program policies, from enrollment to graduation.

- **What it contains**

- ❖ Core program requirements and deadlines
- ❖ Department specific rules (e.g., seminars, candidacy, minor units)
- ❖ Links to the UA Graduate College website for campus wide policies

- **How to use it**

- ❖ Read it at the start of your program and keep it handy.
- ❖ Ask your faculty advisor or the Graduate Coordinator if anything is unclear.

❖ Check the [Graduate College website](#) each semester for updates; the handbook is revised annually and may affect current students.

- **Additional support** – non-academic resources (financial aid, counseling, visa info, etc.) are listed on the Graduate College [New and Current Students](#) page.

1.2 CHEE Department Abbreviations in Graduate Handbook

- **CHEE:** Chemical and Environmental Engineering
- **DH:** Department Head
- **DGS:** Director of Graduate Studies – Professor who oversees CHEE graduate studies
- **CHE:** chemical engineering
- **EBC-S:** Engineering Business Center South
- **EEN:** environmental engineering
- **GSC:** Graduate Studies Committee – Committee who oversee CHEE graduate studies
- **GPC:** Graduate Program Coordinator
- **GPA:** Graduate Program Administrator

1.3 University Abbreviations

- **AMP:** Accelerated Master's Program
- **CAPS:** Counseling and Psychological Services
- **GA:** Graduate Assistant or Associateship
- **GPSC:** Graduate and Professional Student Council
- **ME:** Master of Engineering
- **MS:** Master of Science
- **PhD:** Doctor of Philosophy
- **RA:** Research Assistant (type of GA)
- **TA:** Teaching Assistant (type of GA)

1.4 Overview of Degree Programs in CHEE Department

The Chemical and Environmental Engineering Department offers the following graduate degrees in Chemical Engineering (CHE) and Environmental Engineering (EEN):

- **Master of Science (MS)**
 - ❖ **MS Non-thesis program** is designed to broaden students' knowledge in their chosen discipline through advanced coursework
 - ❖ **MS Thesis program** includes a research project completed in close collaboration with a faculty advisor
- **Accelerated Master's Program (AMP)**
 - ❖ The Accelerated Master's Program (AMP) allows qualified undergraduate students to begin coursework toward the **MS Thesis** or **MS Non-Thesis** degree while completing their bachelor's degree
- **Master of Engineering (ME)**
 - ❖ Environmental Engineering only
 - ❖ A one-year, coursework-only degree program in Environmental Engineering

- **Doctor of Philosophy (PhD)**

- ❖ PhD program prepares students to conduct independent and original research

Graduates of these programs pursue careers in **industry, academia, national laboratories, and consulting**. Through their graduate training, students gain broad technical knowledge and research experience that prepare them for diverse careers in engineering, science, and academia. CHEE alumni work in organizations such as National Renewable Energy Laboratory, Intel, Air National Guard, GlobalFoundries, Jacobs, Micron, Pfizer, Cabot Microelectronics, NXP Semiconductors, Taiwan Semiconductor Manufacturing Company (TSMC), National Laboratory of the Rockies, Trussell Engineering, CDM Smith, Southern Nevada Water Authority, Carollo Engineering, HDR, Los Alamos National Laboratory, SpaceX, NASA, the U.S. Department of Defense, and universities around the world.

1.5 Departmental Organization and Contacts

- **Department Chair:**

- ❖ Dr. Kimberly Ogden

- **Director of Graduate Studies (DGS) and Graduate Studies Committee (GSC):**

- ❖ Dr. Adam Printz, DGS
- ❖ Dr. Andrea Achilli, GSC Member
- ❖ Dr. Cherie DeVore, GSC Member
- ❖ Dr. Ellis Robinson, GSC Member
- ❖ Dr. Sylvia Sullivan, GSC Member
- ❖ Lori Huggins, GSC Member

- **CHEE Staff Roles:**

- ❖ Program Manager: Holly Altman
- ❖ Chemical Engineering Undergraduate Advisor: Rebecca Hall
- ❖ Environmental Engineering Undergraduate Advisor: Lori Huggins
- ❖ Graduate Program Coordinator (GPC): Lori Huggins
- ❖ Graduate Program Administrator (GPA): Darla Strong
- ❖ Administrative Support Professional: Darla Strong

1.6 CHEE Graduate Student Responsibilities and Professional Conduct

1.6.1 Academic and Research Responsibilities

CHEE Graduate students are expected to: Be self-directed scholars who manage their own project timelines and maintain strict academic integrity standards.

- **Know University Policies:** Read, understand, and comply with the following University policies:
 - ❖ [Dean of Students Office Code of Conduct](#)
 - ❖ [Dean of Students Office Code of Academic Integrity](#)
 - ❖ [Research, Innovation, & Impact Responsible Conduct of Research Program](#)
 - ❖ [University of Arizona Mission, Purpose, and Core Values](#)
- **Track Degree Progress:** Take primary initiative to **track degree requirements, register for classes, and meet benchmark deadlines** as described in this handbook. Your Graduate Program Coordinator, Faculty Advisor, and Graduate Committee are all here to support you

in these responsibilities, but **YOU should be leading the way and are ultimately responsible** if you do not meet your degree requirements, register for classes (and meet full-time status) or meet the benchmark deadlines.

- **Conduct High-Quality Research:** **Design, conduct** and **analyze** original research while maintaining organization, transparency, and effective communication with your research group and Faculty Advisor.
- **Engage in Scholarly Learning:** Proactively **read, evaluate** and **stay current** with the academic literature in your chosen field of study.
- **Use University Resources Responsibly:** Exercise **strict care** when operating shared university equipment, laboratory spaces, communal software tools and funding resources.
- **Maintain Academic Integrity:** Demonstrate **honesty, ethical** conduct, and **professionalism** in all academic, research and scholarly activities.

1.6.2 CHEE Graduate Student Professional Conduct

CHEE Graduate students are expected to:

- **Be Prepared and Punctual:** Arrive **prepared and on time** to all scheduled classes, lab shifts, seminars, and committee meetings.
- **Communicate Professionally:** Correspond with faculty, staff, and peers using **polite, objective, and timely** emails or professional communication platforms.
- **Foster an Inclusive Environment:** Work constructively with diverse cohorts across different backgrounds, **respecting varying viewpoints**, and **actively rejecting and reporting discriminatory behaviors**.
- **Prioritize Teaching Responsibilities:** Treat **teaching duties with high priority** when serving as a Teaching Assistant (TA).
- **Lead by Example:** Exhibit **model academic behavior and safety measures** in laboratories to undergraduate and other graduate students.

2 INFORMATION FOR NEW AND CONTINUING STUDENTS

1.1 Academic Struggles or Other Issues

- **Academic Matters**

Discuss with those listed below in the following order:

- ❖ Faculty Advisor
- ❖ Committee members for their thesis or dissertation
- ❖ GSC can give advice on curricular questions or deadlines
- ❖ Department Chair can be contacted if the above are unable to help solve the issue

- **Deadlines**

If a student's academic struggle has caused them to **not meet a deadline** a [CHEE Department Petition](#) should be filed as opposed to discussions with the above individuals.

- **Non-academic issues**

Discuss with the GPC or the Graduate College Student Support Specialist:

- ❖ Navigating GradPath
- ❖ Plan of Study Guide
- ❖ Benchmarks
- ❖ [Counseling and Psych Services \(CAPS\)](#) – for mental health concerns
- ❖ Understanding of Graduate College Policy or CHEE Departmental Policy

2.7 CHEE Departmental Petition Form

When a student requires an exception for any CHEE Department or Graduate College policy, the first step is to request departmental approval for the exception by filing a [CHEE Department Petition Form](#). For many Graduate College policy exemptions, a petition will also need to be filed with the Graduate College. ***Note that filing a petition does not guarantee approval of the request.***

- **Submit Petition**

- ❖ Complete a CHEE Departmental Petition Form
- ❖ Reviewed by the Graduate Studies Committee
- ❖ **Deadline:** Submit by the 1st week of the semester when the change is needed
 - Exceptions may be made in the case of emergencies
 - Retroactive requests are not accepted
 - Expect a response to your petition within a month of submission – the petition will be reviewed at the next scheduled Graduate Studies Committee Meeting which occur once a month

- **Review Process**

The Graduate Studies Committee will review your petition. Approval requires a compelling justification supported by evidence

- **GSC will vote to approve or deny your petition**

- **Appeal of Denial**

You may appeal to the Department Chair with your faculty advisor's support - the Department Chair's decision is final

The following are exemptions that can be petitioned in the CHEE department:

CHEE DEPARTMENT PETITIONS	
TYPE OF PETITION	NEXT STEPS
CHEE 696A Exception: Conflict with required major or minor course (not for an elective course)	Contact professor of CHEE 696A to let them know of your petition approval
Change of Advisor	Before filing a petition should have discussed with current advisor and have discussed with proposed new advisor
AMP Program: From another related major that has similar foundational requirements	Complete AMP application after approval
Leave of Absence: Standard or Medical	Must provide documentation or justification of why you are requesting a LOA – File Leave of Absence Petition through GradPath
Comprehensive Exam Extension: If not prepared to take the Comprehensive Exam by the end of semester 6	Complete benchmarks and steps as outlined in section three of the handbook within one year of original deadline – if more time is needed, file a second petition
Program Extension: Not meeting the timeframe policy as outlined in section 3 of the Handbook	File a Program Extension Petition with the Graduate College through GradPath
Course Extension for Incomplete Grade: If incomplete material is not complete by the 1 year deadline – if petitions are not filed by deadline the grade will automatically be an E	File a Course Extension Petition with the Graduate College
Extension of Probation: If after two semesters on probation, your GPA is below a 3.0	If approved by the GSC, then the DGS or the Faculty Advisor will complete the Justification Waiver Request Form to petition for one additional semester to move their GPA to a 3.0 or above
Add MS to PhD Program: Faculty Advisor should approve this addition before submitting petition	Submit a Change of Program Form and submit to your Student Support Services person in the Graduate College via email
Exemption for any other CHEE Department Policy	If purely a CHEE policy, then this could be the only step – if there is a corresponding Graduate College Policy or University Policy a petition will likely also need to be filed with them

2.8 Departmental Seminar

All CHEE Graduate Students (with exception of EEN ME) must be enrolled in CHEE 696A Seminar course every fall and spring semester that they are a part of the program.

- Each program has a specific number of CHEE696A units required (see section 3)
 - ❖ However, you may graduate with more units than this requirement because you **must** be enrolled in CHEE696A every semester you are a student.
- To request an exception to this policy:
 - ❖ You must file a petition using the [CHEE Department Petition Form](#)
 - ❖ Possible exceptions include a time conflict with a **required** major or minor course, you only have to complete your final oral defense and are enrolled in 1 unit of CHEE 910 or 920, or you are completing an internship and will not be on campus or in town.
- EEN ME students:
 - ❖ are not required to take CHEE696A, but are encouraged to attend

2.9 Desk and Key Assignments

- Overview
 - ❖ Most CHEE graduate students receive:
 - **Keyless access** to Harshbarger, Civil Engineering, and Old Engineering Buildings
 - **Physical keys** for specific lab/office spaces as needed
 - **Desk assignments** near your research lab or in a space where other graduate students from your research group also have a desk
- How to Get Desk and Key Assignments
 - ❖ Complete the [CHEE Building Access Information Form](#)
 - ❖ Discuss with your faculty advisor which rooms/areas/buildings you need to access
 - ❖ Email GPA and CC your faculty advisor
 - List all required spaces
 - Faculty advisor must authorize your access by replying to the email
 - Once authorized Darla will provide you with next steps

KEY RESPONSIBILITIES	
REQUIREMENT	DETAILS
Return keys before graduation	Failure to return may result in withheld grades or re-keying fees
Do not transfer keys	Submit revised Plan of Study with new advisor and return old keys
If unable to return to Key Desk	Return keys to GPA in an envelope with your name and Student ID. They will return the key to the Key Desk.

2.10 Faculty Advisors and Research Projects

The **MS (Thesis) and PhD degrees are research-based programs**. One of the most important steps for new graduate students is **identifying a research topic and faculty advisor**. Establishing a productive mentoring relationship with a faculty advisor early in the program is essential for academic and research success.

- **Faculty Advisor Assignment Process:**

- ❖ Students who receive a **research assistantship** will be assigned to the faculty advisor who made a **Graduate Assistant (GA), Research** financial offer before the start of their first semester.
- ❖ Students who **do not have an advisor at the start of the semester**, including many self-funded or fellowship-supported students, **must meet with faculty members** whose research interests them and who have available research opportunities. These meetings may be scheduled **before the start of classes** (during the spring or summer semesters) but must occur **no later than the first two weeks of the semester**.
- ❖ All students will complete the [CHEE Advisor Selection form](#). Students who have an advisor assigned to them must confirm their advisor by submitting the same advisor as their first, second, and third choices. Students who do not have an advisor assigned to them will submit their first, second, and third choices for a faculty advisor. The deadline to submit this form is the third Friday of the semester.

- **No Advisor Assignment:**

All students should have an advisor by the end of the first semester:

- ❖ PhD students: students should have an advisor according to who has offered them funding
- ❖ MS Students may not be offered funding and therefore are required to secure an advisor as soon as possible and no later than the end of the first semester

- **Final Deadline for Advisor Selection:**

- ❖ Students who do not complete the advisor selection process within the required timeline must meet with the **Graduate Studies Committee (GSC)** before the end of their **first fall semester**.
- ❖ If a student has not secured a faculty advisor by the end of the first semester—and has not received an approved extension—the GSC will recommend that the student be moved to a non-thesis MS

- **ME and Non-Thesis Students:**

- ❖ The Master of Engineering (ME) in Environmental Engineering is a coursework-only degree and does not require a research project. However, ME students must still have a faculty advisor. Students in the ME program are advised by the Environmental Engineering Director of Graduate Studies (DGS). The DGS will assist ME students in selecting courses that align with their academic and career goals.

2.10.1 Faculty Advisor: Student Considerations When Selecting

The choice of faculty advisor is a crucial decision made during the start of graduate training and should not be taken lightly. The following suggestions may help graduate students choose their first, second and third choices for a faculty advisor. There are two areas that should be important considerations when choosing a faculty advisor.

- **Professional Considerations**

- ❖ **Laboratory structure and operations**, including research focus, daily workflow, and how the student will contribute to the lab's work.
- ❖ **Laboratory culture**, including the roles of lab managers, research staff, and other graduate students.
- ❖ **Expectations and professional standards**, such as work habits, research ethics, collaboration, lab meetings, journal clubs, and authorship policies. Ask if the lab you are considering has a **lab manual**. If available, this can give you a clear picture of the expectations.
- ❖ Students are encouraged to speak with **current students in the laboratory** to better understand the research environment.

- **Personal Considerations**

- ❖ Compatibility with the prospective advisor's **mentoring and communication style**.
- ❖ Whether expectations between the student and advisor are **mutually understood and compatible**.
- ❖ Compatibility of advisor's and student's **personalities and work ethic**.

Graduate students will work closely with their advisor and research group throughout their program, **making this relationship central to their graduate experience and your overall success in our program**. Therefore, you should put much thought and research into who your three choices are in the **Advisor Selection form**. Careful contemplation on what you can learn about your faculty and their lab, including all the professional and personal considerations listed above, will help you make the right choice.

2.10.2 Reassignment of Advisor

- **Student Initiated Reassignment of Advisor**

- ❖ How to Request a Change
 - Complete the [CHEE Graduate Student Petition Form](#)
- ❖ When to Request a Change – by the end of the semester prior to the semester that they would like to make the change
 - Students may request a faculty advisor change if it is in their best interest to work with a different faculty advisor; student and new advisor must consult with the current advisor before proceeding

- **Approval Required**

- ❖ Once the petition has been submitted requesting a faculty advisor change it will be routed to the following people in the department for approval.
 - Current faculty advisor
 - DGS for your program
 - CHEE Department Chair
 - New Faculty Advisor

NEXT STEPS AFTER APPROVAL FOR ADVISOR REASSIGNMENT

MILESTONE	ACTION
MS STUDENTS	
Before Plan of Study submitted	List new advisor on Plan of Study
After Plan of Study submitted	Submit revised Plan of Study with new advisor
PHD STUDENTS	
Before Comp Exam Committee form submitted	Submit new Plan of Study with new advisor
After Comp Exam Committee form submitted	Submit new Comp Exam Committee Appointment form with new advisor as Chair
After Doctoral Comprehensive Exam completed	List new advisor as Chair on Dissertation Committee Appointment form

- **Advisor-Initiated Reassignment**

- ❖ If an advisor determines reassignment is necessary, the advisor will consult with GSC members to determine next steps

2.11 Evaluations of Graduate Students: Annual and Semester

The following items are required for all graduate students to complete each semester or academic year as described below to clearly outline if a student is making Satisfactory Academic Progress in course work, research, and progress toward their dissertation or thesis. All evaluations below will be used as a record of student progress (or lack thereof) and will be used when a student is asked to move to a different program (PhD to MS for example), move to a different faculty advisor or research group, or dismissed from the department.

2.11.1 Semester Evaluations:

- All CHEE graduate students must complete semester evaluations with their faculty advisor
- **Schedule the Evaluation:** Students will reach out to their faculty advisor to schedule an evaluation meeting **one month before the end of the semester** – the [RA Conversations form](#) will be used to guide the discussion
- **Complete and Submit the Form:** The RA Conversation form must be **completed and signed by both students and faculty** then sent to the GPC to be filed in your student file
- **Purpose of the Evaluation:** This evaluation should serve to discuss **Satisfactory Academic Progress** and to create a **written record of any issues that have arisen for the faculty or the student**

- ❖ If faculty or students are not working well together or requesting a change in faculty advisor, the first step will be to review a semester or annual evaluations to see how long an issue has been occurring

Deadline: the **last day of class** for the fall and spring semesters

2.11.2 **Dissertation Committee Review:**

All PhD students who have completed their **Comprehensive Exam** should meet with their committee for an annual dissertation review at the end of spring semester

Deadline: the **last day of class** of the spring semester

2.11.3 **Updated Resume:**

Students should submit **updated resumes that include any publications, presentations or conferences** they have completed during the semester and submit to GPC through CHEE Advising D2L

Deadline: the **last day of class** for the fall and spring semesters

2.11.4 **Every Semester:**

Students should **update their Plan of Study Guide and their Benchmarks checklist** adding any items they completed during the semester and submit this to the GPC through CHEE Advising D2L

Deadline: the **last day of class** for the fall and spring semesters

2.11.5 **EEN ME students:**

Not required to complete the above evaluations if they complete their degree in 1 year

- ❖ If degree completion is past one year deadline, **students will be required to complete the above evaluations to ensure academic progress**

2.12 **Financial Support**

Types of Support: Graduate Assistant or Associate (GA), Teaching (TA), Research (RA), and fellowships are the primary funding sources for graduate students. Review the [policies for GAs](#) for details like eligibility, appointment process and responsibilities, workload, stipends and benefits, etc. Benefits-eligible employees of the University of Arizona or their qualifying dependents can also receive [Qualified Tuition Reduction](#) (QTR) as a possible funding source.

• **Graduate Assistant or Associate, Research Assistantships (RAs)**

- ❖ **Awarded by faculty advisors;** funded by their research program
- ❖ Available at **0.25, 0.33, or 0.50 FTE**
- ❖ Priority given to **PhD candidates**
- ❖ **MS students** are often **self-funded** - if funding is available to MS students should be discussed with the faculty that you are hoping to work with
- ❖ Faculty advisor supervises RAs
- ❖ [Resources for students with a GA Appointment](#)
- ❖ [Policies for GAs](#)

- ❖ All CHEE Graduate Students must complete an [RA Conversation](#) at the end of each academic year with their faculty advisor
- **Graduate Assistant, Teaching Assistantships (TAs)**
 - ❖ Awarded semester-by-semester; **priority given to 2nd–5th year PhD students**
 - ❖ **Strongly Encouraged Requirement:** All PhD students TA at least one semester
 - ❖ Must have **appropriate background for the course** (equivalent coursework required)
 - ❑ **Duties:** conduct labs/discussions, hold office hours
 - ❑ Supervised and reviewed by **course instructor**
 - ❑ All TAs must complete a [TA Conversation](#) with the supervising professor of the course they are serving as a TA
 - ❖ Students are nominated for TA positions by faculty advisors or professors
 - ❖ Students can also apply for TA positions without being nominated by a professor
- **Graders**
 - ❖ **Hired hourly (max 5 hours/week)** for core courses as needed
 - ❖ **Eligible:** PhD, MS, and ME students with appropriate background
 - ❖ **No tuition coverage benefit**
 - ❖ No RA/TA Conversation is required for graders

TUITION COVERAGE FOR GA'S, RA'S, TA'S, AND GRADERS			
<i>POSITION TYPE</i>	<i>FTE</i>	<i>OUT OF STATE TUITION</i>	<i>IN STATE TUITION</i>
GA: RA/TA	0.25-0.33	Waived	50% covered
GA: RA/TA	0.50	Waived	100% covered
Grader	N/A – Hourly Rate	Not Applicable	Not Applicable

- **Enrollment Requirements: Graduate Assistants – RA and TA**
 - ❖ **Graduate College minimum:** 6 units for TA positions
 - ❖ **CHEE Department and College of Engineering requirement: 9 units (full-time status)** for paid TA/RA positions
 - ❑ Exceptions determined case-by-case basis
 - ❑ If student has **no RA/TA position** through their professor or the department, **full time is considered 6 units** as required by the Graduate College
- **Required Training: Teaching Assistant**
 - ❖ All TAs must complete the following:
 - ❑ [Teaching Assistant Online Training and Orientation \(TATO\) test](#)
 - ❑ [FERPA training](#): In Edge Learning - Course ID: 0000004227
 - ❑ [Title IX training](#): In Edge Learning – Course ID: 0000021815
- **Additional funding can be applied for through the following avenues:**
 - ❖ [The Graduate College Funding page](#)
 - ❖ [The Graduate Center Office of Fellowships](#)
 - ❑ Sign up for the [GradFunding Newsletter](#)

- ❖ [Scholarship Universe](#)
- ❖ [The Graduate and Professional Student Council](#) (GPSC) – smaller grants with specific funding requirements – includes Basic Needs Micro Grant which is for students facing financial hardships
- ❖ [Thesis and Dissertation Scholarship](#)
 - Must be non-resident graduate student
 - Enrolled in only 900 level units (coursework complete)
 - Withing 2 years of completion
 - 3.0 cumulative GPA or higher

2.13 GradPath

The Graduate College’s degree audit system facilitates the tracking and monitoring of graduate student academic progress. GradPath allows the student, their program, and the Graduate College **to quickly see where a student is on their academic journey**. Students are able to fill in and submit forms online through [UAccess Student](#).

GradPath User Guides – access user guides for every form required to complete your graduate degree – step by step instructions for completion of each form required

2.14 Grievance Policy for Graduate Students

If a graduate student feels that they have been treated unfairly, they should review the Grievance Policy to determine next steps to address the situation. Before escalating anything to the Graduate College Grievance Policy, students should first attempt to resolve it in the department. If the problem cannot be resolved in the department the student can file a formal grievance with the Graduate College. Students should follow the steps below to work through a grievance that they feel violates a specific University rule, regulation, policy or practice. Please see the [Grievance Policy](#) which lists complaints **that are not covered** by this procedure and should be addressed through a different procedure.

CHEE GRADUATE STUDENT GRIEVANCE POLICY STEPS		
STEPS	NEXT STEPS	TIMELINE
Discuss the issue with the person that is responsible for the action or your Faculty Advisor	With valid reason, you can discuss with DGS prior to filing CHEE Department Grievance Form	As soon as possible after incident
File CHEE Department Grievance Form	Include a concise statement of the allegations that form the basis for the student's complaint, including a careful statement of the facts, the rule, regulation, policy or practice that was violated, a summary of the informal attempts at resolution (through discussion with someone from step one), and a suggested remedy	Within 5 months of incident 3 units

CHEE GRADUATE STUDENT GRIEVANCE POLICY STEPS

STEPS	NEXT STEPS	TIMELINE
GSC will review all information provided in the CHEE Department Grievance Form and will suggest possible solutions in writing	If the suggested solutions remedy the issue, then there is no need to progress further	15 class days after received
Elevated to the Department Head (must be elevated to the DH within 6 months of the incident) who will review everything submitted and make a written response	If the suggested solutions remedy the issue, then there is no need to progress further	DH respond within 15 class days
If a student wants to appeal the DH's decision, then they must file a grievance complaint with the Graduate College	File a copy of grievance complaint and the DH response with the Graduate College	Within 5 class days of receiving DH response
The Associate Dean of the Graduate College will then try to negotiate a resolution.	If the suggested solutions remedy the issue, then there is no need to progress further If no acceptable solution is reached forward to the Grievance Committee	Within 15 class days of receipt by the Associate Dean
Hearing by Grievance Committee	Will make recommendations to the Graduate Dean in writing	Within 15 class days
Graduate Dean will make final decision affirming, denying, or modifying the Grievance Committee decision	This is the final decision	Within 15 class days of receiving

ALL SUBMISSIONS AT EACH STEP SHOULD BE MADE IN WRITING FOLLOWING THE TIMELINE ABOVE

2.15 International Student Requirements and Resources

Your best source of information regarding international student issues is always [International Student Services](#). All Graduate College requirements can be found at the [Graduate College International Students page](#). This includes admissions requirements, English Proficiency requirements, proof of financial resources, and health insurance.

2.16 Laboratory Safety Training

- **Complete Fire Safety Training:** [Fire Safety Awareness](#) Course ID 1236
- **Complete General Laboratory Safety Training:** [General Laboratory Safety Training](#) Course ID 0000024982
- **Additional Required Training:** You may be assigned additional training if required for the equipment available in your specific lab.
- **Submit Training Certificates:** After completing all required trainings, **submit your certificates** via the [Lab Coat and Safety Certificate Form](#) - link can also be found in the [CHEE Graduate Student Support D2L](#)

Students can access their completion certificate through the [RLSS User Dashboard](#) and EDGE Learning after they complete the Final Quiz. Students must allow one hour for the certificate to be processed and available on that screen.

2.17 Orientation

Attend orientation the week before semester begins. This comprehensive introduction covers important resources and campus life to help you start your graduate journey confidently.

- **Find Key Dates**

Use the [Academic Calendar](#) to determine the first day of class.

- **Graduate College Orientation**

Dates and information

- **CHEE Department Orientation**
 - Meet your cohort and CHEE faculty/staff for an introduction to:
 - o Department buildings
 - o CHEE Department and Graduate College policies and procedures

2.18 Satisfactory Academic Progress

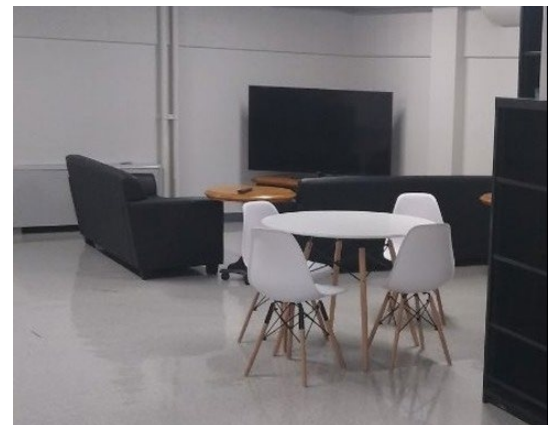
- **PhD Students:**
 - ❖ Minimum of 3.0 Cumulative GPA in CHEE courses
 - ❖ Grades in all core courses for PhD should be B's or higher
 - If a student scores lower than a B, they must retake the course
- **MS Students:**
 - ❖ Minimum of 3.0 Cumulative GPA in CHEE courses
 - ❖ Grades in all core courses for MS student should be C's or higher
- **GPA lower than 3.0:**
 - ❖ [Academic Probation](#)
 - Meet with Faculty advisor
 - Discuss steps to remediate the academic issues that caused them to fall below a 3.0 GPA
 - Develop a mentoring plan with specific actions to get back to satisfactory status

- If GPA is below 3.0 at the end of the probationary semester, they will be allowed **one additional semester** to make satisfactory progress
- Students who do not make satisfactory progress and their GPA is below 3.0 GPA for two semesters **will be disqualified from the program**
- Departments may petition for one semester extension to academic probation if student is making good progress to satisfactory academic standing
- **Disqualified students may:**
 - ❖ Apply as non-degree seeking and take graduate courses to increase GPA
 - ❖ Apply for Academic Renewal if they want to move to a different major and that major agrees to accept them
 - ❖ Apply for readmission as early as **one semester after disqualification** if they have a 3.0 cumulative GPA – must be supported by the department head and the Graduate College – NO GUARANTEE of re-admission
- **PhD Programs: Qualifying Exam**
 - ❖ All **core courses are complete** with **grades of B or higher**
 - ❖ Qualifying Exam will be taken before the start of **semester three**
- **PhD Programs: Comprehensive Exam**
 - ❖ Comprehensive Exam will be taken **by the end of semester six**
 - ❖ If a student will not meet this deadline, they **must file a CHEE Departmental Petition** to request an extension
 - If student does not complete their Comprehensive Exam by the end of the eighth semester they will be ineligible for TA positions or award nominations

2.19 Student Lounge for Graduate Students

The CHEE Graduate Student Lounge is a comfortable space for studying, socializing, eating lunch, or relaxing between classes.

- **What's Available**
 - ❖ Large table, couches, games, puzzles, and TV
 - ❖ Quiet space for focused work
 - ❖ Social space to connect with other students
- **Location**
 - ❖ Old Engineering Building – Room 157
- **Access**
 - ❖ Contact GPC or GPA to get the code for entry
- **Lounge Rules**
 - ❖ **DO NOT SHARE THE CODE** with undergraduates (**except AMP seniors**) or anyone outside the department
 - ❖ **Clean up after yourselves**



2.20 Transfer Credit Evaluation

TRANSFER CREDIT REQUIREMENTS		
REQUIREMENT	PHD	MASTER'S
Approval Required	Major/Minor Department + Graduate College	Major/Minor Department + Graduate College
Minimum Grade	A/B or equivalent	A/B or equivalent
Maximum Transfer Units	30 units	20% of degree units (CHEE MS: 6 units)
Additional Restrictions	Cannot count towards multiple doctorates	N/A

- **Transfer Credit Eligibility**
 - ❖ [Acceptability of Graduate Transfer Credit per the Catalog](#)
- **Steps for Evaluation of CHEE Courses**
 - ❖ [Submit Transfer Credit form](#) in GradPath
 - ❖ After approval, submit [CHEE Transfer Credit form](#) with:
 - **Syllabus** (in English)
 - **Course materials** demonstrating rigor—up to 5 items in English (tests, assignments, projects, etc.)
 - **Syllabus** of equivalent CHEE course ([CHEE syllabi](#))
- **Steps for Evaluation of courses in other departments**
 - ❖ [Submit Transfer Credit form](#) in GradPath
 - ❖ After approval, contact the Graduate Program Coordinator in that department

2.21 Transitioning from MS to PhD or Adding an MS to PhD Program

- **With Faculty Advisor approval**, a MS student can apply to the PhD program through GradApp (application fee is required)
 - ❖ Faculty Advisor should submit a letter of recommendation
 - ❖ Other letters of recommendation can be used from MS application **if students request this from GPC**
 - ❖ **All deadlines for PhD program must be followed during this transition** – Qualifying Exam, Comprehensive Exam, etc. with your first semester of MS counting as the first semester of PhD to determine deadlines
- **With Faculty Advisor approval**, a PhD student can add a MS to the PhD program
 - ❖ Complete [CHEE Department Petition Form](#) – once you have approval can move to next steps
 - ❖ Complete [Change of Program Form](#) and submit to Graduate College
 - ❖ Do not apply to MS or pay an application fee

3 DEGREE REQUIREMENTS

1.1 Doctor of Philosophy

Graduate students are responsible for knowing the graduate degree requirements and policies of both the Graduate College and their academic departments. The CHEE department offers a Doctor of Philosophy in chemical engineering and in environmental engineering.

3.21.1 Graduate College PhD Degree Requirements

The following is a summary of Graduate College requirements, but you should familiarize yourself with the full requirements and policies of the graduate college which can be found on the [degree services website](#), the [policies and procedures website](#), [University Catalog](#) for your degree program, and through the links provided throughout the following section.

- **Credit Requirements**
 - ❖ **Major coursework:** minimum 36 units
 - ❖ **Minor coursework:** minimum 9 units
 - ❖ **Dissertation units:** minimum of 18 units
 - ❖ **GPA minimum:** 3.000 cumulative GPA
 - ❖ All units taken for **graduate credit**
 - ❖ Up to **12 units of graduate coursework** taken as an undergraduate (with departmental approval)
 - ❖ Units used towards an accelerated masters degree cannot be used towards a PhD
 - ❖ **Plan of Study:** minimum 22 graded units (A, B, C)
 - ❖ **Non-degree coursework** towards PhD requirements: minimum 12 units
- **Transfer Credit**
 - ❖ **Maximum:** 30 units
 - ❖ **Minimum grade:** A or B
 - ❖ Approval required from **major or minor department** (depending on which requirements the transfer credits are used to fulfill)
- **Minor Requirements**
 - ❖ **Minimum:** 9 units (determined by program)
 - ❖ Credits **cannot count toward both** major and minor
 - ❖ Minor committee member **required** for oral comprehensive exam
- **Continuous Enrollment and Incompletes**
 - ❖ Minimum enrollment in **fall and spring term: 1 unit**
 - Students **with funding:** required to be enrolled full-time per the College of Engineering's full-time requirement of **9 units**
 - ❖ Only taking comprehensive exams during a summer or winter term: not required to enroll in units
 - ❖ Final Oral Defense in **fall and spring term:** Minimum **1 unit** of dissertation (CHEE 920)
 - Students **with funding:** required to be enrolled full-time per the College of Engineering's full-time requirement of **9 units**
 - ❖ Final Oral Defense in **summer or winter term:** not required to enroll in units

- ❖ All graduate students are subject to the Continuous Enrollment Policy unless an official [Leave of Absence](#) has been filed with the graduate college
- ❖ If all degree requirements are fulfilled and student is **only finishing an incomplete** in coursework: not required to enroll while finishing incomplete

- **Time Limitation**

- ❖ Complete all requirements within **five years of passing Comprehensive Exam** or risk being dismissed from the program
- ❖ Submit [CHEE Department Petition](#) for a program extension
- ❖ With department approval, the student can [petition the Graduate College](#) for an extension to time to degree

3.21.2 CHEE Department PhD Degree Requirements

- **Chemical Engineering PhD**

DEGREE REQUIREMENTS CHEMICAL ENGINEERING: PHD		
COURSE TYPE	COURSE REQUIREMENTS	UNITS
Core Courses	CHEE 502 Adv Engineering Analysis (Fall) CHEE 505 Adv Chemical Engineering Transport Phenomena (Fall) CHEE 506 Adv Chemical Engineering Thermodynamics (Fall) CHEE 530 Adv Chemical Reaction Engineering (Spring)	12
Electives	Excludes minor coursework	6
Minor	Number of required units determined by minor department	9-12
Seminar	CHEE 696A Chemical Engineering Seminar <i>Include in Plan of Study – only 6 units</i> <i>Department requires enrollment in CHEE 696A every semester in degree program</i>	6
Research	CHEE 900 Research (taken before Comprehensive Exam)	12
Dissertation	CHEE 920 Dissertation (taken after Comprehensive Exam)	18
TOTAL UNIT REQUIREMENT <i>dependent on minor units</i>		63-66 UNITS

- Environmental Engineering PhD

DEGREE REQUIREMENTS ENVIRONMENTAL ENGINEERING:PHD		
COURSE TYPE	COURSE REQUIREMENTS	UNITS
Core Courses	CHEE 500R Water Chemistry for Engineers (Fall) CHEE 574 Fate & Transport Processes in Environ Engineering (Spring)	6
Choose Two Additional Core Courses	CHEE 576 Wastewater Treatment Design System (Fall) CHEE 585 Water Reuse (Spring) CHEE 569A Air Pollution I: Gases (Fall) CHEE 569B Air Pollution II: Aerosols (Spring)	6
Electives	Excludes minor coursework	6
Minor	Number of required units determined by minor department	9-12
Seminar	CHEE 696A Chemical Engineering Seminar <i>Include in Plan of Study – only 6 units</i> <i>Department requires enrollment in CHEE 696A every semester in degree program</i>	6
Research	CHEE 900 Research (taken before Comprehensive Exam)	12
Dissertation	CHEE 920 Dissertation (taken after Comprehensive Exam)	18
TOTAL UNIT REQUIREMENT dependent on minor units		63-66 NITS

PhD Benchmarks and Deadlines

PHD BENCHMARKS AND DEADLINES		
BENCHMARKS	REQUIREMENTS	TIMELINE
Responsible Conduct	Submit Responsible Conduct form in GradPath	Week One

PHD BENCHMARKS AND DEADLINES

BENCHMARKS	REQUIREMENTS	TIMELINE
Plan of Study Guide	Complete Plan of Study Guide and Benchmarks Checklist with GPC and review with Faculty Advisor	Semester One Withdrawal Deadline Updated Every Semester
Plan of Study Form	Complete Plan of Study Form in GradPath	Semester Two End of Semester
Qualifying Exam	Submit published review materials (does not have to be written by you) on your topic to your committee – due to Committee 2 weeks prior to exam date	Semester Three Week Before Semester Begins
Comprehensive Exam	<ul style="list-style-type: none"> • Comprehensive Exam Committee Appointment Form submitted in GradPath • Written Comp Exam to faculty advisor for approval • Announcement of Doctoral Comprehensive Exam Form in GradPath – Minimum 2 weeks prior to exam • Submit Research Proposal to all Committee Members – Minimum 2 weeks before Exam • Minor department determines minor portion of Comprehensive Exam 	Semester Six By the end of the semester
Advance to Candidacy	<ul style="list-style-type: none"> • Written and oral Comp Exam Passed • Complete all courses • Will be billed graduate candidacy fees 	Completion of Comp Exam
Dissertation Prospectus/ Proposal	<ul style="list-style-type: none"> • Written Comprehensive Exam Approved by committee • Student submits Approved Written Comprehensive Exam to GPC • GPC submits Dissertation Prospectus/Proposal form in GradPath 	Immediately after passing Comp Exam
Dissertation Committee	Submit Doctoral Dissertation Committee Appointment Form in GradPath	Immediately after passing Comp Exam

PHD BENCHMARKS AND DEADLINES

BENCHMARKS	REQUIREMENTS	TIMELINE
Final Oral Defense	<ul style="list-style-type: none"> • Schedule with department – contact GPA • Submit Announcement of Final Oral Defense form in GradPath 	Submission Deadline for graduation term
Dissertation Archived	Submit electronically via ProQuest/UMI by graduation term deadline	No later than One Year after Defense

- **Responsible Conduct Form**

- ❖ Complete in GradPath by the end of week one

- **Plan of Study Guide**

Designed to help you, your GPC, and your faculty advisor keep up to date on the completion of your degree requirements – should be reviewed and updated **EVERY SEMESTER** (shared with student, GPC, and faculty advisor on one drive so all can review and update)

- ❖ **Schedule a meeting with the GPC** to discuss your Plan of Study Guide and Benchmarks Checklist
- ❖ This meeting should happen no later than the [withdrawal deadline](#) of semester one
- ❖ Schedule an appointment with your **Faculty Advisor to review and get approval** of your Plan of Study Guide
 - Discuss any **electives** that they suggest – this could happen in the initial meeting or in a future semester but before the submission of your Plan of Study form
 - Discuss what your **potential minor** will be - this could happen in the initial meeting or in a future semester but before the submission of your Plan of Study form

- **Plan of Study Form**

- ❖ At the **end of your second semester**, you should submit your Plan of Study form in GradPath
- ❖ Update your **expected graduation term** in your Plan of Study form if needed
 - To **update your expected graduation term** after Plan of Study form has been approved: email your [Student Support Specialist](#) at the Graduate College - copy GPC and faculty advisor

- **Nominate your faculty advisor** by searching by their first and last name

- **List All Courses Used to Meet Degree Requirements**

- ❖ This can include courses you are enrolled in, that you transferred in or that you plan to take in the future

- **Add Electives and Minor Courses**

- **Comments Section**

- ❖ The comments section is for **YOU** to submit any comments that the reviewers of your form need to understand what you have submitted

- **Candidacy Fee**
 - ❖ Applied after approval of Plan of Study Form
- **Qualifying Exam**

QUALIFYING EXAM		
COMPONENTS	DETAILS	DEADLINE
Presentation	75-minute closed research-based presentation	Week prior to the start of Semester 3
Committee	3 randomly selected faculty Student's advisor will not be on committee 2 members from student's degree program 1 member from the department's other degree program	Committee is determined the week of exam
Requirements	45-minute presentation (maximum) Review of the literature in a chosen field, how their research fits into the field, and outline of general proposed direction In the remaining 30 minutes the committee will ask questions to assess the student's research potential Students will send committee a 1-page written abstract for presentation and 1 review article on their topic	Two Weeks Prior to Exam Abstract to Committee
Grading	Rubric with three outcomes – Pass, Conditional Pass (with additional deliverable), or Fail Failed exam – 1 retake – 1 week before spring semester begins Second failed exam – transfer to MS Program	First Day of Next Semester

- **Comprehensive Committee Appointment Form**
 - ❖ **Minimum:** 4 members
 - ❖ Major advisor + 2 additional [CHEE graduate faculty members](#)
 - ❖ 4th member: Graduate faculty for minor
 - ❖ [Special members](#) approved by Committee Chair and Graduate College – use the [Graduate Faculty Decision Tree](#) to determine if next steps or approvals are needed

• Comprehensive Exam – Advancement to Candidacy

COMPREHENSIVE EXAM		
COMPONENTS	DETAILS	DEADLINE
Presentation	2 hours – Closed presentation to committee and time for committee questions	End of Semester Six 12 months before dissertation defense
Committee	Comprehensive Exam Committee Appointment form in GradPath	End of Semester Five
Requirements	Must be in good academic standing Written portion of exam sent to committee Oral portion of exam takes place All core courses and minor courses are complete Announcement of Doctoral Comprehensive Exam form in GradPath approved (submitted 3 weeks before)	Schedule Exam 2 weeks prior to oral End of Semester Six Prior to Comp Exam Approved two weeks prior to oral
Grading	Secret vote by committee – Pass, Fail or Abstain More than one negative vote = Fail (with 4 members) Committee chair informs committee, student and GPC of exam results Committee chair submits Results of Oral Comprehensive Exam form in GradPath Retake is allowed one time ONLY IF recommended by the committee If committee does not approve a retake or if approved retake results in a fail, then student is moved to MS Program	Immediately following exam and committee vote
Advance to Candidacy	Comprehensive Exam (written and oral) passed All non-dissertation units are complete (excludes remaining units of CHEE 696A) – 90% of total coursework is complete Student is billed for graduate candidacy fees	Following Exam IF the list in details column are complete

- **Dissertation Proposal/Prospectus Form**

- ❖ Your Dissertation Proposal is the written portion of your Comprehensive exam
- ❖ After passing the Comprehensive Examination, submit your approved Written Comprehensive Examination to the GPC
- ❖ The GPC will submit the Dissertation Proposal/Prospectus form in GradPath to indicate that the department has the proposal on file

- **Dissertation Committee Appointment Form**

- ❖ Once the following are complete – Must submit the Dissertation Committee Appointment Form:
 - ❑ Plan of Study Form approved
 - ❑ Satisfied all coursework, language and residence requirements
 - ❑ Passed the written and oral Comprehensive Exam
- ❖ Should be submitted **6 months prior to Final Oral Defense**
- ❖ **Minimum:** 3 members
- ❖ Faculty advisor + 2 additional CHEE graduate faculty members
- ❖ Committee members from other programs that are tenured or tenure track with approval from faculty advisor
- ❖ **Special members** approved by Committee Chair and Graduate College – use the [Graduate Faculty Decision Tree](#) to determine if next steps or approvals are needed
- ❖ Generally, will be the same committee as Comp Exam (may or may not include minor advisor)
- ❖ Requires **approval of major and minor advisors** – approval indicates approval of dissertation committee and confirmation that student has completed all minor requirements

- **Final Oral Defense Examination**

FINAL ORAL DEFENSE		
COMPONENTS	DETAILS	DEADLINE
Presentation	<p>3 hours maximum</p> <p>1st hour – Public seminar which includes the candidate, the public and the dissertation committee (Zoom link can be provided for the public if requested)</p> <p>Remaining Time – Closed session which includes only the committee and the candidate</p> <p>Student is released – committee will discuss and grade the dissertation</p>	<p>Final Semester</p> <p>At least 12 months after Comp Exam passed</p>
Committee	<p>Dissertation Committee Appointment form in GradPath</p>	<p>6 months prior to Final Oral Defense</p>

FINAL ORAL DEFENSE

COMPONENTS	DETAILS	DEADLINE
Requirements	<p>Must be in good academic standing</p> <p>Announcement of Final Oral Defense form in GradPath – in the comments section indicate if the defense will be held remotely or in a hybrid format If any committee member plans to attend remotely, this must be indicated in the comments section of the form</p> <p>Final Oral Defense Instructions</p>	<p>Schedule Exam</p> <p>2 weeks prior to defense</p>
Grading	<p>Secret vote by committee – Pass (no revisions), Pass (with revisions), Fail, or Abstain</p> <p>If more than 3 members – can have one negative vote and still pass</p> <p>If 3 members – one negative vote = Fail</p> <p>Committee chair informs the student of exam results</p> <p>Committee chair submits the vote and outcome on the Results of Final Oral Defense form in GradPath</p>	<p>Immediately following exam and committee vote</p>
Retake	<p>Retake is allowed one time ONLY IF recommended by the committee</p> <p>If retake is not recommended then the student will move to MS program</p> <p>Revisions to dissertation must be submitted</p>	<p>Maximum of 1 year after Oral Defense</p>
Submission of Dissertation	<p>After revisions and final approval from the dissertation committee dissertation is submitted</p> <p>Grad College will check formatting and may return for formatting revisions</p>	<p>By Submission Deadline</p>
Degree Awarded	<p>Dissertation is accepted by the Graduate College</p> <p>Completion of requirements has been fulfilled</p> <p>All other final items are accounted for from Dissertation Checklist</p>	<p>Degree Award Date</p>

- **Schedule Final Oral Defense with the department**
 - ❖ Email the **GPC and the GPA** to schedule a room for your Final Oral Defense – include **names of committee members, date and time of defense**
 - **Deadline:** Four weeks prior to Final Oral Defense

- ❖ GPA will **schedule the room, send out a calendar invite** to committee, student, and GPC, and provide a zoom link if requested
 - ❖ If a zoom link is requested, the GPC, the GPA and each committee member will be **co-hosts and can start the zoom**
 - ❖ **2 weeks prior to your Final Oral Defense**, GPA will request your defense title, abstract, brief bio and a headshot – used to create a flyer that is displayed in Harshbarger Building and sent out to the entire department
- **Rubrics and Signature Page**
 - ❖ Each committee member is **required to complete a rubric** following the Final Oral Defense
 - ❖ Rubric will be **created by the GPC and sent digitally** to each committee member who will complete and return to GPC
 - ❖ Committee members or the student **can request** from the GPC that **this form be printed** as opposed to completing digitally
 - ❖ Rubrics are not shared with student – kept on file in department
 - ❖ **Signature page** will be created in **Adobe Sign by the GPC** and sent to each committee member for their signature
 - ❖ Candidate will be copied on this signature page form – when all signatures are completed the **student will receive a copy** that should be included in the submission of the dissertation as indicated in [Dissertation Formatting Guide](#)
 - ❖ If you do not receive a digital copy, **request from GPC**
- **Dissertation Archival**
 - ❖ Use the [Dissertation Formatting Guide](#) to ensure that you are following all formatting requirements
 - ❖ Submit dissertation electronically via [submission website](#) after final committee approval
 - ❖ Include Approval Page – that you received through Adobe Sign with committee signatures – if you did not receive this copy contact the GPC
 - ❖ Complete [Distribution Rights](#) form
 - ❖ To qualify to graduation in your intended graduation term you must meet the [Deadline for submitting your Dissertation](#)
 - ❖ Degree awarded when Graduate College accepts dissertation and all requirements are met
 - ❖ ProQuest/UMI catalogs and [University of Arizona Campus Repository](#) archives the dissertation
 - ❖ Before submission confirm that you have completed all steps on the [Pre-Submission Checklist](#)
- **Completion of Requirements**
 - ❖ All grades for Incompletes and final term courses must be completed
 - ❖ Cumulative GPA must be 3.0 or higher
 - ❖ Must be meeting deadline as listed on the [Important Deadlines](#) site for the intended graduation term
 - ❖ Complete Graduate College Exit Survey

3.22 Master's Degrees

Graduate students are responsible for knowing the graduate degree requirements and policies of both the Graduate College and their academic departments. The CHEE department offers a Master of Science (MS) in chemical engineering and in environmental engineering along with an Accelerated Master's Program (AMP) in both chemical engineering and environmental engineering. A Master of Engineering (ME) in Environmental Engineering is additionally offered through the department.

3.22.1 Graduate College Master's Requirements

The following is a summary of Graduate College requirements, but you should familiarize yourself with the full requirements and policies of the graduate college which can be found on the [degree services website](#), the [policies and procedures website](#), [University Catalog](#) for your degree program, and through the links provided throughout the following section.

- **Credit Requirements**
 - ❖ **Total coursework requirement:** minimum of 30 units
 - ❖ **Required non-thesis credits:** minimum of 24 units
 - ❖ **GPA minimum:** 3.0 cumulative GPA
 - ❖ All units must be taken as **graduate credit**
 - ❖ **Graded Courses:** minimum of one half of required units must be graded units (A,B, or C)
 - ❖ No single course can count towards **more than 2 degrees at UA** or another institution
 - ❖ **Coursework taken outside of degree program: maximum of 12 units** can be applied to a master's program (excluding graduate certificate coursework)
 - Graduate **non-degree seeking** coursework
 - Up to **12 units graduate coursework taken as an undergraduate** and not counted towards an undergraduate degree
 - **Exception:** AMP students can count 12 units of 500-level coursework can count towards bachelor's degree and MS degree
 - Courses taken at **UA in Medicine, Law or Pharmacy Practice**
 - **Transfer** courses
- **Transfer Credit**
 - ❖ **Maximum:** No more than **20%** of the minimum number of units (MS requires 30 units – so no more than **6 units**)
 - ❖ **Minimum grade:** A or B
 - ❖ Approval required from **the graduate college and the major department**
- **Time Limitation**
 - ❖ **Maximum time limit:** 6 years
 - ❖ Time-to-degree begins with the **earliest course on Plan of Study**
 - ❖ **Final version of thesis filed with GC:** 1 year after defense
- **Continuous Enrollment**
 - ❖ Minimum enrollment in **fall and spring term:** 1 unit

- Students **with funding**: required to be enrolled full-time per the College of Engineering's full-time requirement of **9 units**
 - ❖ MS Thesis students in **fall and spring term**: minimum **1 unit** of thesis (CHEE 910)
 - ❖ MS Master's report or a non-thesis in **fall and spring term**: minimum **1 unit** of master's report (CHEE 909)
 - **Students with funding**: required to be enrolled full-time per the College of Engineering's full-time requirement of **9 units**
 - ❖ Final Oral Defense in **summer or winter term**: no requirement to enroll in units
 - ❖ All graduate students are subject to the Continuous Enrollment Policy unless an official [Leave of Absence](#) has been filed with the graduate college
 - ❖ If all degree requirements are fulfilled and student is **only finishing an incomplete** in coursework: not required to enroll while finishing incomplete
- **Incomplete Policy**
 - ❖ [Incomplete Policy](#) per the registrar and the [Grades and the Grading System Policy](#) per the catalog and deadline should be understood when requesting an incomplete grade
 - ❖ If you will not meet the **deadline for completion** of the incomplete grade in **one year**, a [petition](#) can be filed through the Graduate College
 - ❖ If you enroll in a course that you already have an incomplete grade in, you will **AUTOMATICALLY** receive an E for the incomplete grade
 - **Second or Duplicate Master's Degrees**
 - ❖ Generally, only **one master's degree is allowed at U of A**
 - If the majors are **substantially different** can request Grad College approval for an additional master's degree
 - ❖ Some coursework can count towards both degrees – **20% of credits (6 units) can double count** towards a **maximum of 2 degrees**
 - ❖ Students who hold a master's degree in one discipline **cannot pursue a second master's degree in the same discipline**
 - Exceptions are reviewed through a [petition](#) with the Graduate College
 - ❖ Pursuing a master's and a doctorate:
 - No credit can **count towards more than 2 degrees**; for example: One course **CANNOT count** towards an undergraduate degree, a master's degree and a PhD
 - No more than **30 credits from any master's degrees** can count towards a PhD

3.22.2 CHEE Department Master's Thesis Degree Requirements

- **Master's Thesis Degrees**

CHEE's Thesis Programs emphasize individual research and academic writing that culminates in a thesis paper, which is a comprehensive scholarly paper that summarizes the students research findings, and a final oral defense that is approved by a committee. This option includes completing a large research project that spans several semesters. If your career goals include continuing in a research field, in academia, or pursuing a PhD this is likely the best option to pursue.

❖ Chemical Engineering MS Thesis

DEGREE REQUIREMENTS CHEMICAL ENGINEERING: MASTER OF SCIENCE - THESIS		
	COURSE REQUIREMENTS	UNITS
Core Courses	CHEE 502 Adv Engineering Analysis (Fall)	12
	CHEE 505 Adv Chemical Engineering Transport Phenomena (Fall)	
	CHEE 506 Adv Chemical Engineering Thermodynamics (Fall)	
	CHEE 530 Adv Chemical Reaction Engineering (Spring)	
Electives	Options include CHEE grad level courses, other grad level courses outside of the program that informs research, or in limited cases CHEE 900 Research	9
Seminar	CHEE 696A CHEE Seminar <i>Only 3 units are officially in degree requirements Department requires enrollment in CHEE 696A every semester in degree program</i>	3
Thesis	CHEE 910 Thesis	6
TOTAL UNIT REQUIREMENT		30 UNITS

❖ Environmental Engineering MS Thesis

DEGREE REQUIREMENTS ENVIRONMENTAL ENGINEERING: MASTER OF SCIENCE - THESIS		
	COURSE REQUIREMENTS	UNITS
Core Courses	CHEE 500R Water Chemistry for Engineers (Fall)	12
	CHEE 574—Environmental Transport Processes (Spring)	
	CHEE 576 Wastewater Treatment System Design (Fall)	
	CHEE 585 Water Reuse (Spring)	
Electives	Options include CHEE grad level courses, other grad level courses outside of the program that informs research, or in limited cases CHEE 900 Research	9

DEGREE REQUIREMENTS | ENVIRONMENTAL ENGINEERING: MASTER OF SCIENCE - THESIS

<i>COURSE REQUIREMENTS</i>		<i>UNITS</i>
Seminar	CHEE 696A CHEE Seminar <i>Only 3 units are officially in degree requirements Department requires enrollment in CHEE 696A every semester in degree program</i>	3
Thesis	CHEE 910 Thesis	6
TOTAL UNIT REQUIREMENT		30 UNITS

3.22.3 Master's Thesis Benchmarks and Deadlines

MASTERS THESIS BENCHMARKS AND DEADLINES		
<i>BENCHMARKS</i>	<i>REQUIREMENTS</i>	<i>TIMELINE</i>
Responsible Conduct	Submit Responsible Conduct form in GradPath	Week One
Plan of Study Guide	<ul style="list-style-type: none"> • Complete Plan of Study Guide and Benchmarks Checklist with GPC • Review with Faculty Advisor • Update at the end of every semester year 	Semester One <u>Withdrawal Deadline</u>
Plan of Study Form	Complete <u>Plan of Study Form</u> in GradPath	Semester Two No later than the End of Semester
Master's Committee Appointment Form	Complete <u>Master's Committee Appointment Form</u> in GradPath	Semester Four By end of week five
Schedule Final Oral Defense	Schedule Final Oral Defense with department through GPA	Final Semester 4 weeks prior to defense

MASTERS THESIS BENCHMARKS AND DEADLINES

BENCHMARKS	REQUIREMENTS	TIMELINE
Thesis Draft and Final Thesis	Digital copy of final thesis should be sent to all committee members after approval from Faculty Advisor	2 weeks prior to defense
Signature Page and Rubrics	<ul style="list-style-type: none"> • Signature page will be created in Adobe Sign by the GPC and sent to each committee member for their signature • Rubrics will be sent to each of your committee members by GPC digitally – faculty will return to GPC 	1-2 days prior to Thesis Defense
Final Oral Defense	<ul style="list-style-type: none"> • Generally, 2 hours (public + closed) • Revisions: maximum 1 year 	<u>Submission Deadline</u> for graduation term
Thesis Archived	<ul style="list-style-type: none"> • Submit electronically via ProQuest/UMI by graduation term deadline • Student may wish to file for a copyright for their thesis 	One Year after Defense (no later than)

- **Responsible Conduct Form**

- ❖ Completed in GradPath during week one

- **Plan of Study Guide**

Designed to help you, your GPC, and your faculty advisor keep up to date on the completion of your degree requirements – should be reviewed and updated **EVERY SEMESTER** (shared with student, GPC, and faculty advisor on one drive so all can review and update)

- ❖ **Schedule a meeting with the GPC** to discuss your Plan of Study Guide and Benchmarks Checklist
- ❖ This meeting should happen no later than the withdrawal deadline of semester one
- ❖ Schedule an appointment with your **Faculty Advisor to review and get approval** of your Plan of Study Guide
 - Discuss any **electives** that they suggest – this could happen in the initial meeting or in a future semester but before the submission of your Plan of Study form at the end of semester 2

- **Plan of Study Form**

- ❖ No later than the **end of your second semester**, you should submit your Plan of Study form in GradPath
- ❖ Update your **expected graduation term** in your Plan of Study Form if needed
 - To **update your expected graduation term** after Plan of Study form has been approved: email your [Student Support Specialist](#) at the Graduate College - copy GPC and faculty advisor
- ❖ **Nominate your faculty advisor** by searching by their first and last name

- ❖ **List all courses** that you will use to meet your degree requirements – this can include courses you are enrolled in, that you transferred in or that you plan to take in the future
- ❖ You should know your **electives before submitting your Plan of Study Form**
- ❖ The comments section is for **YOU** to submit any comments that the reviewers of your form need to understand what you have submitted
- ❖ There is a [candidacy fee](#) associated with submission of your Plan of Study
- **[Master's Committee Appointment Form](#)**
 - ❖ Must consist of a minimum of **3 members**
 - All 3 must be Graduate Faculty, tenured, tenure track or tenure-eligible
 - Must include the student's faculty advisor and 2 other CHEE faculty members
 - Additional committee members can be added from other programs or institutions as [Special Members](#) with department approval and GC approval for special members
- **[Schedule Final Oral Defense with Department](#)**
 - ❖ Email the GPC and the GPA to **schedule a room** for your Final Oral Defense – include **names of committee members, date and time** of defense
 - ❖ GPA will schedule the room, **send out a calendar invite** to committee, student, and GPC, and provide a zoom link if requested
 - ❖ If a zoom link is requested, the GPC, the GPA and each committee member will be **co-hosts and can start the zoom**
 - ❖ **2 weeks prior to your Final Oral Defense**, GPA will request your defense title, abstract, brief bio and a headshot – used to create a flyer that is displayed in Harshbarger Building and sent to department
- **[Thesis Draft and Final Thesis](#)**
 - ❖ Discuss the submission of the thesis draft with Faculty Advisor – they may **review and approve your draft** before it should be sent to the other committee members
 - ❖ A digital version of your final thesis should be sent to your committee a **minimum of two weeks prior to your defense**
- **[Signature Page and Rubrics](#)**
 - ❖ Each committee member is **required to complete a rubric** following the Final Oral Defense
 - ❖ Rubric will be **created by the GPC and sent digitally** to each committee member who will complete and return to GPC
 - ❖ Committee members or the student **can request** from the GPC that **this form be printed** as opposed to completing digitally
 - ❖ **Signature page** will be created in **Adobe Sign by the GPC** and sent to each committee member for their signature
 - ❖ Candidate will be copied on this signature page form – when all signatures are completed the student will receive a copy that should be included in the submission of the dissertation as indicated in [Thesis Formatting Guide](#)
 - If you do not receive a digital copy, **request from GPC**
- **[Final Oral Defense](#)**
 - ❖ **All CHEE committee members must be present at the Final Oral Defense examination** – additional members presence is optional

- ❖ Maximum length of the **Final Oral Defense is 2 hours**
 - ❑ **Public portion: maximum of 1 hour** – student, committee members, and any members of the public can attend this portion of the exam
 - ❑ **Closed portion: maximum of 1 hour** – student and committee members are a part of this portion of the exam. The public will be asked to leave the room.
 - ❑ Committee members will ask questions of the students regarding their thesis
- **Thesis Archiving**
 - ❖ Follow the [instructions](#) for Thesis Archiving
 - ❖ This must be submitted by the [published deadline](#) for graduation in the term you plan to graduate
 - ❖ Prepare and sign the [Distributions Rights form](#)
 - ❖ Although not required, you can file for a [copyright for your thesis](#) in your name
 - ❖ Follow the [Thesis Formatting Guide](#) when formatting your thesis
- **Completion of Requirements**
 - ❖ After final oral defense is passed and all degree requirements are met, the GPC will submit the **Master’s Specialist Completion Confirmation Form** in GradPath
 - ❖ Student’s **Faculty Advisor must inform the GPC that all requirements have been completed** by submitting the rubrics and signature page to the GPC
 - ❖ All incomplete grades and current semester coursework must be complete
 - ❖ Review [Important Deadlines](#) for all deadlines related to degree completion

1.1.1 Master’s Non-Thesis Degrees

CHEE’s Non-Thesis Programs emphasize advanced coursework or practical experience. These programs require 6 additional units of coursework compared to the MS Thesis degree, which may include projects or internships (with approval from faculty advisor) in which the student develops applied, vocational or practical skills. If your career goals include using your increased knowledge immediately in industry, this is likely the best option to pursue.

- **Chemical Engineering MS Non-Thesis**

DEGREE REQUIREMENTS CHEMICAL ENGINEERING MASTER OF SCIENCE NON-THESIS		
COURSE REQUIREMENTS		UNITS
Core Courses	CHEE 502 Adv Engineering Analysis (Fall)	12
	CHEE 505 Adv Chemical Engineering Transport Phenomena (Fall)	
	CHEE 506 Adv Chemical Engineering Thermodynamics (Fall)	
	CHEE 530 Adv Chemical Reaction Engineering (Spring)	
Electives	Options include CHEE grad level courses, other grad level engineering or science technical electives outside of the program with approval of GSC or in some cases can include CHEE 900 Research, CHEE 594 Practicum, CHEE 599 Independent Study	15

**DEGREE REQUIREMENTS | CHEMICAL ENGINEERING
MASTER OF SCIENCE | NON-THESIS**

<i>COURSE REQUIREMENTS</i>		<i>UNITS</i>
Seminar	<p>CHEE 696A CHEE Seminar</p> <p><i>*Only 3 units are officially in degree requirements</i></p> <p><i>*Department requires enrollment in CHEE 696A every semester in degree program</i></p> <p><i>*AMP students: Can only enroll when a grad student – Will need 1 additional unit of an elective or CHEE 900 Research to fulfill requirement</i></p>	3
TOTAL UNIT REQUIREMENT		30 UNITS

• **Environmental Engineering MS Non-Thesis**

**DEGREE REQUIREMENTS | ENVIRONMENTAL ENGINEERING
MASTER OF SCIENCE | NON-THESIS**

<i>COURSE REQUIREMENTS</i>		<i>UNITS</i>
Core Courses	<p>CHEE 500R Water Chemistry for Engineers (Fall)</p> <p>CHEE 574—Environmental Transport Processes (Spring)</p> <p>CHEE 576 Wastewater Treatment System Design (Fall)</p> <p>CHEE 585 Water Reuse (Spring)</p>	12
Electives	Options include CHEE grad level courses, other grad level courses outside of the program with approval of GSC or in some cases CHEE 900 Research, CHEE 594 Practicum, CHEE 599 Independent Study	15
Seminar	<p>CHEE 696A CHEE Seminar</p> <p><i>Only 3 units are officially in degree requirements</i></p> <p><i>Department requires enrollment in CHEE 696A every semester in degree program</i></p>	3
TOTAL UNIT REQUIREMENT		30 UNITS

3.22.4 Master's Non-Thesis Benchmarks and Deadlines

MASTER'S NON-THESIS BENCHMARKS AND DEADLINES		
BENCHMARKS	REQUIREMENTS	DEADLINE
Plan of Study Guide	Complete Plan of Study guide with GPC and review with Faculty Advisor	Semester One <u>Withdrawal Deadline</u>
Plan of Study	Complete Plan of Study form in GradPath	Semester Two End of Semester
Master's Committee	Submit Master's Committee Appointment Form in GradPath	Semester Three As soon as Plan of Study is approved

- **Responsible Conduct Form**

- ❖ Completed in GradPath during week one

- **Plan of Study Guide**

Designed to help you, your GPC, and your faculty advisor keep up to date on the completion of your degree requirements – should be reviewed and updated **EVERY SEMESTER** (shared with student, GPC, and faculty advisor on one drive so all can review and update)

- ❖ Schedule a **meeting with the GPC** to discuss your Plan of Study Guide and Benchmarks Checklist
- ❖ This meeting should happen no later than the withdrawal deadline of semester one
- ❖ Schedule an appointment with your Faculty Advisor to **review and get approval** of your Plan of Study Guide
 - Discuss any **electives** that they suggest – this could happen in the initial meeting or in a future semester but before the submission of your Plan of Study form at the end of semester 2

- **Plan of Study Form**

- ❖ No later than the **end of your second semester**, you should submit your Plan of Study form in GradPath
- ❖ Update your **expected graduation term** in your Plan of Study form if needed
 - To **update your expected graduation term** after Plan of Study form has been approved: email your Student Support Specialist at the Graduate College - copy GPC and faculty advisor
- ❖ **Nominate your faculty advisor** by searching by their first and last name
- ❖ List all courses that you will use to meet your degree requirements – this can include courses you are enrolled in, that you transferred in or that you plan to take in the future
- ❖ You should know your **electives before submitting your Plan of Study form**
- ❖ The comments section is for YOU to submit any comments that the reviewers of your form need to understand what you have submitted

- ❖ There is a [candidacy fee](#) associated with submission of your Plan of Study
 - **[Master's Committee Appointment Form](#)**
 - ❖ A committee is **not required** by the department for students completing a non-thesis MS
 - ❖ You are **required to submit a Master's Committee Appointment Form** in GradPath
 - ❖ When completing a non-thesis MS that is course based – **"Do you have a master's committee?" you should check no**
 - ❖ Consult [GradPath User Guides](#) for further instruction
-

3.23 Accelerated Master's Program (AMP)

The [Accelerated Master's Program](#) in the Chemical and Environmental Department is a program designed to enable advanced University of Arizona undergraduate students to complete both the **Bachelor of Science degree and the Master of Science degree in 5 years**. This program is available for University of Arizona undergraduate students in the CHEE Department.

- Other related engineering majors can petition to join the CHEE AMP Program by filing a [CHEE Department Petition Form](#) with the CHEE Graduate Studies Committee

3.23.1 Graduate College Accelerated Master's Program Requirements

- **[Admissions Requirements](#)**
 - ❖ **Completion of minimum of 75 undergraduate units** (generally will meet this at the end of fall semester of junior year)
 - ❖ **Completion of minimum of 12 units** of undergraduate credit in your major
 - ❖ **Near completion of general education** requirements
 - ❖ **Graduate Application** and **payment of application fee** in [GradApp](#)
- **[AMP Degree and Tuition Policies](#)**
 - ❖ It is the student's responsibility to become familiar with these policies and how they are different than a traditional master's degree
- **12 units of 500-level coursework**
 - ❖ Can count towards master's credit and bachelor's credit
 - ❖ Credits **CANNOT** count towards more than 2 degrees – for example: one course cannot count towards an undergraduate degree, a MS, and a PhD
- Requirements listed in **3.2.1 also apply to the AMP**
- Familiarize yourself with **AMP program requirements** in [catalog](#)

3.23.2 CHEE Department AMP Degree Requirements

- Chemical Engineering Accelerated Master's Program (AMP) – Thesis

DEGREE REQUIREMENTS CHEMICAL ENGINEERING ACCELERATED MASTER'S PROGRAM MASTER OF SCIENCE THESIS		
	COURSE REQUIREMENTS	UNITS
Core Courses	CHEE 502 Adv Engineering Analysis (Fall)	12
	CHEE 505 Adv Chemical Engineering Transport Phenomena (Fall)	
	CHEE 506 Adv Chemical Engineering Thermodynamics (Fall)	
	CHEE 530 Adv Chemical Reaction Engineering (Spring)	
Electives	Options include CHEE grad level courses, other grad level courses outside of the program that informs research, or in limited cases CHEE 900 Research	9
Seminar	CHEE 696A CHEE Seminar + CHEE 900 or elective AMP students: Can only enroll in CHEE 696A when a grad student – Will need 1 additional unit of an elective or CHEE 900 Research to fulfill requirement	3
Thesis	CHEE 910 Thesis	6
TOTAL UNIT REQUIREMENT		30 UNITS

- Environmental Engineering Accelerated Master's Program (AMP) – Thesis

DEGREE REQUIREMENTS ENVIRONMENTAL ENGINEERING ACCELERATED MASTER'S PROGRAM MASTER OF SCIENCE THESIS		
	COURSE REQUIREMENTS	UNITS
Core Courses	CHEE 500R Water Chemistry for Engineers (Fall)	12
	CHEE 574 Environmental Transport Processes (Spring)	
	CHEE 576 Wastewater Treatment System Design (Fall)	
	CHEE 585 Water Reuse (Spring)	

DEGREE REQUIREMENTS | ENVIRONMENTAL ENGINEERING ACCELERATED MASTER'S PROGRAM | MASTER OF SCIENCE | THESIS

<i>COURSE REQUIREMENTS</i>		<i>UNITS</i>
Electives	Options include CHEE grad level courses, other grad level courses outside of the program that informs research, or in limited cases CHEE 900 Research	9
Seminar	CHEE 696A CHEE Seminar + CHEE 900 or elective <i>AMP students: Can only enroll in CHEE 696A when a grad student – Will need 1 additional unit of an elective or CHEE 900 Research to fulfill requirement</i>	3
Thesis	CHEE 910 Thesis	6
TOTAL UNIT REQUIREMENT		30 UNITS

3.23.3 Accelerated Master's Program Thesis Benchmarks and Deadlines

AMP THESIS BENCHMARKS AND DEADLINES		
<i>BENCHMARKS</i>	<i>REQUIREMENTS</i>	<i>TIMELINE</i>
Apply for AMP	<ul style="list-style-type: none"> • Complete Application in GradApp for AMP in spring of junior year • Do not submit until grades for fall semester have posted • 1 faculty who serves as your recommender - formal letter of recommendation is NOT required • Survey will be sent to recommender with questions regarding your ability to complete the program 	January 15th
Search for Faculty Advisor	<ul style="list-style-type: none"> • Review faculty research on CHEE's research page and faculty directory where you can find links to group research websites • Email the professors that you are interested in working with to ask for a meeting to discuss positions in their research group – include your updated resume 	Spring Semester junior year
Plan of Study Guide	<ul style="list-style-type: none"> • Complete Plan of Study Guide and Benchmarks Checklist with GPC <ul style="list-style-type: none"> • Review with Faculty Advisor • Update at the end of every semester 	End Spring Semester junior year

AMP THESIS BENCHMARKS AND DEADLINES

BENCHMARKS	REQUIREMENTS	TIMELINE
Enroll in Grad Classes	<ul style="list-style-type: none"> Enroll in graduate courses for fall semester of senior year using Undergraduate Enrollment in Graduate Courses Form Follow the same process for the spring semester enrollment 	Spring Semester before semester ends
CHEE Faculty Advisor form	Complete Faculty Advisor Form	Week One fall senior year
Apply for Masters	<ul style="list-style-type: none"> Apply for Master's degree in GradApp DO NOT reapply for the AMP 	January 15th Senior year
Responsible Conduct	Submit Responsible Conduct form in GradPath	Week One 1 st term of MS
Plan of Study Form	Complete Plan of Study Form in GradPath	Semester One 1st term of MS - no later than the end of Semester
Master's Committee Appointment Form	Complete Master's Committee Appointment Form in GradPath	Semester Two of MS - end of week 5
Schedule Final Oral Defense with Department	Schedule Final Oral Defense with department through GPA	Semester 2 or Final Semester 4 weeks prior to defense
Thesis Draft and Final Thesis	Digital copy of final thesis should be sent to all committee members after approval of Faculty Advisor	Two Weeks prior to defense
Signature Page and Rubrics	<ul style="list-style-type: none"> Signature page will be created in Adobe Sign by the GPC and sent to each committee member for their signature Rubrics will be sent to each of your committee members by GPC digitally – faculty will return to GPC 	1-2 days prior to Thesis Defense

AMP THESIS BENCHMARKS AND DEADLINES

BENCHMARKS	REQUIREMENTS	TIMELINE
Final Oral Defense	<ul style="list-style-type: none"> • Generally, 2 hours (public + closed) • Revisions: maximum 1 year 	<p style="color: red; text-decoration: underline;">Submission Deadline</p> <p>for graduation semester</p>
Thesis Archived	<ul style="list-style-type: none"> • Submit electronically via ProQuest/UMI by graduation term deadline • Student may wish to file for the copyright 	<p>One Year after Defense</p> <p>(no later than)</p>

- **Apply for AMP**

- ❖ Apply for AMP in [GradApp](#)
- ❖ Application should be submitted **after grades post** from fall semester of junior year and **before January 15th**
- ❖ **Application fee** is required
- ❖ **One recommender** is required – do not need to write an official letter of recommendation because a survey will be sent to ask questions about your capacity to complete the AMP program

- **Search for Faculty Advisor**

- ❖ Review faculty research on [CHEE's research page](#) and [faculty directory](#) where you can find links to group research websites
- ❖ Email the professors that you are interested in working with to **request a meeting** to discuss if they have positions available with their research group – include your **updated resume** in your initial email
- ❖ Every AMP student **must have a faculty advisor** before starting in the AMP program
- ❖ You must submit a [Faculty Advisor Form](#) by the **first week of fall semester of senior year**

- **Plan of Study Guide**

Designed to help you, your GPC, and your faculty advisor keep up to date on the completion of your degree requirements – should be reviewed and updated **EVERY SEMESTER** (shared with student, GPC, and faculty advisor on one drive so all can review and update)

- ❖ Schedule a **meeting with the GPC** to discuss your Plan of Study Guide and Benchmarks Checklist
 - ❖ This meeting should happen no later than the **end of the spring semester of junior year**
 - ❖ Schedule an appointment with your Faculty Advisor to **review and get approval** of your Plan of Study Guide
- Discuss any **electives** that they suggest – this could happen in the initial meeting or in a future semester but before the submission of your Plan of Study form at the end of semester 2.

Enrolling in Graduate Courses

- ❖ You must be enrolled in your graduate level courses **by the Registrar**
- ❖ Complete the [Undergraduate Enrollment in Graduate Courses](#)
 - ❑ Complete **Student Information section**
 - ❑ **Step 1:** add all courses you will enroll in (ideally 2 courses per semester of senior year) – get **professor signatures** for each class you plan to enroll in
 - ❑ **Step 2: Check the Accelerated & Bridge Programs section** – sign and date
 - ❑ **Email this form to the GPC** who will sign the advisor section and get the signature of the department head
- ❖ The GPC will email this form to the Registrar at reghelp@arizona.edu and copy you – **the Registrar will enroll you**
- ❖ It is difficult to get the necessary signatures needed over the summer thus the deadline to complete this form is the **end of the spring semester of senior year**
- **Complete [CHEE Faculty Advisor Form](#)**
 - ❖ You should know who your advisor will be by the start of the fall semester of your senior year – **deadline Week One of fall semester**
- **Apply for the Master's degree in [GradApp](#)**
 - ❖ Deadline to apply: **January 15th – spring semester senior year**
 - ❖ **DO NOT** apply to AMP
 - ❖ You are **applying for the Master of Science** graduate degree
 - ❖ The GradApp system will recognize that you are currently an AMP student, and your application will be an abbreviated application – no application fee
- **Responsible Conduct Form**
 - ❖ Completed in GradPath during week one
- **[Plan of Study Form](#)**
 - ❖ No later than the **end of your first semester of the MS**, you should submit your Plan of Study form in GradPath
 - ❖ Update your **expected graduation term** in your Plan of Study form if needed
 - ❑ To **update your expected graduation term** after Plan of Study form has been approved: email your [Student Support Specialist](#) at the Graduate College - copy GPC and faculty advisor
 - ❖ **Nominate your faculty advisor** by searching by their first and last name
 - ❖ List **all courses** that you will use to meet your degree requirements – this can include courses you are enrolled in, that you transferred in or that you plan to take in the future
 - ❖ You should know your **electives before submitting your Plan of Study form**
 - ❖ The comments section is for **YOU** to submit any comments that the reviewers of your form need to understand what you have submitted
 - ❖ There is a [candidacy fee](#) associated with submission of your Plan of Study
- **[Master's Committee Appointment Form](#)**
 - ❖ Must consist of 3 members
 - ❑ All must be Graduate Faculty, tenured, tenure track or tenure-eligible
 - ❑ Must include the student's faculty advisor and 2 other CHEE faculty members

- Additional committee members can be added from other programs or institutions as [Special Members](#) with department approval and GC approval for special members
- **Schedule Final Oral Defense with Department**
 - ❖ Email the **GPC and the GPA** to schedule a room for your Final Oral Defense – **include names of committee members, date and time of defense**
 - ❖ GPA will **schedule the room, send out a calendar invite** to committee, student, and GPC, and provide a zoom link if requested
 - ❖ If a zoom link is requested, the GPC, the GPA and each committee member will be **co-hosts and can start the zoom**
 - ❖ **2 weeks prior to your Final Oral Defense**, GPA will request your defense title, abstract, brief bio and a headshot – used to create a flyer that is displayed in Harshbarger Building
- **Thesis Draft and Final Thesis**
 - ❖ Discuss the submission of the thesis draft with Faculty Advisor – they may **review and approve** your draft before it should be sent to the other committee members
 - ❖ A digital version of your final thesis should be sent to your committee a **minimum of two weeks prior to your defense**
- **Signature Page and Rubrics**
 - ❖ Each committee member is **required to complete a rubric** following the Final Oral Defense
 - ❖ Rubrics will be **created by the GPC and sent digitally** to each committee member to complete through Adobe Sign
 - ❖ Committee members or the student **can request** from the GPC that **this form be printed** as opposed to using Adobe Sign
 - ❖ **Signature page** will be created in **Adobe Sign by the GPC** and sent to each committee member for their signature
 - ❖ Candidate will be copied on this signature page form – when all signatures are completed the **student will receive a copy** that should be included in the submission of the dissertation as indicated in [Thesis Formatting Guide](#)
- **Final Oral Defense**
 - ❖ All **CHEE committee members must be present** at the Final Oral Defense examination – additional members presence is optional
 - ❖ **GPC will provide a Signature Page** for the Final Oral Defense digitally
 - ❖ The **maximum length** of the Final Oral Defense is **2 hours**
 - **Public portion: maximum of 1 hour** – student, committee members, and any members of the public can attend this portion of the exam
 - **Closed portion: maximum of 1 hour** – student and committee members are a part of this portion of the exam. The public will be asked to leave the room.
 - Committee members will ask questions of the student regarding their thesis and defense
- **Thesis Archiving**
 - ❖ Follow the [instructions](#) for Thesis Archiving
 - ❖ This must be submitted by the [published deadline](#) for graduation in the term you plan to graduate

- ❖ Prepare and sign the [Distributions Rights form](#)
- ❖ Although not required, you can file for a [copyright for your thesis](#) in your name
- ❖ Follow the [Thesis Formatting Guide](#) when formatting your thesis
- **Completion of Requirements**
 - ❖ After all degree requirements are completed, the GPC will submit the **Master's Specialist Completion Confirmation Form** in GradPath
 - ❖ Student's Faculty Advisor must inform the GPC that all requirements have been completed by **submitting the rubrics and signature page to the GPC**
 - ❖ All incomplete grades and current semester coursework must be complete
 - ❖ Review [Important Deadlines](#) for all deadlines related to degree completion
- **Chemical Engineering Accelerated Master's Program (AMP) – Non-Thesis**

DEGREE REQUIREMENTS CHEMICAL ENGINEERING ACCELERATED MASTER'S PROGRAM MASTER OF SCIENCE NON-THESIS		
	<i>COURSE REQUIREMENTS</i>	<i>UNITS</i>
Core Courses	CHEE 502 Adv Engineering Analysis (Fall)	12
	CHEE 505 Adv Chemical Engineering Transport Phenomena (Fall)	
	CHEE 506 Adv Chemical Engineering Thermodynamics (Fall)	
	CHEE 530 Adv Chemical Reaction Engineering (Spring)	
Electives	Options include CHEE grad level courses, other grad level courses outside of the program that informs research, or in limited cases CHEE 900 Research	15
Seminar	CHEE 696A CHEE Seminar + CHEE 900 or elective AMP students: Can only enroll in CHEE 696A when a grad student – Will need 1 additional unit of an elective or CHEE 900 Research to fulfill requirement	3
TOTAL UNIT REQUIREMENT		30 UNITS

• Environmental Engineering Accelerated Master’s Program (AMP) – Non-Thesis

DEGREE REQUIREMENTS ENVIRONMENTAL ENGINEERING ACCELERATED MASTER’S PROGRAM MASTER OF SCIENCE NON-THESIS		
COURSE REQUIREMENTS		UNITS
Core Courses	CHEE 500R Water Chemistry for Engineers (Fall) CHEE 574—Environmental Transport Processes (Spring) CHEE 576 Wastewater Treatment System Design (Fall) CHEE 585 Water Reuse (Spring)	12
Electives	Options include CHEE grad level courses, other grad level courses outside of the program that informs research, or in limited cases CHEE 900 Research	15
Seminar	CHEE 696A CHEE Seminar + CHEE 900 or elective AMP students: Can only enroll in CHEE 696A when a grad student – Will need 1 additional unit of an elective or CHEE 900 Research to fulfill requirement	3
TOTAL UNIT REQUIREMENT		30 UNITS

3.23.4 Accelerated Master’s Program Non-Thesis Benchmarks and Deadlines

MASTER’S NON-THESIS BENCHMARKS AND DEADLINES		
BENCHMARKS	REQUIREMENTS	DEADLINE
Apply for AMP	<ul style="list-style-type: none"> • Complete Application in GradApp for AMP in spring of junior year • Do not submit until grades for fall semester have posted • 1 faculty who serves as your recommender - formal letter of recommendation is NOT required • Survey will be sent to recommender with questions regarding your ability to complete the program 	January 15th
Faculty Advisor Assignment	Your Faculty Advisor will be assigned to you by the Graduate Studies Committee	Spring Semester junior year

MASTER'S NON-THESIS BENCHMARKS AND DEADLINES

BENCHMARKS	REQUIREMENTS	DEADLINE
Plan of Study Guide	<ul style="list-style-type: none"> • Complete Plan of Study Guide and Benchmarks Checklist with GPC • Review with Faculty Advisor • Update at the end of every semester 	End Spring Semester junior year
Enroll in Grad Classes	<ul style="list-style-type: none"> • Enroll in graduate courses for fall semester of senior year using Undergraduate Enrollment in Graduate Courses Form • Follow the same process for the spring semester enrollment of senior year 	Spring Semester before semester ends
Apply for Masters	<ul style="list-style-type: none"> • Apply for Master's degree in GradApp • DO NOT reapply for the AMP 	January 15th Senior year
Plan of Study Form	Complete Plan of Study Form in GradPath	Semester Two Before semester ends
Master's Committee	<ul style="list-style-type: none"> • A committee is not required by the department for students completing a non-thesis MS • You are required to submit a Master's Committee Appointment Form in GradPath • When completing a non-thesis MS that is course based – “Do you have a master's committee?” Check the “no” box • Consult GradPath User Guides for further instruction 	Semester Three As soon as Plan of Study is approved

- **Apply for AMP**

- ❖ **Admissions Requirements**

- Completion of minimum of 75 undergraduate units (generally will meet this at the end of fall semester of junior year)
- Completion of minimum of 12 units of undergraduate credit in your major
- Near completion of general education requirements
- Graduate Application and payment of application fee in [GradApp](#)

- ❖ It is the student's responsibility to become familiar with the [AMP degree and tuition policies](#)

- ❖ Question on the application – “Are you planning to complete a thesis or a non-thesis masters degree?”

- **Assignment of Faculty Advisor**

- ❖ A faculty advisor (from the GSC) will be assigned to you

- **Plan of Study Guide**

Designed to help you, your GPC, and your faculty advisor keep up to date on the completion of your degree requirements – should be reviewed and updated **EVERY SEMESTER** (shared with student, GPC, and faculty advisor on one drive so all can review and update)

- ❖ Schedule a **meeting with the GPC** to discuss your Plan of Study Guide and Benchmarks Checklist
- ❖ This meeting should happen no later than the **end of the spring semester of junior year**
- ❖ Schedule an appointment with your Faculty Advisor to **review and get approval** of your Plan of Study Guide
 - Discuss any **electives** that they suggest – this could happen in the initial meeting or in a future semester but before the submission of your Plan of Study form at the end of semester 2

- **Enrolling in Graduate Courses**

- ❖ You must be enrolled in your graduate level courses **by the Registrar**
- ❖ Complete the [Undergraduate Enrollment in Graduate Courses](#)
 - Complete **Student Information section**
 - **Step 1:** add all courses you will enroll in (ideally 2 courses per semester of senior year) – get **professor signatures** for each class you plan to enroll in
 - **Step 2: Check the Accelerated & Bridge Programs section** – sign and date
 - **Email this form to the GPC** who will sign the advisor section and get the signature of the department head
- ❖ The GPC will email this form to the Registrar at reghelp@arizona.edu and copy you – **the Registrar will enroll you**
- ❖ It is difficult to get the necessary signatures needed over the summer thus the deadline to complete this form is the **end of the spring semester of senior year**

- **Apply for the Master's degree in GradApp**

- ❖ Deadline to apply: **January 15th – spring semester senior year**
- ❖ **DO NOT** apply to AMP
- ❖ You are applying for the Master's of Science graduate degree
- ❖ The GradApp system will recognize that you are currently an AMP student and your application will be an abbreviated application with no application fee

- **Responsible Conduct Form**

- ❖ Completed in GradPath during week one when you become a graduate student

- **Plan of Study Guide**

Designed to help you, your GPC, and your faculty advisor keep up to date on the completion of your degree requirements – should be reviewed and updated **EVERY SEMESTER** (shared with student, GPC, and faculty advisor on one drive so all can review and update)

- ❖ Schedule a **meeting with the GPC** to discuss your Plan of Study Guide and Benchmarks Checklist
- ❖ This meeting should happen no later than the [withdrawal deadline](#) of **semester one**
- ❖ Schedule an appointment with your Faculty Advisor to **review and get approval** of your Plan of Study Guide

- Discuss any **electives** that they suggest – this could happen in the initial meeting or in a future semester but before the submission of your Plan of Study form at the end of semester 2
 - **Plan of Study Form**
 - ❖ No later than the **end of your second semester**, you should submit your Plan of Study form in GradPath
 - ❖ Update your expected graduation term in your Plan of Study form
 - ❖ Nominate your faculty advisor by searching by their first and last name
 - ❖ List all courses that you will use to meet your degree requirements – this can include courses you are enrolled in, that you transferred in or that you plan to take in the future
 - ❖ You should know your **electives before submitting your Plan of Study form**
 - ❖ The comments section is for YOU to submit any comments that the reviewers of your form need to understand what you have submitted
 - ❖ There is a **candidacy fee** associated with submission of your Plan of Study
 - **Master’s Committee Appointment Form**
 - ❖ A committee is **not required** by the department for students completing a non-thesis MS
 - ❖ You are **required to submit a Master’s Committee Appointment Form** in GradPath
 - ❖ When completing a non-thesis MS that is course based – **“Do you have a master’s committee?” you should check no**
 - ❖ Consult **GradPath User Guides** for further instruction
-

3.24 Master of Engineering (ME) - Environmental Engineering

3.24.1 Graduate College Requirements for Master of Engineering

CHEE’s Master of Engineering positions students to enter the field in a professional role immediately upon completion of their studies. The intensive, interdisciplinary curriculum delves into a range of research-oriented and entrepreneurial-focused topics. If your career goals include using your increased knowledge immediately in industry that solely is developed through an interdisciplinary subject knowledge through advanced coursework. This degree can be completed in one year if desired.

- ❖ All requirements listed in 3.2.1 section also apply to the Master of Engineering

3.24.2 CHEE Department Requirements for Master of Engineering

- **Master of Engineering is only offered in Environmental Engineering**

DEGREE REQUIREMENTS | ENVIRONMENTAL ENGINEERING MASTER OF ENGINEERING

<i>COURSE REQUIREMENTS</i>		<i>UNITS</i>
Core Courses	CHEE 500R Water Chemistry for Engineers (Fall) CHEE 574—Environmental Transport Processes (Spring) CHEE 576 Wastewater Treatment System Design (Fall) CHEE 585 Water Reuse (Spring)	12
Subject Categories	Choose one course from each subject category: Engineering Management/Business, Applied Engineering/Mathematics, Entrepreneurship/Innovation/Design, Advanced Engineering Science	12
Elective Focus Areas	Choose a total of 6 units from the focus areas: Air Quality/Pollution, Hazardous Waste, Water Resources, Energy	6
TOTAL UNIT REQUIREMENT		30 UNITS

- **Elective Focus Areas**

Choose 6 units from the focus areas below (up to 3 units can be CHEE 599 Independent Study)

- ❖ **Air Quality / Pollution**

- CHEE 569A Air Pollution I: Gases or
- CHEE 569B Air Pollution II: Aérosols

- ❖ **Hazardous Waste**

- CHEE 578 Introduction to Hazardous Waste Management
- ENVS 530R Environmental Monitoring and Remediation

- ❖ **Water Resources**

- CE 529 Special Topics in Hydraulics & Water Resources Engineering
- HWRS 518 Fundamentals of Subsurface Hydrology
- HWRS 519 Fundamentals in Surface Hydrology
- HWRS 528 Fundamentals: Systems Approach to Hydrologic Modeling

- ❖ **Energy**

- ECE 514A Photovoltaic Solar Energy Systems
- AME 545 Renewable Energy Systems

- **Subject Categories**

Students must complete 12 units consisting of one course (3 units) in each of the following categories. In each subject categories, other courses may be approved by the faculty advisor. Unless otherwise indicated all courses are 3 units. Confirm accuracy in the catalog and class schedule.

- ❖ **Engineering Management/Business**

- BNAD 523—Business Law (2 units) *and* BNAD 520E: Project Management (1 unit)
- HWRS 576—Natural Resources Law and Economics
- SIE/ENGR 514—Law for Engineers/Scientists
- SIE 515—Technical Sales and Marketing

- SIE/ENTR 557—Project Management
- SIE 564—Cost Estimation
- SIE/ENGR 567—Financial Modeling for Innovation
- ❖ **Applied Engineering/Mathematics**
 - BE 513—Applied Biostatistics
 - CE 502—Introduction to Finite Element Methods
 - CE 503—Subsurface Fluid Dynamics
 - CE 504—Numerical Methods in Subsurface Hydrology
 - CE 510—Probability in Civil Engineering
 - CE 523—Hydrology
 - CHEE 502—Advanced Engineering Analysis
 - CHEE 505—Advanced Chemical Engineering Transport Phenomena
 - CHEE 506—Advanced Chemical Engineering Thermodynamics
 - CHEE 530—Advanced Chemical Reaction Engineering
 - CHEE 571—Rheology: Principles and Applications
 - ECE 501B—Advanced Linear Systems Theory
 - ECE 503—Probability and Random Processes for Engineering Applications
 - ECE 511—Numeric Modeling of Physics & Biological Systems
 - HWRS 506—Modeling of Mass and Energy Flow in Soils
 - HWRS 527—Computer Applications in Hydraulics
 - HWRS 543A—Risk Assessment for Environmental Systems
 - HWRS 582—Applied Groundwater Modeling
 - SIE 500A—Introduction to SIE Methods: Probability and Statistics (1 unit)
 - SIE 506—Quality Engineering
 - SIE 508—Reliability Engineering
 - SIE 520—Stochastic Modeling I
 - SIE 522—Engineering Decision-Making Under Uncertainty
 - SIE 530—Engineering Statistics
 - SIE 531—Simulation Modeling and Analysis
 - SIE 533—Fundamentals of Data Science for Engineers
 - SIE 540—Survey of Optimization Methods
 - SIE 554A—Systems Engineering Process
 - SIE 574—Information Analytics and Decision-Making in Engineering
- ❖ **Entrepreneurship/Innovation/Design**
 - CHEE 514—Sustainable Water Supplies for Remote Communities
 - CHEE 676—Advanced Water and Wastewater Treatment
- ❖ **Advanced Engineering Science**
 - AME 542A—HVAC System Design
 - ATMO 536A—Fundamentals of the Atmospheric Sciences
 - ATMO 555—Introduction to Atmospheric and Hydrology Remote Sensing
 - CHEE 569A—Air Pollution I: Gases
 - CHEE 569B—Air Pollution II: Aerosols
 - ATMO 656B—Atmospheric Radiation and Remote Sensing
 - BE/CE 526—Watershed Engineering
 - CE 522—Open channel flow
 - CE 545—Geoenvironmental Engineering
 - CHEE 578—Hazardous Waste Management

- ECE 514A—Photovoltaic Solar Energy Systems
- ENVS 562—Environmental Soil and Water Chemistry
- SIE 540—Survey of Optimization Methods

3.24.3 Master of Engineering Benchmarks and Deadlines

MASTER OF ENGINEERING BENCHMARKS AND DEADLINES		
BENCHMARKS	REQUIREMENTS	DEADLINE
Apply for ME	<ul style="list-style-type: none"> • Complete Application in GradApp 	January 15th
Faculty Advisor Assignment	Your Faculty Advisor will be assigned to you by the Graduate Studies Committee	First Semester
Plan of Study Guide	<ul style="list-style-type: none"> • Complete Plan of Study Guide and Benchmarks Checklist with GPC • Review with Faculty Advisor • Update at the end of every semester 	Semester One Withdrawal Date
Plan of Study Form	Complete Plan of Study Form in GradPath	Semester Two End of Semester
Master's Committee	<ul style="list-style-type: none"> • A committee is not required by the department for students completing a ME • You are required to submit a Master's Committee Appointment Form in GradPath • When completing a ME that is course based – “Do you have a master's committee?” Check the “no” box • Consult GradPath User Guides for further instruction 	Semester Two or Three As soon as Plan of Study is approved

- **Assignment of Faculty Advisor**

- ❖ A faculty advisor (from the GSC) will be assigned to you

- **Plan of Study Guide**

Designed to help you, your GPC, and your faculty advisor keep up to date on the completion of your degree requirements – should be reviewed and updated **EVERY SEMESTER** (shared with student, GPC, and faculty advisor on one drive so all can review and update)

- ❖ Schedule a **meeting with the GPC** to discuss your Plan of Study Guide and Benchmarks Checklist
- ❖ Schedule an appointment with your Faculty Advisor to **review and get approval** of your Plan of Study Guide

- **Responsible Conduct Form**

- ❖ Completed in GradPath during week one

- **Plan of Study Form**
 - ❖ No later than the **end of your second semester**, you should submit your Plan of Study form in GradPath
 - ❖ Update your **expected graduation term** in your Plan of Study form
 - ❖ **Nominate your faculty advisor** by searching by their first and last name
 - ❖ **List all courses** that you will use to meet your degree requirements – this can include courses you are enrolled in, that you transferred in or that you plan to take in the future
 - ❖ You should know your **electives before submitting your Plan of Study form**
 - ❖ The comments section is for **YOU** to submit any comments that the reviewers of your form need to understand what you have submitted
 - ❖ There is a **candidacy fee** associated with submission of your Plan of Study
- **Master’s Committee Appointment Form**
 - ❖ A committee is **not required** by the department for students completing a ME
 - ❖ You are **required to submit a Master’s Committee Appointment Form** in GradPath
 - ❖ When completing a non-thesis MS that is course based – “Do you have a master’s committee?” **you should click the “no” box**
 - ❖ Consult **GradPath User Guides** for further instruction

3.25 Graduate Minors

3.25.1 Chemical Engineering Graduate Minor

GRADUATE MINOR - CHEMICAL ENGINEERING		
MINOR REQUIREMENTS		UNITS REQUIRED
Required Courses	CHEE 502 Adv Engineering Analysis (3) CHEE 505 Adv Chemical Engineering Transport Phenomena (3) CHEE 506 Adv Chemical Engineering Thermodynamics (3) CHEE 530 Adv Chemical Reaction Engineering (3)	6 units

GRADUATE MINOR - CHEMICAL ENGINEERING

<i>MINOR REQUIREMENTS</i>	<i>UNITS REQUIRED</i>
Additional Courses CHEE 500R Water Chemistry for Engineers (3) CHEE 512 Electrochemical Engineering (3) CHEE 514 Sustainable Water Supplies for Remote Comm (3) CHEE 535 Corrosion and Degradation (3) CHEE 538 Intermolecular and Surface Forces (3) CHEE 569A Air Pollution I: Gases (3) CHEE 569B Air Pollution II: Aerosols (3) CHEE 572 Interfacial Chemistry of Biomolecules in Env Sys (3) CHEE 574 Fate and Transport Processes in Env Engr (3) CHEE 585 Water Reuse (3) CHEE 576 Wastewater Treatment System Design (3) CHEE 578 Introduction to Hazardous Waste Management (3) CHEE 581A Engineering of Biological Processes (3) CHEE 581B Cell and Tissue Engineering (3) CHEE 583 Intro to Polymeric Materials (3) CHEE 585 Water Reuse (3) CHEE 589 Trends in Nanomedicine Engr: Fund of Therapeutics & Drug Delivery Systems (3) CHEE 676 Advanced Water and Wastewater Treatment (3)	3 units
TOTAL UNIT REQUIREMENT	9 UNITS

- **Additional Requirements for CHE Minor**

- ❖ Chemical Engineering PhD students **who also minor in Chemical Engineering** will take **nine units** of elective Environmental Engineering courses from the above list that are not part of the Environmental Engineering core requirements to complete the minor
- ❖ Depending on the student's background, the minor advisor might recommend **preparatory undergraduate courses** to be taken to cover prerequisite deficiencies
- ❖ A member from the Environmental Engineering graduate faculty **will serve as the student's minor advisor** and will serve as a member of the student's Doctoral Comprehensive Exam Committee

3.25.2 Environmental Engineering Graduate Minor

GRADUATE MINOR - ENVIRONMENTAL ENGINEERING		
MINOR REQUIREMENTS		UNITS REQUIRED
Required Courses	CHEE 500R Water Chemistry for Engineers (3) CHEE 574 Environmental Transport Processes (3) CHEE 585 Water Reuse (3) CHEE 576 Wastewater Treatment System Design (3)	6 units
Additional Courses	CHEE 505 Adv Chemical Engineering Transport Phenomena (3) CHEE 514 Sustainable Water Supplies for Remote Comm (3) CHEE 520 Chemical Reaction Engineering (3) CHEE 525 Emerging Issues in Water Quality (3) CHEE 569A Air Pollution I: Gases (3) CHEE 569B Air Pollution II: Aerosols (3) CHEE 578 Introduction to Hazardous Waste Management (3) CHEE 581A Engineering of Biological Processes (3)	3 units
TOTAL UNIT REQUIREMENT		9 UNITS

- **Additional Requirements for EEN Minor**

- ❖ Environmental Engineering PhD students **who also minor in Environmental Engineering** will take nine units of elective Environmental Engineering courses from the above list that are not part of the Environmental Engineering core requirements to complete the minor
- ❖ Depending on the student's background, the minor advisor might recommend **preparatory undergraduate courses** to be taken to cover prerequisite deficiencies
- ❖ A member from the Environmental Engineering graduate faculty **will serve as the student's minor advisor** and will serve as a member of the student's Doctoral Comprehensive Exam Committee

3.26 Graduate Electives

- **CHEE Graduate Electives**

- ❖ All CHEE graduate level electives can be used to fulfill your elective requirements for any degree program with no additional approval needed
 - ❖ Examples of CHEE graduate electives that have been offered in the past can be found on our Grad Programs Courses site
 - ❖ Check the class schedule in UAccess to see if these are offered in the semester you would like to take them (not all classes on our website are offered every year)
 - **Graduate Electives – Other Departments**
 - ❖ While CHEE electives are encouraged because they are often closely related to research conducted in our department, you can take electives in other departments when they inform your research. Ideally, they should be other grad level engineering or science technical electives
 - You should discuss the electives you would like to take that are out of the department with your faculty advisor to get their approval of your elective choices
 - Once your advisor has approved your elective courses, you will need to get the GSC approval through a CHEE Departmental Petition
-

4 CAMPUS RESOURCES FOR GRADUATE STUDENTS

1.1 Child Care Subsidies and Family Friendly Information

The Graduate College is dedicated to promoting and strengthening family relationships. Many resources have been designed to help graduate students balance and manage family, work, and school.

- [Graduate Assistant/Associate Parental Leave](#)
- [Temporary Alternative Duty Assignments \(TADA\) for Teaching Assistants/Associates](#)
- [Extension of Time to Degree Policy](#)
- [Life & Work Connections](#) - Child and Elder Care Resources

4.27 [GA Career Conversations](#)

- [TA Conversations](#)
- [RA Conversations](#)
- [OA Conversations](#)

4.28 [Graduate Admissions Guides](#)

4.29 [Graduate Assistantship and Associateship \(GA\) Manual](#)

- [Required Trainings and English Proficiency Graduate Students](#)
- [GA Policies](#)

4.30 [Graduate and Professional Student Council \(GPSC\)](#)

- To promote the academic, economic, and social aims of the graduate and professional students of the University of Arizona

- To establish effective communication among graduate students and professional students
- To facilitate communication within the University and with other organizations

4.31 Graduate Center

A physical location and virtual resource that embodies the work of promoting belongingness and ensuring the success of graduate students.

- [Visit Us](#)
- [Career Services](#)
- [Writing Support](#)
- [Office of Fellowships](#)
- [Professional Development](#)
- [Student Success Support](#)

4.32 The Graduate College

- [Application Process](#)
- [Navigating Your Degree](#)
- [Academic Policies](#)
- [Funding Your Education](#): Information available at this site – Costs and Fees; Graduate College Funding; Graduate Assistantships & Graduate Associateships; Graduate Center Office of Fellowships; UA Scholarship Universe and Other Financial Resources

4.33 Health Wellness and Safety

There are many campus resources available to help support the physical, mental and emotional well-being of graduate students. We encourage all students to become informed and use these resources.

- [Campus Services and Support for Students](#)
- [Campus Health](#)
- [Careington Dental and Vision Program](#)
- [Counseling & Psychological Services \(CAPS\)](#) – Beginning July 1, 2026 – Not cost for main campus students
- [Campus Pantry](#)
- Campus Recreation [Studio 91](#)
- [Life and Work Connections](#)
- [Office of Public Safety](#)
- [Survivor Support Services](#)
- [Threat Assessment and Management Team \(TAMT\)](#)
- [UAlert Notification Services](#)

4.34 International Student Services

4.35 Mentoring Training

- For faculty, graduate students and Post-docs

- Mentor Institute – mentorship through effective networks, transformational opportunities and research – free training

4.36 Other UA Resources and Information

- [Bias Education and Support Team \(BEST\)](#)
- [Disability Resource Center](#)
- [Graduate and Professional Student Council](#)
- [How to file complaints or grievances](#)
- [Human Resources Consulting and Employee Advising](#)
- [Office of Institutional Equity \(OIE\)](#)
- [Office for the Responsible Conduct of Research](#)
- [University of Arizona Policies and Procedures](#)
- [Veterans Education & Transition Services](#)

4.37 Professional Development

- [The Graduate Center](#)
- [Core professional Competencies](#)
- [Grad Slam](#)
- [Graduate Writing Lab](#)
- [Center for Career Readiness](#)

4.38 Research Resources

- [Centers and Institutes](#)
- [Center for Educational Assessment, Research, and Evaluation](#)
- [Core facilities](#)
- [Enhancing the Effectiveness of Team Science](#)
- [Funding Opportunities](#)
- [ORCID](#)
- [RCR Certificate Program and Federal Requirements-](#)
- [SciENCv Resources](#)
 - ❖ [Workshop Recording](#)
 - ❖ [Biographical Sketch using SciENCv Slides](#)
 - ❖ [Libguide and FAQ](#)
 - ❖ [Helpful Links Document](#)
 - ❖ [NIH Notice](#)

4.39 Teaching Resources

- ["GTA Training Materials" produced by Amy Graham](#)
- [Center for the Integration of Research, Teaching, and Learning \(CIRTL\)](#)
- Required Training for Teaching Assistants and Associates:
 - ❖ [FERPA Training for Instructors and Instructional Support Teams](#)

- ❖ [Teaching Assistant/Associate Training Online \(TATO\)](#)
- [Disability Resource Center](#) .
- [EDUCAUSE](#)
- [University Center for Assessment, Teaching and Technology \(UCATT\)](#)
 - ❖ [Professional Development Pathways](#)
 - ❖ [Teaching Resources](#)

4.40 Tucson Relocation Guide

4.41 University Information Technology Services (UITS)

- [IT for Students](#)
- [IT for Researchers](#)
- [Software Licensing for UA Faculty, Staff, and Students](#)
- [New U of A AI Resources](#)
- [UITS Service Finder](#)

5 APPENDIX

1.1 Advisor Selection Form

- Complete this form to choose your advisor
- PhD or MS
- Thesis or Non-Thesis MS
- **If Thesis:** Indicate your 1st, 2nd, and 3rd choices for an advisor
- **If Non-Thesis:** the GSC will assign you an advisor

5.42 CHEE Department Petition Form

Departmental petitions should be filed when students are planning for a leave of absence, to extend a deadline, to change advisors, for a program or course extension or exemption from any other CHEE policy found in the CHEE Graduate Handbook. When filing a petition, you should expect to write an explanation or justification for why you are requesting this petition. You will be allowed to add up to 5 documents to your petition. Once your petition is filed, you should expect to hear back from the committee regarding your petition within one month.

5.43 Defense Evaluation Rubric

Each Committee Member of a student's defense must complete a rubric the day of the oral defense and submit this to the GPC. This document is kept on file in the department. This document will be created by the GPC and sent to committee members a couple of days in advance of the final oral defense. The following is an example of the form sent to the committee members.

Chemical and Environmental Engineering Defense Evaluation Rubric (MS)
Assessment Activity: MS Thesis or Master's Report

Student Name: Click or tap here to enter text.

Date: Click or tap here to enter text.

Committee Member: Click or tap here to enter text.

Directions: Evaluate this student's written and verbal presentation of their research with a score between 1 and 5 for each of the criteria described below. Below each score and statement, briefly comment on the rationale if your score is less than 4. Turn in your completed rubric to the committee chair before leaving the defense.

Score: 5--Exceptional 4--Very Good 3 - Acceptable 2--Needs Improvement 1--Unacceptable

Quality of thesis/master's report writing <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Problem description and analysis of the related research literature <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Research design <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Data analysis <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Soundness of conclusions and quality of responses to challenges to her/his interpretations and conclusions	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

<u>Rationale if score below 4</u>					
Understanding of the broader implications of her/his research <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Ability to anticipate the logical next level of inquiry <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

Rationale: Click or tap here to enter text.

5.44 Chemical and Environmental Engineering Defense Evaluation Rubric (PhD)

Assessment Activity: PhD Dissertation & Defense

Student Name: Click or tap here to enter text.

Date: Click or tap here to enter text.

Committee Member: Click or tap here to enter text.

Directions: *Evaluate this student's written and verbal presentation of their research with a score between 1 and 5 for each of the criteria described below. Below each score and statement, briefly comment on the rationale if your score is less than 4. Turn in your completed rubric to the committee chair before leaving the defense.*

Score: 5–Exceptional 4–Very Good 3 - Acceptable 2–Needs Improvement 1–Unacceptable

Quality of dissertation writing and/or peer-reviewed paper <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
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Problem description and analysis of the related research literature <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Research design <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Data analysis <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Soundness of conclusions and quality of responses to challenges to candidate's interpretations and conclusions <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Understanding of the broader implications of candidate's research <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Ability to anticipate the logical next level of inquiry <u>Rationale if score below 4</u>	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

Rationale if below 4: [Click or tap here to enter text.](#)

5.45 Defense Signature Page

Final Oral Defense Signature Page is required to be included in your dissertation or thesis when submitted to the graduate college (should be page 2 of dissertation or thesis). These forms will be created by the GPC and sent to your committee members through Adobe Sign for their signatures approving your dissertation or thesis. You will copied on the Adobe Sign email so

that you will receive a final copy with all signatures once the form has been completed by your committee.

- [MS – Example Signature Page](#)
- [PhD – Example Signature Page](#)

5.46 Dissertation Committee Review Form

At the end of each academic year, you are required to meet with your dissertation committee to discuss your academic progress toward your degree during the past academic year. This is a time for you to get recommendations on what you should be working on in the next year to continue to make progress or for your committee to give you required steps that must be completed next year because you have not made enough academic progress in the past year. Each of your committee members should complete the form below following your meeting. All feedback received from your committee will be sent to you by the GPC.

5.47 Faculty and Research Interests

5.48 Forms for Graduate College

- [Application For Advanced Status](#)
- [Change of Grade for Graduate K Grades](#)
- [Program Additions and Changes Form](#) - Please refer to the [Graduate College policies](#) regarding use of this form
- [Comprehensive Oral Exam Instructions](#)
- [Dissertation Formatting Guide](#)
- [Distribution Rights](#) - For Theses and Dissertations
- [Doctoral Post-Defense Instructions](#)
- [Master's Thesis Archiving Instructions](#)
- [Final Defense Instructions](#)
- [Graduate Academic Renewal Request Form](#)
- [Military Leave of Absence](#)
- [Thesis Formatting Guide](#)
- [Thesis/Dissertation Page Samples](#)
- [Undergraduate Enrollment in Graduate Courses](#) (formerly 500 Level Course Petition)
- [Graduate Exit Survey](#)
- [Graduate Petition](#)

5.49 Plan of Study Guide and Degree Benchmarks

Plan of Study Guides include all your degree requirement checklist which include required courses, GradPath Forms checklist, details about Qualifying Exam, Comprehensive Exam, Final Oral Defense, TA Assignments, Scholarships | Fellowships | Awards, semester and annual departmental evaluations, and student achievement reporting. This is one location for you to communicate every aspect of your graduate degree program to both your GPC and your Faculty Advisor. You should update the Plan of Study Guide every semester and submit this to your GPC as a part of the evaluation process. The Benchmarks checklist is your checklist to use

throughout your program to make sure you are meeting deadlines for all requirements by your department and the Graduate College.

- [CHE PhD](#)
- [EEN PhD](#)
- [CHE MS Thesis](#)
- [CHE MS Non-Thesis](#)
- [CHE AMP Thesis](#)
- [CHE AMP Non-Thesis](#)
- [EEN MS Thesis](#)
- [EEN MS Non-Thesis](#)
- [EEN AMP Thesis](#)
- [EEN AMP Non-Thesis](#)
- [EEN ME](#)

5.50 Sample Plans by Degree Program

The following Sample Plans serve as suggested plans but do not have to be followed exactly as prescribed. Students should discuss all course plans with their faculty advisor and the GPC to ensure they are meeting the degree requirements and making satisfactory academic progress in their degree.

- [CHE PhD](#)
- [EEN PhD](#)
- [CHE MS Thesis](#)
- [CHE MS Non-Thesis](#)
- [CHE AMP Thesis](#)
- [CHE AMP Non-Thesis](#)
- [EEN MS Thesis](#)
- [EEN MS Non-Thesis](#)
- [EEN AMP Thesis](#)
- [EEN AMP Non-Thesis](#)
- [EEN ME](#)

5.51 TA and Grader Application

5.52 Transfer Credit Approval Form (CHEE Department)

- The CHEE Transfer Credit Form is used for approval by the CHEE department for your transfer credit
- Before completing this form, you should have submitted a Transfer Credit Form in GradPath and **received approval** by the Graduate College
- For MS students: Maximum units allowed **20% of course requirement units or 6 units**
- For PhD Students: Maximum units allowed **30 units**
- You will need the **following information to submit transfer credit:**
 - ❖ **Course Syllabus** for any course that you would like reviewed (in English)

- ❖ Up to **5 course materials** that demonstrate the rigor of the course (tests, assignments, projects, etc) (in English)
 - ❖ If you want this course to count as one of our core courses, upload a **copy of our syllabus** found on the CHEE website
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