GRADUATE HANDBOOK OF ACADEMIC POLICIES AND PROCEDURES

Department of Chemical and Biological Engineering
University of Wisconsin-Madison

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SELECTION OF A MAJOR PROFESSOR

STUDENT/PROFESSOR MATCHING

The matching of a student and a major professor takes place early in the first semester of study by a personal and mutual agreement between the student and professor in which the department plays only an indirect role. The department encourages every student to make a serious effort to interview as many different professors as possible.

PROCEDURE

New Student Orientation begins: August 22, 2025
New graduate students are provided with a list of members of each research group, current projects, and groups that have openings for new students.

Faculty Research Introductions: August 25 through September 2, 2025
New graduate students are required to attend all scheduled faculty research talks. Immediately following the research talks, students should arrange initial interviews with at least five faculty members. These interviews benefit students by enabling them to learn about diverse research opportunities. At the same time, the interviews enable faculty to assess student interest in their research area or in specific projects.

Deadline to submit Initial Interview form: September 26, 2025
Each new graduate student must submit an Initial Interview form indicating at least five professors with whom she or he has met. New students are expected to take the initiative to learn more about potential research opportunities. For example, after initial interviews new students may arrange to meet with additional professors, contact members of research groups, attend group meetings, read relevant literature, or convey their interests in research areas or projects to different professors.

Deadline to submit Major Professor Preference form: November 7, 2025
Students must list their top four choices of advisors in order of preference. In situations where a student wishes to select co-advisors, the name of one advisor should be indicated and the student should clearly communicate their interest in the co-advised project to the advisor. The Graduate Associate Chair, meeting with the professors involved, will recommend assignments of students to advisors. Every effort will be made to reconcile the mutual wishes and best interests of students and professors.

Matching process: Mid-November 2025
After all Major Professor Preference forms are received, matching proceeds as follows:

1. Each faculty member is asked if they wish to match with any of the students who ranked them as their top preference (if applicable); faculty listed as co-advisors will be asked to make a joint decision. Once a faculty member matches with a student, the rest of that student's rankings are not considered.
2. After deciding upon students who ranked them as their top preference, faculty are asked if they wish to match with any students who ranked them as their second preference and were not already matched.
3. This process then continues for faculty listed as third and fourth preferences as needed.

Core faculty can match with up to 2.5 students in the first round (*i.e.*, the first iteration through these steps), with co-advised students counting as 0.5 students. Affiliate faculty can match with up to 1.5 students in the first round. The three steps are repeated if any students remain unmatched after the first

round. In this second round, any number of students can match with a core or affiliate faculty member. The matching process is coordinated by the Graduate Associate Chair with input as needed from the Graduate Program Coordinator and Graduate Program Committee. Faculty are not required to match with any students and students will not be matched in any round with faculty that are not listed on the Major Professor Preference Form.

HOW STUDENTS AND POTENTIAL ADVISORS CAN ASSESS FIT

Matching requires substantial time and energy to be invested by both students and faculty to evaluate a potential mutually beneficial advising relationship. Students should determine if an advisor is a good fit for their research interests, working style, and career goals, while also conveying to potential advisors how they would be a good fit for their groups. Below are some suggested questions that a student may consider to assess fit with an advisor and their group:

- *Is the group a good research fit?* This question includes consideration of the types of projects offered by the group and their impact, technical skills group members learn, background skills or courses that are valuable for student success, how projects are assigned to students, whether students pursue multiple projects concurrently, opportunities for collaboration, etc.
- *Is the group a good career fit?* This question includes consideration of the career paths of group alums, how the advisor supports career development, whether students pursue internships, opportunities to contribute to grant writing, opportunities for mentorship or teaching, policies on attending conferences or workshops, support for entrepreneurship, etc.
- *Does the advisor have a compatible advising style and expectations?* This question includes consideration of how frequently the advisor meets with students either individually or in groups, the format and content of these meetings, how the advisor communicates expectations and feedback, expectations for research products required for graduation, expectations for in-person and/or remote working hours, etc.
- *Is the group a good fit outside of research?* This question includes consideration of group activities outside of research (*e.g.*, outreach or social events), how group members engage with departmental and campus activities, group culture and interpersonal interactions, etc.

These questions are not meant to be exhaustive. Several activities may be suggested by either the student or advisor to gain information related to these considerations and may be pursued in the time prior to or after the submission of Major Professor Preference forms. Examples include, but may not be limited to:

- Individual meetings with potential advisors.
- Meeting current or former students and/or postdocs, with or without the advisor present.
- Attending group meetings.
- Shadowing current students and/or postdocs in the lab or group office (if feasible).
- Reviewing recent publications or presentations from the group.
- Reviewing suggested literature, project reports, proposals, etc. provided by the advisor.

Students are encouraged to show initiative when interacting with potential advisors and their groups and to communicate their interest to potential advisors. Students are highly encouraged to meet with faculty multiple times to assess fit and demonstrate interest. Meeting group members is also encouraged as they may provide a unique perspective on group interactions. Students will not be expected to rotate in core or affiliate faculty groups (*i.e.*, perform lab work or sit in group offices) prior to or during the matching process.

UNMATCHED STUDENTS

It is possible that some students will not match with an advisor listed on their Major Professor Preference Form during the matching process, or with any professor at all. The Graduate Associate

Chair will notify unmatched students and advise on next steps, such as contacting faculty that have openings remaining. Unmatched students and faculty will evaluate a potential match, which may involve similar activities as discussed in the previous section. A student will be matched with an advisor upon mutual agreement and approval of the Graduate Associate Chair, which can occur at any time. The Graduate Associate Chair will act as a temporary advisor for unmatched students to discuss actions to meet other program requirements, such as course selection. Matching with an advisor is required by the end of the second semester after matriculation (spring 2026) to make satisfactory progress toward the PhD degree, but identifying an advisor earlier than this is highly encouraged to initiate thesis research.

PHD DEGREE REQUIREMENTS

COURSE REQUIREMENTS

1. **Chemical and Biological Engineering (CBE) Course Requirements**
   Students must complete at least four semester courses (totaling at least 12 credits) in the Chemical and Biological Engineering Department. These four courses will be core CBE courses, chosen at the discretion of the student in consultation with their advisor. These classroom courses shall be in the range numbered 500-899 and will not be laboratory courses, Independent Studies, or Research. Grades of B or better are required in all CBE courses used towards degree requirements.

   The CBE core courses are:

CBE 620	Intermediate Transport Phenomena
CBE 660	Intermediate Problems in Chemical Engineering
CBE 710	Advanced Chemical Engineering Thermodynamics
CBE 735	Kinetics and Catalysis
CBE 781	Biological Engineering: Molecules, Cells & Systems

   At least two of the core graduate classes must be taken in the first semester of residence in the graduate program, and at least four core graduate classes must be completed with grades of B or better, preferably by the end of the second semester of residence. Grades will be reviewed by the Graduate Program Coordinator at the end of the first, second, and third semester to ensure first year students are meeting requirements. A student who receives one grade of BC or lower in a core class but who wishes to remain in the PhD program must take the fifth core course or re-take the low graded core course, preferably by the third semester, and the student must receive a B or better. Students are expected to take four classes in their first semester of residence.

   A student who receives more than one grade of BC or lower in core graduate classes will be placed in the MS program. The student will receive a letter from the Graduate Associate Chair stating the starting semester of the MS program. Upon successful completion of the MS program, the student may petition the full faculty for readmission to the PhD program.

2. **CBE 961: Seminar Course**
   Students must take CBE 961: Seminar- Chemical Engineering in both of their first two semesters <u>for zero credits</u>. The course meets once a week for one hour. The course does not count towards the requirement of taking four courses in the student's first semester.

3. **Transfer Credits and Substitutions**
   The requirement of four core CBE graduate courses shall not be met by substitution of other courses. Students matriculating with an MS degree from another university may submit a

petition to the Graduate Program Committee, with the approval of their advisor, to transfer up to two courses, or 6 credits, from their MS work toward the requirements of the minor/certificate, if the minor/certificate program approves. The petition must include a written explanation from the student explaining why the course from another institution should be allowed to substitute a CBE or UW-Madison course, a written statement of support from their advisor, and any supporting documents they can provide, such as course syllabi and transcripts.

4. Research Course Requirement

Typically, all graduate students will enroll in CBE 890: Pre-Dissertator's Research with their advisor(s). Students will enroll in their CBE 890(s) every fall, spring, and summer semester they have a Research Assistantship until they become dissertators.

The number of credits for CBE 890 in each semester should total between 1 and 6, with the standard amount being 2-4. Variation should take into account a minimum enrollment requirement of 8 total credits for all graduate students holding a Research Assistantship and as a minimum credit requirement for international students to maintain full-time student status, and a maximum enrollment limit of 15 credits. A student may only exceed 15 credits with Graduate School permission. If a student would need to enroll in 8 credits of CBE 890 to maintain enrollment, they should talk to the Graduate Program Coordinator about potentially beginning dissertator status (see "Advancement to Dissertator Status" on pg. 7 for more information). To maintain a Research Assistantship over the summer students must enroll in at least 2 credits of CBE 890. Summer CBE 890 is taken during the 8-week summer session designated "DHH". More information about enrollment requirements can be found in the Graduate School's Academic Policy here: https://policy.wisc.edu/library/UW-1208

Once a student becomes a dissertator, registration in exactly 3 credits of CBE 990: Thesis Research is considered full-time enrollment for each fall and spring semester, and each summer as long as the student has an RAship, fellowship, or other enrollment requirement. Any student who registers for more or fewer than 3 credits will lose dissertator status. As a dissertator, there is no exemption from the enrollment requirement of 3 credits each semester until the student graduates due to the Continuous Enrollment Requirement set by the Graduate School. See https://policy.wisc.edu/library/UW-1204 for more information. See page 7, "Advancement to Dissertator Status" for more information on how to qualify for dissertator status.

5. Minor Course Requirement – minimum 9 credits

A requirement of the Graduate School is that all graduate students complete the breadth requirement. This can be achieved through completion of a doctoral minor or a graduate/professional certificate. Approval of the proposed minor or certificate program should be obtained before the student has completed half of the proposed minor or certificate courses, and before the preliminary exam (see Appendix A, pg. 25 and Appendix B, pg. 27.).

6. Other comments regarding coursework requirements

A. Residence Credit Requirements - The Graduate School requires that graduate students earn a minimum of 32 graduate level (300 & above) credits at UW-Madison in order for the degree to be considered a UW-Madison degree. The Graduate School will not transfer any graduate work done at another institution toward fulfillment of the minimum UW-Madison credit requirement. (However, you may still transfer work at the department level to fulfill department course requirements).

B. Graduate Credit Requirements – The Graduate School requires at least 51 total credits (300 & above) to complete a PhD At least 26 of these must be completed in CBE courses numbered 600 & above (which can include courses satisfying the CBE core requirement, research credits, as well as seminar courses).

C. Transfer of Prior Coursework – The Graduate School sets the following limits on transfer credits:
    i. **Grad Work at Other Institutions**: With program approval, students are allowed to count graduate course work from other institutions toward the Minimum Graduate Degree Credit Requirement and the Minimum Graduate Course Work (50%) Requirement. No credits from other institutions can be counted toward the Minimum Graduate Residence Credit Requirement. Course work earned five or more years prior to admission to a master's degree or earned ten years or more prior to admission to a doctoral degree is not allowed to satisfy requirements.
    ii. **UW-Madison Undergraduate**: With program approval, up to 7 credits numbered 300 or above can be counted toward the Minimum Graduate Degree Credit Requirement. Up to 7 credits of courses numbered 700 or above can be counted toward the Minimum Graduate Course Work (50%) Requirement. No credits can be counted toward the Minimum Graduate Residence Credit Requirement.
    iii. **UW-Madison University Special**: With program approval and payment of the difference in tuition (between special and graduate tuition), students are allowed to count up to 15 credits of course work numbered 300 or above taken as a UW-Madison special student toward the Minimum Graduate Residence Credit Requirement, and the Minimum Graduate Degree Credit Requirement. With program approval and payment of the difference in tuition (between special and graduate tuition), students are allowed to count up to 15 credits of courses numbered 700 or above taken as a UW-Madison Special student toward the Minimum Graduate Course Work (50%) Requirement. Course work earned five or more years prior to admission to a master's degree or earned ten years or more prior to admission to a doctoral degree is not allowed to satisfy requirements.

D. Department approvals of course substitutions, distributed (Option B) minor programs, and other routine degree criteria are administered by the Graduate Program Committee. Novel requests are considered in the departmental faculty meetings. Requests of either type should be submitted to the Graduate Program Coordinator and must include the endorsement of the research advisor(s). Supporting information for course substitution petitions using non-UW courses should include a written petition, syllabi, transcript, textbook titles and authors, instructor name, and any other details relevant to the requested use.

QUALIFYING

Qualifying for the PhD program requires that graduate students demonstrate both accomplishment in CBE graduate classes and potential as a researcher. To qualify for the PhD program, a graduate student must have completed 32 credits. The student must also meet the requirement of a B or better in 4 out of 5 core CBE courses, preferably by the end of their third semester in residence, and have passed the preliminary exam as described below.

PRELIMINARY EXAM-

The preliminary exam comprises a written report and oral examination.

1. **Written report:** The written portion of the preliminary exam must be submitted electronically as a PDF to the Graduate Program Coordinator's email by 3:00 pm on January 31 of the second year of residence in the graduate program. If January 31 falls on a weekend, it is due by 3:00 pm on the Monday following the weekend. For students entering the graduate program in January, the written report is due by 3:00 pm on July 15 of the second year of residence, or the following Monday if July 15 falls on a weekend. The scope and objectives of the written report are described in Appendix D, pg. 29. While the scientific aspects of the proposed work should

be discussed between the student and their advisor(s), the written document should be original work by the student. The student is responsible for all aspects of preparation of the written document and oral presentation, including proper citations, formatting, and proofreading.

2. **Oral examination:** Following submission of the written document, the student will be asked to present the oral portion of the preliminary exam between February 7th and April 7th for fall admits or between July 23rd and August 23rd for spring admits. The composition of the committee and the date of the oral exam shall be submitted to the CBE Graduate Program office by the last day of classes in the fall semester before prelims for fall admits, and the last day of the spring semester for spring admits. The information about the committee and date of exam shall be submitted through the Preliminary Exam Committee Form (see Appendix E, pg. 30). The student shall prepare a 30-minute oral presentation based on their written preliminary report. This oral presentation will be followed by up to 1 ½ hours of questions from the committee. The expected dress code for the oral examination is business attire.

   The committee should be composed with the help of the student's advisor, and will be comprised of the student's advisor, two CBE faculty or affiliate faculty members in the same general area of research, and a fourth member of the department. If a student is co-advised by two faculty or affiliate faculty members from CBE, the committee will be comprised of the student's co-advisors, two additional CBE faculty in the student's area, and a fifth faculty member from the department. The major professor(s) will not chair the examining committee. In some special instances, the committee may be augmented by personnel from outside the Department of Chemical and Biological Engineering. However, non-CBE faculty and non-affiliates can attend the preliminary exam but do not have voting rights. It is expected that the members of the preliminary committee will be the members of the student's 4th Year Research progress meeting. It is also expected that the members of the preliminary committee plus an outside faculty member (if one was not included in the preliminary committee) will be the members of the student's final defense committee.

   The Graduate Program Coordinator will order the warrant from the Graduate School, which will first verify that the student has completed 32 credits toward their degree, their minor has been approved, and their record is cleared of grades of Incomplete and Progress, except for grades of P in CBE 890 or 790. (Note that the minor courses do not need to be completed prior to the preliminary exam. Also note that 890s or 790s with grades of P will not be counted towards credit requirements. All P grades must be changed to S in order for the credits to be counted.)

   The Graduate School issues a warrant authorizing the department to admit the student to the preliminary examination. When this warrant is completed and returned to the Graduate School after the student has completed all degree requirements except the dissertation, it serves as the formal application for admission to candidacy for the PhD

   If a defense date needs to be rescheduled or a committee member needs to be replaced, the student should contact the Graduate Program Coordinator as soon as they are aware a change needs to be made. These changes would affect the composition of the preliminary exam warrant and will need time to update through the warrant request system. While last minute changes may happen due to unexpected circumstances and can be dealt with, any changes known in advance should be reported right away to avoid delays in the warrant's approval.

   In unusual circumstances, petitions for delay may be submitted to the Graduate Associate Chair. Failure to complete the preliminary examination will be regarded as unsatisfactory progress and the case will be brought to the faculty for action.

3. **Grading of Preliminary Exam:** Upon completion of the oral portion of the preliminary exam, each member of the exam committee will submit a grade between 1.0 and 4.0. This grade will

reflect equally the exam committee's assessment of the written document and oral portion of the preliminary exam, using the criteria described in Appendix F, pg. 31. The results of the preliminary examination will be provided to the student within two days via a formal results letter.

A student who receives an average of 3.0 or higher and has passed the core coursework requirement described above, becomes a candidate for the PhD program. A student who does not receive an aggregate score of 3.0 or higher in the qualifying process is placed in the MS program. Upon successful completion of the MS program, the student may petition the full faculty to be readmitted to the PhD program.

MS NOT NORMALLY REQUIRED FOR PHD

An MS degree is not required for work toward the PhD unless the student has a B.S. in a field other than chemical engineering, or unless the faculty requires the student to complete an MS based on the results of the qualifying requirements, or the student receives grades below the requirements set for core CBE courses, or if they are unmatched at the end of their second semester.

READMISSION TO THE PHD PROGRAM

Students who have been placed in the MS program because of course requirements or qualifying requirements may petition for readmission to the PhD program after completing the following requirements:

1. Earning grades of B or better in four core graduate classes. When repeating a core graduate class, the higher grade is counted towards this requirement.

2. Completing the MS program. In this case, the MS oral exam takes the place of the preliminary oral exam, and the oral presentation should contain a description of future research plans consistent with the requirements of the prelim exam.

Students placed in the MS program are required to finish the MS program within five semesters of admission into the PhD program, excluding summer semesters. This deadline may be extended to six semesters upon a successful petition to the faculty. The petition for extension should contain a summary of the student's research and academic accomplishments to date in the MS program, plans for completing their MS degree by the end of the sixth semester, and a written statement of support from their advisor.

The process to petition to rejoin the PhD program is as follows:

1. An MS candidate who is seeking re-admission to the PhD program must successfully complete an oral examination before a departmental examining committee of the advisor(s) plus three other CBE faculty members, for a total of 4-5 committee members. The candidate must defend an MS thesis in order to petition to return to the PhD The defense of an MS thesis is conducted in an open defense (see Appendix H, pg. 33 and Appendix J, pg. 38). See "MS Degree Requirements," pg. 9, for more information.

2. Upon successful completion of the defense, the student submits a petition to the Graduate Program Committee asking to rejoin the PhD program. The petition should contain a summary of the student's research and academic accomplishments while in the MS program, and future plans for continuing their research in the PhD program, including listing the faculty member who will be their advisor.

3. Concurrently, the MS exam committee submits a written evaluation of the student containing a recommendation regarding whether the student's petition should be granted.

4. The Graduate Program Committee brings the petition to the full faculty for a decision.

5. The Graduate Associate Chair will inform the student of the faculty's decision in writing.

RESEARCH PROGRESS MEETING

Each student will schedule a mandatory research progress meeting with their thesis committee during the fall semester of the fourth year for fall admits, or during the spring semester of their fourth year for January admits. Committees are expected to be comprised of the same faculty from their preliminary exam committee- the student's academic advisor and two additional faculty members from the department in their area, plus one additional faculty member from the department. If a student is co-advised by two faculty or affiliate faculty members from CBE, the committee will be comprised of the student's co-advisors, two additional CBE faculty in the student's area, and a fifth faculty member from the department. However, it is acceptable for the student to swap the fourth or fifth member of the committee for a faculty member from outside the department. This can be done as preparation for the final defense committee where an outside faculty member will be required. [Non-CBE faculty and non-affiliates may attend the research progress meeting.] The meeting will consist of a 30-minute oral presentation by the student on research progress followed by a 30-minute discussion, with a written assessment provided to the student and placed in the student's file.

One week before the presentation, the student should submit to the committee a one-page document containing an abstract of the student's research, including background, accomplishments and plans, as well as lists of conference presentations, completed and planned publications. Other information such as participation in internships or campus professional development activities may be included as well.

The presentation should outline background and motivation for the student's research, a description of research accomplishments to date, and plans for future work, including a tentative timeline. A summary of the student's completed and planned publications should be included.

TEACHING ASSISTANTSHIP REQUIREMENT

Each student in the PhD program is required to serve as a teaching assistant (TA) for two semesters. TA assignments must be satisfactorily completed based on course instructor feedback. TA assignments will be made by the department based on graduate student preferences, faculty advisor input, course instructor input, and course needs. Under normal circumstances, each student should serve as a TA for one semester of their second year and one semester of their third year, but this can vary based on numbers of students available to TA and number of TA openings. Students that are supported by external fellowships will generally not be asked to serve as TAs while financially supported by the fellowship. Requests for alternate arrangements or partial or full waiver of the requirement should be submitted in writing to the Graduate Program Committee.

ADVANCEMENT TO DISSERTATOR STATUS

A student is granted dissertator status after passing the preliminary examination, completing all major and minor requirements except the dissertation (this includes any required course work and the qualifying requirement), and satisfying the PhD Minimum Graduate Residence Credit Requirement. Completing the TA requirement is not necessary to advance to dissertator status.

To register as a dissertator for a given semester, the student must complete all requirements for dissertator status before the first day of classes. The student must contact the Graduate Program

Coordinator at least one month before the end of the semester before they intend to begin dissertator status to initiate the process.

Dissertators register for a reduced course load of three graduate-level credits that are directly related to the dissertation research. Normally, this means CBE 990 and/or required seminars. With advisor's approval, a graduate-level 3-credit course may be substituted. The dissertator *must* register each fall and spring semester for three credits until the PhD dissertation has been deposited at the Graduate School, per the Continuous Enrollment Requirement. Students must register for 3 credits in the summer semester's DHH session if they hold a Research Assistantship, have an internship, fellowship, or traineeship that requires them to register, or if they intend to defend and deposit their dissertation over the summer semester. Students who fail to maintain continuous registration will be assessed a PhD completion fee of up to 12 times the current per-credit fee, per the Degree Completion Fee policy of the Graduate School. For more information on enrollment requirements, see the Graduate School Academic policy here: https://policy.wisc.edu/library/UW-1208

DISSERTATION AND FINAL DEFENSE

Guidelines for preparation of the PhD dissertation are given in Appendix H (pg. 33). The student defends the dissertation in a final oral examination, or defense. Before the oral exam, the student must clear all grades of Incomplete from their record and complete all other requirements for the degree. In consultation with the major professor(s), the student chooses an examination committee of at least four faculty members, including at least one, but not more than two, from outside the department. If a student is co-advised by two faculty or affiliate faculty members from CBE, the committee must contain at least five faculty members, including at least one, but not more than two, from outside the department**.** It is expected that the committee will be comprised of the same faculty members as the 4th Year Research Meeting, with the swapping out of the fourth or fifth member of the committee for a faculty member from outside the department if one was not previously included. [Examples of acceptable outside members include: faculty, scientists, or post-docs from another department on campus, or from another institution or organization (i.e. national lab or Chem E. related business)]. An emeritus professor may serve on a PhD examination committee if less than one year has elapsed since their retirement. Three members of the committee must be designated as readers. A copy of the dissertation must be submitted to all members of the final oral defense committee at least two weeks prior to the date of the final oral examination. For more information on committees, see the Graduate School Academic Policy here: https://policy.wisc.edu/library/UW-1201

The student submits the names of the committee members to the Graduate Program Coordinator on the PhD Final Oral Exam Committee Form, as seen in Appendix I (pg. 37) at least three weeks before the date of the final defense. The Graduate Program Coordinator will then request a warrant from the Graduate School based on the information provided on this form. The warrant will then be presented to the final oral examination committee at the examination and successful completion of the exam is indicated by the signatures of the committee members on the warrant, which is then returned to the Graduate Program Coordinator, and then the Graduate School.

The Graduate School requires that the final oral examination for the PhD must be taken within five years of passing the preliminary examination, or the student will be required to take another preliminary examination.

LENGTH OF TIME TO DEGREE ≤5 YEARS

Students are expected to complete their PhD degree in ≤5 years (by August 31, 2030 for students entering in Fall 2025). Any student unable to defend their thesis in this period must petition the faculty for an extension by May 1 of the fifth year. All petition requests are for up to one year at most and should include the following:

- Date of Petition
- Name of student
- Name of advisor
- Accomplishments to date (300 words or less)
- Extenuating circumstances, if any
- Plans for degree completion (include predicted defense date)
- A list of publications published, in press or submitted

The student's advisor must also provide written approval of the student's extension to the Graduate Program Office by May 1 which includes plans to provide funding for the student on a semester-by-semester basis for up to the entire year.

Extension requests should be submitted to the Graduate Program office, EH 2033 **no later than May 1**.

MS DEGREE REQUIREMENTS

To qualify for the master's degree, the student must complete a minimum of 30 graduate-level credits (300 & above), 24 of which must come from these two groups: I, a professional group; and II, an elective group. The student must maintain a B average or better in graduate work.

The **professional group, I,** must comprise a minimum of 12 credits of CBE courses. At least six credits of group I must be in the range numbered 600 to 899 (excluding research). Grades of B or better are required for credit in the professional group.

Students placed on the MS track as a result of two or more grades of BC in core courses are required to make up the course deficiencies as well as complete a master's degree. Course deficiencies should be made up on the usual preliminary exam schedule.

The **elective group, II**, must comprise a minimum of 12 credits of graduate courses. At least six of these shall be in departments other than Chemical and Biological Engineering and shall be chosen for their relevance to CBE. In general, grades of B or better are required for credit in this group, but grades of BC or C in non-CBE courses will be counted if balanced credit for credit by grades of A or AB in other courses from this group.

Up to six credits will be allowed for CBE courses numbered between 300 and 499 in groups I and II combined, provided equivalent courses were not previously taken by the student.

An MS candidate not planning to seek re-admission to the PhD program must successfully complete an oral examination before a departmental examining committee of the advisor(s) plus two other CBE faculty members, for a total of 3-4 committee members. The candidate may defend an MS thesis or an independent study project that will comprise a minimum of three credits of supervised CBE 790 and may involve a lab project, theoretical work, or a critical review of an advanced engineering topic. The defense of an independent study project is conducted in a closed session.

An MS candidate who is seeking re-admission to the PhD program must successfully complete an oral examination before a departmental examining committee of the advisor(s) plus three other CBE faculty members, for a total of 4-5 committee members. The candidate must defend an MS thesis in order to petition to return to the PhD The defense of an MS thesis is conducted in an open session. (see Appendix H, pg. 33 and Appendix J, pg. 38).

The process to petition to rejoin the PhD program is as follows:

1. Upon successful completion of the defense, the student submits a petition to the Graduate Program Committee asking to rejoin the PhD program. The petition should contain a summary of the student's research and academic accomplishments while in the MS program, and future plans for continuing their research in the PhD program, including listing the faculty member who will be their advisor.

2. Concurrently, the MS exam committee submits a written evaluation of the student containing a recommendation regarding whether the student's petition should be granted.

3. The Graduate Program Committee brings the petition to the full faculty for a decision.

4. The Graduate Associate Chair will inform the student of the faculty's decision in writing.

When a candidate presents a thesis, no fewer than five nor more than 14 credits of research (CBE 790) may be counted toward the 30-credit total requirement. When a project report is presented, a maximum of 12 credits of research may be counted toward the total.

The Graduate School requires that the MS candidate earn at least 15 graduate-level credits (300 & above) at UW-Madison in order for the degree to be considered a UW-Madison degree. The Graduate School will not transfer any graduate work done at another institution toward fulfillment of the Minimum Graduate Residence Credit Requirement. An MS candidate who does not register for graduate work for five or more consecutive years will lose all residence credit.

Before the oral MS examination, the student fills out a Master's Degree Warrant Request Form (see Appendix K, pg. 39) and the Graduate Program Coordinator requests the warrant from the Graduate School. A warrant will not be issued unless the student has cleared all grades of Incomplete and is registered for a program that will permit completion of the Minimum Graduate Degree Credit Requirement by the end of the current semester. After the examination, the Graduate Coordinator returns the signed warrant to the Graduate School. If a formal thesis is presented, it must be emailed to the Graduate School MS Degree Coordinator in accordance with instructions provided by the Graduate School.

Students who enter the program without a Bachelor of Science in Chemical Engineering may be required to take remedial coursework. These courses may include:

CBE 320	4 cr.
CBE 326	3 cr.
CBE 426	3 cr.
CBE 430	3 cr.
CBE 440	3 cr.
CBE 450 (or 470)	3 cr.

CRITERIA FOR SATISFACTORY PROGRESS TOWARD ADVANCED DEGREES

SATISFACTORY PROGRESS

Candidates for advanced degrees in chemical engineering are expected to meet the criteria and time schedules shown below. In addition, the candidate must have an advisor and receive a satisfactory appraisal from them. This will normally be reflected by the grade in the research course. The time schedules consider the effect teaching may have on the rate of completion of a degree program.

The cases of any students failing to make satisfactory progress will be brought to the attention of the departmental faculty by the student's major professor or graduate advisor for review and appropriate action, including potential placement in the MS program.

QUALITY OF WORK

CBE courses	Grade of B or better is required for courses used to meet degree requirements
Other courses	Average grade B with all grades C or above
Research	P (in Progress) or S (Satisfactory)

CREDIT LOAD

Students holding a departmental appointment (RA, RA/TA, or Fellow) must be enrolled as full-time students during the academic year and must be enrolled for at least the minimum number of credits in summer. Only graduate-level credits, numbered 300 or above, count toward these credit loads. Courses numbered below 300, even when taken to fulfill a degree requirement, are not considered graduate-level credits.

Full-time Student Credit Loads

Pre-dissertator	
Fall & Spring	8-15 credits* to hold an RAship
Summer	2 credits minimum during DHH session to hold an RAship*
Dissertator	
Fall, Spring, Summer	3 credits only*, DHH session in the summer

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* Graduate-level credits, i.e., numbered ≥300 (no audits or pass-fail)

Students who do not register for at least the minimum number of credits shown above will not qualify as full-time students for payroll purposes and may forfeit their appointment and its associated benefits (health insurance, tuition remission, etc.).

Maximum credit loads: Graduate students generally may not enroll for more than 15 credits of graduate courses (≥ 300) in any semester or summer. Higher loads require special permission from the Graduate School Dean, and may incur extra tuition charges. Courses numbered below 300 (such as some language courses) do not count toward this limit.

COMPLETION TIMES

1. MS: Should normally be completed within 5 semesters of matriculation, excluding summers.

2. PhD: CBE advisor matching requirement: Students must match with an advisor by the end of the second semester after matriculation.

CBE seminar course requirement: CBE 961 must be completed within the student's first two semesters in residence.

CBE core course requirement: Two must be completed in the first semester. All four must be completed, preferably by the end of the third semester in residence.

Breadth: The minor/certificate must be approved before ordering the preliminary exam warrant. Approval of the proposed minor/certificate program should be obtained before the student has completed half of the proposed courses. All minor/certificate courses must be completed before dissertator status will be granted.

Preliminary exam: Written portion should be completed by January 31st of the second year of residence in the graduate program, and oral portion by April 7th. For students entering in January, the written report is due July 15th of the second year of residence and the oral portion must be completed by August 23rd.

Final oral exam: Students are expected to finish the PhD within five years of matriculation. Scheduling of dissertation work and the dissertation defense is arranged between the student and the major professor.

GRADUATE SCHOOL REQUIREMENTS

The Graduate School requires that students maintain a minimum graduate GPA of 3.00 in any course taken as a graduate student (excluding research, audit, credit/no credit, and pass/fail courses), unless probationary admission conditions require higher grades. The Graduate School also considers Incomplete (I) grades to be unsatisfactory if they are not removed during the subsequent semester of enrollment; however, the instructor may impose an earlier deadline.

A student may be placed on probation or suspended from the Graduate School for low grades or for failing to resolve incompletes in a timely fashion. In special cases the Graduate School permits students who do not meet these minimum standards to continue on probation upon recommendation and support of their advisor.

Most programs require satisfactory progress to continue guaranteed funding support https://policy.wisc.edu/library/UW-1218. Unsatisfactory progress may cause you to lose a TA, RA, or Fellowship appointment, and possibly your status as a graduate student.

PROBATION

If a student was admitted on probation and they satisfy the conditions outlined at the time of admission, probationary status will be removed automatically. Once their studies have begun, students are expected to make satisfactory progress toward their degree.

Students must be in good academic standing with the Graduate School, their program, and their advisor. The Graduate School regularly reviews the record of any student who received grades of BC, C, D, F, or I in graduate-level courses (300 or above), or grades of U in research and thesis. This review could result in academic probation with a hold on future enrollment, and the student may be suspended from graduate studies.

The Graduate School may also put students on probation for incompletes not cleared within one term. Dissertators will not be placed on probation for incomplete grades in research courses. All incomplete grades must be resolved before a degree is granted.

Please note that any student who is on probation will not be able to enroll for the following semester until their final grades are submitted and the Graduate School has verified they are making satisfactory progress. For any questions relating to probation, please contact Kipp Cox, Academic Services Coordinator, at (608) 262-2433 or ervin.cox@wisc.edu

EXPECTATIONS OF GRADUATE STUDENTS AND ADVISORS

MUTUAL EXPECTATIONS

- As professionals in a diverse and inclusive environment, graduate students and faculty members will treat everyone in the department with equal respect and dignity.
- Advisors and students will carry out their respective responsibilities with the aim of performing research at the level of a world-class university in an honest and ethical manner.
- When a student joins an advisor's research group, the student and advisor make a mutual commitment to perform research together toward the aim of the student's PhD thesis and the associated intellectual products (publications, patents, presentations, etc.).
- Advisors and students will be aware of department policies as laid out in the graduate program handbook.

EXPECTATIONS OF FACULTY ADVISORS

- Advisors will establish a collegial and professional culture within their research groups, and an intellectual environment that is conducive to research and graduate education at a level consistent with a world-class university.
- Advisors will communicate on a regular basis with students regarding the progress of their research, including praise and constructive criticism as appropriate, always with the aim of educating the student to become a leading researcher in their field.
- Advisors will communicate on a regular basis with students regarding professional development and enrichment activities.
- Each advisor will set written policies on their general expectations for student-advisor meetings (frequency, duration, etc.), work hours, and vacation time. These policies will be reviewed at least annually with students. Minimum vacation guidelines for RAs are set by the university and will be extended to all graduate students, regardless of the source of support.

EXPECTATIONS OF GRADUATE STUDENTS

- Students will recognize that as graduate students at Wisconsin, they are professionals at a world-class institution, compensated both in dollars and in credit toward their degree. Accordingly, they will devote an appropriate amount of time and energy toward achieving academic excellence and earning their advanced degree.
- Students will take primary responsibility to inform themselves of and conduct themselves in accordance with the Graduate School's policies and procedures, specific program requirements, and standards of performance established by faculty and articulated in departmental graduate student handbooks
- Students will become aware of procedures to obtain research funds, and of costs associated with research and graduate education. Students may be asked to participate in preparation of research proposals and other grant-related documents as part of their academic training.
- Students will take responsibility and ownership of their research projects. To complete a PhD, students will demonstrate the ability to independently plan and execute research, and to subsequently disseminate that research in both oral and written forms, including by peer-reviewed publications.

- Students will communicate regularly with faculty advisors on matters related to research, academic progress, concerns, and problems they are encountering.
- Students will take the initiative to pursue appropriate professional training programs, seminars, mentors and courses that will enhance their professional development. Before participating in professional development/enrichment programs with a substantial time commitment, students will gain the approval of their advisor.

TUITION REMISSION AND FEE PAYMENT

Tuition remission is provided for graduate students who hold at least a combined 33.3% appointment as an RA and/or TA. Fellowships often pay both tuition and fees. If you have any questions regarding your tuition bill, see the payroll coordinator. Your monthly stipend covers your educational expenses which includes funds to pay your segregated fees. You are responsible for paying your segregated fees each semester.

PARENTAL LEAVE POLICY FOR GRADUATE STUDENT ASSISTANTS

This policy reflects our commitment to supporting the well-being of employees and their families at an important time in their lives. Graduate Assistants holding positions of Teaching Assistant, Research Assistant, Project Assistant, and Lecturer are subject to this policy.

The Paid Parental Leave policy, UW-5054, provides eligible employees with the following:

- A maximum of up to 6 (six) weeks of paid time off every 12 (twelve) months when they experience a qualifying birth or adoptive event covered by the policy. (The benefit is prorated based on Full Time Equivalent or FTE.)
- When an employee experiences multiple events that would qualify for Paid Parental Leave in the same 12-month period, the eligible employee will be entitled to a total of 6 (six) weeks of Paid Parental Leave.
- Qualifying events include a birth or adoptive event.

Eligible employees must submit the completed Parental Leave Request form and any required documentation at least 30 calendar days in advance of the start date of leave. It will also be available from the employee's Divisional Disability Representative (DDR). Completed Parental Leave Request forms should be submitted to the employee's DDR.

Under some circumstances, the request for Paid Parental Leave may not be foreseeable, or the employee may need to change the dates of their requested leave and may not be able to provide 30 days' notice. In these cases, the employee must submit the Parental Leave Request form and notify their Divisional Disability Representative (DDR) within 14 days of becoming aware of their need to take leave or modify the dates of leave. As needed, students are encouraged to discuss the dates and duration of parental leave with their advisor(s) and/or the Graduate Associate Chair.

Detailed employee eligibility requirements, qualifying events, exclusions, and other important details are provided in Policy UW-5054. The Paid Parental Leave web page contains helpful information, including frequently asked questions.

Employees who plan to request Paid Parental Leave should review the policy carefully and seek assistance as needed from their Divisional Disability Representative (DDR).

There will be no research or teaching expectations of the student during the leave. All academic

requirement deadlines (e.g., preliminary exam) will be extended for the student requesting leave, consistent with department academic timelines.

GRADUATE ASSISTANTSHIP POLICY AND PROCEDURES

The Graduate Assistantship Policy and Procedures (GAPP) website is the official Office of Human Resources document that outlines all policies and procedures relating to all types of graduate assistantships (Teaching, Research, and Project Assistantships) on campus. This is where policy information about your employment as an RA or TA, such as vacation and sick time, parental leave, etc., can be found. https://hr.wisc.edu/policies/gapp/

MENTAL HEALTH RESOURCES

Graduate students are encouraged to seek support when needed. University Health Services (UHS) offers a safe and confidential environment with a variety of support services available free of charge and open to all graduate students. These include individual, couple/partner, and group counseling, as well as stress management and psychiatry services.

UHS has Access Consultation phone screening**.** Students can call 608-265-5600 or log in to MyUHS for 24-hour appointment booking. Same day appointments are often available, and students will be able to have a consultation within two days.

If there is a risk of suicide or concern about well-being of a student, call UHS 24-hour crisis service to speak with an on-call counselor at 608-265-5600, option 9. If a situation is immediately life threatening, call 911.

In addition, UHS hosts a variety of group counseling opportunities based around support themes and various types of psychoeducational areas. Some groups meet virtually, some meet in person. The groups listed below are just a few examples. Additional groups cover more topics related to depression, anxiety, substance abuse, mindfulness, etc. and others provide creative arts outlets. Groups typically meet one to two hours weekly and may run from four to 12 weeks per semester. **All info on groups and workshops can be found at https://www.uhs.wisc.edu/mental-health/group-counseling/**

Interpersonal Process Groups - Past and present interactions with others contribute to shaping personality. Interpersonal Process Groups are often the treatment of choice for people who experience troubled relationships, loneliness, depression, anxiety, grief/loss, and low self-esteem. These groups offer a safe environment to identify and explore feelings; to give and receive support and feedback; to practice new, healthier ways of relating to others; and to feel less lonely or isolated.

Dissertators' Group (virtual) - A supportive group environment focused on the emotional, behavioral, and organizational challenges associated with the dissertation process.

Graduate Students' Group (virtual) - This group examines the sources of stress, ways of coping, and the role of peer support in adjusting to a role that often feels like its 24/7 as a graduate student.

Eating Concerns Support Group (virtual) - This group provides a space for UW-Madison students to explore their relationship with food, movement, and their bodies, as well as connect with peers around these shared experiences. Group facilitators are mental health professionals that foster a space that is open, affirming, and recovery-oriented for all members, with a focus on helping group members provide one another with encouragement and shared accountability. Anti-diet and Health at Every Size principles are foundational to the group.

Grief Support Group - This group helps participants express and explore emotions related to their experiences of bereavement. Open to people who have lost a loved one (e.g., family member, friend). Combines sharing, discussion, support, and activities.

Practicing Self Compassion (virtual) - This is a semi-structured process group for people who strive to feel worthy, to extend kindness to themselves, and to understand how to be your own best friend. Topics that will be explored include self-esteem, self-compassion, shame and guilt, vulnerability, and authenticity. Group members will engage in various activities such as journaling and mindfulness with periodic work outside of sessions.

Drop-in Survivor Support Group (virtual) - This is a space for UW-Madison student survivors to connect with peers and offer mutual support in a confidential and safe environment. Group facilitators are mental health professionals that foster a space that is open, affirming, and connecting for all members. Group will focus on the impact of having experienced trauma and skills/supports to support post-traumatic growth, with some boundaries placed around sharing narratives about traumatic experiences. This group is specifically designed for UW-Madison students who have experienced sexual assault, dating/domestic violence, sexual harassment, stalking, and/or childhood sexual abuse. **Strength for Survivors Group** meets in person.

ADHD Skills Training: Improving Attention, Organization, and Cognition - This 5-session workshop will teach you about the various causes of attention problems in college students, including ADHD. Sessions will contain skills for managing traits of ADHD, including optimizing self-care, mental health, study skills, and using technology wisely. Each session starts with an exercise or activity component guided by RecWell instructors, as physical activity is an important aspect of mental health and optimal cognitive functioning. These skills will help improve overall health and time management, with the goal of leading to increased academic success and quality of life.

ACT for Social Anxiety - This group is intended for students struggling with social anxiety. Sessions are designed to be educational and experiential, helping participants develop awareness and skills to overcome anxiety and self-consciousness in social situations. In a structured and supportive environment, participants will learn concepts, drawn from Acceptance and Commitment Therapy (ACT), intended to bolster self-confidence, acceptance, and willingness to confront the social challenges of everyday life.

Managing Anxiety and Depression (virtual) - A workshop designed to help students with symptoms of anxiety and depression foster acceptance and cope effectively. Over the course of this 2-session workshop, participants will learn new ways to manage the cognitive, behavioral, and physiological aspects of anxiety and depression. In a supportive, psychoeducational setting, students will gain greater awareness, skills and strategies, and practices that promote lifelong self-care.

Additional support and resources on campus include:

McBurney Disability Resource Office - The McBurney Disability Resource Center is the office for students with disabilities and classroom accommodations on the UW-Madison campus. As part of the student accommodation process, we work collaboratively with students and instructors to provide and support effective student accommodations. We work with UW-Madison students with physical, learning, hearing, vision, psychological, health and other disabilities substantially affecting a major life activity (e.g., walking, communicating, learning, seeing, breathing, reading, etc.). Many students have non-apparent disabilities such as depression, anxiety, autism spectrum disorders, learning disabilities, AD/HD and health impairments such as Crohn's disease or fibromyalgia. https://mcburney.wisc.edu/ Students looking to arrange accommodations should contact the McBurney Office as soon as possible

upon admittance to the PhD program or as soon as the knowledge that an accommodation would help becomes apparent. **Intake times can be up to two months or more.**

Let's Talk – UHS offers drop-in consultations at locations around campus. It's free, no appointment is necessary, and students are seen on a first-come, first-served basis. For the schedule, go to: https://www.uhs.wisc.edu/mental-health/lets-talk/

Wellness Initiatives – UHS's interdisciplinary program is designed to assist students' pursuit of healthy mind, body, and spirit. Programs include healthy living, nutritional counseling, mindfulness, exercise consultation, yoga, massage, stress management, and more. https://www.uhs.wisc.edu/wellness/

Support for Student Military Veterans – Student veterans transitioning to civilian life face unique challenges. UHS tailors support to this population including walk-in access to counselors experienced in working with veterans. https://www.uhs.wisc.edu/news/campus/student-veterans/

Sexual Violence Prevention Program - UHS provides an online violence prevention program, which all incoming graduate students at UW-Madison are expected to complete in their first semester. Failure to do so by Sept. 22nd, 2025, will result in a hold on your spring enrollment. Go here for more information: https://www.uhs.wisc.edu/prevention/violence-prevention/grad-students/

Victim Advocacy Open Access Hours – Drop-in support, information, and referral with confidential victim advocates for students who have experienced sexual assault, intimate partner violence, stalking, and/or sexual harassment. Located on the 8th floor of UHS (333 East Campus Mall), hours are M/T/W 1-4pm, and Th/F 9am-12pm. More info at: https://www.uhs.wisc.edu/survivor/

Student Affairs Office – This office serves students in areas including health and well-being, identity and inclusion, leadership and engagement, and student advocacy. We collaborate broadly across the many campus units and programs that serve students, such as the Office of Inclusive Excellence and University Housing, to enhance UW–Madison as a welcoming and inclusive community for all students. https://students.wisc.edu/

Office of Student Assistance and Support – This office helps students navigate personal, academic, or health issues. They assist students with a variety of concerns by working directly with them and connecting them to appropriate resources on campus. They also consult with and serve as a resource for faculty and staff, parents, families, and friends, working together to serve students. https://osas.wisc.edu/

Ombuds Office – University employees, including graduate students, can seek guidance regarding workplace concerns without fear of reprisal and at no cost to them. https://ombuds.wisc.edu/

In addition to utilizing UHS's services, graduate students who hold assistantship appointments are also able to seek mental health services covered by their health insurance plan.

GRIEVANCE PROCEDURES

If a student feels unfairly treated or aggrieved by faculty, staff, or another student, the University offers several avenues to resolve the grievance. Students' concerns about unfair treatment are best handled directly with the person responsible for the objectionable action. If the student is uncomfortable making direct contact with the individual(s) involved, they should contact the advisor or the person in charge of the unit where the action occurred (program or department chair, section chair, lab manager, etc.). For more information see the Graduate School Academic Policies & Procedures: https://grad.wisc.edu/documents/grievances-and-appeals/ The Assistant Dean for Graduate Affairs (engr-dean-graduateaffairs@engr.wisc.edu) provides overall leadership for graduate education in the

College of Engineering (CoE), and is a point of contact for graduate students who have concerns about education, mentoring, research, or other difficulties.

PROCEDURES

1. The student is encouraged to speak first with the person toward whom the grievance is directed to see if a situation can be resolved at this level.

2. Should a satisfactory resolution not be achieved, the student should contact the CBE Graduate Associate Chair, or Department Chair if the grievance involves the Graduate Associate Chair, to discuss the grievance. The Graduate Associate Chair or Department Chair will facilitate problem resolution through informal channels and facilitate any complaints or issues of students. The first attempt is to help students informally address the grievance prior to any formal complaint. Students are also encouraged to talk with their faculty advisors regarding concerns or difficulties if necessary. University resources for sexual harassment, discrimination, disability accommodations, and other related concerns can be found on the Employee Disability Resources website: https://employeedisabilities.wisc.edu/ Other campus resources include:
    - The Graduate School – www.grad.wisc.edu
    - McBurney Disability Resource Center – www.mcburney.wisc.edu
    - Employee Assistance Office – www.eao.wisc.edu
    - Ombuds Office – www.ombuds.wisc.edu
    - University Health Services – www.uhs.wisc.edu

3. If the issue is not resolved to the student's satisfaction the student can submit the grievance to the Graduate Associate Chair in writing, within 60 calendar days of the alleged unfair treatment.

4. On receipt of a written complaint, a faculty committee will be convened by the Graduate Associate Chair to manage the grievance. The faculty committee will obtain a written response from the person, organization, or governing committee toward whom the complaint is directed. This response will be shared with the person filing the grievance.

5. The faculty committee will determine a decision regarding the grievance. The Graduate Associate Chair will report on the action taken by the committee in writing to both the student and the person, organization, or governing committee toward whom the complaint was directed within 20 working days from the date the complaint was received.

6. At this point, if either party (the student or the person, organization, or governing committee toward whom the grievance is directed) is unsatisfied with the decision of the faculty committee, the party may file a written appeal. Either party has 10 working days to file a written appeal to the College of Engineering. The Assistant Dean for Graduate Affairs (engr-dean-graduateaffairs@engr.wisc.edu) provides overall leadership for graduate education in the College of Engineering (CoE), and is a point of contact for graduate students who have concerns about education, mentoring, research, or other difficulties.
7. Documentation of the grievance will be stored for at least 7 years. Significant grievances that set a precedent will be stored indefinitely.

The Graduate School has procedures for students wishing to appeal a grievance decision made at the College of Engineering level. These policies are described in the Graduate School's Academic Policies & Procedures: https://grad.wisc.edu/documents/grievances-and-appeals/

CONDUCT EXPECTATIONS

PROFESSIONAL CONDUCT

All students are expected to adhere to the highest standards of professional behavior and ethics. Students should avoid even an appearance of improper behavior or lack of ethical standards while in Graduate School at UW-Madison, in all professional settings, and in their personal lives. Students should conduct themselves according to the standards expected of members of the profession to which the student aspires. Concerns about infractions of Professional Conduct may be effectively handled informally between the instructor/advisor and the student. If a resolution is not achieved, a graduate program representative may be included in the discussion. Separate and apart from a violation of Professional Conduct, a student may face University disciplinary action with regard to the same action. Students are responsible for reading the information here as well as the information published on all the relevant websites. Lack of knowledge of this information does not excuse any infraction. The relevant websites are: The Office of Student Conduct and Community Standards (https://conduct.students.wisc.edu/) and the Graduate School Academic Policy and Procedures (https://grad.wisc.edu/academic-policies/).

1. Professional Ethics: Students shall: show respect for a plethora of opinions, perspectives, and cultures; accurately represent their work and acknowledge the contributions of others; aim to gain knowledge and contribute to the knowledge base of others; understand the UW Student Code of Conduct (https://conduct.students.wisc.edu/); represent their profession and the program; and strive to incorporate and practice disciplinary ideals in their daily lives. Resumes/CVs must reflect accurate information.

2. Honesty and Integrity: Students shall demonstrate honesty and integrity as shown by the following: honesty and ethics in research and IRB applications—including honesty in interpretation of data; commitment to an unbiased interpretation of academic and professional endeavors; and the need to document research activities, protect subject/client confidentiality and HIPPA regulations. Students shall: follow-through and pull their weight in group activities and understand where collaboration among students is or is not allowed; not plagiarize others or past work (self-plagiarism), cheat, or purposefully undermine the work of others; and avoid conflicts of interest for the duration of their time in the program. As a professional, honesty and integrity also extends to personal behavior in life outside of the academic setting by realizing that students are representatives of the program, UW-Madison, and the profession as a whole.

3. Interpersonal and Workplace Relationships: Students shall interact with peers, faculty, staff and those they encounter in their professional capacity in a manner that is respectful, considerate, and professional. This includes and is not limited to attending all scheduled meetings, honoring agreed upon work schedules, being on-time and prepared for work/meetings, contributing collaboratively to the team, keeping the lines of communication open, offering prompt response to inquiries, and employing respectful use of available equipment/technology/resources. Chronic or unexplained absences are unprofessional in the workplace and could be grounds for termination or removal of funding. To facilitate the free and open exchange of ideas, any criticism shall be offered in a constructive manner, and the right of others to hold different opinions shall be respected.

4. Commitment to Learning: Students are expected to meet their educational responsibilities at all times. Be actively prepared for class and be ready for questions and answers. Be on time for every class and always show courtesy during class or if you have to leave class early. If possible, students should notify the instructor at least one day in advance of a planned absence. Students who are unable to attend class are responsible for finding out what occurred that day and should not expect instructors to give them individual instruction. Recognizing that the pursuit of knowledge is a continuous process, students shall show commitment to learning by

persevering despite adversity and seeking guidance in order to adapt to change. Students shall strive for academic excellence and pursue and incorporate all critique, both positive and negative, in the acquisition of knowledge in order to understand and respect the community in which they work.

5. Professional Appearance: Students shall recognize that the UW campus is a professional environment, and that laboratory environments in particular require attire and hygiene that accord with safety and protective clothing protocols.

This graduate program, the Graduate School, and the Division of Student Life all uphold the UW-System policies and procedures in place for academic and non-academic misconduct. In addition, graduate students are held to the same standards of responsible conduct of research as faculty and staff. Furthermore, unprofessional behavior towards clients/subjects, faculty, staff, peers and public are significant issues in the evaluation and promotion of students. In turn, we hold expectations for the highest level of academic integrity and expect professional, ethical, and respectful conduct in all interactions. Students may be disciplined or dismissed from the graduate program for misconduct or disregard for professional conduct expectations regardless of their academic standing in the program. Separate and apart from a violation of Professional Conduct, a student may face University disciplinary action with regard to the same action. Students are responsible for reading the information here as well as the information published on all the relevant web sites, as mentioned before. Lack of knowledge of this information does not excuse any infraction.

ACADEMIC MISCONDUCT

Academic misconduct is an act in which a student (UWS 14.03(1)):

1. seeks to claim credit for the work or efforts of another without authorization or citation;
2. uses unauthorized materials or fabricated data in any academic exercise;
3. forges or falsifies academic documents or records;
4. intentionally impedes or damages the academic work of others;
5. engages in conduct aimed at making false representation of a student's academic performance; or
6. assists other students in any of these acts.

Examples of academic misconduct include but are not limited to:

1. cutting and pasting text from the Web without quotation marks or proper citation;
2. paraphrasing from the Web without crediting the source;
3. using notes or a programmable calculator in an exam when such use is not allowed;
4. using another person's ideas, words, or research and presenting it as one's own by not properly crediting the originator;
5. stealing examinations or course materials;
6. changing or creating data in a lab experiment;
7. altering a transcript;
8. signing another person's name to an attendance sheet;
9. hiding a book knowing that another student needs it to prepare for an assignment;
10. collaboration that is contrary to the stated rules of the course; or
11. tampering with a lab experiment or computer program of another student.

Additional information regarding Academic Misconduct:

Graduate School Policy & Procedure: Misconduct, Academic: https://policy.wisc.edu/library/Info-112

Student Affairs Office:
Academic Misconduct Process: https://conduct.students.wisc.edu/academic-misconduct/

Sexual Misconduct Process: https://osas.wisc.edu/report-an-issue/sexual-assault-dating-and-domestic-violence/

NON-ACADEMIC MISCONDUCT

The University may discipline a student in non-academic matters in the following situations:

1. for conduct which constitutes a serious danger to the personal safety of a member of the university community or guest;
2. for stalking or harassment;
3. for conduct that seriously damages or destroys university property or attempts to damage or destroy university property, or the property of a member of the university community or guest;
4. for conduct that obstructs or seriously impairs university-run or university-authorized activities, or that interferes with or impedes the ability of a member of the university community, or guest, to participate in university-run or university-authorized activities;
5. for unauthorized possession of university property or property of another member of the university community or guest;
6. for acts which violate the provisions of UWS 18, Conduct on University Lands;
7. for knowingly making a false statement to any university employee or agent on a university-related matter, or for refusing to identify oneself to such employee or agent;
8. for violating a standard of conduct, or other requirement or restriction imposed in connection with disciplinary action.

Examples of non-academic misconduct include but are not limited to:

1. engaging in conduct that is a crime involving danger to property or persons, as defined in UWS 18.06(22)(d);
2. attacking or otherwise physically abusing, threatening to physically injure, or physically intimidating a member of the university community or a guest;
3. attacking or throwing rocks or other dangerous objects at law enforcement personnel, or inciting others to do so;
4. selling or delivering a controlled substance, as defined in 161 Wis. Stats., or possessing a controlled substance with intent to sell or deliver;
5. removing, tampering with, or otherwise rendering useless university equipment or property intended for use in preserving or protecting the safety of members of the university community, such as fire alarms, fire extinguisher, fire exit signs, first aid equipment, or emergency telephones; or obstructing fire escape routes;
6. preventing or blocking physical entry to or exit from a university building, corridor, or room;
7. engaging in shouted interruptions, whistling, or similar means of interfering with a classroom presentation or a university-sponsored speech or program;
8. obstructing a university officer or employee engaged in the lawful performance of duties;
9. obstructing or interfering with a student engaged in attending classes or participating in university-run or university-authorized activities;
10. knowingly disrupting access to university computing resources or misusing university computing resources.

Additional information regarding Non-Academic Misconduct:

Graduate School Academic Policies & Procedures: Misconduct, Non-Academic:
https://policy.wisc.edu/library/Info-113

Dean of Student's Office: Nonacademic Misconduct Process:
https://conduct.students.wisc.edu/nonacademic-misconduct/

University of Wisconsin System: Chapter UWS 18: Conduct on University Lands:

https://policy.wisc.edu/library/UW-6000

RESEARCH MISCONDUCT

Much of graduate education is carried out not in classrooms, but in laboratories and other research venues, often supported by federal or other external funding sources. Indeed, it is often difficult to distinguish between academic misconduct and cases of research misconduct. Graduate students are held to the same standards of responsible conduct of research as faculty and staff. The Graduate School is responsible for investigating allegations of research misconduct. This is often done in consultation with the Division of Student Life as well as with federal and state agencies to monitor, investigate, determine sanctions, and train about the responsible conduct of research. For more information, contact the Associate Vice Chancellor for Research Policy, 333 Bascom Hall, (608) 262-1044.

Please see section on "Grievance Procedures and Misconduct Reporting" for further information on reporting research misconduct of others. Here are links for additional information regarding Research Misconduct and Responsible Conduct:

Graduate School Policies & Procedures: Responsible Conduct of Research
https://grad.wisc.edu/documents/responsible-conduct-of-research/

Office of the Vice Chancellor for Research and Graduate Education's - Office of Research Policy: Introduction & Guide to Resources on Research Ethics: www.research.wisc.edu/respolcomp/resethics/

Office of the Vice Chancellor for Research and Graduate Education's Office of Research Policy: Policies, Responsibilities, and Procedures: Reporting Misconduct
www.kb.wisc.edu/gsadminkb/page.php?id=34486

Office of the Vice Chancellor for Research and Graduate Education's Office of Research Policy: Policies, Responsibilities, and Procedures: Responsible Conduct of Research Resources
www.kb.wisc.edu/gsadminkb/search.php?cat=2907

REPORTING MISCONDUCT AND CRIME

The campus has established policies governing student conduct, academic dishonesty, discrimination, and harassment/abuse as well as specific reporting requirements in certain cases. If you have a grievance regarding unfair treatment towards yourself, please reference the procedures and resources identified above. If you learn about, observe, or witness misconduct or other wrongdoing you may be required to report that misconduct or abuse. Depending on the situation, it may be appropriate to consult with your advisor, Graduate Program Coordinator, or other campus resources (such as the UW Employee Disability Resources Office, Graduate School, Mc Burney Disability Resource Center, Employee Assistance Office, Ombuds Office, and University Health Services).

RESEARCH MISCONDUCT

The University of Wisconsin-Madison strives to foster the highest scholarly and ethical standards among its students, faculty, and staff. Graduate students and research associates are among the most vulnerable groups when reporting misconduct because their source of financial support and the progress in their careers may be at risk by raising questions of wrongdoing. They are also often the closest witnesses to wrong doing when it occurs and therefore must be appropriately protected from the consequences of reporting wrongdoing and be informed of their rights. Please find full details at https://research.wisc.edu/compliance-policy/research-ethics/.

ACADEMIC MISCONDUCT
If you know a classmate is cheating on an exam or other academic exercise, notify your professor, teaching assistant or proctor of the exam. As a part of the university community, you are expected to uphold the standards of the university. Also, consider how your classmate's dishonesty may affect the overall grading curve and integrity of the program.

SEXUAL ASSAULT REPORTING
Faculty, staff, teaching assistants, and others who work directly with students at UW-Madison are required by law to report first-hand knowledge or disclosures of sexual assault to university officials, specifically the Office of Compliance or the Division of Student Life. This effort is not the same as filing a criminal report. Disclosing the victim's name is not required as part of this report. Please find full details at https://compliance.wisc.edu/titleix/mandatory-reporting/ and https://compliance.wisc.edu/.

CHILD ABUSE REPORTING
As a UW-Madison employee (under Wisconsin Executive Order #54), you are required to immediately report child abuse or neglect to Child Protective Services (CPS) or law enforcement if, in the course of employment, the employee observes an incident or threat of child abuse or neglect, or learns of an incident or threat of child abuse or neglect, and the employee has reasonable cause to believe that child abuse or neglect has occurred or will occur. Volunteers working for UW-Madison sponsored programs or activities are also expected to report suspected abuse or neglect. Please find full details at https://youthprotection.wisc.edu/reporting/ and https://policy.wisc.edu/library/UW-301.

INCIDENTS OF BIAS/HATE
The University of Wisconsin-Madison values a diverse community where all members are able to participate fully in the Wisconsin Experience. Incidents of Bias/Hate affecting a person or group create a hostile climate and negatively impact the quality of the Wisconsin Experience for community members. UW-Madison takes such incidents seriously and will investigate and respond to reported or observed incidents of bias/hate. Please find full details https://compliance.wisc.edu/.

HOSTILE AND INTIMIDATING BEHAVIOR

Hostile and intimidating behavior, sometimes known by the shorthand term "bullying", is defined in university policy as "unwelcome behavior pervasive or severe to the extent that it makes the conditions for work inhospitable and impairs another person's ability to carry out his/her responsibilities to the university." A person or a group can perpetrate this behavior. The person need not be more senior than or a supervisor to the target.

Hostile and intimidating behavior (HIB) can occur in the university setting. Even individual instances of such behavior can have a significant effect on the person it's aimed at, and can take a physical and emotional toll, reduce the effectiveness of a person's work or learning. It is a significant reason for unhealthy workplace climate and culture, and should be addressed immediately. Hostile and intimidating behavior is prohibited by university policy. Unacceptable behavior may include, but is not limited to:

- Abusive expression (including spoken, written, recorded, visual, digital, or nonverbal, etc.) directed at another person in the workplace, such as derogatory remarks or epithets that are outside the range of commonly accepted expressions of disagreement, disapproval, or critique in an academic culture and professional setting that respects free expression;
- Unwarranted physical contact or intimidating gestures;
- Conspicuous exclusion or isolation having the effect of harming another person's reputation in the workplace and hindering another person's work;
- Sabotage of another person's work or impeding another person's capacity for academic expression, be it oral, written, or other;

- Abuse of authority, such as using threats or retaliation in the exercise of authority, supervision, or guidance, or impeding another person from exercising shared governance rights, etc.

Repeated acts or a pattern of hostile and/or intimidating behaviors are of particular concern. A single act typically will not be sufficient to warrant discipline or dismissal, but an especially severe or egregious act may warrant either.

WHAT TO DO IF YOU FEEL YOU HAVE BEEN THE TARGET OF HIB

Undesired consequences of hostile and intimidating behavior can be avoided or minimized when the problem is addressed early on, but victims are often hesitant to pursue a formal process before the impact is severe. Educational opportunities and campus resources have been implemented with the intent of aiding all employees and students in defusing situations before they become severe. These resources, including trained personnel who can advise and mediate, comprise the “informal process.” It is possible that situations will continue to arise in which informal interventions are not effective, and the “formal process” has been designed to address those situations.

You are encouraged to seek out advice and consultation after the first instance of hostile and intimidating behavior: consultation is not escalation. Discussing what’s happened in a timely way can often prevent continued bullying. Here are some ways to do this:

- Seek advice from a trusted colleague;
- You may choose to seek informal resolution by approaching the individual yourself or with an intermediary;
- Consult your advisor, human resources representative, department chair, director, dean, or any campus resource to discuss options for resolution;
- Keep notes of what happened, when, where, and who was present. Retain copies of any correspondence.

Graduate Students sometimes experience hostile and intimidating behavior from faculty members. If you are a student who is experiencing such behavior, you are entitled to support as a university employee through the Ombuds office, the Student Affairs office, and (if a grad student) the Graduate School. Graduate student workers should also consult with Graduate Coordinators, TAA Stewards, and/or the Graduate School.

CBE graduate students with concerns may contact the Associate Chair for Graduate and Studies, or the College of Engineering Assistant Dean for Graduate Affairs. Additional campus information on hostile and intimidating behavior is available at https://hr.wisc.edu/hib/.

APPENDIX A.

THE BREADTH REQUIREMENT

In addition to studies in chemical and biological engineering, the PhD candidate is required to undertake a program of course work in a field other than chemical and biological engineering. The purpose of the requirement is to add breadth to the PhD major. This requirement may be satisfied by a departmental minor (option A), a distributed minor (option B), or a graduate/professional certificate (option C).

The minor, whether Option A, B, or C, is designed to represent a coherent body of work, and should not be simply an after-the-fact ratification of a number of courses taken outside the major department. To ensure coherence, the student must consult with their advisor. The PhD Breadth Agreement Form should be submitted for approval at an early date, before the student is halfway through the proposed course sequence. The minor/certificate program must be approved by both the student's advisor and the appropriate department.

MINOR OPTION A
For Minor Option A, the student is required to complete at least 9 graduate credits in a single department. The program of course work must be approved by the minor department. Departments may have specific course requirements for their minor and may require more than the 9-credit minimum. The student must meet the requirements of the minor department for satisfactory completion of the minor.

MINOR OPTION B (DISTRIBUTED)
If the needs of the student would best be served by preparation not available as a departmental minor the department may permit the student and the advisor to develop a special program in lieu of a departmental minor. To meet the requirements of this Minor Option B, the student must complete at least 9 graduate credits in **two or more departments** (outside the major if following the 10-course curriculum; if following the 7-course curriculum, graduate-level CBE courses in excess of the core course requirement may be used), in related courses selected for their relevance to the student's particular area of concentration. The proposed program of course work must be approved by the Department of Chemical and Biological Engineering.

GRADUATE/PROFESSIONAL CERTIFICATE OPTION C
For Option C, the student is required to complete the certificate in a program outside of their doctoral major. The program of course work must be approved by the certificate department. Departments may have specific course requirements for their certificate and may require more than the 9-credit minimum. The student must meet the requirements of the certificate department for satisfactory completion of the certificate.

TIMING
Students must request approval of their minor/certificate program before they are halfway through the proposed courses. Because the PhD minor/certificate must be declared at the time the preliminary warrant is requested from the Graduate School, they must be approved at least one month before the preliminary exam date. The approval process for Option B minors may take one month or more.

BASIC REQUIREMENTS
A GPA of 3.0 must be maintained in the minor/certificate. All courses must be 300 level or above, taken after the bachelor's degree (or the equivalent). Students may not use 790, 890 or 990 (research and thesis) courses for their minor. No more than 5 credits completed 5 or more years prior to admission to the PhD major may be used. Courses taken 10 or more years ago may not be used. Courses taken for pass-fail or for audit may not be used. Courses with grades of (S) satisfactory or Cr. (credit) are acceptable.

TRANSFER WORK
If you are requesting to use courses taken as a graduate student at another university (undergraduate courses cannot be transferred), submit your proposal early and include the following: (1) an official transcript, (2) a memo from the appropriate minor/certificate area indicating the course(s) taken at the other institution and their UW-Madison equivalent. It is also helpful to include a course syllabus, if available. Please note quarter hours are rounded to semesters: 4 quarter hours = 3 semester hours.

CHANGES IN MINOR/CERTIFICATE COURSES
If a student's minor/certificate courses change, they must submit a Revised Minor/Certificate Agreement Form using the same process outlined above. The student may take approved courses in a different semester without submitting a new form.

APPENDIX B.

PhD Breadth Agreement Form

(Minimum 9 credits)

Name: _____ Date: _____

UW ID #: _____ Major: **CHEMICAL & BIOLOGICAL ENGINEERING**

Minor (check one): ____ Option A: _____
(Check with individual dept. for minor requirements)
____ Option B: Distributed (9 credits minimum, two or more depts. **outside the major for 10-course, inside CBE allowed with 7-course curriculum)**

Certificate: ____ Option C: _____
(Check with individual program for certificate requirements)

This is an _____Original _____Revised Breadth Agreement Form (check one)

□ Yes, I have declared my minor in MyGrad Portal **and it has been approved** (required before submission)

I am completing the: □ 7 course-curriculum □ 10-course curriculum

List minor/certificate courses as they appear on your UW-Madison transcript:

Dept. Name	Course #	Course Title	Credits	Grade	Semester F/Sp /Su	Year

For Option B (Distributed Minor) only: Include a brief explanation of your choice of courses and their relevance to your research area:

_____ _____
Name of Major Advisor Signature of Minor/Certificate Dept. (Option A/C)

_____ _____
Signature of Major Advisor Signature of Major Dept. Chair (Option B)

_____ _____
Date Date

APPENDIX C.

PhD Elective Course Approval Form

Only for those completing the 10-course curriculum

Name: _____ Date: _____

UW I.D.#: _____ Major: **CHEMICAL ENGINEERING**

Semester and year you entered program: _____

PhD elective course requirement:

- Three credits from coursework **outside** CBE
- B average
- No audit or pass/fail courses

List your proposed elective course(s) below. Obtain the approval and signature of your major advisor. Return signed form to Graduate Program office (2033 EH).

Department Name	Course Number	Course title	Credits	Grade	Semester F/Sp/Su	Year

_____
Name of Major Advisor

_____
Signature, Major Advisor

_____
Date

APPENDIX D.

THE PRELIMINARY EXAMINATION

SCOPE AND OBJECTIVES OF THE WRITTEN PRELIMINARY REPORT

The primary purpose of the written preliminary report and the ensuing comprehensive oral preliminary examination is to determine the potential of the applicant as a competent researcher. It is also an important objective of this procedure to ensure that the student begin their research career with an initial set of goals based upon a study of the pertinent literature, a logical analysis of the proposed research problem, and preliminary results. The student must show, in the report and oral examination, satisfactory evidence of initiative, imagination, and natural curiosity, and a high level of professional ability.

The written report shall be an original document prepared by the student. The written report should contain the following sections (sections 1-5 should not exceed 15 pages in total; subsection page lengths are for guidance only):

1. A concise abstract of the problem, approach, and expected outcomes (1 page)
2. A statement of the goals and motivation underlying the proposed research (3 pages)
3. A critical analysis of past studies relevant to the goals of the proposed research (3 pages)
4. A concise summary of the accomplishments to date (3 pages)
5. A description of plans for future research (5 pages)
6. A statement of safety considerations (no limit)
7. List of references, including the titles of the papers (no limit)

The document should be prepared using 12-point font, single spacing, and 1-inch margins. Figures are included in the page count. The document should not contain appendices.

While the scientific aspects of the proposed work should be discussed between the student and their advisor(s), the written document should be original work by the student. The student is responsible for all aspects of preparation of the written document and oral presentation, including proper citations, formatting, and proofreading.

PAGE LENGTH OF WRITTEN REPORT

The total preliminary report must not exceed 15 pages (single-spaced, including figures, 12-point font, 1- inch margins, not counting the section dealing with safety considerations and the list of references. Figures are included in the page count. The document should not contain appendices.

LENGTH OF ORAL PRELIMINARY EXAMINATION

The total length of the oral preliminary exam is 2 hours. The first 30 minutes of the exam will be devoted to the student's presentation. The last 1 ½ hours will be reserved for questions from the committee members.

ASSESSMENT OF PRELIMINARY EXAMINATION AND QUALIFYING PROCESS

The student's grade on the preliminary examination will be based on an evaluation of the 10 attributes listed on the attached rating sheet. Each member of the examination committee will submit a grade on a scale of 1.0 to 4.0, which is used to determine qualification for the PhD program.

To qualify for the PhD program, the average grade submitted by the committee must be 3.0 or higher.

After successful completion of the preliminary exam, the committee members will sign the warrant. If the student has also completed the major and minor requirements, the appropriate certifying signatures should be obtained on the warrant. The warrant should then be returned to the Graduate School. Students who have passed prelims, satisfied the major and minor requirements, and satisfied the residence requirement (as determined by the Graduate School) will be granted dissertator status.

APPENDIX E.

Preliminary Exam Committee Form

Name: _____

UW I.D. #: _____

Thesis topic: _____

Today's date: _____

Committee members:

A) Major advisor(s):

_____

_____

B) CBE Faculty or CBE Affiliate Faculty in your general area of research:

1) _____

2) _____

C) Additional CBE Faculty or CBE Affiliate Faculty member **not** in your general area of research:

_____

Date and Time of Preliminary Oral Exam: _____/_____/_____ at ____:____ AM/PM
(circle or highlight one).

Location of Preliminary Oral Exam: ☐ Remote via _____ OR ☐ In Person in room _____

Please use this name for my preliminary exam warrant **(CHOOSE ONE**):

□ My preferred name as I entered it in MyUW

□ My legal name

Proposed Minor:

_____

Option A or C – Name it. For example: Option A: Music or Option C: Energy Analysis and Policy certificate. Option B- Distributed.

Proposed Date of Completion of Minor/Certificate (Must be in 6 digits) _____/_____/_____

APPENDIX F.

Rating Sheet for Preliminary Examination

Student:
B.S. School & Year:
Date of Exam:
Research Project:
Major Professor:

	Committee Members					Prelim Rating Average
Rating						

Guidance in assigning grades in the preliminary exam:
Rate the candidate's preliminary exam performance on a scale of 1.0 to 4.0 in .5 increments.

Ratings are to be based on the following attributes:

- Ability to define research problem
- Literature search
- Theoretical development; comprehension of theory and application to problem Planning of experimental procedures, thoroughness, regard for detail
- Maturity of judgment
- Originality
- Flair for research
- English composition: grammar, conciseness, and lucidness
- Neatness of composition, orderliness of presentation, clarity of drawings, figures, etc. Behavior and attitude on oral examination

Qualifying requirement:

For a student to qualify for the PhD program in Chemical and Biological Engineering, the average grade on the preliminary exam must sum to 3.0 or higher.

APPENDIX G.

4th Year Research Progress Meeting
Committee Assessment

Student:
Date of Exam:
Committee members: (circle or highlight name of committee chair)

Summarize the committee's assessment below. Committee members are to sign off, and the committee chair is asked to return this form to the Graduate Program office (2033 EH). The original form will be provided to the student and a copy placed in the student's file.

STRENGTHS:

NEEDS IMPROVEMENT:

ADDITIONAL NOTES:

Signed (committee members):

_____ (Advisor)

_____(Co-Advisor)

_____(Committee Member)

_____(Committee Member)

_____(Committee Member)

APPENDIX H.

PREPARATION OF THESES AND DISSERTATIONS FOR ADVANCED DEGREES

GRADUATE SCHOOL REGULATIONS

In the preparation and submission of MS theses and PhD dissertation, it is important to satisfy the regulations of the Graduate School and the department. The Graduate School regulations, which focus primarily on the physical form of the document, are set forth in the following publications available on the Graduate School web site:

A Guide to Preparing Your Master's Thesis:
https://grad.wisc.edu/current-students/masters-guide/

A Guide to Preparing Your Doctoral Dissertation:
https://grad.wisc.edu/current-students/doctoral-guide/

TECHNICAL CONTENT

The Department of Chemical and Biological Engineering is responsible for approving the technical content of the document. In general, the only requirement of the department is that all theses and dissertations meet the standards of excellence to be expected of a candidate aspiring to an advanced degree. Agreement between the candidate and the major professor concerning the scope, content, and arrangement of the document is generally sufficient to satisfy this departmental requirement. The following is a general suggested outline of the order and contents of MS theses and PhD dissertations that has been adopted by the department as a guide for candidates in the preparation of their document. Modification of this outline may be necessary to meet the needs of the individual. The emphasis should not be placed on adhering to a standard form, but rather on scholarly organization and clear presentation.

COMMITTEE COPIES

A copy of your thesis (or MS report) must be given to each member of your committee at least two weeks before your exam. Electronic copies should be sent in PDF format.

DEPARTMENT COPY

Since 1997, Memorial Library has been keeping electronic thesis copies for the PhD level**.** To access a thesis, go to: https://www.library.wisc.edu/find/dissertations/.

DEPOSITING THE FINAL THESIS OR DISSERTATION

PhD students upload their signed warrant at the ProQuest website when submitting their dissertation to the Graduate School. Students must submit their dissertation to the Graduate School by the semester deadline in order to graduate in the final term in which they are enrolled. For a list of PhD deadlines go to: https://grad.wisc.edu/current-students/doctoral-guide/ and scroll down to DOCTORAL DEGREE DEADLINES.

Final review, or "checkout" with the Graduate School is optional. If you would like to have a final review with the Graduate School, go to https://grad.wisc.edu/current-students/doctoral-guide/ and look to the section labeled "Defend and deposit your dissertation" under STEPS TO COMPLETING THE DEGREE. Go through the checklist and follow the steps listed to make an appointment. Copies of your dissertation can be obtained through ProQuest: https://www.library.wisc.edu/find/dissertations/. Students are also responsible for completing

and submitting the CBE Department's Final Check-Out Form and returning it to the Graduate Program office (EH 2033).

MS students who defend a thesis must email a PDF of their thesis to the Graduate School Master's Degree Coordinator according to Graduate School guidelines found at: https://grad.wisc.edu/current-students/masters-guide/ Look to the accordion menu labeled "Depositing your thesis" under GUIDE TO PREPARING YOUR MASTER'S THESIS. You do not need to bring your MS thesis to the Graduate School for approval unless you choose to publish your thesis through UMI. Students must submit their thesis to the Graduate School Degree Coordinator by the semester deadline in order to graduate in the final term in which they are enrolled. For a list of MS deadlines, go to: https://grad.wisc.edu/current-students/masters-guide/ and scroll down to MASTER'S DEGREE DEADLINES. Students are also responsible for completing and submitting the CBE Department's Final Check-Out Form and returning it to the Graduate Program office (EH 2033).

THESIS AND DISSERTATION EMBARGO

A PhD student may put an embargo, or delayed release date, on their dissertation upon submission to the Graduate School. Dissertations are normally open and searchable online shortly after they are deposited with ProQuest. However, if a publication or a patent is pending, or if a company supporting the student's research wants to have an embargo placed for some amount of time after submission, an embargo may be requested during the submission process, in which case the citation and abstract will be available in ProQuest while the full text is under an embargo.

The student and advisor must decide whether or not to delay release before the student deposits the dissertation. All decisions are final. Once the dissertation has been delivered to ProQuest, it is too late to delay release.

The only way to delay release is to make the appropriate selection during the submission process. Students will have the option to select "No" to the Publishing Options question: "I want my work to be available in ProQuest as soon as it is published." Next the student will choose a time period of 6 months, 1 year, or 2 years for embargo. If they would like to select 3 years, select "other" and then write a note to the administrator in the text box below your selection, explaining that they would like 3 years. These options do not require special permission, but the student should have discussed this with their advisor in advance.

An MS student may request an embargo for their thesis by outlining the timeline of the embargo within the same email to the Graduate School MS Degree Coordinator that contains the finalized PDF of their thesis. The student's advisor would then need to email the MS Degree Coordinator with their approval as well.

Any request for more than a 3-year embargo or an extension of the original embargo request will be reviewed by the Graduate School Divisional Associate Dean. Such a request requires a letter to be signed by the student and the advisor in advance.

In order to qualify for an embargo extension, you are required to contact the appropriate degree coordinator prior to the expiration date of your embargo. Again, it is your responsibility to contact the Graduate School before your thesis or dissertation is released. Once a dissertation embargo has been lifted, it will not be reinstated.

SUGGESTED ORDER OF CONTENTS FOR THESES

Title Page (See sample given in the Graduate School guidelines.)
Abstract (In the case of PhD dissertation this may be identical with the 350-word abstract required by the Graduate School for UMI.)
Acknowledgments
Table of Contents (with page references)
List of Tables (with titles and page references)
List of Figures (with titles and page references)

I. Summary
   A. Statement of the problem
   B. Important results
   C. Conclusions and recommendations
II. Historical Background
   A. Critical survey of the theory
   B. Critical survey of the experimental work
   C. Reasons for this investigation
III. Complete Account of this Investigation
IV. Analysis of Results
   A. Results
   B. Conclusions
   C. Recommendations
V. Notation
VI. Appendices
VII. Bibliography

THE ABSTRACT AND THE SUMMARY

A clear distinction should be made between the abstract and the summary. The purpose of the abstract is primarily one of cataloging the contents as to scope and area of interest, whereas the summary is intended to give specific details concerning new results and recommendations for further study. The abstract should be short (350 words) and should be so written that it may stand alone; the summary, on the other hand, may be as much as 10 pages, and in it there may be references to the main body of the document. The abstract should be understandable to any well-trained chemical engineer, whereas the summary may be written for one who is better acquainted with the topic being discussed.

ACKNOWLEDGMENTS

It is important that acknowledgment be given to all individuals and organizations who have contributed to the conduct and support of the research.

SUMMARY

Statement of the Problem: The purpose of this first paragraph of the summary is to acquaint the reader with the nature of the research problem. This is important to those persons who cannot give attention to all details of the work but are required to become acquainted with the problem. This paragraph should contain a concise but complete statement of the problem studied and its applicability to chemical engineering. It should be made clear how this investigation will contribute to the advance of the profession. A clear statement of the objectives of the research must be included.

Important Results: This paragraph should include a statement of the specific results obtained as well as their importance in chemical engineering as a science or as a profession. Important formulae should be referred to or quoted, and reference to tables and figures in the main text should be made if such references are of help in summarizing the results.

Conclusions and Recommendations: The conclusions of the investigation represent a most important part of the document. Therefore, extreme care must be exercised in presenting these conclusions and in making recommendations on the basis of them. All conclusions should be based on the results of the research and should be properly qualified if based on uncertain results or speculations. Recommendations may concern proposals for new procedures, studies of new phases of the subject or different chemical systems, or applications to different processes. The latter might include recommendations for patents. Each recommendation should be concisely and clearly worded and should be incorporated in a separate paragraph.

HISTORICAL BACKGROUND

This section should include a complete summary of previous theoretical and experimental studies made in this department and elsewhere, as reported in the technical literature and in patents. The results of research cannot be considered conclusive or original unless the previous work done in the field has been thoroughly reviewed and analyzed. Evidence of a mature understanding of previous work should be presented in this section, and literature references should be properly documented and quoted. The historical survey should lead quite naturally into a discussion of the reasons prompting the research reported in the thesis or dissertation. The statement of the objectives should be reiterated in light of the historical discussion.

COMPLETE ACCOUNT OF THIS INVESTIGATION

In general, this section should comprise an orderly account of the original theoretical development and the experimental program completed in this investigation.

The varied nature of research projects in chemical engineering, and the desirability of maximum freedom of choice in reporting such projects preclude a detailed outline. However, it may be suggested that the reader would benefit from the following: method of planning the program and designing the equipment and experiments, detailed construction diagrams and description of the experimental equipment, safety precautions and operating procedures, calculation procedures, and lists of all experimental runs made, where an extended program was carried out. It may be desirable to relegate some of this material to appendices.

It is particularly desirable to emphasize new and original features of the theory, calculation methods, equipment design and experimental technique.

ANALYSIS OF RESULTS

Considerable emphasis should be placed on an orderly presentation of results and comparisons between experimental data and various theories. Any data or correlations of questionable value should be carefully pointed out. It is advisable to include illustrative examples, when possible, to indicate how the results of the investigation may be used in practical chemical engineering calculations.

The conclusions should be discussed from the standpoint of the original objectives of the research. They should lead naturally to the formulation of concrete suggestions for future work. An indication of scientific maturity is the ability to chart a program of new research on the basis of results of completed research.

APPENDIX I.

PhD FINAL ORAL COMMITTEE APPROVAL FORM

Please submit to the Graduate Program Coordinator **at least three weeks prior to the date of defense**. Print clearly.

Date _____/_____/_____ This is a/an (circle one): Original Form Revised Form

Student's Full Name: (Last, First, Middle) _____

Student's 10-digit ID Number: 9_____

Student's Major: _____ & Minor/Certificate: _____

Please use this name for my final defense warrant **(CHOOSE ONE**):

□ My preferred name as I entered it in MyUW
□ My legal name

This form, signed by the advisor/major professor and departmental chairperson, should be returned to the Graduate Program Coordinator (EH 2033) **at least 3 weeks before the final oral exam**. An electronic request for a warrant is then sent to the Graduate School for approval**. If any changes are made in the membership of the committee, a revised final oral exam form must be submitted before the exam**. Changes in dissertation title or date do not require a revised form.

The following faculty members have agreed to serve on the Final PhD Oral Exam Committee for the above-named student. Three committee members must be designated as Readers. Please check names of readers in boxes below. **If you only have 1 advisor, you may cross out Advisor in the second row.**

	READER	**NAME** (Last, First, Middle)	**RANK**	**DEPARTMENT/MAJOR REPRESENTED** (full name)
Advisor 1.	☐	_____	_____	_____
Advisor 2.	☐	_____	_____	_____
3.	☐	_____	_____	_____
4.	☐	_____	_____	_____
5.	☐	_____	_____	_____

Proposed Dissertation Title:

_____

_____

_____

_____

_____

Date, Time, and Location of Final Oral Defense

_____

Signature: Advisor/Major Professor

_____

Signature: Department Chairperson

APPENDIX J.
MS Degree Requirements Worksheet and Checklist

General requirements:

- Minimum 30 graduate-level (300 or above) credits
- Up to 6 credits for CBE 300-499 in groups I & II combined used towards 30 credits
- If a thesis is done, 5-14 credits of 790 Research in I & II combined used towards 30 credits
- For project report option, 3-12 credits of 790 Research in I & II combined used towards 30 credits
- CBE course grades must be B or better; other courses must be B average with all grades C or above
- No audit or pass/fail courses

I. Professional Group

☐ 12 cr. CBE courses
☐ 6 cr. Must be 600-899 (excluding research)
☐ B or better in each

Dept.	*Course #*	*Credits*	*Grade*	*Term*
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____

II. Elective Group

☐ 12 cr. Grad level courses
☐ 6 cr. Must be non-CBE
☐ B average

Dept.	*Course #*	*Credits*	*Grade*	*Term*
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____

Minimum Graduate Residence Credit Requirement: (https://policy.wisc.edu/library/UW-1246)

□ 15 credits of UW courses required for MS to pass
- must be 300 & above, B Average, no audit or pass/fail

	# UW credits completed
Semester 1	_____
Semester 2	_____
Semester 3	_____
Semester 4	_____
Semester 5	_____
Total:	_____

Semester of graduation:

___ Enroll for minimum of 2 graduate credits if summer- check with Graduate Program Coordinator about other semesters, especially if you are an international student or have an RAship
___ Clear any remaining grades of incompletes
___ Set up MS committee and choose date and time for exam

An MS candidate not planning to seek re-admission to the PhD program must successfully complete an oral examination before a departmental examining committee of the advisor(s) plus two other CBE faculty members, for a total of 3-4 committee members. An MS candidate who is seeking re-admission to the PhD program must successfully complete an oral examination before a departmental examining committee of the advisor(s) plus three other CBE faculty members, for a total of 4-5 committee members.

3 weeks before exam:

___ Submit Request for Master's Degree Warrant form to the CBE Graduate Program office.

After passing exam: (https://grad.wisc.edu/current-students/masters-guide/)

___ If writing a thesis, deposit it with the MS Degree Coordinator at the Graduate School (see link above)
___ If writing a project report, deposit with the Graduate Program Coordinator
___ Complete and turn in CBE Final Check-out Form to Graduate Program Office

APPENDIX K.

Master's Degree Warrant Request Form

Name: _____ Date: _____

Campus ID#: _____

Please use this name for my final defense warrant **(CHOOSE ONE**):

□ My preferred name as I entered it in MyUW

□ My legal name

Procedure:

1. Choose your committee members in consultation with your advisor. Your committee will consist of 3 to 5 total members. If you do not plan to petition to return to the PhD program, your committee may consist of 3-4 total people: your advisor(s) plus two additional CBE professors you and your advisor(s) choose. If you do plan to petition to return to the PhD program, your committee will consist of 4-5 total people: your advisor(s) and 3 additional CBE professors that you and your advisor(s) choose.
2. Arrange a date and time for your examination.
3. Reserve a conference room for your examination (see staff in 2018 EH).
4. Submit this form to the Graduate Program Coordinator (2033 EH) **at least 3 weeks prior** to the date of your examination.
5. Distribute copies of your thesis to your committee members at least two weeks prior to your exam date. Copies must be printed double-sided, and comb bound, tape bound, or coil bound.

MS Examining Committee Members:

Advisor(s): _____

_____

Two (2) or Three (3) additional CBE Professors:

_____

_____

_____

Master's Thesis Title: _____

Date, Time, and Location of Examination: _____

Will you be petitioning to continue to the PhD in this department? □ Yes □ No □ Unsure

APPENDIX L.

Payroll End Date Form

Provide this completed form to the Payroll and Benefits Specialist, Stephanie Petsch, at spetsch@wisc.edu and to Kate Fanis, Graduate Program Coordinator, at kfanis@wisc.edu **at least one week ahead of your deposit date.**

Name (Please print): _____

Student Signature: _____

By signing this form, you acknowledge that if for any reason you are paid beyond the approved appointment end date listed below without approval, you will return all excess payment amounts to the University.

E-mail address: _____

Advisor(s) (Please print):_____

Advisor Signature(s): _____

Date of deposit*^: _____/ _____/ _____

Final payroll date[+]: _____/_____/_____

*For PhD graduates: Deposit date is the date you deposit your PhD dissertation with the Graduate School online via ProQuest.

^For MS graduates not continuing in the PhD program: If you completed an MS thesis, this is the date you have emailed your thesis to the MS Degree Coordinator at the Graduate School. If you completed a project report, this is the date you provided the finalized version of your project report to Kate Fanis.

[+] **Your final payroll date (typically through RAship) is usually the same as your deposit date. Your RAship cannot end before you deposit your dissertation without advance planning from your advisor.**

Domestic students: If your advisor has agreed to pay you beyond your deposit date, they must contact the Payroll & Benefits office with details of how you will continue to be paid. This date may not exceed the Degree Conferral Date of the semester in which your thesis is deposited with the Graduate School. If you deposit during the window period, this date may not exceed the end date of that window period.

International Students: You cannot be paid past your deposit date. Your deposit date will be your final payroll date unless you and your advisor have done advance planning and agree to have your RAship end earlier.

Please contact the Payroll & Benefits Specialist, Stephanie Petsch, via email at spetsch@wisc.edu, via phone at 608-890-4826, or in person in 4633 EH if you have any questions about ending or continuing your payroll appointment or the end date of your health insurance and other benefits.

APPENDIX M.

Date: _____

Final Checkout Sheet and Alumni Record for Graduate Students

Last Name: _____ First Name: _____ MI: _____

UW ID #: _____ Country of Citizenship: _____

UW Employee ID (office use only): _____

Date of MS/ PhD exam defense: _____ / _____ /_____
(circle one)

Date of Deposit: _____/ _____/ _____

Degree Date (Month/Year): _____

Major Professor(s): _____

Committee Members: _____

Dissertation/Thesis title: _____

<u>All other degrees</u>

Degree: _____ Month/Year: _____ Major: _____ Institution: _____

Degree: _____ Month/Year: _____ Major: _____ Institution: _____

<u>Addresses</u>

Work: Position: _____

Organization: _____

Address: _____

Telephone: _____

Non-wisc Email: _____

Home Address: _____
(Permanent – one to which mail could be forwarded to you, e.g., parents if you don't have a place yet)

Telephone: _____

For any section below that does not apply to you, you may write in N/A

All tools and apparatus checked out to this student have been returned.

_____ EHB120
Machine Shop Supervisor

All hazardous materials used in the student's research have been disposed of properly.

_____
Faculty Advisor

This student has discussed health insurance coverage continuation options with me.

_____ EH2035
Payroll Coordinator

All keys issued to this student have been returned.

_____ EH2018
Front Desk Assistant or Department Administrator

All check out activities are complete.

_____ EH2033
Graduate Program Coordinator

APPENDIX N.

Instructor - TA Expectations Worksheet

Instructor and TAs in all CBE classes are requested to discuss TA duties and expectations at the beginning of the semester and to indicate their agreement on this worksheet.

TAs in CBE normally hold a 33% appointment over 4.5 months. The expectation is that the accumulated workload over the course of the semester shall be **no more than 240 hours**. Since TAs are engaged in professional activities, some fluctuation in the hours worked per week and the total hours worked can be expected. TAs can expect that their work responsibilities will generally begin one week prior to the start of the semester and be completed one week after the final exam or other final course assignment. Further policy regarding TA duties can be found in the Graduate Assistantship Policy and Procedures.

Course: _____ Date: _____

Instructor Name: _____ Signature: _____

TA Name: _____ Signature: _____

TA Duties	**Total hours (est.)**
Attend TA training	
Attend lectures (___ hours/week)	
Discussion sections - prepare materials - teach (___ sections/week)	
Hold office hours (___hours/week)	
Respond to emails and other student requests	
Maintain course webpage, course files and/or grading sheets	
Homework -prepare homework assignments -prepare homework solutions -grade homework -supervise paper graders	
Midterm exams -prepare exam questions -prepare exam solutions -proctor exams -grade exams	
Projects -prepare project assignment -meet with student teams -grade projects	
Laboratories -prepare experimental materials and setup equipment -prepare and deliver pre-lab instruction -supervise students in laboratory -grade lab reports	
Final exam -prepare exam questions -prepare exam solutions -proctor exam -grade exams	
Other (specify)	
Other (specify)	
Total	

APPENDIX O.

Advisor Consent to Register

for _____ (semester/year)

Name _____ **Student I.D. #** _____

Grad-Level Courses Taken Up to Now (excluding 890 and 961):

Dept. & Course Number (ex: CBE 562)	Course Title (ex: Special Topics in CBE: Soft Materials)	Credits (ex: 3)	Semester Taken (F2019)

CBE Core courses (4 out of 5 core courses, B or better):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

CBE Electives (6 credits in CBE other than core courses, B or better):

_____	_____	_____	_____
_____	_____	_____	_____

PhD Elective (3 credits outside CBE, B average):

_____	_____	_____	_____
_____	_____	_____	_____

PhD Minor (Distributed- minimum 9 credits in two or more depts; Named- follow that dept's requirements; B average):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Courses for the Upcoming Semester:

Dept. & Course Number (ex: CBE 562)	Course Title (ex: Special Topics in CBE: Soft Materials)	Credits (ex: 3)

Advisor Name: _____ **Advisor Signature:** _____