This handbook contains useful information and department policies for graduate students in the Dave C. Swalm School of Chemical Engineering at Mississippi State University.

Graduate school (https://www.grad.msstate.edu/academics/) and Bagley College of Engineering (https://www.bagley.msstate.edu/grad/) websites provide additional information.

In case of any conflict between statements in this document and the university or Office of the Graduate School, the university or graduate school regulations will prevail.

If you have questions and/or concerns regarding any aspect of our graduate program, please contact graduate coordinator.

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Dave. C. Swalm School of Chemical Engineering  
Mississippi State University
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I. General Information

1. Dress. Students are expected to be neatly dressed and maintain acceptable standards of personal hygiene. Laboratory attire should be safe and functional. Each laboratory may have different safety dress code requirements and you are expected to make yourself familiar with the requirements for the laboratories in which you work.

2. Student Chapters of Professional Organizations. The meetings of the MSU student chapters of professional organizations (e.g., AIChE, TAPPI, SPE, AWMA) are open to all graduate students. Graduate students are encouraged to participate in the professional and social activities these organizations provide.

3. Office Supplies. The School does not issue office supplies to graduate students. The exception is that colored pens will be issued to graduate students involved in grading.

4. Departmental Mail Box. Each graduate student is assigned a mailbox in the copy room, which should be checked regularly.

5. Email. Each graduate student is assigned a university email address, which should be checked regularly. Many announcements and School issues are communicated solely through email.

6. Graduate Student Office assignments. The general protocol is for graduate students to be assigned to a shared office pool. Private offices are reserved for Post-doctorates.

7. Undergraduate Course/Laboratory Instruction. The School views participation in instruction in undergraduate theory and laboratory courses by graduate students as an extra learning opportunity. With the advisor's permission, PhD students may be assigned duties as instructors and graders in adherence with the departmental and university guidelines (including submission of a letter to the ChE faculty requesting permission).

8. Submitting Graduate School Forms. All forms which students submit to the Office of Graduate Studies shall be typed prior to obtaining appropriate signatures. These forms can be found at http://www.grad.msstate.edu/forms/. Further details on the submission dates for each form can be found in Section VIII.

9. Ordering Equipment or Supplies. No student is to order supplies or equipment without the direct instructions of his/her supervisor (with an accompanying original signature of the supervisor on the order form and appropriate review by the School Business Manager and/or other office staff placing the order). Any unauthorized purchased become the responsibility of the student for paying associated charges.

10. Travel to Conferences. As a part of professional development, graduate students are encouraged to attend scientific conferences. Students must discuss with their advisors before travel to a conference. If a student travels to and attends a conference without the permission of his/her advisor, the School Business Manager, or the Director of the School, the student will be responsible for all associated costs. In a conference the graduate students represent the School and the University, therefore the students must present themselves in professional and respectful manner.

11. Language: English is the preferred language of communication in scientific communities. The laboratory notebook, instructions, sample descriptions must be written in English in a detailed,
thorough manner which would allow other members of your research team to reproduce your experimental work with an expectation of getting similar results.

12. Personal Packages Delivered at Swalm. The School assumes no responsibility for personal packages delivered to Swalm. As always, the office support staffs will exercise due care with mail and packages, but if a student gives the School as an address for the delivery of personal items, he/she assumes responsibility.

13. Final Check-out. When you leave the university due to graduation or any other reason, you will complete the following steps:

a. Inform their advisor and the School’s Director that you are leaving and demonstrate compliance with all University and School regulations. See http://www.grad.msstate.edu/admissions/forms for forms and the timetable for milestones to be met prior to graduating or departure from the university. Section VIII of this handbook also provides a checklist of important milestones to be met.

b. Turn in all keys to the office associate in charge of the keys.

c. Be sure that all equipment, laptops, supplies, manuals, and books which have been borrowed or checked-out from the School or from faculty are returned.

d. Make sure that any portion of the laboratory and office you have occupied or used regularly is clean and ready for another occupant.

e. Turn in final copies of your thesis/dissertation and/or other reports to your faculty advisor(s) along with their laboratory notebook and electronic copies of all data.

14. Equipment Use. A student may use existing equipment in various laboratories only after obtaining the express permission of the faculty member in charge of the laboratory, or the Director of the School for equipment in the Unit Ops Lab.

15. Equipment Modification. It is a firm rule of the School that no instrument/piece of equipment is to be modified in any way without the express permission of the faculty member in charge of the laboratory, or the Director of the School for equipment in the Unit Ops Lab.

16. Research Notebooks. All students are required to maintain and document all data in a laboratory notebook. The format and style is to be determined by the faculty advisor. All laboratory notebooks are to be turned into the faculty advisor prior to leaving the university.

17. Military or other Leave. If you plan to take leave at any time, this leave must be approved by the faculty advisor (see Section X(4) for more details). Short periods such as about one week can be taken as regular vacation with no interruption in pay, but students leaving the campus for extended periods may not receive financial assistance (hourly wage or assistantship) and will be required to follow the graduate school policy (http://www.grad.msstate.edu/pdf/bulletin.pdf) which is outlined below.

A graduate student who has completed all course work and/or been admitted into candidacy and/or lacks only the completion of the thesis or dissertation must be continuously registered for the fall semester and either the spring or summer semester of each academic year. This requirement applies to the following students:

- A Doctoral student who has completed the required coursework, passed the preliminary/comprehensive examinations and is working on his/her dissertation;
- A Masters student who has completed the course work but has not taken or passed the final examinations; or,
• A Masters student who has completed all the course work, passed the examinations, and is working on his/her thesis.

A student who fails to be continuously registered will pay tuition and registration fees for missed terms at current rates.

NOTE: A student must be enrolled at MSU the semester in which the comprehensive examination is taken; the thesis/dissertation is proposed; the thesis/dissertation is defended; and the thesis/dissertation is submitted (both the initial and the final submissions).

18. Computer Access. Each student is provided access to most of the university computing facilities via a NetID number assigned at the time of enrollment. See Section XI(i) for computer policies.

19. Student Responsibility. Reference is made in several places in this manual to student responsibility. In general, the department expects each student to approach his/her graduate study in a truly professional manner. Graduate students supported on research and teaching assistantship will follow university employee holiday schedule. The students should plan their experiments, in consultation with the Major Professor/Advisor, so that they are completed prior to the holidays or vacation. Any additional time-off work (no more than 10 working days/year) must be approved by the Major Professor well in advance so that appropriate arrangements can be made to ensure project goals and milestones are met in a timely manner. If TA, then you cannot take vacation during the semester. Beware of buying nonrefundable plane tickets for vacation travel without first talking with your Major Professor. Also refer to Section X(4).

20. Graduate Assistants. Graduate Assistants are normally appointed within the School as Research Assistants. A Research Assistant is expected to work full-time for a faculty member a minimum of 20 hours per week when taking a full course load, and full-time if the enrollment consists of research (thesis or dissertation) hours only. Work time spent during a particular week may be allowed to fluctuate as a result of coursework requirements. In many cases, the work that the student does for a stipend may serve as the basis for the student’s thesis or dissertation. Students should check with their advisor as to the amount of time to be allowed for writing the thesis or dissertation. Further information on graduate assistantships may be found at http://www.grad.msstate.edu/pdf/bulletin.pdf
II. Safety Regulations/Training

Safety is everyone's business. Graduate students are expected to adhere strictly to all safety regulations. These safety guidelines are provided as an overview. Additional information is available through your faculty advisor, laboratory instructor, or other appropriate personnel.

Responsibilities

Principal Investigator (PI). The PI is the faculty member responsible for the research laboratory and he/she is ultimately responsible for safety in the laboratory. The PI should determine what training is required, ensure the training is accomplished, and give all new employees/students a lab-specific orientation including safety procedures and regulations in effect for their laboratory.

Employee/Student. The employee/student has the responsibility to actively participate in and complete all assigned training and must follow all safety procedures. Any student/employee working in a laboratory is required to annually complete Hazardous Waste training through the Office for Regulatory Compliance. This training is available through our regular seminar series.

Cell Phone Policy  The increased use of cell phones has introduced a previously unknown safety hazard in chemical engineering laboratories. The distractions caused by constantly checking texts and other social media brings hazards to individuals conducting experimental procedures and introduces a strong potential for experimental error whether conducting experiments or data analysis. While having your cell phone provides an added measure of security for reaching someone outside of the laboratory in the event of an emergency, you are expected to avoid using your cell phone to text or stay in contact on social media when in the laboratory. Should you need to communicate with someone about your work through cell phone communication, you should find an appropriate stopping point in your experimental work and step outside the laboratory to conduct work-related business with your cell phone. Cell phones should be kept in silent mode, and talking on cell phone in the group offices is not allowed.

Experimental Work. Before starting experimental work, each student is required to complete the appropriate safety training as designated by the professor in charge of the laboratory.

Personal Protective Equipment  Students involve in laboratory work must wear personal protective equipment such as safety glasses, gloves, lab-coat, mask, as instructed by the professor in charge of the laboratory.

Unit Operations (UO) Laboratory. Safety Glasses must be worn when working in any area of the Unit Operations laboratory. Before using ANY equipment in the machine shop, written procedures for the work to be done must be provided to your Faculty Advisor and to the Unit Operations laboratory supervisor to ensure safe operating procedures are documented. Safety glasses and splash-protection goggles are stored on a table just inside the front entrance to the Unit Operations laboratory. These glasses/goggles are used regularly by undergraduate students taking laboratory courses and MUST NOT be removed for use in research laboratories. Return glasses/goggles to this table after EVERY USE. Eye protection must be worn in the high bay area of the UO Lab. Contact lenses must NOT be worn in areas where vapors or fumes may be present.
Construction and assembly of laboratory apparatus should be done, when possible, in the machine shop area, observing all safety precautions for working with power and hand tools. Again, ALL planned procedures must be written out in step-wise detail and approved by your Faculty Advisor and the Unit Operations laboratory supervisor before utilizing any equipment in the machine shop area. See Section X1(g) for further details. Work areas and floor space should be kept clear of unnecessary materials and obstructions (boxes, power cords, etc.) that could be a tripping hazard. Clean the machine shop of ALL debris created from your work there.

**Safety Signs.** Safety signs are displayed in various places the department and must always be obeyed. If a graduate student assembles equipment requiring a safety sign, he/she will arrange with his/her advisor to have a safety sign hung.

**Fire Extinguishers.** Fire extinguishers have been placed in each laboratory and should be operated only by students who have completed extinguisher safety training (available through the Campus Safety Office) and feel comfortable using them.

**Flammable Chemicals.** Flammable chemicals must always be stored in a flammable cabinet.

**Gas Cylinders.** To use gas cylinders, a student must familiarize himself/herself with the School's "Standard Operating Procedures" (SOPs) on handling these cylinders. A copy of these SOPs appears in Section X1(e) of this manual.

**Smoking.** Mississippi State University is a smoke free campus. Smoking is not allowed on campus.

**First Aid Kits.** First aid kits are located in the Unit Operations Laboratory and in each laboratory. Seek further aid at the Longest Student Health Center (phone: 325-2431) if needed.

**Disposal of Solvents.** All students involved in experimental work must undergo Hazardous waste disposal training. Under no circumstances will organic solvents be dumped down a drain. If students are using solvents, secure a container which can be tightly sealed and store waste in that container until the entire contents can be disposed of by the Office of Regulatory Compliance. Hazardous waste pick-up can be requested by phone or online form; see [https://www.ehs.msstate.edu/safety/chemical/disposal/](https://www.ehs.msstate.edu/safety/chemical/disposal/) for further information. Organic waste must not be left in fume-hood to dry out. All university policies concerning hazardous waste storage and disposal must be followed.
III. Information on Academic Programs

A complete list of Chemical Engineering graduate courses generally available for credit is given in Section XI(b). The course requirements for the MS and PhD programs as well as other information are given below. Note that in all cases the term "credits" refers to semester credit hours. Note also that individual student programs must be recorded with the Graduate School using the appropriate form(s) (see Section VIII).

Chemical Engineering graduate students may not apply to a M.S. or Ph.D. degree any “split level” courses required undergraduate chemical engineering courses which carry 6xxx-level graduate credit to an advanced degree. However, a student may take elective undergraduate chemical engineering courses which carry 6xxx-level graduate credit. In addition, courses which are essentially equivalent to required undergraduate courses in the current university catalog cannot be used to satisfy the elective requirements.

Master of Science Program
To earn the M.S. degree in ChE, thesis and course work requirements must be met. A thesis must be completed and defended based on a research project. Students must successfully complete a minimum of 6 hours of research and 24 credit hours of graduate-level course work for the M.S. degree (at least one-half of course work for a thesis master's degree must be at the 8xxx-level or higher). In terms of required course work, the 24 graduate (6xxx/8xxx) credit hours include (i) four required ChE graduate courses (ChE graduate core; totaling 12 credit hours): ChE 8113 (Advanced ChE Thermodynamics), ChE 8123 (Chemical Kinetics and Dynamics), ChE 8223 (Advanced Process Computations), and ChE 8523 (Advanced Transport Phenomena), (ii) a minimum of 6 hours of mathematics/statistics, and (iii) a minimum of 6 hours of technical electives (chosen in conjunction with the research advisor). Every graduate student is required to take graduate seminar (CHE 8011) each fall and spring, if offered. However, graduate seminar does not count toward the coursework requirement for the degree.

Master of Engineering (Non-Thesis) Program
A non-thesis engineering master’s degree requires a minimum of 33 hours of graduate coursework, 15 hours of which must be at the 8xxx-level, including four required ChE graduate core courses.

Doctor of Philosophy Program
Qualified students may enter the Ph.D. program directly after their B.S. degree (Direct Admission Ph.D. Program) or after obtaining a M.S. degree (Post M.S. Ph.D. Program). Note that students currently enrolled in the Chemical Engineering M.S. program may petition the Graduate Affairs Committee for admission into the Ph.D. program. The Ph.D. is a research degree, and thus specific course requirements are set by the student's advisory committee to prepare the student for research. Nevertheless, all student programs must meet all Graduate School requirements and the following departmental requirements.

Students must complete a minimum of 20 hours of dissertation research. The Direct Admission Ph.D. Program requires a minimum of 36 hours graduate course work (with at least 18 credit
hours at the 8xxx-level). In terms of required course work, the 36 graduate (6xxx/8xxx) credit hours include (i) four required ChE graduate core courses, as indicated above, (ii) a minimum of 6 hours of mathematics/statistics, and (iii) a minimum of 18 hours of technical electives (chosen in consultation with the research advisor and by the student's advisory committee). For the Post M.S. Ph.D. Program, a minimum of 12 hours of graduate coursework past the M.S. level is required (with at least 6 credit hours at the 8xxx-level). However, a student entering with an M.S. from another institution must demonstrate that he/she has satisfied the Chemical Engineering graduate core courses (see M.S. program description above); if not, all or a portion of the 12 hours of core coursework may be required. Every graduate student is required to take graduate seminar (CHE 8011) each fall and spring.

As a Ph.D. student, students will be required to take the Ph.D. qualifying examination. The objective of the Ph.D. qualifying exam is to evaluate the student's preparedness for graduate research and the potential to successfully complete degree requirements. The qualifying exam will consist of two components, written examination, and oral examination. Students must pass the qualifying examination to continue in the Ph.D. program. See section VII to find more details on the qualifying examinations. The final requirement for the Ph.D. degree is the completion and oral defense of your dissertation. Further requirements of the qualifying exam and dissertation defense can be found in Section VII.

**Graduate Programs for Non-ChE B.S. Students**

Non-ChE B.S. students with strong backgrounds in math and science are strongly encouraged to apply and enroll in the chemical engineering graduate programs at MSU. Chemical engineering graduate programs offer the opportunity to conduct research in interdisciplinary fields. At MSU, the School of Chemical Engineering offers a broad range of research including heterogeneous catalysis, separations, biofuels, composites, biotechnology, polymer chemistry and physics, soft materials, materials synthesis and characterization, molecular modeling, and thermodynamics.

Enrollment requirements for non-ChE B.S. graduate students are made by the Graduate Affairs Committee on a case-by-case basis. If the Graduate Affairs Committee (GAC) approves the application, students may be admitted into the ChE graduate program with a non-ChE B.S. degree from an ABET-accredited institution. The GAC will also decide the undergraduate courses a non-CHE student needs to complete successfully prior to enrolling in ChE graduate courses.

Students must also demonstrate an adequate background in basic science and mathematics, including chemistry, physics, and calculus. Additional course requirements may be made of individual students to address deficiencies in their academic background.

**Minimum Enrollment.** In general, all students must enroll in a minimum number of hours to be eligible to receive financial assistance. The following Graduate School policy is in effect (http://www.grad.msstate.edu/pdf/bulletin.pdf):

Graduate Assistants must be full-time students (registered in at least 9 graduate credit hours) and may not be enrolled in more than 13 graduate credit hours during the regular semesters (Fall and Spring). The nine-hour course load may not be composed of undergraduate courses unless the course is a program prerequisite. In such a case, the minimum graduate load required will be six credit hours and only one undergraduate course will be permitted as part of the nine-hour load (Policy revision approved by the Graduate Council - 3/23/01). Full summer awards require an
enrollment in at least six graduate credit hours with a maximum allowed of 13 credit hours. Any combination can be used to make up the 13-credit hour maximum; however, enrollment in either five-week term must be limited to seven credit hours or fewer.

Graduate students should understand that the assistantship may be withdrawn at any time for failure to maintain satisfactory academic status and progress in research. Unsatisfactory progress may be defined as the failure to maintain a B average in graduate courses attempted, a grade of U, D, or F in any course, more than two grades below a B, failure of the comprehensive/preliminary examination, unsatisfactory research progress, an unsatisfactory evaluation of a thesis or dissertation, failure of a research defense, or any other failure of a required component of the program. Any of these unsatisfactory performance indicators, or any combination of these, may constitute the basis for the termination from a degree program.

**Rotation of Core Graduate Courses.** The graduate core courses are listed below along with the semester in which each is normally offered. Graduate students are encouraged to complete the core courses as soon as possible in their tenure (i.e., if available, enroll in two core courses during both the Fall and Spring of their first year). Along with their other coursework, this schedule puts students on target to either complete their M.S. degree in two years or take the Ph.D. qualifier after their first academic year.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester</th>
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<tbody>
<tr>
<td>CHE 8113</td>
<td>Advanced ChE Thermodynamics</td>
<td>Fall</td>
</tr>
<tr>
<td>CHE 8123</td>
<td>Chemical Kinetics and Dynamics</td>
<td>Spring</td>
</tr>
<tr>
<td>CHE 8223</td>
<td>Advanced Process Computations</td>
<td>Fall</td>
</tr>
<tr>
<td>CHE 8523</td>
<td>Advanced Transport Phenomena</td>
<td>Spring</td>
</tr>
</tbody>
</table>

**Other Graduate Courses.** The School offers several graduate courses as listed in the graduate school bulletin (http://www.grad.msstate.edu/pdf/bulletin.pdf). In addition, under courses numbered CHE 6990 and 8990, the School will periodically offer additional topics of current interest.

**Academic Performance.** The Dave C. Swalm School of Chemical Engineering is committed to maintaining high standards for the graduate programs offered by the school. As a means to ensure satisfactory performance of all graduate students enrolled in the school, the guidelines for unsatisfactory performance are given:
- Failure to maintain an overall B average (GPA of 3.0) in graduate courses attempted after admission to the program
- More than two grades of C in graduate level courses
- A grade of D or F in a graduate level course
- Failure of the qualifying exam after the 2\textsuperscript{nd} attempt.
- Unsatisfactory research progress
- Unsatisfactory evaluation of a thesis or a dissertation
- Failure to maintain an overall B average (3.00) in prerequisite undergraduate courses
- Official withdrawal from school due to academic difficulties.

All students are expected to adhere to these standards. Failure to do so will result in the following actions.
• A student who fails to maintain an overall B average in graduate courses will be given one semester to bring up her/his overall GPA in graduate level courses. If the student currently holds an assistantship from the school, the assistantship may be terminated. The student will be placed on probation for one semester. The graduate level courses taken during this probationary semester must be part of the graduate student's program of study and should constitute a full load. Failure to attain an overall B average in graduate courses at the end of this probationary semester will result in dismissal from the graduate program.

• A student who earns more than two grades below a B, or earns a D or F in any graduate level course will be automatically dismissed from the graduate program.

• The research progress will be determined by the student’s advisor and the thesis committee and an unsatisfactory research progress will lead to termination from the program.

• A student who officially withdraws from school during the semester due to academic difficulties will be dismissed from the graduate program.

Appeals Process:

A student who is dismissed on the basis of academic performance from a graduate program offered by the Dave C. Swalm School of Chemical Engineering may appeal the decision.

A student may appeal his/her dismissal from the graduate program by submitting a letter of appeal to the Appeals Committee. This letter should contain a detailed explanation of the circumstances leading to his/her dismissal (identified as one or more of the seven points listed in academic performance policy) and should explain any extenuating circumstances leading to failure to maintain satisfactory academic progress.

The Appeals Committee shall be composed of five members: the Director of the School, the Chemical Engineering Graduate Coordinator, the student’s major professor, a professor from another department within the College of Engineering (asked to serve by the Director and/or Graduate Coordinator of Chemical Engineering), and the Associate Dean for Student Affairs for the College of Engineering. The Appeals Committee will review the provided documentation and reach a majority decision on whether to uphold or overturn the dismissal. The decision of the Appeals Committee is final.

English Competency. If the graduate advisor feels a student should improve his/her English skills, the student can be required to register for one or more of the following courses: ESL 5313 (Classroom Communication & Presentations), ESL 5323 (Academic Research and Writing Skills) and ESL 5333 (Critical Reading) and/or 'The Intensive English Language Program'. See http://www.eslc.msstate.edu/ for more information.

Continuous Enrollment. Graduate students who do not maintain continuous enrollment (summers excluded) are subject to the requirements in effect at the time of their return. Only students who are enrolled are eligible to use university facilities and resources. Note that minimum enrollment requirements must be met to be eligible for financial aid (see above).

Policy on Student Departure Time. On occasion, problems have developed when students have departed prior to completion of their thesis/dissertation. In some instances, the thesis/dissertation was never completed. The following summarizes the departmental policy on this matter:
a. It is the responsibility of the student to finish the thesis/dissertation in a timely manner and the student is strongly encouraged to remain at the university until all requirements for the degree are met with the exception of the formal awarding of the degree.

b. The students should remain at the University until a draft of his/her thesis is approved by the advisory committee.

c. As long as a student has any phase of his/her work uncompleted, the student must register for the appropriate research course in the department. If the student has completed all degree requirements including the final examination and submission of thesis or dissertation and is awaiting award of the degree, he/she is not required to be enrolled.

d. A graduate school policy exists whereby a student may register for one graduate hour if all requirements are met.
IV. Faculty Advisors and Advisory Committees

Each graduate student must have a faculty advisor who will also be the chairperson of his/her advisory committee. The advisor must be a regular member of the Chemical Engineering Graduate Faculty (http://www.grad.msstate.edu/faculty/listing/).

**Assignment of Advisors.** Each graduate student will be assigned a research advisor. This advisor will help the graduate student plan his/her degree program and will be available to answer any question which may arise. In most instances, students are currently assigned to a specific project (and therefore advisor) before entering the university. This assignment is made after both faculty and student have had a chance to discuss the research topic; both must agree to the assignment.

**Appointment of Advisory Committee.** An advisory committee will be formed for each student by the advisor in consultation with the student. For MS students, this will occur promptly after the appointment of the advisor and, in all cases, prior to registration for the student's second semester. For PhD students, the committee formation may be deferred an additional semester while the student and advisor make preliminary decisions about the scope of the student's research. A majority of the committee must be regular members of the Chemical Engineering Graduate Faculty. If the student declares a minor, a member of the faculty of the minor department must be included. For the MS degree, committee membership must total at least three, while a minimum of four committee members is required for the PhD degree. For doctoral students, an external committee member (non-CHE) is encouraged but is not a requirement. The advisory committee will approve the student's graduate curriculum, supervise his/her graduate program, administer comprehensive and/or final examinations, and initiate the recommendation for awarding the degree. All relevant forms are available on the graduate school website (http://www.grad.msstate.edu/forms/)

**Revision of Committee Membership and Graduate Curriculum.** The graduate degree curriculum may be revised as needed subject to the necessary approvals. Similarly, it is occasionally necessary to change committee membership. In either case, a revised Change of Program of Study Form or Change of Committee Request Form must be submitted. However, because of the complexities of funding sources for graduate student support, change of major advisor will be permitted in only the most unusual circumstances.

**Procedure for a Change in Research Advisor.** Once the assignment of a research advisor is made, it is expected that this collaboration will continue until the completion of the student's degree program. Under extreme circumstances, the student and/or faculty member may petition the Graduate Affairs Committee for reassignment.

A student should first discuss their intentions with the research advisor. The student may then petition the Graduate Affairs Committee by submitting a written request to the School Director. This request must detail reasons for the change in major professor and include the signatures of both the current major professor and the new major professor.

If the current major professor does not agree to the change, and the student is not able to secure his/her signature on the request, the student may be granted a transfer based on the following conditions being met:

a. The student has been supported by the current major professor less than 12 months.
b. A majority vote of the Graduate Affairs Committee after meeting with both the student and the current major professor.

c. The desired new major professor has agreed to the switch by signing the student's petition.

V. Procedures for Chemical Engineering Students Seeking the MS Degree

The complete procedures for MS students are given below. Some duplication between this section and other sections of this manual may occur.

1. Appointment of Advisory Committee. Section IV of the manual gives procedures for assignment of the student's advisor and advisory committee. A committee meeting is to be held within six months after filing the Committee Request Form. In this meeting, the student should present an introduction to the problem, major research objectives, and preliminary plan of investigation. It will be understood by the student and the committee that the direction of the investigation may deviate from the preliminary plan. Student will write a post-meeting memo to the committee members summarizing the main points of the meeting and listing “things to do” (along with estimated completion dates).

2. Thesis Preparation. See Section IX of this manual for policies and suggestions on thesis preparation and reproduction.

3. Final Oral Examination (Thesis Defense). Generally, the candidate for the M.S. degree, after completion of the required thesis, must pass a final oral examination at least six weeks prior to the time of the convocation at which he/she plans to obtain the degree. The examination will be conducted by the student's advisory committee, and all faculty members are invited to participate. The student must notify the Office of Graduate Studies of the place and time at least two weeks prior to the examination by submission of the Announcement of Doctoral/Educational Specialist/Masters Examination form. See section VII(b) for further details.

The examination, which is typically oral, will ascertain the general knowledge of the candidate with particulate reference to the major and minor subject and the thesis. Members of the faculty will be invited to participate in the examination. Within three days after the examination, the examining committee will notify the Office of Graduate Studies using the Report of Examination Results. See Section VII(b) for further details.

4. Submittal of Thesis to Graduate Office. Details on the formatting, submission, and approval of the thesis manuscript can be found at http://www.grad.msstate.edu/current/thesis/. In addition to the copies required, the student should give a bound copy of the thesis to his/her advisor as a courtesy. If the student desires, he/she may have additional copies of the dissertation bound at an additional cost per copy. All fees for binding, and/or copyrighting must be paid prior to final approval of the manuscript. The responsibility for placing the thesis in the proper final form rests with the student.

5. M.S. Degree Tenure Guidelines. The department considers three academic semesters plus a summer or four semesters sufficient time in which to obtain an M.S. degree. Please note that the Office of Graduate Studies requires that the MS program be completed within a period of six years. (See the graduate handbook at http://www.msstate.edu/dept/grad/2006_2007_Bulletin.pdf for more details.)
6. **Master’s Student Forms and Due Dates.**
(http://www.grad.msstate.edu/academic_calendar/pdf/academic_calendar_13_14.pdf)

<table>
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<tr>
<th>Form</th>
<th>Due in the Department</th>
<th>Due in the Office of Graduate Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committee Request Form</td>
<td>First semester of enrollment</td>
<td>Second semester of enrollment</td>
</tr>
<tr>
<td>Committee Request Change Form</td>
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</table>
VI. Procedures for Chemical Engineering
Students Seeking the Ph.D. Degree

The complete procedures, administrative and otherwise, for the PhD student are given below.

1. **Appointment of Advisory Committee.** As noted in Section IV, the student's advisory committee must be appointed prior to registration for his/her third semester. PhD committees must consist of at least four faculty members. A majority of the committee should CHE faculty members. A committee meeting is to be held at least every 12 months after the student has passed the qualifying exam. After committee meetings, the student will write a memo to the committee members summarizing the main points of the meeting and listing “things to do” (along with estimated completion dates).

2. **Dissertation Preparation.** Section IX of this manual discusses policies and suggestions for dissertation preparation and reproduction.

3. **Guidelines for the Ph.D. Comprehensive Examination.** See Section VII(a) for more details.

4. **Final Oral Examination (Dissertation Defense).** Generally, the candidate for the Doctor of Philosophy degree must pass a final oral examination at least six weeks prior to the time of the convocation at which he/she plans to obtain the degree. See deadlines on the Office of Graduate Studies web site for details.

The examination will be conducted by the student's advisory committee, and all faculty members are invited to participate. The student must notify the Office of Graduate Studies of the place and time at least two weeks prior to the examination by submission of the *Announcement of Doctoral/Educational Specialist/Masters Examination* form. See section VII(b) for further details.

The final examination demands a broad and penetrating interpretation by the student of his/her research project and conclusions. It may (and more often does) include the examination of the student in his/her major and minor field(s) of specialization. See section VII(b) for more details.

5. **Submittal of Dissertation to Graduate Office.** Details on the formatting, submission, and approval of the dissertation manuscript can be found at [http://lib.msstate.edu/thesis/](http://lib.msstate.edu/thesis/). In addition to the copies required, the student should give a bound copy of the dissertation to his/her advisor as a courtesy. If the student desires, he/she may have additional copies of the dissertation bound at an additional cost per copy. All fees for binding, microfilming, and/or copyrighting must be paid prior to final approval of the manuscript. The responsibility for placing the dissertation in the proper final form rests with the student. See section IX for further details.

6. **Ph.D. Degree Tenure Guidelines.** As the Ph.D. degree is a research degree, there are no absolute tenure requirements. However, the department considers three years beyond the M.S. degree or four years beyond the B.S. degree the minimal tenure time required to obtain a Ph.D. degree. Exceptions can be made by the student's committee on a case-by-case basis. Please note that the Office of Graduate Studies requires that the doctoral program be completed within a period of eight years.

7. **Doctoral Student Forms and Due Dates.**
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<td>Immediately after the student has passed the preliminary/comprehensive oral examination(s) and dissertation topic has been approved</td>
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<tr>
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<td>Immediately following defense</td>
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VII. Examinations

a. Guidelines for the Ph.D. Qualifying/Comprehensive Examination.

The qualifier will consist of two stages: a) written qualifying examination and an oral qualifying examination

1. Written qualifying examination: Students will write a research proposal on the topic of their dissertation research. The deadline for proposal submission will be middle of the third semester (mid-October for students admitted in a Fall semester or mid-March for Spring admits). This will be read and approved by the CHE members of the committee. Once approved by the committee the student will present the proposed research topic to his/her dissertation committee. This constitutes the Oral Comprehensive exam. Student will provide electronic copy of the proposal in the PDF format to all CHE members of the committee. Committee members will provide feedback and their vote (Pass/Pass with reservation/Fail) to the Major Professor within 4 (four) weeks of receiving the proposal.

2. Oral comprehensive examination: Upon passing the written exam with Advisor approval, the student will orally defend the proposal either at the end of 3rd semester or the beginning of the 4th semester. A vote by the dissertation committee will indicate result of the exam (Pass/Pass with reservation/Fail).

3. Structure and Format of Written Exam:

The proposal should be double spaced 30 pages not including references section. Figures and tables should be embedded in the text. Use 11 pt. Arial or Times New Roman fonts with 1 inch margins.

The written exam/proposal will consist of the following elements/sections:

- Title
- Abstract
- Introduction
- Background
- Preliminary work
- Proposed Research
- References

b. Title: Descriptive but short title (no more than 15 words)

c. Abstract: A concise summary of the proposed research (250 words). Provide 2-3 sentences of general background, and 1-2 sentences specific to the proposed research problem. Briefly describe research objectives and tasks and provide couple sentences on the impact of the proposed research.

d. Introduction: The introduction section should be targeted at the non-experts in the field. Thus, it should provide a clear and concise picture of the research area in a broad sense.
e. **Background**: This section should provide a comprehensive review of the research carried out in the proposed field of research.

f. **Preliminary work**: This section includes preliminary experimental or computational work performed that forms the basis of the proposed research.

g. **Proposed research**: Based on the discussions in the background and preliminary work sections, develop a research plan that can fill the gaps in knowledge and thus contribute to the new knowledge in the field of research. Students should keep in mind that they will have only 2 to 2.5 years to complete the work, so they should keep realistic research goals and objectives.

h. **References**: References should follow the AIChE journal referencing style.

4. **Structure and Format of Oral Exam:**

   The oral exam will consist of a 30-minute presentation on the proposed research followed by question/answer session, which will last no longer **three hours**. The Q/A session will be primarily on the topic of the proposed research, but the committee will also take this opportunity to evaluate student’s knowledge in closely related areas and the courses they have taken.

b. **Data Defense**: Students are required to give a 45-minutes presentation to their committee at least 6 months before their planned thesis defense. The purpose of this presentation is to determine whether sufficient progress has been made to schedule final dissertation defense. Major professor will notify (in writing) the feedback from the committee.

c. **Guidelines for the Final Examination (Defense)**

   The following procedures and guidelines apply to the final examination for graduate school.

   1. Committee members should be provided a minimum of **two weeks** to review an M.S. thesis and a minimum of **three weeks** to review a Ph.D. dissertation. Failure to provide thesis or dissertation to the committee two or three weeks, respectively, prior to the defense will result in a rescheduling of the defense date.

   2. The appointed committee will be the only faculty members to vote on whether or not a student is to be recommended for an advanced degree. Nonetheless, any faculty members attending the examination are entitled to participate in the questioning. If any committee member objects to the committee recommendation, such objection should be noted in the report to the Office of Graduate Studies and a minority report of the examining committee (or an outside report) should be prepared and submitted.

   3. To encourage faculty attendance at student examinations, the chairperson (faculty advisor) of examining committees will issue invitations to all chemical engineering faculty, and other faculty members who would normally be interested in the student's study or research area. Other students may not attend the examination, but they may attend the presentation by the student.

   4. A student's final examination is not concerned with the mechanical aspects of his/her thesis (e.g., grammar and literary style). These matters should have been noted and corrected prior to the examination period. For assistance, students should consult writing
tutors available at MSU prior to submission of their thesis (www.writingcenter.msstate.edu/).

5. A student standing an examination is expected to answer questions without the assistance of committee members.

6. The student will be excused from the committee room while his/her case in under discussion. The committee chairperson should advise the student of the committee action. The examining committee must report to the Office of Graduate Studies regardless of the outcome of the examination.

In preparing for the final oral examination, the student should note the following:

1. It will be necessary for the student to use a computer-aided presentation package (e.g., Powerpoint).

2. The projector and laptop need to be set-up by the student ahead of time.

3. The target length of your presentation should be 40-45 minutes. Somewhat longer times may be required if the audience contains a member not familiar with your work.

4. A practice presentation should be given to the student’s colleagues and/or friends for constructive criticism prior to the examination.
VIII. Required Forms  (https://www.grad.msstate.edu/admissions/forms/ and https://www.bagley.msstate.edu/grad/forms/)

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<td>Master’s Forms</td>
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Dave C. Swalm School of Chemical Engineering
Mississippi State University

Graduate Student Final Check-Out Form

Name of Student _________________________________ Date: ____________________

Preferred Mailing Address: ________________________________________________
____________________________________
____________________________________
Permanent e-mail id: __________________

Each student must secure the following certifications prior to leaving the department.

1. All keys for Swalm have been returned to me.

   ___________________________________________  Date
   Office Associate                           Date

2. All supplies, equipment, laptops issued by me have been returned. The student's laboratory is clean and in good condition. The laboratory notebook is handed over.

   ___________________________________________  Date
   Faculty Advisor / Lab Manager               Date

3. To my knowledge the student is cleared for departure.

   ___________________________________________  Date
   Faculty Advisor                            Date

4. Final certification.

   ___________________________________________  Date
   School Director                           Date

In the space below, please provide information about your future employment (job interviews, offers, final acceptance, or graduate/professional school). This information will be kept confidential.
IX. Theses and Dissertations


Thesis/Dissertation Preparation. Before beginning thesis preparation the student should consult with his/her advisor as there are several alternative styles. The student can use standard word processing software or LaTeX to prepare the draft and several back-up copies of intermediate and final versions are recommended. Note that the writing of a thesis/dissertation is an iterative process involving multiple editing and rewriting ‘cycles’ between the student and the advisor(s). Sufficient time should be allowed for this process in advance of the planned/expected graduation date.


Cost of Reproduction. The cost of typing and reproduction will be borne by the student unless his/her fellowship, or other support, specifically provides funds for this purpose.

Submittal of Thesis/Dissertation to the Faculty Committee. The research advisor will determine when the manuscript is suitable for initial review by the remaining committee members. Committee members should be provided a minimum of two weeks to review an M.S. thesis and a minimum of three weeks to review a Ph.D. dissertation. Failure to provide thesis or dissertation to the committee two or three weeks, respectively, prior to the defense will result in a rescheduling of the defense date. After the completion of the review process, the student should discuss the thesis/dissertation with the committee members, address any problems or concerns, and prepare for the oral defense. It should be understood that a vote to pass a student on his/her performance at the final examination does not imply final approval of the thesis or dissertation manuscript. Approval of thesis/dissertation manuscript is given by signing the approval page.
X. Financial Assistance

Many questions regarding financial assistance and graduate students have arisen over the years, and it is the purpose of this section to answer some of the major questions.

1. Currently, there are not ‘standard’ stipend amounts for the M.S. and Ph.D. programs. The stipend depends on the funding sources the student is paid from. Note that a student’s stipend may be paid by either wages or assistantship.

2. In June of each year stipends of continuing students will be reviewed by the research advisor (with submission of salary papers by June 15th). If work performance warrants and sufficient funds are available, consideration will be given to stipend adjustments.

3. Students who drop core courses, whose classroom performance is unsatisfactory (see Section III on Academic Performance), or whose research progress is unsatisfactory may face reduction or loss of their stipend. Normally a student will be allowed one grace semester to recover to satisfactory performance without penalty. Exceptional or prolonged cases will be handled individually.

4. **Student Responsibility.** Having accepted financial assistance, a student has an obligation to his/her sponsor, and to the university, to conduct the assigned work professionally and diligently. Graduate students are expected to devote full-time to their studies and/or duties. Graduate students receiving financial aid are not entitled to take all the class holidays awarded to the undergraduate student body. Paid or unpaid leave during dates other than state-mandated ‘university holidays’ (http://www.hrm.msstate.edu/benefits/holidays/) is at the discretion of the faculty advisor. However, these cannot exceed 10 working days per year. Do not make travel plans before checking with your advisor. **Graduate Assistants and graduate students holding fellowships are not permitted to hold jobs outside the department.** Occasionally, with the permission of the student’s advisor and the School’s Director, students are permitted to engage in appropriate part-time work within the department such as grading or tutoring.
XI. Appendices

a. Academic Misconduct

Each student should understand that no academic misconduct will be tolerated. Academic misconduct is any activity which may compromise the academic integrity of the School and/or University. Academic misconduct includes, but is not limited to, deceptive acts such as the following:

- Using unauthorized materials (crib notes, books, etc.) as an aid during an examination.
- Looking at or using information from another person’s examination, report, or assignment.
- Providing assistance to, or receiving assistance from, another person in any manner prohibited by the instructor.
- Possessing or providing an examination or assignment, or any part thereof, at any time or in any manner not authorized by the instructor.
- Taking a quiz, examination, or similar evaluated assignment for another person; or utilizing another person to take a quiz, examination, or similar assignment in place of oneself.
- Submitting any course materials or activities not the student’s own, allowing such a submission to be made for oneself, or making such a submission for another.
- Using the ideas, organization, or words of another from a book, article, paper, computer file, or other source in any assignment or in research reports, journal publications, theses, or dissertations without giving proper credit following accepted citation rules (plagiarism).
- Altering, stealing, and/or falsifying research data used in research reports, journal publications, presentations, theses, or dissertations.
- Disregarding policies governing use of human subjects or animals in research.

See the university Honor Code policy at http://www.honorcode.msstate.edu/resources/ for more details.

b. Graduate Courses Available

Graduate course offerings vary from semester-to-semester based upon faculty availability, expertise and interests. Courses listed at the 6xxx-level can be taken as a graduate student, but are also offered at the undergraduate level (4xxx). Courses with 8xxx and 9xxx-level listings are courses intended only for graduate students.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>CHE 6113</td>
<td>Chemical Reactor Design</td>
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<td>CHE 6134</td>
<td>Process Design</td>
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<tr>
<td>CHE 6143</td>
<td>Advanced Polymeric/Composite Materials</td>
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<td>CHE 6153</td>
<td>Introduction to Particle Crystallization Technology</td>
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<td>Course Code</td>
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<td>CHE 6163</td>
<td>Nanotechnology Chemical Application</td>
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<td>CHE 6193</td>
<td>Automotive Engineering</td>
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<td>CHE 6223</td>
<td>Process Instrumentation and Automatic Control</td>
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<td>CHE 6233</td>
<td>Plant Design</td>
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<td>CHE 6313</td>
<td>Transport Phenomena</td>
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<td>CHE 6423</td>
<td>Fundamentals of Industrial Corrosion</td>
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<td>CHE 6513</td>
<td>Pulp &amp; Paper Manufacturing Processes</td>
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<td>CHE 6613</td>
<td>Air Pollution – Control and Design</td>
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<td>CHE 6624</td>
<td>Experimental Methods in Materials Research</td>
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<td>CHE 6673</td>
<td>ChE Industrial Microbiology</td>
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<td>CHE 6683</td>
<td>Fundamentals of Biofuels Production</td>
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<td>CHE 6703</td>
<td>Gas Hydrates</td>
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<tr>
<td>CHE 6990</td>
<td>Special Topics in ChE</td>
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<td>CHE 7000</td>
<td>Directed Individual Study</td>
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<td>CHE 8000</td>
<td>Research / Thesis</td>
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<td>CHE 8011</td>
<td>Chemical Engineering Seminar</td>
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<tr>
<td>CHE 8113</td>
<td>Advanced ChE Thermodynamics</td>
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<td>CHE 8123</td>
<td>Chemical Kinetics and Dynamics</td>
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<td>CHE 8223</td>
<td>Advanced Process Computations</td>
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<td>CHE 8523</td>
<td>Advanced Transport Phenomena</td>
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<tr>
<td>CHE 9000</td>
<td>Research / Dissertation</td>
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</table>

More information on Graduate Course requirements and the general Graduate Program in Chemical Engineering may be found at:

[http://catalog.msstate.edu/graduate/colleges-degree-programs/engineering/chemical/#text](http://catalog.msstate.edu/graduate/colleges-degree-programs/engineering/chemical/#text)

c. **Purchasing**

An order form (example shown below) must be completed for ALL purchases, small and large. You must include a vendor, your name, account to be charged, location for delivery, and prices of all items being ordered. Note that prices are not required if items are to be purchased at a local store (e.g., Wal-Mart, East Mississippi Lumber, Lowe's, etc.). The order form must be approved by the faculty member in charge of that account and submitted to the Business Manager who will verify that funds are available.

The most common method of purchasing supplies and equipment is the Procurement Card (ProCard). The School has 2 ProCards – one for commodities (lab supplies, food for groups, etc) and one for equipment. Upon submission of your completed order form, the School’s office staff will determine the appropriate ProCard to use. The University also does not allow the purchase of gas for vehicles or restaurant charges (unless for a group approved by the Director of the School) on the Procurement Card. Supply orders ≤ $5000 can be ordered with the Procurement Card. Equipment ProCard orders for items ≤ $5000 do not require bids or quotes. Any item that
is not consumable and costs ≥ $1000 is considered equipment by the university and must be purchased via the Equipment ProCard and NOT the ProCard issued for supply purchases. Computer equipment of any price (even a $100 printer) is inventoried equipment and must be purchased using the Equipment ProCard.

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<thead>
<tr>
<th>DATE ORDERED:</th>
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<tr>
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<td>TIME SENSITIVE:</td>
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<th>CATALOG #</th>
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Note that Office of Procurement rules/regulations are subject to change. Current information can be found at [http://www.procurement.msstate.edu/](http://www.procurement.msstate.edu/).

Rules for bids and quotes:
Purchases which involve an expenditure of **less than $5,000**, exclusive of freight or shipping charges, may be made without advertising or otherwise requesting competitive quotes. Provided, however, that nothing contained in this paragraph shall be construed to prohibit any agency from establishing procedures which require competitive quotes on purchases of $5,000 or less.

Purchases which involve an expenditure of **more than $5000 but less $50,000**, exclusive of freight and shipping charges, may be made from the lowest and best quote without publishing or posting advertisement for bids, provided at least two (2) competitive written quotes have been obtained. The term "competitive written quote" shall mean a quote submitted on a quote furnished by the buying agency and signed by authorized personnel representing the vendor, or a quote submitted on a vendor's letterhead or identifiable quote form and signed by authorized personnel representing the vendor.

Purchases which involve an expenditure of **more than $50,000**, exclusive of freight and shipping
charges, may be made from the lowest and best bidder after advertising for competitive sealed
bids once each week for two (2) consecutive weeks in a regular newspaper published in the
county or municipality in which such agency is located. The date as published for the bid opening
shall not be less than seven (7) working days after the last published notice; however, if the
purchase involves a construction project in which the estimated cost is in excess of $50,000, such
bids shall not be opened in less than fifteen (15) working days after the last notice is published
and the notice for the purchase of such construction shall be published once each week for two
(2) consecutive weeks. The notice of intention to let contracts or purchase equipment shall state
the time and place at which bids shall be received, list the contracts to be made or type of
equipment or supplies to be purchased, and, if all plans and/or specifications are not published,
refer to the plans and/or specifications on file. Specifications pertinent to such bidding shall be
written so as not to exclude comparable equipment of domestic manufacture.

NOTE: No contract or purchase as herein authorized shall be made for the purpose of
circumventing the provisions of this section requiring competitive bids, nor shall it be lawful for
any person or concern to submit individual invoices for amounts within those authorized for a
contract or purchase where the actual value of the contract or commodity purchased exceeds the
authorized amount and the invoices therefore are split so as to appear to be authorized as
purchases for which competitive bids are not required. Submission of such invoices shall
constitute a misdemeanor punishable by a fine of not less than $500.00 nor more than $1,000.00,
or by imprisonment for thirty (30) days in the county jail, or both such fine and imprisonment. In
addition, the claim or claims submitted shall be forfeited.

Sole Source Information:
From the Procurement website: http://www.procurement.msstate.edu/optrequests.php

Sole-source procurement is not permissible unless a requirement is available from only a single
supplier. A requirement for a particular proprietary item does not justify a sole-source procurement
if there is more than one potential bidder or provider for that item. The following are examples of
circumstances which could necessitate sole-source procurement:

1. Where the compatibility of equipment, accessories, or replacement parts is the paramount
   consideration (and manufacturer is sole supplier).
2. Where a sole supplier's item is needed for trial use or testing.
3. Where a sole supplier's item is to be required when no other item will serve the need of
   the user entity.

If you believe an item is eligible to be purchased as a sole source, the following procedures
must be adhered to in order to gain approval for the sole source item:

The Office of Purchasing and Travel in Jackson has recently changed the process by which we
submit requests. Please use the following methods for your exemption requests and submit
them to us along with your quote and requisition:

Please note that each type of request (Sole Source, Research, etc.) will require the Request for
Authority to Purchase form.

Emergency Purchase Request:
Requires a letter on department letterhead explaining what happened to cause the emergency
and what the negative consequences would be of following normal purchasing procedures.
Exemption for Research Purposes:
Requires a letter on department letterhead answering the following questions in narrative format (i.e. don't show the questions on the letter). What does this item(s) do? How will this purchase or failure to make this purchase have an impact on the research?

Sole Source Request:
Requires a letter on department letterhead following the format specified on the appropriate procurement webpage.

State Contract Exemption:
Requires a letter on department letterhead answering the following questions in narrative format. What is the state contract price for a comparable item? Is the quality level equal to or better than that on contract? What are the transportation costs? Have all applicable costs been included in the evaluation?

d. Copier Use

Departmental Copier. Each student should obtain permission from the faculty advisor. Graduate students may use the departmental copier for necessary research work only. However, excessive use should be avoided. In particular, do not use the departmental copier to photocopy a book and to making multiple copies of thesis or dissertation drafts.

Library Copier Machines. If your faculty advisor approves, a copy card can be issued to you that is paid from a research account. To obtain a library copy card, please see the Business Manager.

e. Standard Operating Procedures (SOPs) for Gas Cylinders

Departmental procedures for handling gas cylinders are as follows:

Ordering. An order form (see Section IX(d)) should be used to order all gas cylinders. Only faculty members can authorize purchase of gases.

Delivery. NexAir (gas supplier) delivers on Tuesday and Friday. The delivered cylinders are placed in the holding area “cages” near the loading dock. IMPORTANT: Flammable gases are stored in the cage to the left and inert gases in the cage to the right when facing the gas storage area.

Labels. Each cylinder has the PI’s name on it. Do not take a cylinder with someone else’s name on it. The cylinder charges will be incorrect and cause much unnecessary hassle for the PIs and the office staff! Also, identifying labels or tags should not be removed from the cylinders at anytime. If you remove the tag, the PI will not be credited with a returned cylinder (since there will be no way to identify who returned the cylinder).

Moving and Installing Cylinders. There are 2 hand carts designed for cylinder use. Always, use the harness to secure a cylinder on the cart. Please return these hand trucks back to the UO lab high bay area when not in use. If you move or connect a cylinder, make sure you are briefed on the proper method of safe cylinder handling.
Empty Cylinders. All empty cylinders should be moved to the storage area near the loading dock as soon as possible so that NexAir can pick it up on the next delivery date. Also do not hang on to empty cylinders (a cylinder rental fee is assessed in addition to the gas fee).

Safety Precautions. Gas cylinders can be extremely dangerous if improperly handled. The following instructions must be obeyed.

1. A cylinder must be tied down (with a chain or strap attached to a wall or cabinet) at all times except when being moved.
2. The user must be absolutely certain that the main cylinder valve is closed when the cylinder is not in use.
3. When the cylinder is not in use, the protective cap must be screwed in place.
4. Use closed toe shoes and safety glasses during moving gas cylinders.
5. UNDER NO CIRCUMSTANCES WILL A GAS CYLINDER REGULATOR BE MODIFIED. MODIFICATION WILL NOT BE MADE IN ANY MANNER, FOR ANY REASON BY ANY PERSON IN SWALM.

Additional Notes. Gas charges are based not only on the gas used, but also a rental fee for the tank. Therefore, it is not wise to order large numbers of cylinders far in advance of when they might be used. Therefore, if a cylinder is not empty when you are through with it, please determine whether it is to your economic advantage to store it or return it to the vendor. Don't let a cylinder sit in your laboratory if you do not have plans to use it.

f. Housekeeping Policy for Swalm

The custodians are allowed to attend to cleaning the floor and emptying the waste baskets in offices and classroom spaces only. The occupants are required to keep the remainder of office spaces in order. Note that the custodial staff is not responsible for any housekeeping in the laboratory wing. The occupants are required to keep the laboratories and adjacent hallways in order, including timely disposal of trash, shipping containers, etc. For safety reasons, the small window in the laboratory door is not to be obscured or covered for any reason.
g. Departmental Machine Shop

The machine shop area located adjacent to the Undergraduate Instructional laboratory (Ground floor) has limited equipment for fabrication or modifications to existing equipment. The shop facility is primarily used for making simple drilling, clamping, gluing, etc. operations. Major fabrication projects must be accomplished by outside contractors or services.

1) Students working in the shop must have supervision from a faculty member to conduct ANY procedures in the machine shop.

2) Safety. All safety rules must be followed in the shop.

   Shop Safety Rules:
   i. Students may not use power tools without permission and supervision.
   ii. Students must be approved for each power tool or piece of equipment they wish to operate.
   iii. Eye protection AT ALL TIMES upon entering the Unit Operations laboratory/machine shop area.
   iv. Tools must be operated as intended in their design and with all safety devices in place.
   v. Projects may not be placed in the shop as to block floor or countertop space and left unattended.
   vi. Students must put away all projects and tools at the end of the work day.
   vii. Students must clean up the shop area where they work when they are finished. This includes putting away hand tools, dusting chips from fixed tools, sweeping the floor, etc.

3) Tools. Students may not remove shop tools without permission.

4) Supplies. Students may not remove hardware items and other shop consumables without permission.

5) Painting and Gluing. Painting and gluing is normally done either late in the day or not in the shop for ventilation reasons.

6) Injuries. Any injuries or accidents in the shop must be reported to the supervising faculty.
h. **Computers**

Graduate students will have access to a computer typically through their research group. Personal laptop computers, tablets are also allowed for use in Swalm.

1) Computers and printers used in research labs are paid for through research funding by research professors. Computers should be treated with care and should not be damaged. It is students’ responsibility to install and update the anti-virus software on the computers he/she uses (office computer, lab computer).

All computers provided to you are for research use and not personal use. All files, data, and other research related materials are the property of the faculty advisor and are not to be removed from any computer at any time. It is recommended that all files created be cross-referenced in your laboratory notebook. All intellectual property remains the property of the faculty advisor, must be accessible at all times to other research group personnel, and may not be used elsewhere without written permission from the faculty advisor.

Do not download software, music, photos, or video onto any laboratory computers unless they are needed for research. Research related software should be approved by the research advisor prior to downloading.

Laboratory printers and printer paper are for research-related printing only and should not be used for any personal or coursework-related printing.

2) All university-owned portable computers that will be removed from Swalm (for brief or long periods) must have valid inventory “hand receipts” associated with them. It is the student’s responsibility to ensure that these are current.

3) To obtain support for computer related issues open a ticket by sending an e-mail to support@che.msstate.edu. The support will only be provided for the university-owned computers.

4) All personal computers connected to the university network must have the most recently updated anti-virus software running continuously. Students can download the recent anti-virus software for personal computers from ITS website.

5) Some software is available from MSU. See the ITS web site for details (http://www.its.msstate.edu/software/). Computers in Swalm will only run software with valid licenses. Pirated software is not permitted.

6) All Mississippi State University and ITS rules concerning computers will be followed.
i. **Other Regulations Pertaining to the Department**

1. **Keys.** Each graduate student will be issued a key to his/her office and a building door key. Keys to specific research laboratories will be issued upon obtaining permission from the faculty member in charge of the lab. Students leaving the University through graduation, or for any reason, must return all keys to the office support staff responsible. Students are responsible for locking all rooms they have been using. Do not share keys with other students, unless instructed.

2. **Building Security.** Swalm is normally locked at night on weekdays and on the weekends. As you enter and leave the building, if it is locked, be sure that all doors are shut/locked behind you. During the work week, the front and side doors on the ground and first levels are normally unlocked during business hours. **On football weekends the building is to be remained locked.** Persons entering or leaving Swalm on those days should take extra care to ensure that all doors are shut/locked behind them. In addition, offices and laboratories should be locked and the lights turned off when not occupied.

3. **Building Maintenance.** Report building maintenance problems to faculty advisor. If a major problem with the building is found outside of normal office hours, inform your advisor and/or the School Director after you have called the University Police Department at 325-2121.

4. **The Departmental Office.** Graduate students will not make a habit of loitering in the Departmental Office. Please conduct your business rapidly and allow staff members to get back to work.

5. **Departmental Files.** All departmental files are off limits unless one has permission to use them.

6. **Ice and Distilled Water Supply.** Ice and distilled water are available. Distilled water is supplied to each lab sink through red handled ball valves (located at the base of the backsplash the spigots labeled “DI H₂O”.

7. **Departmental Office and Lab Telephones.** Student use of the departmental telephones must be restricted to business use and emergencies during business hours. Students must inform their friends and family not to call them on the departmental office/lab phones for routine matters. With the permission of their advisor, students may obtain long distance authorization numbers to use for business-related long-distance calls. **CAUTION: Never use your university code for personal calls; all long-distance calls are documented on monthly bills.**
j. Faculty/Staff

Faculty:

Jason M. Keith
Professor & Dean
Deavenport, Jr. Chair
Reaction Engineering
Engineering Education

David Cole
Instructor
Petroleum Production,
Drilling and Exploration

Larry Pearson
Instructor
Alternative Energy
Renewable Fuels

Bill. B. Elmore
Assoc. Professor,
Director and
Deavenport Jr. Chair
Biotechnology for
sustainability
Engineering Education

W. Todd French
Professor
Microbiology &
Biofuels

Dong Meng
Assistant Professor
Soft Materials
Nanotechnology
Interfacial Phenomena

Julie Jessop
Professor,
Associate Director
Hunter Henry Chair

Priscilla Hill
Associate Professor
Crystallization &
Particulate Processing

Neeraj Rai
Assistant Professor
Molecular Modeling &
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Assistant Professor
Geomechanics &
Carbon Sequestration
Hydraulic Fracturing

Santanu Kundu
Assistant Professor
Soft Materials
Sustainable Materials
Microfluidics

Hossein Toghiani
Tommy B. Nusz
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Pore-scale modeling

Yizhi Xiang
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**Staff:**

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<tr>
<th>Dana Lewis</th>
<th>Tamar Burrell</th>
<th>Ellen Weeks</th>
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<tr>
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<td>Staff Assistant</td>
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<td>Swalm 330</td>
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