



Master of Engineering Program Guide
Bagley College of Engineering
May 2019

Welcome to the Master of Engineering Program offered through the Bagley College of Engineering at Mississippi State University. This multidisciplinary, fully-online engineering degree allows students flexibility in determining a personalized program of study organized for their own specific educational and professional purposes.

This guide serves to assist students in successfully navigating the Master of Engineering (MENG) program and provides information relevant to the admission, registration, and completion of the program. The policies and procedures provided in this guide govern the academic program and describe the duties and responsibilities of MENG graduate students. These policies and procedures are in addition and subordinate to those described in the Graduate Catalog found at www.grad.msstate.edu. Any inconsistencies within this guides should be brought to the attention of the Distance Education Coordinator. The Office of the Graduate School (OGS) has additional information, as well as links to all forms needed by MENG graduate students. Each student is expected to be familiar with the contents of this guide. While this guide provides information developed through many years, it is ultimately the responsibility of the student to ensure that all program requirements are met in a timely fashion and in accordance with MENG and OGS policies and procedures.

Contact Information

Tamra Swann

Distance Education Coordinator
Dean of Engineering Office
tswann@bagley.msstate.edu
662.325.3786

Dr. Kari Babski-Reeves

Associate Dean Research and Graduate Studies
Dean of Engineering Office
kari@bagley.msstate.edu
662.325.8430

Josie Guerry

Manager, Graduate and Distance
Dean of Engineering Office
Josie@bagley.msstate.edu
662.325.5923

Missy Runnels

Computer Support Specialist
Dean of Engineering Office
runnels@bagley.msstate.edu
662.325.7794

Angie Campbell

Admissions and Enrollment Asst.
Office of Graduate Studies
dmartin@grad.msstate.edu
662.325.7400

General Engineering Distance Education: tswann@bagley.msstate.edu

Technical Assistance: enr-dist-support@lists.msstate.edu

Computer issues: ITS help desk <http://www.its.msstate.edu/support/helpdesk/>

Bagley College of Engineering – Distance Education: www.bcoeonline.msstate.edu

Office of the Graduate School: www.grad.msstate.edu

Graduate Catalog: www.catalog.msstate.edu/graduate/

Withdrawal Refund Schedule:

<http://www.registrar.msstate.edu/sites/www.registrar.msstate.edu/files/withdrawal-refund-schedule.pdf>

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Application Information

The Master of Engineering program (MENG) offers students an opportunity to participate in a multidisciplinary master's level engineering program at an accredited institution. Due to the multidisciplinary nature of the program students will have access to courses from the following engineering disciplines – Aerospace, Civil, Computer Science, Chemical, Computational, Electrical and Computer, Industrial and Systems, and Mechanical Engineering. Students can choose between two primary concentrations – General Engineering and Military Engineering. Additionally, students may take courses outside the college of engineering. These are typically from business, math, and geoscience but others can be considered with input from the student's advisor and/or committee.

Both thesis and non-thesis options are available. Students choosing to participate in the thesis option will complete 24 hour hours of coursework, six hours of thesis research and defend the thesis to their committee typically during their last semester of study. Non-thesis students will complete 30 hours of coursework. During the final semester non-thesis students will complete the MENG Capstone Course (GE 8003) which includes a literature review and defense to their committee. Final projects are typically focused on a project the student is working on as part of their employment.

Application

Students can apply for the MENG degree program at www.grad.msstate.edu by clicking on "Apply Now." This page links directly to the application processing page which lists application deadlines. Because Mississippi State University uses centralized processing of graduate applications, all questions pertaining to the application process and all application materials should be directed to the Office of the Graduate School (OGS). The MENG program has been assigned a point of contact for admissions to assist students with such questions. Contact information is listed on page 2.

MENG Application Deadlines

Fall: August 1

Spring: December 1

Summer: May 15

These dates indicate the last day that all information related to the application should be received including the online application and application fee, three letters of reference, and transcripts. Applications completed after these dates may not be reviewed and admissions decision may not be made in time for enrollment in the desired semester.

Once all required materials for applying to the MENG program have been received by OGS they are sent to the Dean's Office for review. Applications are reviewed within 5 days of receipt. Students will receive an email from OGS regarding their admission decision and any conditions or contingencies associated with admission. Students who are accepted into the program will receive a second email from the Dean's Office within 5 days of acceptance.

MENG Application Guidelines

Applications include a brief electronic application, a statement of purpose, transcripts, three references, and an application fee. Each of these must be completed before the application will be sent to the department for an application decision.

Within the application process students will submit a statement of purpose. This 3-4 paragraph document should include information about the student's undergraduate background, current employment and plans for advancement. It should also include information about why the student has chosen the MENG and which disciplines of study the student plans to pursue. Students can find a complete list of discipline areas at <http://www.bagley.msstate.edu/distance/master-of-engineering/> and plan to include at least 2-3 engineering disciplines in their program of study. More information is included below.

The application will have a space to include names and contact information for three references. Once you have completed your application an email will be sent to those individuals asking them to complete a brief assessment of the student's potential for success in graduate school. Additionally, references will have the opportunity to attach a letter of reference.

Admission Criteria

Students should refer to the General Requirements for Admission section in the Graduate Catalog <http://catalog.msstate.edu/graduate/> regarding University admission policies. In addition to meeting the requirements set forth by the Graduate School the basic requirements for admission to the MENG include a minimum 3.00/4.00 GPA on a B.S. degree in an engineering discipline or closely related area, or remedial engineering coursework. Satisfactory performance is required on the GRE for students with a degree from a non-EAC/ABET accredited program. Consideration is given to students who hold non-engineering undergraduate degrees on a case-by-case basis. Admission decisions are made by the Associate Dean for Research and Graduate Studies.

As part of the standard engineering undergraduate program, a student will have had:

- Calculus I – IV and Differential Equations
- One year of calculus-based physics
- One semester of a general chemistry class
- Two – three engineering science courses (e.g., electronic circuits, engineering mechanics, thermodynamics, production control systems)

Provisional Admission

A student who does not meet the 3.00 GPA requirement for the MENG may be admitted to the program on a provisional basis. If provisional admission is granted, the student must achieve a GPA of 3.00 on the first 9 credit hours of graduate courses. Courses with an "S" grade, transfer credits, or credits earned while in unclassified status cannot be used to satisfy this requirement. Upon meeting the provisional admission requirements, the student receives regular admission status. If the student does not achieve a 3.00 GPA, the student will be terminated from the MENG program.

Enrollment Expectations

All graduate students are expected to maintain continuous enrollment. They must be enrolled in classes every Fall and every Spring or Summer semester until graduation, at a minimum. Students not enrolled for three consecutive semesters, excluding summer semesters, are automatically dismissed from Mississippi State University by the Registrar and are required to apply for readmission to the Graduate School to complete their degree. Any associated fees accrued are the responsibility of the student.

Academic Dismissal

A student will be dismissed from the graduate program if any of the following occur:

- a student has been on academic probation at some point in the past and, in some subsequent semester, the student's cumulative graduate GPA falls again below a 3.00
- a student receives a grade of D, F, or U on a graduate course
- a student receives a grade of C on more than two graduate courses
- a student fails the non-thesis comprehensive examination twice
- a student fails the thesis defense twice

Students participating in the MENG thesis track will receive a letter of warning after receiving the first "U" grade for unsatisfactory progress in research/thesis hours and be placed on probation. Students receiving a second "U" grade will be dismissed from the program.

In case of a dismissal from the graduate program, a student may appeal his or her academic status according to the procedure outlined in the Graduate Catalog at <http://catalog.msstate.edu/graduate/academic-policies/academic-probation-dismissal-appeal/>.

MSU Identification

When applying, students are assigned a nine digit MSU ID number that begins with 9 (e.g., 999-999-999) and a MSU NetID (initials and number; e.g., abc000). Prospective students can check the status of their application at any time by logging into the system. Once the OGS has notified a student of admission a follow-up email which includes registration information will be sent from the Dean's Office, typically within 48 hours.

Communication

All communication with students will occur using the student's assigned Bully email address (NetID@msstate.edu). The department cannot and will not keep a listing of work or other personal email addresses used/preferred by the students. Students may have their Bully mail forwarded to the account of their choice, but all critical communication from the department and the university to the students will occur through this email address. For example, critical exam dates, job opportunities, assistantship opportunities, etc. will be conveyed to students using this email address.

Transfer Credit for Previous Graduate Coursework

Mississippi State University (MSU) policy states that students may transfer up to 9 credit hours of graduate coursework towards the completion of the MS thesis or non-thesis degree. A formal Transfer Approval form (found on the OGS website) must be submitted to receive credit. These courses, if approved, will appear on the

student’s Program of Study, and therefore are subject to all policies for courses taken at MSU. Specifically, the courses cannot be more than 8 years old at the time of graduation. Transfer courses can be used as equivalent courses offered by the appropriate department and the equivalent course will be noted on the Transfer Approval form, or for courses not offered by the appropriate department courses will be noted as “Special Topic” on the Transfer Approval form. Students should only submit this document with approval of their advisor (non-thesis) or their advisor and committee (thesis).

Transfer credit will not be awarded for research, internships, courses graded pass/fail, or coursework in which a grade lower than B was earned. Continuing education credits, correspondence, extension or in-service courses and/or workshops also cannot be used as transfer credit hours. For more information regarding transfer credit hours, students should refer to the Graduate Catalog on the OGS website.

Program Requirements

Thesis Option

The MENG Thesis Option allows students to select from all graduate level courses offered online via the Bagley College of Engineering as well as up to 12 hours of potential coursework from other colleges within the university. MENG students will be responsible for identifying and securing approval of an engineering faculty member with a Level 1 graduate faculty appointment as their major professor within their first year in the program, though earlier is preferred. This faculty member will have relevant expertise in the area of research the student wishes to pursue for their thesis work. Prior to the identification of the major professor, course selections will be overseen by the Distance Education Coordinator and/or the Associate Dean for Research and Graduate Studies. Thesis students will typically defend their thesis during their last semester of study (additional information below).

Master of Engineering – Thesis Option	Hours towards Completion
Required Courses*	
IE 6613 Engineering Statistics I	3 credit hours
IE 6533 Project Management	3 credit hours
Required Thesis Formatting Course	0 credit hours
8000-level course work	12 credit hours
Additional course work (6000 or 8000 level)	6 credit hours
Research/Thesis	6 credit hours
TOTAL CREDIT HOURS	30 credit hours

*Students who have successfully completed IE 6613 or IE 6533 as an undergraduate or as part of another graduate program will need to find replacement courses.

Non-Thesis Option

The Associate Dean for Graduate and Research Studies serves as the Major Professor for students pursuing the MENG non-thesis route. Non-thesis students will be expected to present a final project during their last semester of study.

Master of Engineering – Non-Thesis Option	Hours towards Completion
Required Courses*	
IE 6613 Engineering Statistics 1	3 credit hours
IE 6533 Project Management	3 credit hours
GE 8003 MENG Capstone Course	3 credit hours
8000-level course work (in addition to capstone)	12 credit hours
Additional course work	9 credit hours
TOTAL CREDIT HOURS	30 credit hours

*Students who have successfully completed IE 6613 or IE 6533 as an undergraduate or as part of another graduate program will need to find replacement courses.

Academic Integrity

MSU has an academic honor code (<http://www.honorcode.msstate.edu/>). All students are expected to uphold the ideals stated in this code, and can expect to sign graded assignments to this effect. Students should refer to the honor code website for detailed information on the types of academic misconduct, the process for reporting/appealing academic misconduct, and examples of penalties for students found guilty of academic misconduct. Students should be aware that ignorance of the misconduct is not accepted as an excuse for engaging in academic misconduct activities.

Advising and Registration

All students will receive information via email about advising prior to the pre-advising times listed on the academic calendar.

For returning students an email is sent out prior to each registration period which outlines instructions for registration and provides pertinent web links for students. Students should review the list of classes available for the upcoming semester in the myState “Banner” system (https://mybanner.msstate.edu/prod/wwkschd.P_SelTerm). A complete class listing is always available in Banner under the Master Schedule link. Students can find a link to archived courses at www.bcoonline.msstate.edu. A complete list of classes is available online indicating the semesters each was offered.

The MENG program recommends that all currently enrolled students be preregistered for class by the last day of classes of the preceding semester. It costs nothing for a student to preregister for classes – more information about billing is available on the Account Services page at <http://controller.msstate.edu/accountservices/index.php>. Also, note that a student will always be able to adjust his or her schedule by adding or dropping class up through the first week of class for Fall and Spring classes. The Withdrawal Refund Schedule can be found at <http://www.registrar.msstate.edu/sites/www.registrar.msstate.edu/files/withdrawal-refund-schedule.pdf>. Students will be responsible for all tuition and fees associated with schedule changes.

Semester	Preregistration Deadline
Fall	Last day of Summer semester
Spring	Last day of Fall semester
Summer	Last day of Spring semester

Once students have been admitted the MENG program an email will be sent outlining instructions for registration. All MENG students should email the Distance Education Coordinator indicating which course(s) the student plans to register for the upcoming semester. Student emails should include the Course Symbol, Number, and Section Number for each course the students plans to take. Students should also include their nine-digit MSU ID or NetID for the registration process. Once approved, the student will be released for registration. Upon registration release a student will receive an email from the Registrar's Office indicating that registration is available. The Registrar's email includes a notes section which will include information indicating which course the student has been released for registration. If a student's course choices changes during the registration period an email should be sent to the Distance Education Coordinator to confirm the potential change.

Graduate level classes are either 6000 or 8000 level classes. Classes that are 6000 level are considered split-level classes, meaning that upper level undergraduate students (juniors and seniors) also enroll in these classes. Per university policy, graduate students are required to complete additional coursework (additional homework assignments, increased test difficulty or length, completion of a project or literature review, etc.) to earn graduate credit for these classes. Classes that are 8000 level are considered full graduate level classes, meaning only graduate students can enroll in these classes. Students should expect that courses at the 8000 level are more directed to stimulate individual thinking and problem solving. The MENG program requires that 15 of the required 30 course hours be 8000 level courses (5 courses) for the Non-Thesis program and 12 of the required 30 course hours be 8000 level courses (4 courses) for the Thesis program.

Students may require overrides to register for some classes. The Distance Education Coordinator will provide instruction and assistance for procuring necessary overrides.

Program of Study

Students will not be released to register after they have completed six hours of coursework unless a program of study is on file with the Distance Education Coordinator. The program of study outlines the classes that the student plans to take during their tenure as a student. Due to changes in the student's educational or career paths or changes within the college course offering the program of study may change prior to the student's graduation. During each registration time period an updated program of study may be requested prior to registration release. Sample programs of study can be found in APPENDIX B.

Graduate Committee and Committee Request Forms

The graduate committee consists of at least a major professor and two other committee members. The Associate Dean serves as the committee chair for all non-thesis students. Non-thesis MENG students will work with the Distance Education Coordinator to select two additional committee members.

Students choosing the MENG Thesis Option should choose their Graduate Committee before the student begins work on the thesis. It is the responsibility of the student to determine which area will be studied. MENG students will be responsible for identifying and securing approval of an engineering faculty member with a Level 1 graduate faculty appointment as their major professor within their first year in the program, though earlier is

preferred. This faculty member will have relevant expertise in the area of research the student wishes to pursue for their thesis work.

The composition of the graduate committee is declared via the Committee Request form. The level and appointing department for each faculty member on the graduate committee can be found in the Graduate Faculty listing within the Graduate Catalog at <http://www.catalog.msstate.edu/graduate/faculty/>. Changes to the graduate committee must be documented with the submission of a Request for Change of Committee Members form to the Graduate Coordinator.

Areas of Concentration

General Engineering Concentration

Most MENG students pursue a generalized area of concentration. Students can review some potential areas of concentration at www.bcoeonline.msstate.edu for potential courses for their program of study. Some of the most popular areas of concentration are listed below. A list of concentration areas with potential classes can be found in APPENDIX A. Student pursuing this concentration are required to take 6 hours each from two different engineering disciplines (e.g., 6 hours in civil engineering and 6 hours in industrial and systems engineering).

Aeronautics and Aerodynamics
Civil, Transportation, and Construction Systems
Coastal and Water Management
Management and Leadership
Electrical and Electric and Computer Systems
Engineering Systems
Materials and Fluids
Structural and Mechanical

Military Concentration

For the Military Engineering concentrations, courses are selected from a set of identified courses that are applicable to this focus. See APPENDIX A. Additionally, non-thesis students in either concentration must complete GE 8003 as the final capstone course for this program.

Course workload

Engineering faculty recognize that distance students often have full time jobs and other responsibilities outside of class and work. Regardless, exam dates, homework due dates, quizzes, class projects, etc. will follow the same timeline as on-campus students and distance students should plan accordingly. Course instructors can approve extensions for extenuating circumstances if needed (e.g., prolonged travel); however, it is at the discretion of the course instructor whether to provide extensions or allowances. MENG students are strongly encouraged to enroll in only one class during their initial semester. This is to allow students to become accustomed with how classes are offered and the pacing of our distance classes. Students should plan to graduate within 3 years. This means that students are expected to enroll in classes in the Fall, Spring and Summer semesters. To complete 30 hours within 9 semesters, at least 1 semester will require students to enroll in 6 credit hours. Two examples of possible timelines are provided, though others are possible.

Example: Possible Course Load (2 1/3 years)

	YR 1	YR 2	YR 3
Fall	3 hours	6 hours	3 hours*
Spring	6 hours	6 hours	
Summer	3 hours	3 hours	

Example: Possible Course Load (3 years)

	YR 1	YR 2	YR 3
Fall	3 hours	6 hours	3 hours
Spring	3 hours	3 hours	3 hours
Summer	3 hours	3 hours	3 hours*

* Students should plan to present their final project or thesis during their last semester of academic study.

Course Delivery

The majority of our distance classes are offered during the normal, working day (typically 8:00 a.m. – 5:00 p.m. M-F). Any classes offered via distance will be recorded in a technology classroom or through the use of screen capture software. Distance students can download videos of classes at their convenience by using the Opencast site. All online classes, regardless of synchronous availability, are offered asynchronously. These videos are recorded with High Definition Sony BRC Cameras, and media sources are captured through a multimedia controller that allows the classroom facilitator to swap inputs between document cameras, the computer desktop, and rear and front cameras. All videos are uploaded to our servers shortly after classes.

Details regarding asynchronous or synchronous course delivery as well as instructions for viewing or downloading videos can be found on the Bagley College of Engineering distance learning website at www.bcoeonline.msstate.edu.

All technical questions for courses can be sent via email from the website listed above by clicking on the “Technical Assistance” button or by emailing enr-dist-support@lists.msstate.edu directly. Technical questions sent directly to the enr-dist-support email address will be answered promptly.

Proctoring

For courses requiring proctored exams students will be required to submit a Proctor Form via the link found under “Forms” at <http://distance.msstate.edu/pdf/distance/ProctorRequestForm.pdf>. Students should direct the form to the address listed on the form. Information about prospective proctors can be found on the form. Individual instructors may have additional requirements regarding proctoring. If so, the instructor will outline those to the students during the class recordings.

Performance

The Office of the Graduate School (OGS) prepares an Academic Standing Report at the completion of each semester. Students with grades of “C” or lower, with an overall GPA below the minimum (3.0) or students

receiving Failing or Unsatisfactory grades are identified. An email will be sent to the student (via their MSU email account) and the advisor notifying the student of their current status.

PRESENTATIONS

MENG Capstone Course – GE 8003

A detailed literature review and presentation is required of all degree candidates in the MENG program (SEE APPENDIX C FOR DETAILS). To be eligible to present, a student must have a GPA of 3.0 and be within 6 credit hours of completing the course work on the student's program of study or in the terminal semester. The primary focus of the presentation will be on the literature review composed by the student during the capstone course. All students should expect questions related to their studies outside the scope of their presentation. The faculty will be aware of the courses the students have completed and know what questions students should be able to answer.

Students are encouraged to come to MSU to give their presentation, but this is not always possible. WebEx is available to students who must do their comprehensive exams online. The Distance Education Coordinator will assist in setting up the student's presentation time and location. Note that a web cam and speakers are **required** for utilization of WebEx. WebEx works with Macs and iPads; test systems at www.webex.com/test-meeting.html.

Thesis MENG Information

A thesis is a research experience that illustrates knowledge of and contributes to the overall engineering discipline. Students are encouraged to begin working on their thesis within the second to third semester to ensure timely program completion. As a general introduction students should be aware that, in general, a thesis should be of sufficient scope to result in at least one high quality journal publication.

The thesis option student will complete a thesis proposal meeting and must pass an oral defense of the thesis before being allowed to graduate. Additionally, thesis students must **submit** at least one journal or conference paper **FROM THEIR THESIS prior** to graduation. Students will not be allowed to graduate until the publication requirement is met. Journal or conference papers submissions from work not a part of the thesis cannot be used to satisfy this requirement.

Research

Thesis research and classroom research is identical for both distance and on-campus students. As an MSU student you will have access to many of the software programs (statistical, modeling, etc.) needed to complete your coursework or research either through ITS or a specific department. Classroom related research is governed by all federal, state, and university policies and regulations. Students should be familiar with these guidelines and when they are required to seek approval from other university entities (e.g., IRB for human subjects). Please see the Office of Research Compliance website for more information (www.orc.msstate.edu).

Thesis research is typically conducted at non-MSU research facilities for distance students. Therefore, distance students are required to complete the Distance Student Certification for Off-Campus/Non-MSU Research Facility form. Students can locate this form on the OGS website at www.grad.msstate.edu. It is typically not possible for faculty to loan students sophisticated equipment for their research, thus students should plan accordingly. Regardless, the expectation for distance student thesis research is the same as for on-campus students. See APPENDIX D for the procedures for thesis preparation and oral thesis defense.

Thesis Formatting Course

A required course (LIB9010) was developed by the MSU Libraries and the Office of Graduate Studies. This free, zero hour course (online through Canvas) will move the students step by step through the Submission and Format Review Process. The course will additionally offer opportunities for tutorials, workshops, copyright and author's rights information. Registration for summer and fall are now open and students are able to enroll through Banner. Library faculty and staff will add others as they come in to complete the Submission and Format Review process.

Thesis Signature Page

All theses are required to have signature pages formatted per the Library's guidelines and specifications. Students are required to receive Library approval of this page's formatting **prior** to requesting signatures. The major advisor, committee, Graduate Coordinator and Dean must sign these pages. Once the student has obtained signatures from the advisor and committee members, the student may request the signature of the Graduate Coordinator. To obtain the Graduate Coordinator signature the student must provide a copy of the following:

1. Signed signature page
2. Title page of the thesis
3. Abstract of the thesis
4. Completed and signed (by the thesis advisor) Bagley College of Engineering Exit Survey
5. Confirmation of publication requirement (more details is provided in a later section)
6. Copies of approval or approved forms from other university offices (e.g., Stamped Informed Consent documents from the IRB, IBC approval, IACUC approval)

The Distance Education Coordinator will take items 1-4 to the Dean's office for signature and that office will deliver the signed signature page to the Library. All other materials associated with the thesis are to be submitted to the Library by the student after obtaining all required signatures.

Deadlines for initial submission of thesis are provided in the Graduate School Academic Calendar. Students should allow for 5 business days for obtaining the Graduate Coordinator and Dean's signatures.

GRADUATION

Applying for Graduation

It is the student's responsibility to be aware of graduation deadlines and fees. Students should contact the Distance Education Coordinator the semester prior to graduation with questions. Once the student has completed all of the requirements for the degree the student may apply for graduation. Deadlines for applying for graduation are outlined in the Graduate School academic calendar. Please note that fees associated with applying for graduation increase as the semester continues. It is the student's responsibility to apply for graduation in a timely manner and pay all associated fees. Students should submit a Declaration of Examination/Defense - http://www.grad.msstate.edu/files/comprehensive_exam_announcement.pdf - no less than 2 weeks prior to the scheduled date.

Graduate Degree Audit

The Graduate Coordinator receives a listing of all students who have applied for graduation each semester approximately 8 weeks prior to the completion of the semester. At that time the Graduate Coordinator will review the student's file and transcript to ensure all forms have been submitted, and all university and

departmental requirements have been completed. If there are missing forms identified, the student and advisor will be notified immediately and asked to submit them. If the student is missing a degree requirement the student and advisor will be notified immediately and a plan developed to assist the student with graduation. Be advised that depending on what is found, graduation may be delayed.

Graduation Ceremonies

Graduation ceremonies are held in the Fall and Spring. Announcements regarding the date and time are provided by the university. Students attending graduation are responsible for renting all required robes, hoods, caps/tams, etc. as indicated in the graduation emails provided by the university. PhD graduates will be hooded by their advisor. All diplomas will be mailed following the graduation ceremony after all degree requirements have been confirmed.

APPENDIX A: AREAS OF CONCENTRATION

All students will be required to complete Engineering Statistics 1 and Project Management as part of the MENG curriculum unless those courses were previously completed under another program of study. The maximum number of contact hours for the MENG, both thesis and non-thesis, is 30. Students may find more courses listed below than necessary to complete the degree but each of the courses listed are indicative of the more popular options available via engineering distance education. Other courses may be available in the future but each of the courses listed below has been offered at least once previously.

Engineering Concentration Areas of Interest

Aeronautics and Aerodynamics

ASE 6423	Introduction to Computational Fluid Dynamics
ASE 8313	Advanced Computational Aerodynamics I
ASE 8413	Computational Fluid Dynamics I
ASE 8323	Advanced Computational Aerodynamics II
CSE 8233	Software Engineering Project Management
ASE 6433	Fundamental Numerical Grid Gen
IE 8753	Network flows and Dynamics Programming
ASE 8353	Turbulent Flow
ASE 6813	Advanced Orbital Mechanics
ASE 8343	Incompressible Viscous Laminar Flow
EM 8113	Theory of Cont Media
ASE 8423	Computational Fluid Dynamics II
MA 8203	Applied Math I
ASE 6233	Structural Dynamics
TBD*	Special Topics

Civil, Transportation, and Construction Systems

CE 6183	Water Transportation
CE 8563	Groundwater Resources Evaluation
CE 6523	Open Channel Hydraulics
CE 8543	Tidal Hydraulics
IE 6613	Engineering Statistics I
CE 6513	Engineering Hydrology
CE 6883	Engineering Environmental Systems
CE 8573	Hydro-environmental analysis
CE 8923	Surface Water Quality Modeling
GR 8613	Hydrometeorology
CE 8593	Environmental Hydrology
IE 6533	Project Management

CE 6563	Sedimentation Engineering
CE 8503	Data Analysis for CEE
GR 6303	Principals of GIS
CE 8453	Physical Properties of Soils
GR 6603	Climatology
CE 6733	Construction Engineering Equipment and Methods
CE 8953	Fine Sediment Processes
CE 8923	Surface Water Quality Methods
TBD*	Special Topics

Coastal and Water Management

CE 8533	Hydromechanics
CE 8593	Environmental Hydrology
CE 8563	Groundwater Resources Evaluation
CE 6183	Water Transportation
CE 6863	Water and Waster Engineering
CE 6533	Computational Methods in Water Res
CE 6523	Open Channel Hydrolics
CE 8953	Fine Sediment Processes
CE 6563	Sedementation Engineering
CE 8923	Surface Water Quality Methods
CE 8573	Hydro-environmental Analysis
TBD*	Special Topics

Management and Leadership

IE 6613	Engineering Statistics I
IE 6533	Project Management
IE 8733	Decision Theory
MGT 8113	Leadership Skills
EC 8103	Economics for Managers
IE 6513	Engineering Administration

MKT 8153 Strategic Marketing Management
 IE 8583 Enterprise Systems Engineering
 IE 8913 Engineering Economy II
 IE 6553 Engineering Law and Ethics
 TBD* Special Topics

Electric, Electrical and Computer Systems

IE 6733 Linear Programming I
 IE 8733 Decision Theory
 ECE 6653 Introduction to Power Electronics
 ECE 8223 Analog Design
 MKT 6143 Sales Management
 ECE 6743 Digital Systems Design
 BQA 8233 Quantitative Analysis and Business Research
 TBD* Special Topics

Engineering Systems

ECE 6333 RF and Microwave Engineering
 ECE 6653 Introduction to Power Electronics
 BIS 8113 Mgt Info Tech and Sys
 IE 8733 Decision Theory
 IE 8353 Manufacturing Systems Modeling
 IE 6623 Engineering Statistics II
 IE 8153 Cognitive Engineering
 MGT 8113 Leadership Skills
 IE 6613 Engineering Statistics I
 IE 6553 Engineering Law and Ethics
 TKT 6483 Methods of Teaching STEM
 IE 6173 Occupational Safety Engineering
 IE 6733 Linear Programming I
 IE 6573 Process Improvement Engineering
 CHE 8713 Scientific Proposal Instruction/Development
 GG 8423 Earthquakes and Volcanoes
 IE 6653 Industrial Quality Control I
 IE 8163 Macroergonomics
 IE 6753 Systems Engineering and Analysis
 EM 8213 Fracture Mechanics

ME 6193 Automotive Engineering
 ME 6123 Failure of Engineering Materials
 IE 6113 Human Factors Engineering
 IE 8143 Applied Ergonomics Methods
 IE 6533 Project Management
 ASE 6423 Int Comput Fluid Dynamics
 ASE 8313 Advanced Computational Aerodynamics I
 IE 6513 Engineering Administration
 TBD* Special Topics

Materials and Fluids

ASE 8413 Computation Fluid Dynamics I
 EM 6123 Introduction to Finite Element
 ASE 8343 Incomp Vis Lam Flow
 ME 6123 Failure of Engineering Materials
 IE 8733 Decision Theory
 IE 6553 Engineering Law and Ethics
 ASE 6553 Engineering Design Optimization
 IE 6513 Engineering Administration
 IE 8163 Macroergonomics
 IE 6653 Industrial Quality Control I
 EM 6213 Advanced Mechanics of Materials
 EM 8213 Fracture Mechanics
 ME 6443 Mech Systems Design
 ME 6133 Mechanical Metallurgy

Structural and Mechanical

ME 6123 Failure of Engineering Materials
 EM 6213 Advanced Mechanics of Materials
 EM 8213 Fracture Mechanics
 ME 6443 Mechanical System Design
 ME 8253 Fatigue in Engineering Design
 ME 6133 Mechanical Metallurgy
 IE 6613 Engineering Statistics I
 MGT 8113 Leadership Skills
 TBD* Special Topics

Military Concentration

The following courses have been selected to design an appropriate program of study for students planning to participate in the military engineering concentration. Students will find ideas for engineering courses and non-engineering courses. Please note as this is a new concentration there are new courses are under construction for this concentration.

Engineering Courses*

CE 6513	Engineering Hydrology
CE 6523	Open Channel Hydraulics
CE 6533	Comp Methods in Water Resources Eng
CE 6923	Structural Dynamics
CE 8303	Materials Characterization
CE 8433	Advanced Foundation
CE 8443	Soil Behavior
CE 8503	Data Analysis for CEE
CE 8673	Blast Effects & Structural Response
CE 8683	Finite Elem Analy in Struc Engineering
CE 8933	Surface Water Quality Modeling II
CSE 6253	Secure Software Engineering
CSE 6273	Intro to Computer Forensics
CSE 6363	Software Reverse Engineering
CSE 6383	Crypto & Network Secur
CSE 6503	Database Management Systems
CSE 6633	Artificial Intell
CSE 6643	AI Robotics
CSE 6653	Cognitive Science
CSE 6753	Computation Fundamentals
CSE 6763	Cyber Law
CSE 8153	Advanced Data Comm
CSE 8673	Machine Learning
CSE 8713	Advanced Cyber Operations
CSE 8723	Cyber Law and Policy
CSE 8743	Advanced Network Security
EM 6123	Intro to Finite Elem Method
EM 6213	Advanced Mech of Materials
GE 8003	MENG Capston Course
GE 8303	Introduction to Military Engineering
IE 6333	Production Control I
IE 6513	Engineer Administration

IE 6533	Project Management
IE 6543	Logistics Engineering
IE 6573	Process Improve Engineer
IE 6613	Eng Statistics I
IE 6753	Systems Eng and Analysis
IE 6773	Systems Simulation I
IE 8583	Enterprise Sys Engineering
ME 6123	Failure of Eng Materials
ME 8253	Fatigue in Engineering Design
XX 6990/8990	Special Topics
XX 7000	Directed Individual Study (content must be approved prior to enrolling)

Non-Engineering Courses**

BL 8113	Law Ethics Dispute Resolution
GR 6303	Principles of GIS
MGT 8113	Leadership Skills
PPA 8703	Govt Org & Admin Theory
PPA 8723	Public Budgeting and Financial Mgt.
PPA 8733	Public Program Eval.
PPA 8743	Admin Law
PPA 8903	Public Policy

**New courses under development for program.

APPENDIX B: Sample Programs of Study

Students will complete 30 hours within their program of study. Of that 30 hours at least 18 hours must be engineering courses. Up to 12 hours can be completed from another college. Within a program of study students should include classes from multiple engineering disciplines (minimum of 6 hours from 2 different disciplines for a total of 12 hours). Some sample programs of study are included below.

MENG – Mechanical/Engineering Mechanics

ME 6123	Failure of Engineering Materials
IE 6533	Project Management
IE 6613	Engineering Statistics
ME 8253	Fatigue in Engineering Design
EM 8203	Applied Elasticity
EM 6123	Introduction to Finite Element
ME 8223	Inelasticity
CE 8603	Mat Structure Analysis II
CE 8303	Material Characterization
ME 6443	Mechanical Systems Design

MENG – Industrial/Computer Science

CSE 8990	Big Data Visualization
MGT 8063	Survey of Management
IE 6613	Engineering Statistics
IE 6623	Engineering Statistics II
DCSE 8990	Visual Data Analysis with R
IE 6753	Systems Eng and Analysis
MGT 8113	Leadership Skills
BQA 8443	Stat Analysis for Bus. Decisions
MA 8203	Foundations of Applied Math I
IE 6533	Project Management
GE 6990	Special Topic in Engineering

MENG – Industrial/Civil

CE 6133	Geom Design Hwys
CE 6963	Steel Structures
MGT 8063	Survey of Management
CE 8333	Pavement Rehabilitation
CE 6743	Analysis Mitigation of C2D
IE 6533	Project Management
MGT 8113	Leadership Skills
CE 8303	Material Characterization
IE 6613	Engineering Statistics
GR 8833	Weather and Society

MENG – Diverse/Business

EC 8103	Econ for Managers
ME 6123	Failure of Eng Materials
CHE 6990	Soft Materials: Theory
IE 6113	Human Factors Engineering
MGT 8113	Leadership Skills
EM 8213	Fracture Mechanics
IE 8143	Applied Ergonomic Methods
ME 8253	Failure in Eng. Design
IE 6533	Project Management
ME 6133	Mechanical Metallurgy

APPENDIX C: MENG 8003 Capstone Course

As part of the GE 8003 MENG Capstone Course students should plan to submit a final project in the form of a literature review during their final semester of study. The literature review should focus on a topic which can be supported by 15-25 journal/conference proceedings as references and an 8-10 page paper.

The entire literature review should be no more than 15 pages including tables and figures, but, not included in the page count are the title page, abstract, table of contents, references, and any appendices (such as raw data or data analysis tables—ANOVA, etc.). Appendices do not have to be included, but they may be useful in clearing up inconsistencies in the document. If you wish to include copies of questionnaires, supplementary figures/tables, etc., provide them in an appendix.

The review will be presented for committee review at least one week before the scheduled examination for review by committee. These should be emailed to Tamra Swann attswann@bagley.msstate.edu.

Presentation for Committee

Students will be expected to provide a 20-30 minute presentation on their literature review. A rubric outlining committee expectations of the presentation is available upon request.

Non-Thesis Option Task List

✓ Task	When
Submit Committee Request form	First semester of enrollment
Submit Graduate Program of Study form	After first semester of enrollment
Apply to graduate (check Graduate Calendar for exact deadline)	Early in semester of graduation
Schedule presentation	At least two weeks before
Submit Declaration Announcement of Comprehensive Examination/Defense Form to graduate program director	At least two weeks before
Complete BCoE Graduate Exit Survey (online)	Week before
Major professor submits Report of Examination Results form	Immediately following

APPENDIX D: Procedure for Thesis Preparation and Oral Thesis Defense

The following information is to be used as a guide to describe the general process of a thesis oral defense. All of the required forms the student and advisor are responsible for are not identified here (see the Graduate Catalog for a listing of all required forms).

1. With the consent and advice of the student's major professor, the student selects a tentative thesis topic (**2nd semester**).
2. The student and major professor tentatively identify committee members and the student asks each potential committee member if they are willing to serve on the students' committee.
3. The student prepares a typed thesis proposal describing the proposed work. The proposal is expected to include a detailed review of the relevant literature with complete reference list, a detailed research plan, and should clearly indicate the contribution to the knowledge base that will be made with the successful completion of this research. The proposal will not be considered complete without a list of relevant, reviewed references.
4. The major professor approves the proposal and copies are submitted to the committee members, in general 2 week prior to the Thesis Proposal Defense.
5. A Proposal Defense meeting is held in which the student presents their proposal and answers questions (typically 1-2 hours are set aside for proposal defenses). The committee decides if the topic is suitable and of sufficient scope, and if revisions to the proposed methods are required. If the decision is favorable, **the thesis director/major professor** will submit a Proposal Notification Form to the Graduate Coordinator and the student will begin the research pending any requirements required by the committee (e.g., submission of revised methods, completion of pilot study, and completion of additional coursework).
6. The major professor guides and directs the thesis research and initial thesis writing. Other committee members are also available for guidance and advice. The major professor may schedule a progress meeting with the committee when the research is well underway. The student should become thoroughly familiar with the Library Thesis and Dissertation Guide, and should adhere strictly to the specified format when writing the thesis. There are workshops held through the library to aid in the development of the final document.

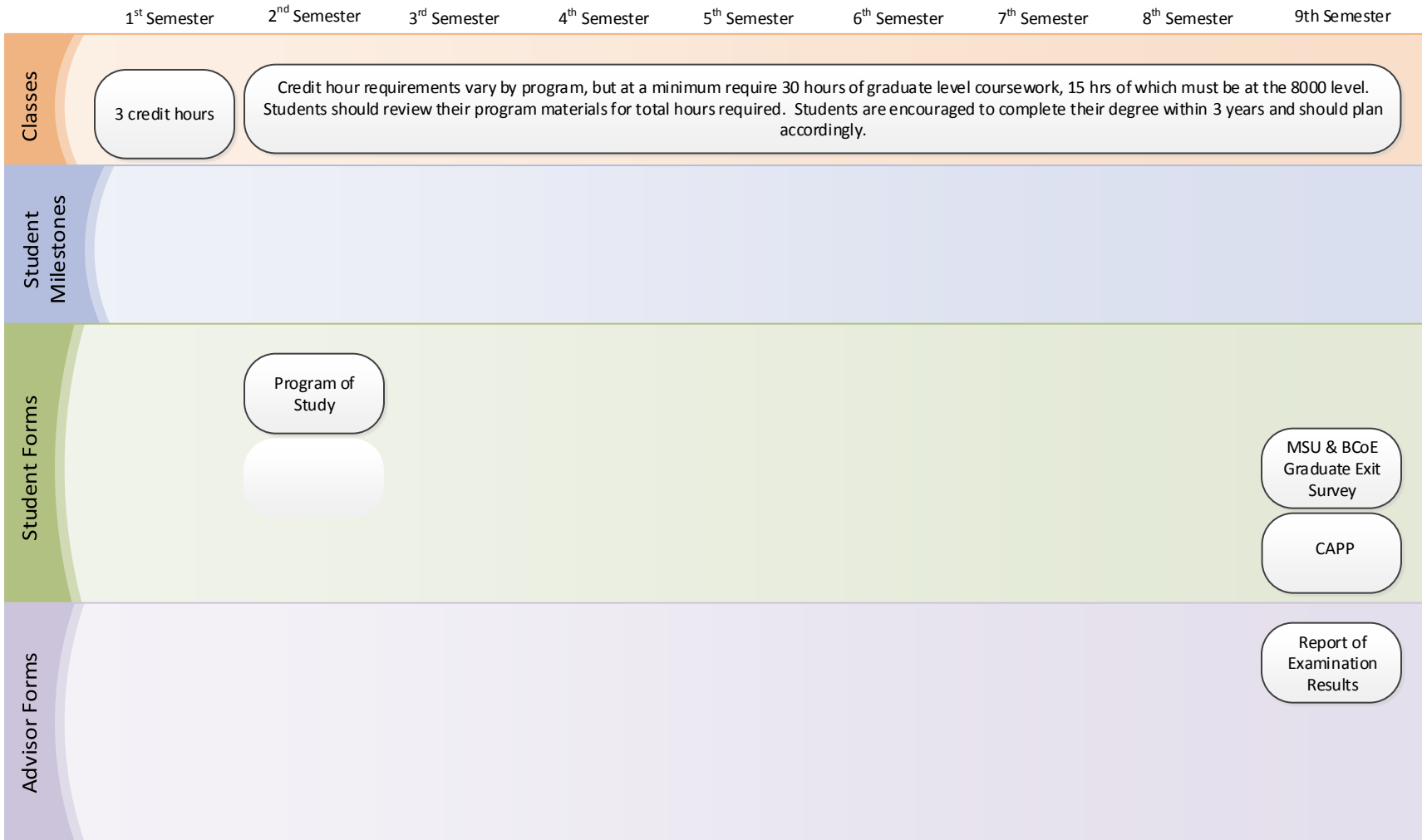
7. The major professor approves a final draft of thesis, and student submits copies to the committee members. The student schedules the oral thesis defense with the committee members, and notification of the date of the defense must be submitted to the Graduate Coordinator and Graduate School a minimum of 2 weeks prior to the defense. Copies of the thesis must be submitted to the committee members at least one week prior to the scheduled oral date. No oral will be scheduled during dead days or the final examination period.
8. Committee members read the draft and submit suggestions for changes and/or additions to the student (usually after the oral defense). Note: With the permission of the committee, the student may take the oral, based on the draft version of the thesis, which is originally submitted to the committee.
9. The oral defense begins with a presentation by the student (15-30 minutes) of the thesis work, followed by questions on the thesis. Again, typically 1-2 hours is allotted to the final thesis defense.
10. The student leaves the room, the committee decides on a pass, fail, or retest, and the student is informed of the decision. It is the firm policy of this department that students who do not perform well on the oral will not be passed. The committee will have the option of failing these students or requiring a retest. In the case of a retest, the student must again appear for an oral questioning no sooner than two weeks following the original oral. This procedure may be repeated at the option of the committee.
11. In consultation with the major professor, the student makes the changes and/or additions required by the committee.
12. A copy of the thesis is submitted to the Library for format approval and all other forms associated with submitting the thesis are submitted to the Library.

Thesis Task List Option

✓ Task When

	Submit Committee Request form	First semester of enrollment
	Submit Graduate Program of Study form	First semester of enrollment
	Apply to graduate	Early in semester of graduation (check Graduate Calendar for exact deadline)
	Schedule thesis defense	At least three weeks before thesis defense
	Submit Declaration Announcement of Comprehensive Examination/Defense Form	At least three weeks before thesis defense
	Thesis read and approved by major professor	Two weeks before thesis defense
	Submit finished thesis to graduate committee	Two weeks before thesis defense
	Submit finished thesis to graduate program director	Two weeks before thesis defense
	Announce thesis defense	Two weeks before thesis defense
	Thesis defense	Check Graduate Calendar for exact deadline
	Major professor submits Report of Examination Results	Immediately following thesis defense
	Complete Bagley College of Engineering Graduate Exit Survey (online)	Immediately following thesis defense
	Collect signatures on thesis signature page	Prior to first submission of thesis to MSU Library
	Submit thesis to MSU Library	Late in semester of graduation (check Graduate Calendar for exact deadline)

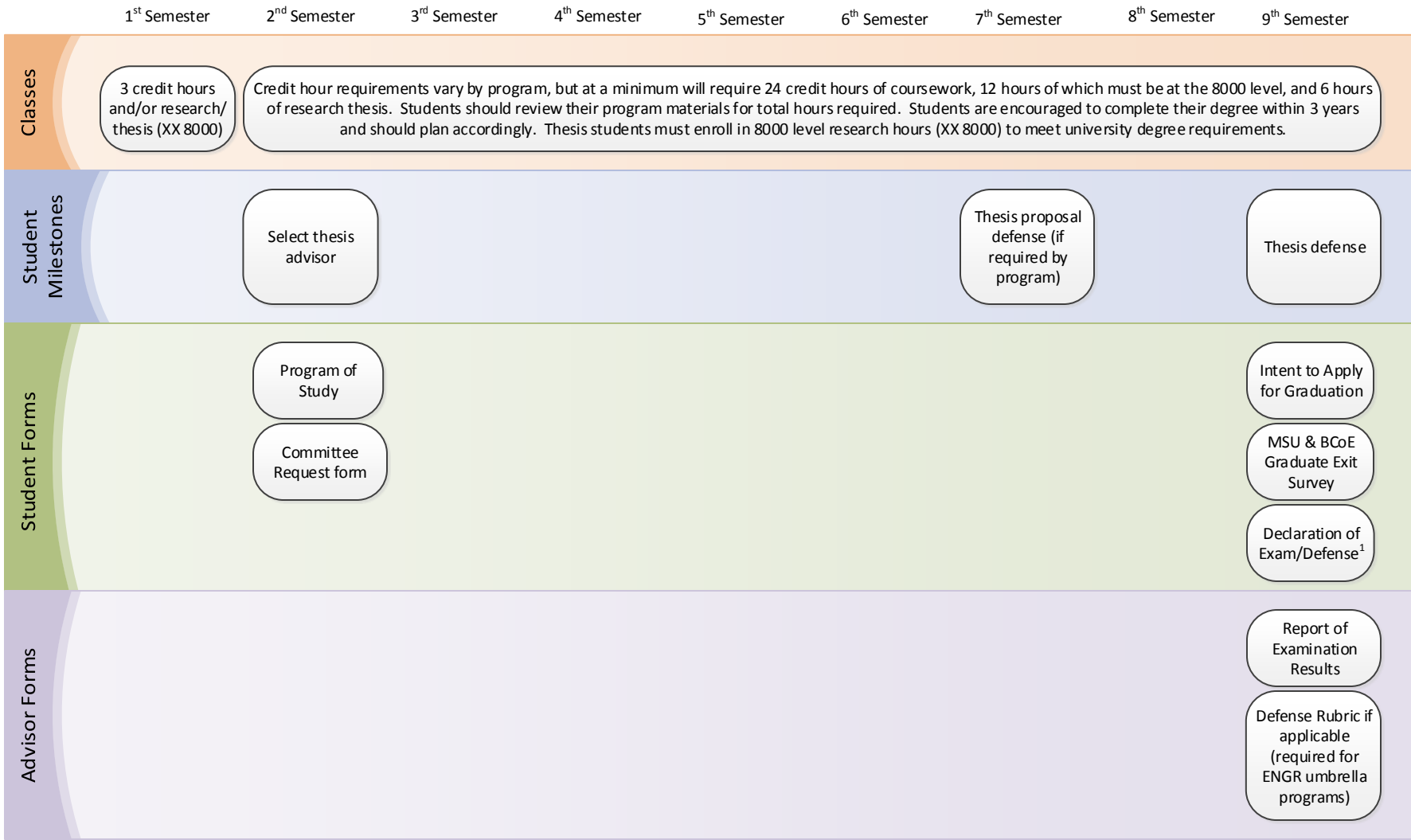
MENG Non-Thesis Option—Distance (assumes no pre-requisites are needed)



¹Must be within 6 hours of completing coursework or in the terminal semester

- Semesters include Fall, Spring and Summer. Students must be enrolled in each Fall and Spring OR Summer semester to meet continuous enrollment requirements and avoid additional fees.
- Full time enrollment in the Fall and Spring semesters is considered to be 9-13 hours. In the summer no more than 13 hours over all three sessions and other restrictions apply.
- **NOTE:** Timing of actions are general recommendations. Programs may require earlier or later submissions of materials; and there may be additional steps required (proposal defense, publication requirements, etc.). Please refer to the Graduate Handbook of your program for details or contact your program's Graduate Coordinator .

MS Thesis Option—Distance (assumes no pre-reqs needed)



¹Must be submitted 2 weeks prior to oral defense

- Semesters include Fall, Spring and Summer. Students must be enrolled in each Fall and Spring OR Summer semester to meet continuous enrollment requirements and avoid additional fees.
- Full time enrollment in the Fall and Spring semesters is considered to be 9-13 hours. In the summer no more than 13 hours over all three sessions and other restrictions apply.
- **NOTE:** Timing of actions are general recommendations. Programs may require earlier or later submissions of materials; and there may be additional steps required (proposal defense, publication requirements, etc.). Please refer to the Graduate Handbook of your program for details or contact your program's Graduate Coordinator.