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Welcome

Welcome to the Biological and Agricultural Engineering Department at Texas A&M University! Our department has a long and distinguished history of providing research and educational programs related to the engineering needs of the food and agricultural sciences. We have been consistently rated as one of the premier departments in the United States. Our faculty is well respected and active in various interdisciplinary professional societies, with several faculty members providing leadership in these societies. The Biological and Agricultural Engineering Department places a high priority on graduate education and offers a wide array of research topics. The research programs combine leadership in traditional areas of biological and agricultural engineering with aggressive development of programs in emerging technologies, including environmental and natural resources engineering, food and bioprocess engineering, systems analysis, machine and energy systems, and feed, food, and fiber processing. These programs are also conducted in several Research and Extension Centers located throughout the state.

Our graduate students come from many states and many countries around the world. You are encouraged to communicate with your fellow graduate students in order to benefit from their experience. Graduate students are a vital component of our department. As a graduate student you will gain experience in both the classroom and laboratory, increase the department's research capability, and, most importantly, bring new dimensions to its work. The real strength of our graduate program is the close interaction between graduate student and faculty member. Our faculty is extremely dedicated to the student’s professional development and lifetime friendships have been built that span social and national boundaries. We are glad you are joining our team.

Department of Biological and Agricultural Engineering
201 Scoates Hall
Texas A&M University
College Station, Texas 77843-2117
Phone: (979) 845-3931; Fax: (979) 862-3442
http://baen.tamu.edu
Introduction

This handbook provides information about our graduate programs to new and continuing graduate students in the department. It covers the academic policies concerning the many facets of graduate studies, including degree programs, examinations, and financial assistance. This handbook is not all-inclusive and students must refer to the Texas A&M University Graduate Catalog available on-line at http://catalog.tamu.edu/pdfs/GRAD_GRAD_catalog12_13.pdf and the website of the Office of Graduate and Professional Studies at http://ogs.tamu.edu. The Office of Graduate and Professional Studies will be referred to as OGAPS in this document.

Students should meet with their major professor, the graduate program coordinator, and the graduate advisor. All have experience and information to share and are able to help if students have any questions about their courses or specific problems not covered by this handbook.

Where are we located?

The BAEN Department is located in Scoates Hall. See the Campus map above or get the directions at http://aggiemap.tamu.edu/

You can contact us at:
By Mail:
Biological & Agricultural Engineering Department
Texas A&M University
2117 TAMU
College Station, TX 77843-2117
By Phone: (979) 845-3931
By E-mail: http://baen.tamu.edu/
GETTING STARTED

This section describes some general departmental policies and procedures to help students use the facilities and proceed with their degree program.

Admission Requirements

Admission is primarily the responsibility of the department. The BAEN Department requires a 3.0/4.0 GPR (on last 60 hours of B.S. when applying for M.S.), 3.00 GPR (on previous degree when applying for Ph.D.) for admission. International students are required to fulfill an English proficiency requirement which is most commonly met with a minimum score of 146 on the GRE verbal or a minimum TOEFL score of 80-iBT, 213 computer-based, or 550 paper-based. For details on requirements see http://eli.tamu.edu/tamustudents/proficiency.php. If these minimum scores are not met, the international student must take an English Language Proficiency Exam. This department will not be able to review and consider an application until it is submitted, the application fee is paid ($50 for U.S. & $75 for International), and test scores, recommendation letters, and statement of purpose are received.

The Department of Biological and Agricultural Engineering requires students pursuing an engineering degree program to have a degree from an ABET-accredited engineering program or demonstrate that courses taken in previous academic preparation are equivalent to a BS in engineering. A student pursuing an agriculture degree must have a BS or equivalent in a recognized program.

Admission Procedures

Students must complete all required admission forms, which include a statement of purpose and letters of reference. Graduate admissions information is available at the Texas A&M University Office of Admissions website, http://admissions.tamu.edu/graduate/. Please keep in mind that all admission applications must be submitted via ApplyTexas, https://www.applytexas.org.

A student will not be admitted for graduate study without a faculty member having agreed to serve as his/her major advisor.

Whom to ask for Help?

In most cases, your major professor, the graduate advisor, or the graduate program coordinator will be able to help. A list of all staff members who can assist you is provided in BAEN webpage under personnel.
Your Major Professor

This is the faculty member who during the acceptance process committed to serve as the chair of your graduate advisory committee. After arrival, students should meet with their major professor and can consult with other faculty members to become acquainted with their research areas. A student may request reassignment if it seems appropriate to all parties, usually no later than the first semester upon arrival.

Under no circumstances will a graduate student be allowed to remain in the BAEN Department graduate program if s/he does not have a graduate advisor (major professor).

Assignment of Graduate Office Space and Mailbox

The BAEN graduate advisor will assign office space/desk to graduate students. Desks will be assigned to graduate students employed by the department first and assignment to unsupported students will depend on the availability of space. Students are responsible for keeping their area clean. Any special needs for office and desk space should be initiated by the student’s major professor. Graduate students are assigned office space either at Scoates Hall (SCTS) or the West Campus complex.

All graduate students will be assigned a mailbox Room 209 Scoates Hall. The address for receiving mail is:

Texas A&M University  
Biological & Agricultural Engineering Department  
Scoates Hall  
2117 TAMU  
College Station, TX 77843-2117

Keys

Office, building, lab, and desk keys can be obtained in the department main office, Room 201Scoates Hall. Your major professor will determine which keys you will be provided and will need to sign the key request form before keys can be issued to you. A one-time security cash deposit is required for keys issued. The deposit will be refunded by check when all keys are returned.
Photo Copy Machines and Office Supplies

Office supplies are available for students performing work for the department. Students should make a request through their major professor. The staff is not permitted to do typing of a personal nature for students. This includes course work, theses, dissertations, and degree plans. Students must also have an access number to charge any photocopies made in the copy machines. This code is obtained through their major professor or faculty with whom they are currently working.

Use of Computers

The department maintains computers and facilities for Biological and Agricultural Engineering faculty, staff, and students. There are computer rooms, located in Rooms 213 and 214 of Scoates Hall and Room 118 in Hobgood (West Campus Complex). Room 214 is primarily an undergraduate student lab and Room 213 is a graduate lab. Access to the rooms is with an ID Card only. The department utilizes e-mail to distribute information and to communicate regularly. Students should see the Computer Systems Manager for assistance in setting up an account and e-mail address. Students are responsible for the actions of anyone they let in to use the facilities after hours and should always be sure the door is locked after normal operating hours.

Note: Computer access is not automatic and comes with some responsibility.
The penalties are loss of computer privileges and any legal consequences that may result from violating the policies.

Faculty/Staff/Students Lounge

Students are welcome to use the facilities in Room 326 Scoates. If you empty the coffee pot please be kind enough to make another pot of coffee for the person after you to enjoy. Coffee and tea are provided through voluntary contributions of the users. If you choose to consume materials in the lounge, see the business office to make your contributions. Also available for your use are a microwave and a refrigerator. Everyone is responsible for cleaning up after himself or herself in the area.

Shop

Excellent shop facilities are available at our West Campus location for constructing research apparatus. Graduate students must obtain the permission of the shop coordinator to use the shop. Students must demonstrate to the shop coordinator their ability to safely use any of the shop equipment before permission is granted.
Introduction

The shop personnel can assist in constructing research apparatus. Plans (including detailed drawings) and a work order should be submitted to the shop coordinator. The shop work order must be approved by the student’s work supervisor or major professor prior to submittal. A detailed description of shop procedures and safety guidelines is available from the shop coordinator.

Use of Departmental Vehicles

Departmental vehicles may be used by students who are employed by the department and who are working on departmental projects. Proof of a current U.S. driver's license is required to use departmental vehicles. Drivers’ licenses are available through the Department of Public Safety (776-3110). Approval of the major professor or work supervisor, as well as an account number to which the expenses may be charged, are required prior to vehicle use.

Purchase Orders

You will not need to use personal funds for research or teaching purchases. Purchase orders are like checks written against the funds in an account. Purchase order numbers must be obtained from the Business Office prior to making any purchase. Purchase order request can be made by sending an email to BAEN-business@ag.tamu.edu. In the request, include the vendor, estimated amount, items being purchased and the account number to be charged. All receipts must be signed, dated, and returned to the Business office as soon as possible after the purchase. Also, turn in any packing slips that are received. The student's supervisor should provide an account number and project number to which the purchase should be charged. Our business personnel can provide guidance and assistance in all fiscal matters. You’re professor may also have a purchasing card that you could use. See him or her about the availability and procedures that must be followed.

Travel Procedures

If you will be traveling with the Biological and Agricultural Engineering Department, please use the following procedures as a guide.

1. If you will travel on official business you will need to first complete the following:
   a. Travel Authorization Request- This is for all business travel, whether you will be requesting a reimbursement or not, and must be filled out in Concur (travel management software) prior to taking the trip. Please see the Travel Coordinator for the department to obtain assistance.
   b. Travel Certification/Exemption Form. This is necessary if you will be using a rental car, lodging or airline transportation. Please see the Travel Coordinator for the department.
   c. Get the account name and project numbers from your advisor if being reimbursed for any travel expenses. You must have approval from your advisor prior to traveling.

2. Our department has a business travel account (CBA) to pre-purchase airline tickets. You cannot use your own charge card (VISA, MasterCard, or American Express) to purchase airline tickets if using a state account; if you do, you will not be reimbursed for your airline ticket. Please see the Travel Coordinator for assistance to make reservations.
Introduction

3. Our department has the ability to prepay conference/seminar registration fees. The Travel Authorization Request and the registration form must be completed and received, in our departmental travel office, no later than 30 days prior to the date that the company/organization needs to receive the fees. Please keep your registration confirmation or get a receipt at the conference, you will need to turn this in to the Biological and Agricultural Engineering travel coordinator.

4. The University has numerous lodging accommodations that have been contracted by the State of Texas. All reservations can be made through Concur or by the Travel Coordinator. Please make sure you keep your hotel receipt(s) and do not mark on them in any way. If two or more travelers will be sharing lodging the room receipt must be separate and each traveler must have his/her own receipt.

5. The University has contracted with AVIS and Enterprise for rental car use. All reservations must be made by the Travel Coordinator. Please keep your receipt.

6. After travel has been completed it will be your responsibility to provide Travel Coordinator all documentation necessary if a reimbursement is anticipated. Please turn in your receipts and daily itinerary with the information below to the Travel Coordinator.
   a. Pay To.
   b. Title.
   c. Date and time that you left headquarters.
   d. Date and time that you returned to headquarters.
   e. Record of Transportation and Duties Performed. Be sure to show how this travel is a benefit to the department, university and/or research project.
   f. All other sections will be completed, by the Biological and Agricultural Engineering travel coordinator, from the receipts that are turned in.

If you have any questions, please contact the Travel Coordinator. Do not wait until after the travel is complete.

Employment Status

You will be sent to the Human Resources Department to fill out the paperwork associated with your employment status. If a student's employment status changes (e.g. from Research Assistant (RA) to Teaching Assistant (TA)), the department's Business Manager should be notified. Failure to do so may result in a late paycheck. Students on assistantship will receive a monthly paycheck.

Parking on Campus

As a student, you can purchase a parking permit in a student-designated lot at the time you register for classes.
Introduction

The university shuttle is also available both for on and off campus transportation of students. Transit routes for both on and off-campus can be found at http://transport.tamu.edu/Transit/howtoride.aspx, or PTTS at 979-862-7275 (parking) or 979-847-7433 (bus operations).

Use of State Property

It is against State Law in Texas to use any state-owned property for personal use.

Payment of Tuition Fees

Information including cost per scheduled hour, tuition and fee calculator, payment due dates and more can be found at the Student Business Services website at:

http://sbs.tamu.edu/accounts-billing/tuition-fees/cost-attendance/.
All graduate students should review the following publications:

1. The Office of Graduate and Professional Studies:  
   http://ogs.tamu.edu
2. The Texas A&M Graduate Catalog:  
   http://catalog.tamu.edu
3. The University's Student Rules Handbook:  
   http://student-rules.tamu.edu
4. The Texas A&M University Thesis Office:  
   http://ogs.tamu.edu/current-students/thesis-dissertation/policies/

All students must follow the guidelines and meet the requirements as given in these documents. The Department has additional requirements that all students must fulfill to earn a graduate degree in Biological and Agricultural Engineering at Texas A&M University. Requirements for the various degrees in Biological & Agricultural Engineering, including both University and Departmental requirements, are listed next below. Details on the University requirements can be found in the documents listed previously above. Note that some of the **Departmental deadlines are earlier than the University deadlines.**
# What to Do and When

## Masters Students:


<table>
<thead>
<tr>
<th>When</th>
<th>What</th>
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<tbody>
<tr>
<td>Before first semester registration</td>
<td>Meet with major professor to plan course of study for first semester</td>
</tr>
<tr>
<td>Before second semester registration</td>
<td>Establish Advisory Committee</td>
</tr>
<tr>
<td>Early in second semester</td>
<td>Submit Degree Plan on-line at <a href="https://ogsdpss.tamu.edu/">https://ogsdpss.tamu.edu/</a></td>
</tr>
<tr>
<td>Prior to initiating thesis research</td>
<td>Develop draft of proposal in conjunction with major professor and graduate committee members (only for M.S. students)</td>
</tr>
<tr>
<td></td>
<td>Submit final research proposal to OGAPS</td>
</tr>
<tr>
<td>During final semester</td>
<td>Apply for degree</td>
</tr>
<tr>
<td></td>
<td>Pay diploma fee</td>
</tr>
<tr>
<td></td>
<td>Schedule final oral examination</td>
</tr>
<tr>
<td></td>
<td>Submit thesis on-line</td>
</tr>
<tr>
<td></td>
<td>Apply for graduation (<a href="http://graduation.tamu.edu">http://graduation.tamu.edu</a>)</td>
</tr>
</tbody>
</table>

## Doctoral Students:


<table>
<thead>
<tr>
<th>When</th>
<th>What</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before first semester registration</td>
<td>Meet with major professor to plan course of study for first semester</td>
</tr>
<tr>
<td>Before third semester registration</td>
<td>Establish Advisory Committee</td>
</tr>
<tr>
<td>Early in fourth semester</td>
<td>Submit Degree Plan on-line at <a href="https://ogsdpss.tamu.edu/">https://ogsdpss.tamu.edu/</a></td>
</tr>
<tr>
<td>No later than one semester after all course work is completed, and no earlier than date at which student is within 6 credit hours of completing formal course work</td>
<td>Schedule and take preliminary examinations (written and oral)</td>
</tr>
<tr>
<td>Prior to initiating dissertation research</td>
<td>Develop draft of research proposal in conjunction with major professor and graduate committee members</td>
</tr>
<tr>
<td></td>
<td>Submit final research proposal to OGAPS</td>
</tr>
<tr>
<td>During final semester</td>
<td>Apply for degree</td>
</tr>
<tr>
<td></td>
<td>Pay diploma fee</td>
</tr>
<tr>
<td></td>
<td>Schedule and take final oral examination</td>
</tr>
<tr>
<td></td>
<td>Submit dissertation on-line</td>
</tr>
<tr>
<td></td>
<td>Apply for graduation (<a href="http://graduation.tamu.edu">http://graduation.tamu.edu</a>)</td>
</tr>
</tbody>
</table>
Graduate Committee Selection

Students will select the other committee members in consultation with their committee chair. Then the students should contact each prospective committee member, have an interview with him/her and ask him/her to be a member of their committee. The student should review the proposed degree plan with the prospective member. The committee member's electronic approval of the degree plan indicates his/her willingness to participate in guiding and directing the student's entire academic program. Individual committee members may be replaced by petition for valid reasons. Both degree plans and petitions are submitted on-line at the OGAPS website.

<table>
<thead>
<tr>
<th>Degree</th>
<th>Committee Members</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Masters</td>
<td>3</td>
<td>2 from BAEN (including Chair), 1 from outside BAEN</td>
</tr>
<tr>
<td>Doctoral</td>
<td>Minimum of 4</td>
<td>2 from BAEN (including Chair), at least 1 from outside BAEN</td>
</tr>
</tbody>
</table>

Committee Responsibilities

The student's advisory committee has responsibility for assessing the appropriateness of the proposed degree program, the research proposal, the thesis and the final examination. In addition, the committee is expected to provide periodic advice and assistance to the graduate student. At the doctoral level, the committee also has the responsibility for the Ph.D. preliminary examination and the qualifying examination for the Doctor of Engineering.

Graduate Committee Chair's Responsibilities:

1. Responsibility for the guidance, training, evaluation, supervision and general arrangements for the graduate student.

2. Conduct regularly scheduled conferences with each student at least every semester. Weekly conferences are normal as the graduate student becomes active in his/her research or project.

3. Acquaint the student with departmental policies and provide personal counseling.

4. Arrange resources for the graduate student's research and see that the student has a valid safety checklist for that area.

5. Check and approve all necessary graduate forms and requests for materials, travel and service.

6. Assist the student in preparing a degree plan and research proposal.
Requirements and Guidelines

7. Evaluate the graduate student's performance on a regular basis and convey the results of the evaluation to the student.

8. After the student has arranged an appropriate schedule, submit the announcement of the final examination to the OGAPS and graduate committee members.

9. After the student has arranged an appropriate schedule, submit the schedule for the preliminary examination for Ph.D. candidates and the qualifying examination for Doctor of Engineering candidates to the OGAPS and graduate committee members.

10. Direct the administration of the preliminary examination, qualifying examination and final examination and report the results of the examinations to OGAPS.

11. Make an initial approval of the record of study, thesis, or dissertation and decide when it is satisfactory for graduate committee action.

Graduate Student's Responsibilities:

1. Register for the appropriate courses and the proper number of credit hours for each semester and summer term (See Course Requirements).

2. Complete all courses on the degree plan satisfactorily (maintain an overall grade point ratio of 3.0 or higher; 3.25 for Doctor of Engineering students) (See Scholastic Deficiency). Graduate students are expected to make a B or better in all courses.

3. Develop the objectives for his/her program and provide the initiative to accomplish these objectives.

4. Select members of the graduate committee.

5. Prepare and submit the degree plan to OGAPS.

6. Develop a research proposal in consultation with the graduate committee chair and the graduate committee and submit the proposal to OGAPS.

7. Prepare and submit a high-quality record of study, thesis or dissertation.


9. Schedule with committee members the final, preliminary and qualifying examinations. Provide a schedule to the graduate committee chair so that he/she can send an announcement of the examination to OGAPS.

10. Develop manuscript(s) (minimum 1 for M.S.; 2 for Ph.D.) for publication in peer-reviewed journals to communicate research results to the pertinent literature.
Goals of Graduate Education in Biological & Agricultural Engineering at Texas A&M University

1. General
   - To explore the use of science and technology in problem solving for the benefit of society
   - To further career opportunities
   - To participate in the process of continuous education
   - To develop and enhance professionalism
   - To develop leadership and management skill
   - To develop communication skills, written and oral
   - To develop self-discipline and self-educating capabilities

2. At the Masters Level
   - To develop the capability to plan, conduct, and document research in accordance with accepted scientific methodology
   - To learn to function as a member of a team or organization
   - To prepare for the pursuit of further specialization or advanced degree
   - To communicating research results orally and in the pertinent literature

3. At the Doctoral Level
   - To develop the capability to conduct independent research by writing proposals, planning research, conducting research, administering projects, managing support personnel, and communicating research results orally and in the pertinent literature
   - To develop teaching skills through formal study of pedagogical methods, supervised classroom teaching experience, and fostering a positive attitude towards teaching
   - To develop a high level of expertise in a particular subject area
   - To develop new knowledge
COURSE REQUIREMENTS FOR THE DEGREE

Courses to be included on a student’s degree plan are selected as a joint effort between the student and his/her graduate committee. The student’s graduate committee and the BAEN department head must approve all degree plans.

All graduate students receiving financial assistance are required to register as full time students — 9 credit hours during the fall and spring semesters; 6 in summer (3 in each summer session or 6 for the 10-week session).

Students not receiving financial assistance who have completed all course work are required to be in continuous registration until all requirements for the degree have been completed by registering for a minimum of one credit hour for fall and spring semesters and the 10-week summer session.

International students must also comply with registration requirements according to their visa status.

1. Master of Science Degree in BAEN

A. A minimum of 32 credit hours distributed as follows:

1. A minimum of 24 course credit hours

2. A maximum of 8 research credit hours (BAEN 691)

3. BAEN 681 (Graduate Seminar)

4. BAEN 690 (Theory of Research)

5. BAEN 683 (Peer-Review Process and Publication)

6. A minimum of 6 credits of formal course work at the 600 level Biological & Agricultural Engineering Courses (in addition to all 684, 685, 690, 683, and 691 credits)

7. A maximum of 6 BAEN 685 and 689 credits
   
   A. Student must specify which class they are taking - not just 689 Special Topics

   B. Must be formally offered course work, special problems or special studies

   C. May exceed maximum 6 credits with departmental approval.

8. A maximum of 9 hours of advanced undergraduate course (300 or 400-level)

   None of the BAEN required undergraduate courses can be used on a graduate degree plan (only the electives).
9. One 600 level mathematics course (MATH 601 or equivalent). Classes approved for BAEN are:
   a. MATH 601  - Methods of Applied Mathematics I (Linear Algebra)
   b. MATH 609  - Numerical Analysis
   c. MATH 611 - Introduction to Ordinary and Partial Differential Equations
   d. MATH 612 - Partial Differential Equations
   e. MATH 647  - Mathematical Modeling
   f. MATH 664 - Seminar in Applied Mathematics
   g. CHEN 604   - Chemical Engineering Process Analysis I

10. One 600 level statistics or equivalent (minimum of 3 hrs). Class approved for BAEN are:
    a. STAT    - any 600 level
    b. BAEN 661 - Experimental Methods in Biological and Agricultural Engineering
    c. BAEN 662 - Statistical Methods in Biological and Agricultural Engineering

11. A maximum of 12 transfer credits

These requirements will be followed unless advisor can make strong logical arguments to the Department Head towards minor exceptions. The graduate student’s committee must be formed early in the student’s program and the committee review and approve the degree plan as early as possible in the student’s program. The degree plan must be signed by all members of the committee before the plan is reviewed by the Department Head. The degree plans should be sent to the DH one week before they are due, to allow enough time for them to be studied thoroughly.

B. A final oral examination over the written thesis.
Goals of Graduate Program in BAEN

2. Master of Engineering Degree

A. A minimum of 30 credit hours to be distributed as follows:

1. A maximum of 6 credit hours of BAEN 684 (Professional Internship). Three hours of BAEN 684 (internship) are a requirement for a Master of Engineering in Biological and Agricultural Engineering.

2. A maximum of 6 credit hours of BAEN 685 (Special Problems)

3. BAEN-681 (Graduate Seminar)

4. Any combination of 684 and 685, may not exceed 25% of the total hour requirement

5. One 600 level mathematics course (MATH 601 or equivalent) – See approved list under Master of Science Degree

6. A maximum of 9 hours of advanced undergraduate course (300 or 400-level)

None of the BAEN required undergraduate courses can be used on a graduate degree plan (only the electives).

7. A minimum of 6 credits of formal course work at the 600 level Biological & Agricultural Engr Courses (in addition to all 684 and 685, and 681 credits)

8. No credit hours of BAEN 691 (Research) may be used

B. A final oral examination over the written report is required.

3. Master of Science Degree (AGSM) - Thesis Option

Thesis-Option Degree Plan Requirement

A. A minimum of 32 credit hours distributed as follows:

1. A minimum of 24 course credit hours

2. A maximum of 8 research credit hours (BAEN 691)

3. BAEN 601-Advanced Agricultural Systems Analysis (3 hours)
Goals of Graduate Program in BAEN

4. BAEN 681-Seminar (1 hour)

5. BAEN 683-Peer Review Process and Publication (1 hour)

6. BAEN 690-Theory of Research (1 hour)

7. STAT 651 - Statistics in Research I (or other advisory committee approved equivalent 3 credit hour 600-level Statistics course; i.e. BAEN 661, 662)

8. Minimum of 6 credit hours of BAEN 6xx-level courses (in addition to 681, 683, 690, 691)

9. Maximum of 6 credit hours of BAEN 685 and 689 credits (specific 689 class must be indicated)

10. Maximum of 9 credit hours of advanced undergraduate 300-400 level courses

11. Maximum of 12 transfer credit hours

B. A final oral examination over the written thesis.

4. Master of Science Degree (AGSM) - Non-Thesis Option

Non-Thesis Option Degree Plan Requirements

Minimum of 36 credit hours distributed as follows:

1. BAEN 60I - Advanced Agricultural Systems Analysis (3 hours)

2. BAEN 681 - Graduate Seminar (1 hour)

3. Minimum of 9 credit hours of BAEN 6xx-level courses (in addition to 681)

4. Maximum of 9 credit hours of BAEN 685 and 689

5. Maximum of 9 credit hours of advanced undergraduate 300-400 level courses

None of the AGSM required undergraduate courses can be used on a graduate degree plan (only the electives).
Goals of Graduate Program in BAEN

6. No credit hours of BAEN 691
7. Maximum of 12 transfer credit hours

5. Master of Agriculture Degree (AGSM)

A. A minimum of 36 credit hours to be distributed as follows:
   1. A maximum of 8 credit hours of BAEN 684 (Professional Internship)
   2. A maximum of 8 credit hours of BAEN 685 (Special Problems)
   3. BAEN-681 (Graduate Seminar)
      4. Any combination of 684, 685, 683, and 690 may not exceed 25% of the total hour requirement
   5. A maximum of 18 credit hours on courses outside of the degree option
   6. A maximum of 9 hours of advanced undergraduate course (300 or 400-level)
   7. No credit hours of BAEN 691 (Research) may be used

B. A final oral examination over the written report is required

6. Doctor of Philosophy (Ph.D.) Degree

The Doctor of Philosophy degree is a research-oriented degree requiring a minimum of: 64 credit hours of approved courses and research beyond the Master of Science degree or 96-semester credit hours beyond the baccalaureate degree.

A. Credit hours in the degree plan should be distributed as follows:

   1. A maximum of 40 research credit hours (60 for student enrolling into a PhD program directly from a BS)

   2. A minimum of 24 course credit hours (minimum of 36 hours for a student enrolling into a PhD program directly from a BS)
      • BAEN 681 (Graduate Seminar)
      • BAEN 690 (Theory of Research)
Goals of Graduate Program in BAEN

- BAEN 683 (Peer-Review Process and Publication)

3. A minimum of 6 credits of formal course work at the 600 level Biological & Agricultural Engineering Courses (in addition to all 684, 683, 685, 690 and 691 credits and in addition to any 600 level courses earned at the M.S. level in this department)

4. A maximum of 3 credits hours of BAEN 685

5. One 600 level mathematics course (see acceptable courses under MS degree)

6. One 600 level statistics course (STAT 601) or equivalent

Students who have already fulfilled above mathematics and statistics requirements with a grade B or better during a MS degree do not have to take additional mathematics and statistics courses unless as advised by the student advisory committee.

B. Successful completion of a preliminary examination, both written and oral, prepared and administered by the student's Advisory Committee

C. A defense of the Dissertation

D. A dissertation, approved by the student's Advisory Committee, based on the research conducted as part of the graduate program. Students not holding an M.S. degree in engineering will be required to take additional collateral courses in the Biological & Agricultural Engineering curriculum at the 400 level or below as specified by the department.

Students who obtained their Master degree at the BAEN department will have to re-take BAEN-681 and BAEN-683 as a requirement for their PhD degree.
7. Doctor of Engineering Degree

http://engineering.tamu.edu/media/42918/doemanual.pdf

Interested students are referred to the website above to learn of the specific requirements for admission and program completion.

The BAEN Department Head (DH) intends to follow the spirit of the requirements in the student manual, but will make exceptions to the requirements if good arguments are made to justify the changes. If the PhD degree plan does not meet the requirement, then the student’s major advisor should write and sign a note to the DH to justify the variations. The graduate student’s committee must be formed early in the student’s program and the committee review and approve the degree plan as early as possible in the student’s program. The degree plan must be signed by all members of the committee before the plan is reviewed by the Department Head. The degree plans should be sent to the DH one week before they are due, to allow enough time for them to be studied thoroughly.

Registration Requirements Based Upon Level of Financial Support

<table>
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<tr>
<th>Level of Financial Support</th>
<th>Registration Requirements</th>
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<tbody>
<tr>
<td>½ time employment (including all teaching, non-teaching, research, and Extension assistants, plus any 1/2time hourly wage students)</td>
<td>9 credit hours for each full semester and 3  credit hours for each five-week summer term or 6 credit hours for the ten-week summer session.</td>
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Q-Drop Policy

Texas A&M University allows courses to be dropped after the official Drop/Add deadline using Q-Drop procedures. A Q-Drop allows the student to drop a course during the semester without academic penalty. Q-drop forms can be obtained from the academic advisor, and must be initialed by the student's graduate committee chair. Students on fellowships or assistantships should be aware that they would no longer be funded if they drop below 9 hours. Graduate students should be discouraged from Q-drops whenever possible.
Goals of Graduate Program in BAEN

Scholastic Deficiency

A student will be placed on scholastic probation if the student's cumulative grade point average (GPA) for the courses in the approved degree plan is below 3.0 at the end of a semester. A student will also be placed under probation if he/she fails to show acceptable proficiency in other degree requirements such as examinations, research, writing the thesis or dissertation, etc. If the student is on an assistantship, funding will be suspended.

The student has one semester to make up the total deficiency. If the student is successful, he/she will be taken off probation. If the student fails to meet the requirements, he or she may be subjected to one of the following actions initiated by a recommendation from the student's graduate committee chair: permitted to continue in the program on scholastic probation or suspended from the university (See section 12.5 in Student Rules and Regulations).
Examinations

Final Examination

All degree candidates must pass a final examination. Deadline dates are announced each semester by OGAPS. At the time of the final examination, the student must have an overall GPA of at least 3.0. Furthermore, there must be no unresolved grades of D, F or U for any course listed on the student's degree plan. An announcement of the final examination will be made by the student's graduate committee chair at least two weeks before the scheduled examination date. A student must have completed all course work on his/her degree program with the exception of any remaining 691 (Research) hours. The student must be registered at the time of the examination. M.S. and Ph.D. degree candidates must have approved research proposals on file with OGAPS before they can take the final examination.

The thesis, report, or dissertation shall be distributed to the student's graduate committee at least two weeks before the final examination. The final examination is a defense of the student's research. However, committee members are free to examine the student on any subject, such as all course work listed on the degree program. At the opinion of the graduate committee, the final examination may be written or oral or both. If a student fails the final examination, the student will be given the opportunity to repeat the examination before the end of the next semester (summer terms excluded). Final examinations must be administered on the campus of Texas A&M University at College Station.

Preliminary Examinations for Ph.D. Students

The preliminary examination shall be given no later than the end of the first semester after completion of course work and no earlier than a date at which the student is within approximately 6 credit hours of completion of the formal course work on the degree program. No student may be given the preliminary examination unless his/her official GPA is 3.0 or higher. The examination shall be both written and oral. The written part will cover each field of study included in the student's program of study. Each of the student's graduate committee members will be responsible for administering a written examination in the member's particular field, unless the member chooses to waive participation in the written examination.

The student should meet with his/her committee members and arrange for mutually acceptable dates for both the written and oral exams. Normally each written exam requires one day and the oral examination is completed within three hours. Both the oral and written portions of the preliminary examinations must be administered on the campus of Texas A&M University at College Station. Both
Theses and Dissertations

parts (written and oral) of the preliminary examination should be completed within a period of two weeks.

The graduate committee chair will submit the Report of the Preliminary Examination to OGAPS. After passing the preliminary examination, the student must complete all remaining requirements for the degree within three calendar years. Otherwise, the student will be required to repeat the preliminary examination. A student who fails the preliminary examination may be given one re-examination, but only after a period of six months has elapsed. A student must be registered in any semester that he/she takes the preliminary examination.
Theses and Dissertations

Theses, Dissertations and Records of Study

Complete information can be found in the Texas A&M University Thesis Manual.

1. Master of Science Thesis

A final draft of the thesis must be submitted to the graduate committee at least two weeks before the final examination. After the final examination, corrections shall be made to the thesis prior to submitting it to the Thesis Clerk. All OGAPS requirements must be met before the thesis will be formally accepted by the library. Guidelines for electronic submission are found at http://thesis.tamu.edu. A bound copy of the final thesis should also be given to the student's Advisory Committee.

Students must submit evidence that one paper has been submitted for publication or published in a peer-reviewed journal to the Department Head when submitting the thesis title paper for signature.

2. Master of Engineering Report

1. The final copy of the Master of Engineering Report (either intern or special problem) must be typed in an acceptable technical journal format. Final draft copies of the report must be made available to the student's Advisory Committee at the time the final examination is announced (at least two weeks prior to the examination).

2. Results of the final examination will not be reported to the Office of Graduate Studies until all corrections to the report have been made.

3. A copy of the final M.E. report shall be distributed to the student's Advisory Committee.
3. Master of Agriculture Report

The Master of Agriculture report (either intern or special problem) must meet all the criteria outlined above for the Master of Engineering report.

4. Doctor of Philosophy Dissertation

A dissertation in final draft form must be submitted to the graduate committee at least two weeks before the final examination. After the final examination, corrections to the dissertation must be made prior to submitting it to the Thesis Clerk. All requirements of the Office of Graduate Studies must be met before the dissertation will be formally accepted by the library. Guidelines for electronic submission are found at [http://thesis.tamu.edu](http://thesis.tamu.edu). A bound copy of the final dissertation should also be given to each member of the student's Advisory Committee.

Students must submit evidence that two papers have been submitted for publication or published in a peer-reviewed journal to the Department Head when submitting the dissertation title paper for
Financial Assistance

The department may provide financial support in the form of assistantships. Graduate assistants are selected based on previous academic performance, their ability for handling work assignments with excellence, and their potential for future performance in these areas. These are available only to graduate students who are actively pursuing graduate degree programs and who are making satisfactory progress toward their degrees.

The academic year encompasses two appointment periods: end of August to end of December and January 1 to middle May. Summer appointments cover the period from mid-May to mid-August. The department is responsible for informing the graduate assistant of the distribution of duties that are related to the summer appointment. Ph.D. students should be aware that financial support in the form of an assistantship will be terminated if they have enrolled in more than 100 credit hours without graduating.

The funds come from a variety of sources and the budget varies from year to year. Four types of assistantships are awarded by the department: (1) Graduate Assistant Teaching (GAT), (2) Graduate Assistant Non-Teaching (GANT), (3) Graduate Assistant Research (GAR), and (4) Extension Assistantships.

Teaching Assistantships

Teaching assistantships are awarded by the department head in consultation with the faculty. They are awarded on a semester-by-semester basis. Teaching assignments are made based upon teaching needs and the expertise of the student. It is desirable for each Ph.D. student in the department to spend at least one semester as a teaching assistant to gain experience. However, many factors such as the number of students, availability of funds, teaching needs and student expertise may prevent some Ph.D. students from serving as teaching assistants.

Research Assistantships

Research assistantships are funded through research grants and contracts in the department and are awarded with the approval of the project leader for each grant.
International Students

Extension Assistantships

Extension assistantships are available as part of the extension programs in agricultural engineering. They are awarded with the approval of the project leader for each grant.

Responsibilities

Graduate students with assistantships are employees of the department. Thus, a graduate student must fully understand his/her dual role—that of a student and that of an employee. The assistantship is provided to the student for work to be performed. It is not a scholarship to go to school or to write a thesis or dissertation. In some instances, the project work may not relate to the thesis/dissertation topic. The terms of a graduate assistantship is one-half time requiring 20 hours of work per week and full-time enrollment each semester; 9 hours in fall and spring, 3 hours each summer session or 6 hours for the 10-week summer session.

Graduate Scholarships

A limited number of competitive departmental scholarships will be awarded to graduate students each year depending on the availability of funds. The BAEN graduate advising office will send out calls for applications (prior to the beginning of fall and/or spring semesters) and the BAEN Graduate Program and Recruiting Committee will select the recipients through a competitive selection process.
International Students

Following are some general procedures for you to proceed smoothly with your education at Texas A&M University. More detailed information can be obtained by contacting the specific university services. The Texas A&M University Office of International Student Services will be an excellent source of helpful and important information and support throughout your academic career. You are encouraged to carefully review the website to learn of all the resources available to you at http://iss.tamu.edu/.

THINGS TO DO BEFORE ARRIVING ON CAMPUS

1. Visa—Once you have received an official letter of admission from the university, you need to contact the U.S. Embassy or Consulate in your home country near you to determine what things you need to do in order to apply for a visa. Upon arrival to the U.S., you will be asked to present your I-20, a valid visa and other pertinent documents to the immigration officer.

2. Housing—for information about housing options, go to http://reslife.tamu.edu/.

3. Initial Expenses—Students should bring about US $5,000 in traveler's checks (which can be used immediately) for resettling costs (apartment rent, deposits, utilities, and telephone), for opening your bank account and for establishing your household. If you bring bank or personal checks, allow for two weeks processing time at the bank before you will be able to use the money. This is very important because at least ½ of your tuition and required fee payment must be made before classes begin.

   Educational expenses for nine months will vary according to your personal needs and course of study. The Financial Aid Office’s basic budget for new graduate students includes tuition and fees, books, supplies, transportation, room and board, incidental, and living expenses. Total expenses for returning students during an academic year should be slightly less than those for new students. For the latest and detailed tuition and fee information, please refer to http://sfs.tamu.edu.

   The University offers very few scholarships to new international students. However, there are several scholarships available and administered through International Student Services (ISS) as well as financial assistance information at http://iss.tamu.edu/financial/available.asp

4. Health Insurance—Health insurance is required for all international students enrolled at Texas A&M University. Additional information about this requirement will be provided during the
International Students

International Student Orientation and at http://iss.tamu.edu/insurance/forstudents.asp. It is ultimately the student’s responsibility to show proof of insurance.

THINGS TO DO WHEN YOU GET HERE

1. **Whom Do I See First?** Please plan your arrival in College Station so you may attend the ISS Immigration Check-In usually held one or two weeks before the start of the semester. You will have your passport and immigration documents verified. Immigration Check-In will take approximately two hours to complete, depending on the number of students arriving to check in at a particular time. You will receive more information about this Check-In when you receive your immigration documents from Texas A&M. New students find it essential to arrive by the Immigration Check-In date so they have enough time to complete the many settling in and school preparation tasks that must be accomplished before classes begin. Please be aware that arriving after the Immigration Check-In could delay your registration for classes, prevent you from registering for certain classes, and cause you to pay expensive late registration fees.

At Immigration Check-In, you will also receive general information about such issues as the campus, community, and housing. If you are required to take the English Language Proficiency Examination, you must attend Immigration Check-In to be able to take this test.

2. **English Language Proficiency:** [http://iss.tamu.edu/living/elpe.asp](http://iss.tamu.edu/living/elpe.asp).

All international students whose native language is not English are required to be English Proficiency Verified by one of the following means: official TOEFL score of 550—paper test, 213—computer based, or 80—iBT; GRE—146, GMAT—22, IELTS—6, U.S. Baccalaureate. *Students who are English Proficiency Verified cannot teach.*

Students who will be serving as Graduate Assistants Teaching (GAT) must be English Language Certified. Certification is achieved by scoring a minimum of 80 on each of the four sections of the English Language Proficiency Examination (ELPE) or obtaining grades of A or B in English Language Institute (ELI) courses at the 300 level or higher. Alternative certification is granted to students receiving a baccalaureate degree following four years of study at an accredited U.S. institution. All students are urged to obtain English Language Certification to make themselves eligible for GAT positions.

Students who fail to demonstrate the minimum requirement of English Language Verification will be required to enroll in English Language Institute (ELI) classes. Upon approval, students may be allowed to postpone some or all of their English Proficiency requirements for one semester. If by the end of the first semester of enrollment Verification is not achieved, the student will be required to enroll in an ELI course in at least one of the areas not passed.
International Students

3. **Courses Registration—How and When?—Who Can Help?** Your major professor will make recommendations for your first semester courses. Registration is done after you have checked in at ISS, on-line at the Howdy portal. Pay close attention to tuition payment due dates.

5. **Payroll and Financial Aid** - If you are given an assistantship, you should immediately see the Business Manager to start paperwork promptly. You will be requested to attend an Orientation session at the Human Resources Office.

Other sources of financial aid are available for international students in case of an emergency only. All Texas A&M enrolled international students are eligible for the Watkins Emergency Loan Fund. This loan cannot be used for tuition and fees and is a one-time loan that must be repaid within a specified time limit. Applications are available in the ISS office. The Emergency Tuition and Fee Loan covers tuition and required fees only. There is a time limit and there is an interest charge on the loan. The loan is designed to assist students who have not yet received the funds necessary to pay their tuition and fees. This is available to all Texas A&M students enrolled at least half-time and maintaining satisfactory academic progress. This one-time loan must be repaid within a specified time limit. Applications are available in the Student Financial Aid Office (979-845-3955) or [http://international.tamu.edu/iss/financial/loans.asp](http://international.tamu.edu/iss/financial/loans.asp)

Non-resident graduate students who are employed at least one-half time (50%) at Texas A&M as teaching assistants, research assistants, and graduate assistants non-teaching are entitled to register themselves, their spouse and their children in the University by paying the tuition required of Texas residents. All nonresident students who are awarded Texas A&M "Competitive Academic Scholarships" of $1,000 or more may be eligible to pay tuition rates of Texas residents. If you are awarded this type of scholarship, verify with the Biological & Agricultural Engineering Business Office whether that scholarship entitles you to pay in-state tuition rates.

6. **Orientation** - The International Students Service organizes several orientation sessions to give you information about the University policies, student identification card and other issues (social security card, maintaining legal U.S. immigration status, income tax procedures, international students who are looking for other international roommates, second hand cars and furniture, etc.).

Other important things to do

1. Texas driver's license or ID—You should get either a Texas driver's license or a Texas ID. Either document is essentially used in many kinds of daily transactions and activities such as paying by check or as an identity card. It is not safe to walk around with your passport! You should go to the local Texas Department of Public Safety (DPS), 2571 N. Earl Rudder Frwy., Bryan TX 77805, 979-776-3110 (phone), 979-776-3169 (fax).

2. Country club organizations—Contact your club president prior to arrival. They can help pick you up at the airport, find an apartment, car, furniture, roommate, classes, etc. ([http://diversity.tamu.edu](http://diversity.tamu.edu)).