

FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY



COLLEGE OF ENGINEERING SCIENCES, TECHNOLOGY AND AGRICULTURE



GRADUATE STUDENT HANDBOOK

Approved by the Graduate Faculty
September, 2007

APPROVAL PAGE

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POLICIES FOR THE GRADUATE DEGREE PROGRAMS COLLEGE OF ENGINEERING SCIENCES, TECHNOLOGY AND AGRICULTURE (CESTA)

These policies and procedures are put forth by the graduate faculty of the College of Engineering Science, Technology and Agriculture as a guide for graduate students. Graduate students must also make themselves familiar with the University policies (www.famu.edu and the University General Catalogue) and Graduate School Policies as these may take precedence. It is not the intent of this publication to repeat those policies and information that are set by the University or in the general catalogue, but rather to provide those policies and procedures that are specific to the Graduate programs of the college. All forms required for your graduate degree are found at the School of Graduate Studies and Research web link (www.famu.edu/oldsite/acad/colleges/gds/student.htm).

I. ADMISSION POLICIES

a. General

For admission into the graduate program in the College of Engineering Sciences, Technology and Agriculture (CESTA), an applicant must:

- i. Have a baccalaureate or a master's degree in a related field from an accredited college or university;
- ii. Present official scores of the Graduate Record Examination (GRE) taken within the last two years. A minimum score of 1,000 points on the combined verbal and quantitative portions of the aptitude test of the GRE, and (or for MS) a minimum GPA of 3.0 (on a 4.0 scale) on the last two years of study for the baccalaureate degree or their highest awarded post-baccalaureate degree is required.
- iii. Present official copies of transcripts from all universities attended.
- iv. Present three letters of recommendation from someone familiar with the student's academic performance in their field of study.
- v. Submit a one-page personal statement, discussing the student's desire for a graduate degree.
- vi. Be approved by CESTA's Graduate Admissions Committee.

Note: For PhD students, the GRE scores will be used in the context of a holistic credential review process and will not be the sole basis for an admission decision.

- b. **International Students:** In addition to the requirements listed above, official score of 500 or better for MS and 550 or better for PhD on the Test of English as a Foreign Language (TOEFL) or a 213 on the computer based TOEFL is required for international students whose native language is not English.
- c. **Special/Conditional Student Status:** An individual who does not meet all requirements for admission may be admitted as a special graduate student for ***no more than 12 semester hours of coursework***, until he/she is admitted, without “special” qualification. **A “special” student will not be eligible for financial aid and will not be considered for regular admission if their GPA is less than 2.75.**

After meeting the specified standards for performance by the Program, the student, in consultation with the Graduate Program Coordinator, may apply for a change to full graduate standing. This request must be approved by the Graduate Committee, and the Dean of the School of Graduate Studies and Research.

II. **ATTENDANCE AT OFFICIAL GRADUATE MEETINGS**

- a. Attendance at official CESTA graduate meetings is required;
- b. Each student will be responsible for obtaining the information shared at these meetings and any deadlines given pertaining to such information.

III. **RESIDENCE**

a. **Master’s Degree**

A student completing a thesis must register each term in AGG 5976 (Master’s Thesis), for a minimum of one (1) credit hour until the degree is awarded. The master’s degree requires a minimum of thirty-six (36) semester hours and takes approximately twenty-four (24) calendar months for completion.

b. **Doctoral Degree**

Beyond the first 30 credits counted toward the doctoral degree, students must complete 30 hours in residence at the University of Florida campus, at an approved branch station of the University of Florida Agricultural Experiment Stations or the Graduate Engineering and Research Center, or Florida A&M University.

IV. **MAJOR PROFESSOR AND SUPERVISORY COMMITTEE**

- a. The Graduate Program Coordinator shall serve as the student’s initial contact into the program and will advise the student until a Major Professor is selected or appointed for him/her.

b. Major Professor:

- i. The function of the major professor is to serve as the student's contact and first line of information.
 - (1) The major professor serves to help, advise, educate and guide the student on the path of academic success.
 - (2) It is the responsibility of the Major Professor to supervise and approve the preparation of the thesis.
- ii. The Major Professor:
 - (1) Should be approved by the end of the student's **first semester** of residence;
 - (2) Must be a member of the graduate faculty;
 - (3) Must have a Graduate Directive Status;
 - (4) Must have competence in the student's proposed area of study.

c. Procedure for Selecting a Major Professor:

- i. Student shall consult with the Graduate Program Coordinator;
- ii. Student shall meet with the proposed Major Professor and discuss his/her willingness to serve;
- iii. Student may make his/her choice based upon the area of study and the availability and consent of the proposed Major Professor;
- iv. All Major Professors must be approved by the Graduate Coordinator.

d. The Supervisory Committee:

- i. The Supervisory Committee is responsible for:
 - (1) approving the student's coursework,
 - (2) checking the students progress throughout their studies,
 - (3) approving the students progress report,
 - (4) approving the students prospectus,
 - (5) supervising and approving the thesis preparation, and
 - (6) evaluating the student during the thesis defense.
- ii. The Supervisory Committee should meet **at least once** a semester for a progress report and to make suggestions relative to the student's plan of study. The student will take the initiative in setting up these meetings. An annual report is prepared by the student's Major Professor and reviewed by the Committee members and the Graduate Program Coordinator. This report should determine if the student is making timely progress toward degree completion.

e. Procedure for Selecting the Supervisory Committee:
Master's Degree

- i. The Supervisory Committee members will be recommended by the student, with the advice of the Major Professor and shall consist of at least three (3) members:
 - (1) Major Professor, as chair;
 - (2) One (1) faculty member from the same program;

- (3) One (1) faculty member from another program area;
- (4) All members of the Supervisory Committee must hold graduate faculty status;
- (5) If a proposed member of the student's Supervisory Committee is not a regular FAMU faculty, then he/she first must be approved by the Dean of the Graduate School according to University Policy.
- (6) The student must submit the list of recommended members of the Supervisory Committee to the Graduate Program Coordinator.

f. Doctoral Degree

- i. The Supervisory Committee members will be recommended by the student, with the Major Professor and shall consist of at least 5 members:
 - (1) Major Professor, as chair;
 - (2) At least two members from Florida A&M University from the entomology program (may include the Major Professor);
 - (3) At least two members from the University of Florida, Entomology and Nematology Department;
 - (4) At least one faculty member from another program area in the Division, outside the College, or other than Entomology and Nematology Department.
 - (5) If the student declares a minor, at least one committee member must be from that department.
 - (6) In cases where a student divides their time between both Universities, co-faculty advisors are recommended.

V. PROSPECTUS

- a. In consultation with the members of the Supervisory Committee, the student shall develop a prospectus of proposed research by the end of the second semester of study.
- b. The prospectus must be written within the student's major area of study. It must be signed and approved by the Major Professor and the student's Supervisory Committee, and it should contain a brief literature review, hypotheses, objectives, and proposed methods to be utilized. Copies of the approved prospectus are to be kept on file with the Major Professor, and Graduate Program Coordinator.

VI. DEGREE TIME LIMITS

- a. Limits for degree programs are set by the graduate school, and any requests for extension must be approved by the students Major Professor, Committee, Graduate Program Coordinator, Dean of the College, and Dean of the Graduate School.
 - i. Study for the master's degree must be completed within **five** years from the first semester the student registers as a graduate student.
 - ii. Study for the doctorate degree must be completed within **seven** years from the first semester the student registers as a graduate student.

VII. PROGRAM OF STUDY

At the beginning of the first semester, the student indicates an area of concentration and begins with general coursework (AGR 5825C Fundamentals of Research Design, AGG 5920 Colloquium, and one course from the students proposed area of concentration). The student will also seek a Major Professor and then a supervisory committee who will, in conjunction with the student finalize the student's program of study.

- a. Any subsequent changes to the student's program must be approved by the Supervisory Committee, and filed with the Graduate Program Coordinator.
- b. **Credit Requirements:** A student must have a minimum of thirty-six (36) semester hours of graduate credit. At least twelve (12) of these must be the specified core courses, eighteen (18) in the selected area of concentration or related areas, and six (6) for the Master's Thesis, AGG 5976. A student may register for more than three hours in AGG 5976 in any one semester, only with the permission of his/her advisor and committee.

VIII. GRADUATE CREDIT HOURS FOR THE DEGREE

- a. May **not** include more than three (3) credit hours of approved 4000 developed courses;
- b. May include a maximum of six (6) credits of supervised research;
- c. May include a minimum number of six (6) thesis credit hours;
- d. May include twelve (12) semester hours of graduate credit (with grades of B or better) earned as a special student, only if:
 - i. The special student later qualifies for admission to a graduate degree program;
 - ii. The credits were taken within the time limits prescribed for the degree program.
- e. **Transfer Credit**
 - i. May not exceed six (6) graduate semester hours;
 - ii. Must be recommended by the Major Professor and the students committee;
 - iii. Must be approved as graduate study by the Graduate Program Coordinator and the Registrar's office.
- f. **Grading Policy**
 - i. Check with Graduate School Policies as these take precedence.
 - ii. Quality of Study:
 - (1) A student may earn no more than two (2) "C"s provided that he/she maintains an overall GPA of 3.0 or better. A third grade of "C" will result in termination from the program. A required or core course with a grade of "C" must be repeated. Any grade of "D" or "F" may be grounds for dismissal from the program;

- (2) Any grade of “U” in any phase of the coursework/thesis/research/dissertation shall require the student to be placed on probation for one semester. A second “U” grade will result in the termination of the student’s degree seeking status;
- (3) Any grade of “N” must be removed **prior** to registration in the following semester. Failure to do so will result in the loss of financial assistance;
- (4) A grade of “I” may be awarded only in extenuating circumstances to a student who is passing the course and who has completed at least two thirds of the coursework;

g. Academic Progress

- i. Failure to maintain the required GPA average may result in termination of a graduate student’s status.
- ii. At the end of each academic year, an annual progress report will be conducted by the major professor on his/her respective student, and a completed Progress Report will be forwarded to members of the Supervisory Committee and the Graduate Coordinator for review.
- iii. The Progress Report provides the student, the major professor, the Supervisory Committee, and the Graduate Coordinator a mechanism to track the student’s progress to ensure that satisfactory progress is being made towards the completion of the degree.
- iv. The Progress Report also provides the student and the major professor with a forum for written comments on the student’s progress.
- v. Continuation in the academic program and funding will be dependent upon the student receiving a good overall evaluation in all areas including coursework, progress in research, and attendance at all seminars and meetings.

h. Retention, Probation, Suspension and Dismissal

- i. All CESTA graduate students have one of three academic standings: regular, probation, or suspension.
 - (1) The first time a student fails to meet the minimum standards of progress he or she will be placed on academic probation.
 - (2) All subsequent failures to meet minimum standards of progress will result in academic suspension of at least one (1) semester.
 - (3) A student will be permitted to return to the University following no more than two (2) academic suspensions.
 - (4) A third academic suspension results in dismissal.
- ii. Regular
 - (1) Students who satisfy regular admission standards and maintain a 3.0 GPA.
 - (2) Students admitted on a probationary status that enroll in nine (9) or more hours and achieve a 3.0 GPA after one (1) semester.
- iii. Probation/Special Standing
 - (1) Students that fail to meet regular admissions criteria and do not achieve a 3.0 GPA with nine (9) credit hours after one (1) semester.

- (2) Students who satisfy regular admissions criteria, but do not achieve a 3.0 GPA on a minimum of nine (9) credit hours after one semester.

iv. Suspension

- (1) Students who began the term on probation and do not achieve an overall 3.0 GPA at the end of the term.
- (2) Students who enroll on a probationary status and earn less than a "B" grade in any course are subject to suspension.
- (3) Students who do not comply with the policies of the Graduate Program.

i. Change in Program Area

- i. Students may transfer from one program area to another with the written approval of the Major professor, and Graduate Program Coordinator.

IX. FINANCIAL ASSISTANCE

- a. In order to obtain any financial assistance from CESTA and the School of Graduate Studies, a student must maintain an overall GPA of 3.0 or better and must be a full-time student. A full credit load consists of a minimum of nine (9) hours in each of the Fall and Spring semesters and one (1) to six (6) hours in the Summer term. Continued funding of a student is contingent upon the student making satisfactory progress in the completion of his/her coursework and thesis research.
- b. Limited financial assistance in the form of graduate assistantships and fee waivers is available through the College. These are contingent upon the availability of funds. A student should contact the Graduate Program Coordinator for opportunities within the College and the Dean of the School of Graduate Studies and Research for possible funding at the University level.
- c. Most assistantships are ½ time and students are obligated to work 20 hours a week on whatever assignments the supervisor designates. After 18 hours of coursework, a student may be asked to work as a Teaching Assistant. Students supported by research grant funds must perform work relevant to the grant stipulations.

X. DOCTORAL DEGREE

- a. After the Supervisory Committee is appointed, the Committee, along with the student, completes the student's Program of Study (Form 2 for UF and Form IV for FAMU). If Form 2 is not completed before the end of the second semester of study, a hold will be placed on the student's record preventing further registration.
- b. Any subsequent changes to the student's program must be approved by the Major professor, the Supervisory Committee, and filed with the Graduate Program Coordinator.

i. Course Requirements:

A minimum of 90 credit hours beyond the bachelor's degree is required. A maximum of 30 credits with a grade of B or better may be transferred into the

Ph.D. program from an M.S. degree from other colleges or universities approved by the Graduate School. All credits earned in an M.S. program at Florida A&M University and the University of Florida and are carried on to the Ph.D. program. A minimum GPA of 3.0 is required in the major, the minor (if chosen), and to graduate. If a minor is taken, at least 12 credits in the minor subject are required, all of which must be courses 5000 and above. If two minors are taken, at least 8 credits in each are required. Students must register for a minimum of three credits of ENY 7980 or NEM 7980 Research for Doctoral Research during the term of graduation.

ii. **Qualifying Exam:** The Ph.D. Qualifying Examination is comprehensive, and students are questioned on details as well as principles and generalities on the subject material they are studying.

- (1) The Qualifying Examination may be taken during or after the 2nd term of the 2nd year of enrollment beyond the Bachelor's degree. The student should have had instruction in all core areas of his discipline and be ready to devote most of his/her time to research. The examination is both written and oral. The department requires a minimum of four written examinations. A minimum of five examiners must participate in the oral portion. It is policy that two outside examiners participate. "Outside" is defined as faculty not on the Supervisory Committee. Both the Program and Graduate Studies Coordinator must approve composition and competency of the Qualifying Examination.
- (2) There must be at least two full semesters for full-time students or one calendar year for part-time students between the qualifying and graduation. The term in which the qualifying is taken counts as one of these if the term is not more than half over at the time of the examination
- (3) If a student fails the Qualifying Examination, the Supervisory Committee is not obligated to carry the matter any further. The student may request a reexamination, and if the request is granted by the Supervisory Committee, than the reexamination may not be taken sooner than one semester after the first examination.

iii. **Final Examination:**

- iv. The Final Examination must be taken within six months before receiving the cooperative Ph.D. Degree. The final is oral, or written, or both, at the discretion of the Supervisory Committee. At least five examiners must participate. Typically, the final is a defense of the dissertation, but the Supervisory Committee may also use the final as an opportunity to reexamine the student on an area in which he/she was weak in the Qualifying Examination. Students must make a public presentation of their dissertation results prior to the final exam. Usually this is done immediately preceding the exam.
- v. Upon successfully completing all requirements of the cooperative Ph.D. in entomology, students will receive a diploma which indicates that it is awarded cooperatively by Florida A & M University and the University of

Florida. The signatures of both Presidents and appropriate Deans will appear on the diploma.

XI. APPLICATION FOR DEGREE

- a. The student must apply for graduation according to University Regulations (see current academic calendar and University General Catalogue).
- b. Registration in AGG 5976 Master's Thesis is required in the final term in which a degree is granted. A minimum of one thesis hour is required if the student has completed the requirements for the degree in the previous semester.
- c. If the student filed an application for graduation, but did not receive his/her degree, then he/she must reapply for graduation.

XII. SEMINARS, THESIS AND ORAL DEFENSE

a. Seminars

- i. Students are required to participate in the weekly graduate seminars.
- ii. Every student will present at least **one** (1) seminar each academic year on a topic that has been agreed upon with the seminar coordinator.
- iii. Presentations are critically evaluated.
- iv. The final seminar, will be over the student's graduate research, is expected to include a brief introduction and literature review, the specific objectives, methods and results, and conclusions.

b. Thesis

- (1) The thesis must be the original work of the student and demonstrate his/her ability to conduct independent research.
- (2) Instructions regarding the format of the thesis are contained in the latest edition of the "Guidelines for Preparation and Submission of Doctoral Dissertations and Master's Theses" from the School of Graduate Studies and Research, and must be followed.
- (3) Anytime that a thesis or draft is submitted to a faculty member for review, the student must allow a minimum of 10 (ten) days for review.
- (4) This preparation must actively include the major professor and should include consultation with members of the students committee.
- (5) The Major Professor must approve the thesis before it is submitted to the students committee for defense.
- (6) The student is responsible for all corrections that are requested by the Major Professor, the student's supervisory committee, the Graduate Program Coordinator, the Dean of the College, and the Dean of the Graduate School.
- (7) After the defense, the student will take the approved, corrected thesis to each member of the committee, for signing.
- (8) The student will then submit a final copy with 5 copies of the signature page of the thesis to the Graduate Program Coordinator who will forward them to the Dean of CESTA and the Graduate Dean, respectively, for

approval. Please allow a minimum of 10 (ten) days for each person to read and sign.

(9) After receiving the signed copies from the Graduate Dean, the student will arrange for binding of the copies (at least four copies) on acid resistant paper.

(10) The student **MUST** provide four (4) hardbound copies to the Graduate Coordinator.

(a) **The final grade will not be processed until the Graduate Program Coordinator receives the final hardbound copies of the thesis.**

Please note that this process could take as long as 60 days after the defense. The student should therefore be prepared to schedule their defense at least 60 days before the deadline for graduation materials.

c. **Oral Defense**

i. The student must successfully complete all coursework before approval is given to conduct an oral defense.

ii. The Major Professor shall notify members of the Supervisory Committee and the Graduate Program Coordinator, **in writing**, of the time, place, and date of the defense.

iii. The Graduate Program Coordinator must notify the Dean of CESTA and the Graduate Dean of the defense, in writing, **at least ten days** in advance of the defense.

iv. A representative of the Graduate Council with questioning and voting privileges must be permitted to participate in the thesis defense.

v. **All supervisory committee members must be present at the defense.**

vi. General notice of the time and place of the examination must be posted at least three (3) school days prior to defense examination.

vii. The examination is open to any interested CESTA Faculty, however, only members of the Supervisory Committee may vote.

viii. During the defense the student may be questioned in more detail by members of the Supervisory Committee. Students will be questioned on general knowledge of the discipline, the methods, results, interpretation of the data obtained, and the significance and relevance of the acceptance or rejection of the hypothesis.

ix. Following the completion of the examination, the Major Professor will complete the Defense Outcome Form and submit it with the Committee's recommendations to the Graduate Coordinator.

d. **Doctoral Degree**

i. **Dissertation:**

(1) The Supervisory Committee must assure that the dissertation research is original and a contribution to knowledge.

(2) The dissertation must be approved unanimously, and signed by all members of the Supervisory Committee, the Dean for Graduate Academic Programs, College of Agriculture, IFAS, and the Dean of the Graduate School.

- (3) One copy of the dissertation, printed on 20#, 100% rag bond, must be given to the Graduate School for microfilming. A second copy, also printed on 20#, 100% rag bond, must be given to the Assistant Dean for Graduate Academic Programs, College of Agriculture, IFAS, who will send it to the library for hard binding. A third copy must be given to the Graduate Coordinator of this department for binding and cataloging in the departmental Reading Room.
- ii. **Publication of Dissertation:** All candidates for the Ph.D. degree must pay \$50 to University Financial Services for microfilming the dissertation, and sign an agreement authorizing publication by microfilm.

e. Signatures for Thesis and Dissertation

The only signatures appearing on the signature page of the thesis or dissertation will be those of the committee members, the dean of CESTA and the dean of the School of Graduate Studies and Research.

ASSISTANTSHIPS AND SCHOLARSHIPS

DOMESTIC STUDENTS

Gahan Assistantships

The Gahan assistantships were established by the late Dr. James B. Gahan, USDA Entomologist, and his wife, Mrs. Margaret H. Gahan, to be awarded to outstanding M.S. or Ph.D. students in entomology according to personal goals, interests, and academic achievements. Students awarded these assistantships are given a stipend and tuition waivers. Students awarded a Gahan assistantship will be assigned teaching duties by the Graduate Coordinator.

Steinmetz Assistantships

The Steinmetz assistantships were established by Mr. C.P. and Mrs. Lynn Steinmetz to be awarded to outstanding M.S. or Ph.D. students in urban entomology and landscape entomology. Students awarded these assistantships are given a stipend and tuition waivers.

Grant-Funded Assistantships

Faculty members often award assistantships from grants. Students awarded these assistantships must perform work relevant to the grant stipulations. In many cases, the research conducted, or at least a part of it, may be used for the thesis or dissertation. Students on these assistantships are provided a stipend and tuition waivers. The faculty members holding the grants determine the length of time these assistantships may be held.

Scholarships

A number of scholarships, usually ranging from \$500 to \$2000, are awarded from endowment funds provided by families, clubs, etc. Most of these, such as those awarded by Capelouto or the Agricultural Women's Club, are awarded on the basis of scholarship and service to the department and community. Students must apply for these scholarships, and usually a letter from the advisor must be included in the application packet.

Grants

Some of our graduate students fund their studies, at least in part, from grants that they obtain by writing grant proposals and having them funded. We encourage students to write grant proposals.

Office of Graduate Minority Affairs

The Florida Board of Education Summer Program. This program is held in Summer B semester and is designed for under-represented minority graduate students. Participants receive a stipend of \$1500 and tuition for 4 credit hours. The student pays student activity fees. The student must enroll as a full-time graduate student the following academic year. Students must be U.S. citizens or permanent residents.

The FAMU Feeder Program. This program is designed to increase the number of FAMU African-American graduate students. The University of Florida provides five fellowships annually and all graduate programs at U.F. may compete for them. The application deadline is 15 February each year.

McKnight Doctoral Fellowships. These fellowships are awarded by the Florida Education Fund to African-American students newly admitted into selected doctoral programs. The stipend is for \$12,000 and tuition and fees are paid for a period up to two years. The application deadline is 15 January each year, and application must be made to the Florida Education Fund, 201 East Kennedy Blvd., Suite 1525, Tampa, FL 33602. The telephone number is 813-272-2772.

The Office of Graduate Minority Affairs may be reached at 235 Grinter Hall, telephone 352/392-6444, or 800-753-9798 (e-mail address: ogmp@ufl.edu, and on the web at: <http://www.rgp.ufl.edu/rnminority-programs/brochure.html>).

APPENDIX

1. MASTER'S PROGRAMS OF STUDY
2. Doctoral Degree [<http://www.famu.org/ent/phd.php> and <http://entnemdept.ifas.ufl.edu/>]
3. GRADUATE FACULTY AND THEIR INTERESTS

MASTER'S PROGRAMS OF STUDY

AGRICULTURAL SCIENCES Master of Science

AGRIBUSINESS

The academic program for the Master's of Science in Agricultural Sciences with an emphasis in Agribusiness, is as follows:

	Sem. Hrs.
I. Select the following required courses	
AGG 5825C Fundamentals of Research Design	4
AGG 5931 Professional Seminar	3
AGG 5920 Colloquium [Note * should be footnoted or explained somewhere].....	0
II. Select one of the following core courses	
AGR 5445C Advanced Plant Sciences	3
ANS 5205C Advanced Animal Production.....	3
SOS 5217 Soil and the Environment	3
PMA 5407C Integrated Pest Management	3
FOS 5314 Advanced Food Processing & Storage	3
III. Select all of the following core courses	
AEB 5307 Agricultural Marketing and Finance	3
AEB 5335 Advanced Agricultural Price Analysis	3
AEB 5555 Econometrics	3
AEB 5376 Market Research and Survey.....	3
AEB 5185 Advanced Agricultural Production	3
IV. AGG 5976 Master's Thesis	6
(The candidate must complete and successfully defend an original thesis).	
V. Approved electives, including courses in the area of concentration	6
VI. Seminars	
<hr/> Total	36

AGRICULTURAL SCIENCES
Master of Science

ENTOMOLOGY

The academic program for the Master's of Science in Agricultural Sciences with an emphasis in Entomology, is as follows:

I. Select the following required courses	Sem. Hrs.
AGG 5825C Fundamentals of Research Design	4
AGG 5920 Colloquium (repeated)	0
AGG 5931 Professional Seminar (Spring only)	3
II. Select <u>one</u> of the following core courses	
AGR 5185 Advanced Agricultural Production.....	3
AGR 5445C Advanced Plant Sciences.....	3
ANS 5205C Advanced Animal Production.....	3
FOS 5314 Advanced Food Processing & Storage	3
SOS 5217 Soil and the Environment	3
III. Select <u>a minimum of 15 semester hours from</u> the following core courses:	
ENY 5105C Principles of Animal Taxonomy	4
ENY 5150 Systematic Entomology	3
ENY 5355 Insect Morphology.....	4
ENY 5500 Aquatic Entomology.....	3
PMA 5407C Integrated Pest Management	3
ENY 6663 Medical Entomology.....	3
ENY 6215 Biological Control Weeds.....	3
IV. AGG 5976 Master's Thesis	6
(The candidate must satisfactorily complete and successfully defend an original thesis.)	
V. Approved electives, including courses in the	5
area of concentration.	
VI. Seminars	

Total	36
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AGRICULTURAL SCIENCES
Master of Science

FOOD SCIENCE

The academic program for the Master's of Science in Agricultural Sciences with an emphasis in Food Science, is as follows:

I. Select the following required courses **Sem. Hrs.**

AGG 5825C Fundamentals of Research Design	4
AGG 5920 Colloquium (repeated)	0
AGG 5931 Professional Seminar (Spring only)	3

II. Select one of the following core courses

AGR 5445C Advanced Plant Sciences.....	3
ANS 5205C Advanced Animal Production.....	3
SOS 5217 Soil and the Environment	3
PMA 5407C Integrated Pest Management	3
AGR 5185 Advanced Agricultural Production.....	3

III. Select a minimum of 15 semester hours from the following core courses:

FOS 5315 Advanced Food Chemistry	3
FOS 5325 Advanced Food Analysis	3
FOS 5930 Seminar in Food Science.....	1
FOS 5314 Advanced Food Processing and Storage.....	3
FOS 5226 Advanced Food Microbiology & Safety	3
FOS 5906 Directed Individual Study	1-6
FOS 5940 Practical Food Experience.....	3
FRC 5808C Enology.....	4
FOS 5245 Meat Science and Meat Research.....	4

IV. AGG 5976 Master's Thesis 6

(The candidate must satisfactorily complete and successfully defend an original thesis.)

V. Approved electives, including courses in the 5
area of concentration.

VI. Seminars

Total	36
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AGRICULTURAL SCIENCES
Master of Science

ANIMAL SCIENCE

The academic program for the Master's of Science in Agricultural Sciences with an emphasis in Animal Science, is as follows:

I. Select the following required courses	Sem. Hrs.
AGG 5825C Fundamentals of Research Design	4
AGG 5931 Professional Seminar	3
*AGG 5920 Colloquium (repeated)	0
II. Select <u>one</u> of the following core courses	
AGR 5185 Advanced Agricultural Production.....	3
AGR 5445C Advanced Plant Sciences.....	3
EVR 5063 Elements of Environmental Biology.....	4
FOS 5314 Advanced Food Processing & Storage	3
PMA 5407C Integrated Pest Management	3
SOS 5217 Soil and the Environment	3
III. Select all of the following core courses:	
ANS 5205C Advanced Animal Production.....	3
ANS 5202 Monogastric Farm Animals	3
ANS 5447 Ruminant Nutrition	4
ANS 5454 Animal Science Experimentation.....	3
ASC 5405 Advanced Animal Nutrition	3
IV. AGG 5976 Master's Thesis	6
<small>(The candidate must satisfactorily complete and successfully defend an original thesis.)</small>	
V. Approved Electives	4-5
VI. Seminars	

Total	36
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AGRICULTURAL SCIENCES
Master of Science

PLANT SCIENCE

The academic program for the Master's of Science in Agricultural Sciences with an emphasis in Plant Science (Viticulture and Enology, Plant Biotechnology), is as follows:

I. Select the following required courses	Sem. Hrs.
AGG 5825C Fundamentals of Research Design	4
AGG 5931 Professional Seminar.....	3
*AGG 5920 Colloquium (repeated)	0
II. Select one of the following core courses	
ANS 5205C Advanced Animal Production.....	3
SOS 5217 Soil and the Environment	3
PMA 5407C Integrated Pest Management	3
AEB 5185 Advanced Agricultural Production	3
FOS 5314 Advanced Food Processing & Storage	3
III. Select all of the following core courses:	
AGR 5322 Plant Breeding	3
AGR 5445C Advanced Plant Science.....	3
AGR 5616 Seed Science and Technology.....	3
BOT 5506 Advanced Plant Physiology	3
BOT 5937 Selected Topics in Plant Biotechnology	3
IV. AGG 5976 Master's Thesis	6
<small>(The candidate must satisfactorily complete and successfully defend an original thesis.)</small>	
V. Approved electives including courses in the area of concentration or related areas	5
VI. Seminars	

Total	36
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ENGINEERING TECHNOLOGY OPTION

Master of Science

For admission to the master's program, the candidate must have received a bachelor's degree in agriculture, engineering technology or a related field. The candidate must also satisfy the University's regulation of a GPA of 3.0 in the junior and senior years of the undergraduate program and a combined score of 1,000 (verbal and quantitative sections) or better on the GRE. International applicants whose native language is not English shall be required to present a score of 500 on the Test of English as a Foreign Language (TOEFL). Students must maintain a GPA average of 3.0 or better and must have a "B" or better in all core courses.

The academic program for the Master of Science with an emphasis in Engineering Technology is as follows:

	Sem. Hrs.
I. Select the following required courses	
AGG 5825C Fundamentals of Research Design	4
AGG 5931 Professional Seminar.....	3
AGG 5920 Colloquium (Fall semester only)	1
II. Select <u>two</u> of the following core courses	
EVR 5063 Elements of Environmental Biology.....	3
SOS 5217 Soil and the Environment	3
FOS 5314 Advanced Food Production and Storage	3
ETI 5652 Computer Applications in Engineering Technology.....	3
ETI 5625 Value Engineering.....	3
III. Select <u>four</u> of the following core courses	
ETI 5119 Total Quality Management	3
ETI 5183 Topics in Quality Engineering	3
ETI 5638 Technology and Global Industry.....	3
ETI 5636 Engineering Technology and Management.....	3
ETI 5653 Advanced Computer Applications in Technology I.....	3
ETI 5654 Advanced Computer Applications in Technology II.....	3
ETI 5659 Advanced Computer Applications in Technology III.....	3
ETI 5633 Advanced Topics in Engineering Technology I.....	3
ETI 5635 Advanced Topics in Engineering Technology II.....	3
ETI xxxx Electronics Manufacturing I.....	3
ETI xxxx Electronics Manufacturing II.....	3
ETI 5741 Topics in Construction Management	3
BCN 5725 Adv. Construction Planning & Scheduling	3
EET 5933 Topics in Adv. Communications	3
IV. AGG 5976 Master's Thesis	6
<small>The candidate must complete and successfully present a thesis or an original project.</small>	
V. Approved electives, including courses in the area of concentration	6
VI. Seminars	

Total

36

GRADUATE FACULTY AND THEIR INTERESTS

Anderson, Lee E., Professor (Ph.D., University of Florida); Monogastric Nutrition (Vitamin E), Reproductive Physiology, Animal Production.

Bloem, Kenneth, USDA-APHIS, Adjunct Associate Professor (Ph.D., University of California-Davis); Sterile Insect Technique, Insect Rearing and Biological Control of Invasive Pests.

Bloem, Stephanie, USDA-APHIS, Adjunct Associate Professor (Ph.D., University of California-Davis); Sterile Insect Technique, Taxonomy, Systematics, Insect Rearing, Area-Wide Pest Management, Biological Control.

Barber, Jane A. S., Assistant Professor (Ph.D., Cranfield University, England); Pesticide Application Technology, Pesticide Targeting, Meteorological effects on Pesticide Application.

Cilek, James E., Professor (Ph.D., University of Kentucky); Medical Entomology, Veterinary Entomology.

Colova-Tsolova, Violeta, Professor (Ph.D. Institute of Genetic Engineering, Bulgaria); Cell Biology, Embryology, Plant Biotechnology, Plant Genetics and Breeding, Viticulture.

Duke Edwin, Associate Professor (Ph.D. University of Florida); Ornamental Horticulture.

Flowers, Ralph W., Professor (Ph.D., University of Wisconsin); Water Quality, Aquatic Insects and Taxonomy of Chrysomelidae (Leaf Beetles).

Gardner, Cassel S., Professor (Ph.D., University of Florida); Alternative and Sustainable Agriculture Practices and their Interaction with the Environment, Nutrient Management and Water Quality.

Gitau, Margaret, Assistant Professor (Ph.D., Purdue University); Biological and Agricultural Engineering.

Hight, Stephen, Adjunct Associate Professor (Ph.D., University of Maryland); Biological Control of Invasive Weeds.

Hsieh, Yuch P., Professor (Ph.D., Rutgers University); Organic Matter Dynamics and Nutrient Cycling, Sulfur Geochemistry, Bioremediation of Heavy Metals and Organic Pollutants.

Hubbard, Michael, Professor (Ph.D., Florida State University); Ecology, Systematic & Evolutionary Biology of Ephemeroptera (mayflies), Aquatic Ecology.

James, Neil A., Associate Professor (Ph.D., University of Leeds, England); Nutritional Evaluation of Food Processing, Convenience Food Development, Quality Changes in Meat Products.

Kairo, Moses, Associate Professor, (Ph.D., University of London); Biological Control and Integrated Pest Management (IPM) of Insect Pests of Vegetables.

Kanga, Lambert, Professor (Ph.D. Texas A&M University); Insect Toxicology, Insect Pathology, Molecular Biology, Biological Control, Insecticide Resistance and Integrated Pest Management.

Legaspi, Jesusa, Adjunct Associate Professor (Ph.D. Purdue University); Biological Control and Integrated Pest Management (IPM) of Insect Pests of Vegetables.

Leong, Stephen, Professor (Ph.D., Louisiana State University); Agricultural Economics, Farm Management, Market Analysis, Experimental Design and Data Analysis.

Lu, Jiang, Professor (Ph.D., University of Reading, England); Plant Genetics and Breeding, Molecular Biology, Plant Gene Mapping, Tissue and Cell Culture, Gene Transformation.

Mbuya, Odemari, Associate Professor (Ph.D., University of Florida); Nutrient Management, Water Quality, Phytoremediation, Computer Simulation Modeling and Remote Sensing.

Milla, Katherine, Associate Professor, (Ph.D., Florida State University); Geology, GIS and Remote Sensing.

Muchovej James, Professor (Ph.D., Virginia Tech); Plant Pathology, Plant Physiology, Taxonomy of Fungi.

Musingo, Mitwe, Associate Professor (Ph.D. University of Florida); Food Science. Fruit and Vegetable Processing with Emphasis on Juice and Wine Processing.

Olorunnipa, Zacch, Professor (Ph.D., University of Illinois); Agricultural Economics, Agricultural Marketing, International Agricultural Development, Agribusiness Management.

Onokpise, Oghenekome, Professor (Ph.D., Iowa State University); Tree Breeding and Forest Genetics; Crop Breeding, Biotechnology, Agroforestry, Plant Sciences, International Development in Agriculture, Forestry and Natural Resources.

Pancholy, Sunil K., Professor (Ph.D., Oklahoma State University); Soil Microbiology and Biochemistry, Nitrogen Fixation, Lesser-Known Legumes.

Pescador, Manuel L., Professor (Ph.D., Florida State University); Systematics, Ecology and Biodiversity of Aquatic Insects; Bioassessment of Water Quality.

Park, Hyun-Woo, Assistant Professor (Ph.D., University of California, Riverside); Insect Pathology and Microbial Control with Emphasis on Bacterial Pathogens.

Petersen, John, Associate Professor and Extension Medical Entomologist (Ph.D., University of Notre Dame); Medical/Veterinary Entomology, Mosquito Control, Insecticide Resistance (JAMPHEREC, Panama City, FL).

Phills, Bobby R., Professor (Ph.D., Louisiana State University); Horticulture/Plant Breeding; Plant Breeding and Genetics/Veg. Crop.

Ramaswamy, J.N., Adjunct Professor (Ph.D., West Virginia), Civil Engineering, Sanitation and Waste Treatment, Public Health and Environmental Management.

Reitz, Stuart, Adjunct Associate Professor (Ph.D., Clemson University), Entomology, Biological Control and Insect Ecology.

Sheikh, Mehboob B., Professor (Ph.D., University of Oklahoma); Molecular Biology and Biochemistry of Legume Seeds, particularly Peanuts, Aflatoxin Resistance and Improving Nutritional Quality.

Smith, John P., Professor and Center Director (Ph.D., University of Missouri-Columbia) Medical/Veterinary Entomology, Population Ecology, Sampling, Biological Control and Integrated Pest Management (JAMPHEEC, Panama City, FL).

Thomas, Michael, Professor (Ph.D., Ohio State University); Agricultural Economics, Environment Resource Economics.

Thomas, Verian D., Professor (Ph.D., University of Leeds, England); Food Chemistry, Food Processing: Nutrient Composition of Ethnic Foods.

Worthen, Dreamal I., Associate Professor (Ph.D., Florida State University); Rural Development, Social Science Research, Aging and Environmental Issues.

Wright, Charles A., Professor (Ph.D., Vanderbilt), Civil Engineering, Urban Transportation.

Zhong, He, Associate Professor (Ph.D., North Carolina State University); Entomology, Toxicology, Analytical Chemistry with Focus on Pesticide Residue Chemistry and Non-target Impact.