

Master of Plant Protection and Pest Management (MPPPM)

University of Georgia

College of Agricultural and Environmental Sciences



HANDBOOK Summer 2017



TABLE OF CONTENTS

	Page
ADMINISTRATIVE INFORMATION	
1 MPPPM COORDINATOR AND COMMITTEE	1
2 INTRODUCTION	3
<i>History of the Program</i>	3
<i>Admission</i>	4
<i>Locations of the Program</i>	5
<i>General information</i>	6
ACADEMIC INFORMATION	
1 ADVISORY COMMITTEE	7
<i>Flow Chart</i>	7
2 PROGRAM OF STUDY	8
<i>Area Coursework Requirements</i>	8
<i>Coursework Spreadsheet by Calendar Year</i>	9
<i>Example Program of Study Form</i>	10
3 EXAMPLE REQUIREMENTS AND TIME FRAME FOR THE DEGREE	11
<i>Traditional Full Time student</i>	11
<i>Active Employee Student</i>	12
4 INTERNSHIP	13
<i>Examples of Projects</i>	14
<i>Internship Approval Form</i>	16
5 EXIT EXAMINATION	17
<i>Example Questions</i>	17
<i>Exit Exam Approval Form</i>	18
GENERAL STUDENT INFORMATION	
1 ASSISTANTSHIP AND TUITION WAIVERS	19
2 ONLINE ACCESS TO CLASSES	20
3 CAREER DEVELOPMENT	21
<i>Example Resume</i>	22
<i>Career Possibilities [Contacts]</i>	23

2017 MPPPM Graduate Coordinator

David Riley
 Graduate Coordinator
 Department of Entomology (ENTO)
dgr@uga.edu
 229/386-3374



2017 MPPPM Coordinating Committee by Campus and Department

Tifton Campus	Athens Campus	Griffin Campus
<p>Alton Sparks, Jr. (ENTO) asparks@uga.edu 229/386-3424</p> 	<p>Will Hudson (ENTO) wghudson@uga.edu 706/542-9856</p> 	<p>Wayne Gardner (ENTO) wgardner@uga.edu 770-228-7341</p> 
<p>Bhabesh Dutta (PATH) bhabesh@uga.edu 229/386-7495</p> 	<p>Jean Williams-Woodward (PATH) jwoodwar@uga.edu 706/542-9140</p> 	<p>James Buck (PATH) jwbuck@uga.edu 770-412-4098</p> 
<p>Glen Harris (CRSS) gharris@uga.edu 229/386-3006</p> 	<p>Bill Vencill (CRSS) wvencill@uga.edu 706/542-2461</p> 	<p>Paul Raymer (CRSS) praymer@uga.edu (770) 228-7324</p> 

Department contacts:

Jennifer Klute – CRSS Graduate Coordinator Office, Program Coordinator II,
 Contact: JK25034@uga.edu 706-583-8053

Sherry Wrona - ENTO Graduate Coordinator Office, Administrative Specialist II,
 Contact: swrona@uga.edu 706-542-7059

Kisha Leigh Shelton - PATH Graduate Coord. Office, Program Coord. and Grad. Coordinator's Assistant,
 Contact: kshelton@uga.edu 706-542-1426

Introduction

The Master of Plant Protection and Pest Management (MPPPM) is a professional Master's degree program between the departments of Entomology, Crop and Soil Sciences, and Plant Pathology. The program is designed to produce graduates with comprehensive, multidisciplinary training in Integrated Pest Management (IPM) of insect, plant disease, and weed pests of agricultural, commercial, and home commodities. MPPPM graduates are trained for employment as IPM professionals in the pest control industry, pesticide and fertilizer services, cooperative extension, and regulatory agencies. The goal of the MPPPM program is to train students to be proficient in solving the types of pest management problems routinely encountered by growers and other agricultural professionals, as well as urban pest control. IPM using a blend of pest control strategies including pesticides, transgenic crops, cultural operations, and biological control is stressed in classwork. The MPPPM program is not a research-oriented degree, but graduates have successfully pursued Ph.D. degrees related to IPM. There is no thesis requirement in MPPPM, but an IPM-oriented internship is part of the program of study.

History

The Master of Plant Protection and Pest Management (MPPPM) was initiated in 1973 by Dr. Floyd Hendrix in the UGA College of Agriculture, Department of Plant Pathology. Hendrix passed away in 2014. Hendrix was instrumental in the development of pest management programs for peaches, apples, pecans and numerous other plant commodities in the state. MPPPM was the first professional degree program in IPM in the USA and still is one of less than five similar curricula in the USA. The first MPPPM graduate coordinator was Dr. Wiley Garrett in the Department of Plant Pathology. The first graduating MPPPM student, who was advised by John All, was Glenn Hammes who went on to have a full, exemplary career at DuPont Crop Protection. Dr. Garrett served from 1973 until 1992. Dr. John All took over the coordinator position in 1992 and served until his retirement in 2008. Up until this time, the MPPPM program was primarily based at the Athens campus.



Wiley Garrett (PATH)



John All (ENTO)



David Langston (PATH)

In 2008, Dr. David Langston, Plant Pathologist Extension Specialist on the Tifton Campus took over as coordinator and served until 2014. Since then, the number of MPPPM students at the Tifton Campus has grown steadily. The resources that support the MPPPM program also support graduate programs in the Masters of Science and Ph.D. programs in Agronomy, Plant Pathology (PATH), and Entomology (ENTO). The MPPPM program is truly multidisciplinary, functioning across the Crop and Soil Science, Entomology, and Plant Pathology departments. MPPPM

affords its students exactly the type of information needed to successfully advise growers on the management of pest problems.

Admission

In order to begin the admission process, you must go to the UGA Graduate School website at <http://grad.uga.edu/> and look under the “Future Students” tab. Follow the instructions for your particular category, e.g., “Domestic application information”.



Persons seeking admission to the UGA Graduate School must hold a baccalaureate degree from an institution accredited by the appropriate regional accrediting association or its international equivalent prior to the expected semester of matriculation. Applicants should be ranked in the upper half of their undergraduate class. Applicants are responsible for submitting application materials required for admission. These items include, but are not limited to, the following:

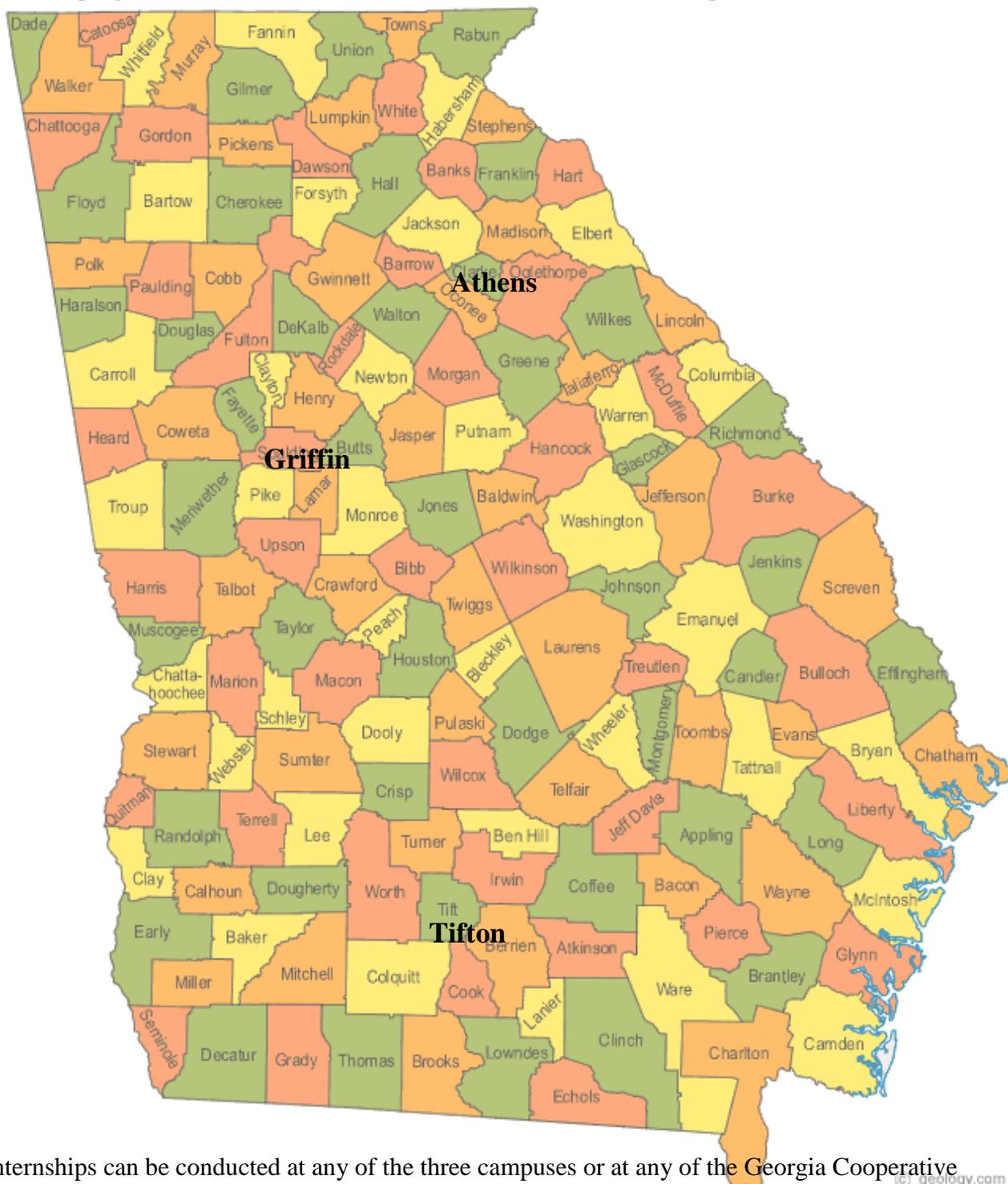
- Application for admission
- Application-processing fee
- Transcripts
- Entrance test scores
- Letters of recommendation
- Certification of finances forms (international applicants)
- Any supplemental material required by the department

Application materials are reviewed by the Graduate School and the academic departments. The Graduate School reviews the recommendation of the department selected by the prospective student as their home department (In the case of MPPPM, a committee formed from three departments), and makes the final determination on acceptance. Applicants must be admitted to the Graduate School before they are eligible to register. Official acceptance is conveyed to the applicant in a formal letter issued by the Office of Graduate Admissions. Admission is granted for a specific semester and is validated by registration for that semester.

Specific requirements to be admitted to the MPPPM program are: 1) applicants must have an undergraduate degree from an accredited institution; 2) a minimum verbal + quantitative combined GRE score of 289 in the new grading scale or approximately not in the bottom 20th percentile; 3) a 3.0 grade point average (out of 4.0); and 4) three letters of reference. Two undergraduate chemistry's, two biology's and one plant pathology are required. Any deviation from these minimum requirements, e.g. allowing for slightly lower than minimum GRE or GPA scores, etc., must be approved by vote of the MPPPM Graduate Committee. Students must include a statement concerning the area of pest management they are interested in. Final decisions on admittance will be made by the MPPPM Graduate Committee. Each student will have a home department (Crop and Soil Sciences [CRSS], Entomology [ENTO], or Plant Pathology [PATH]) designated at the time of admittance or assignment of the internship home department.

Locations of the Program

MPPPM programs are active at UGA's Athens, Griffin and Tifton campuses.



Internships can be conducted at any of the three campuses or at any of the Georgia Cooperative Extension Service county offices or at any of the state or federal research stations, e.g. Midville in Burke County or USDA's Byron lab and the Bacon County Blueberry Research Farm, or other cooperating institutions as approved by the MPPPM Coordinating Committee.

General Information

Websites: UGA www.uga.edu, CAES www.caes.uga.edu, CRSS www.cropsoil.uga.edu, ENTO www.ent.uga.edu, PATH <http://plantpath.caes.uga.edu/>, MPPPM <http://www.ent.uga.edu/mpppm.htm>

Electronic Facilities: Note that each UGA student is required to obtain a UGA MyID to access all of the University's electronic database systems, including UGA email, OASIS, Parking Services, Student, Accounts, and more. Information on UGA MyID is at <https://www.first.uga.edu/MyIDLogin.aspx>. For UGAMail, see <http://www.ugamail.uga.edu/>.

Also note that each UGA student receives an UGAMail account upon the creation of your UGA MyID, and it is your username @uga.edu. All official communications from the University, including important emails from the UGA Graduate School, will be sent to your UGA email address, so be sure to check this mail account frequently. You may either log directly into the mail system, or you may forward your UGA email to another personal account of your choosing. Finally, internet is available either by Ethernet cable in your assigned workspace, or via wireless access using PAWS on the three campuses.

Physical Facilities: Students may obtain keys needed for office and laboratory access from their home departmental office (CRSS, ENTO, PATH). Classroom, office and cabinet keys may be checked out from the facilities office with departmental approval. Please see that classroom and lab doors are locked, and the lights turned off, when you are the last one to leave. If you must have building access afterhours and on the weekends or holidays, see the departmental secretary in your home department at you campus location. Your major professor will typically assign desk space.

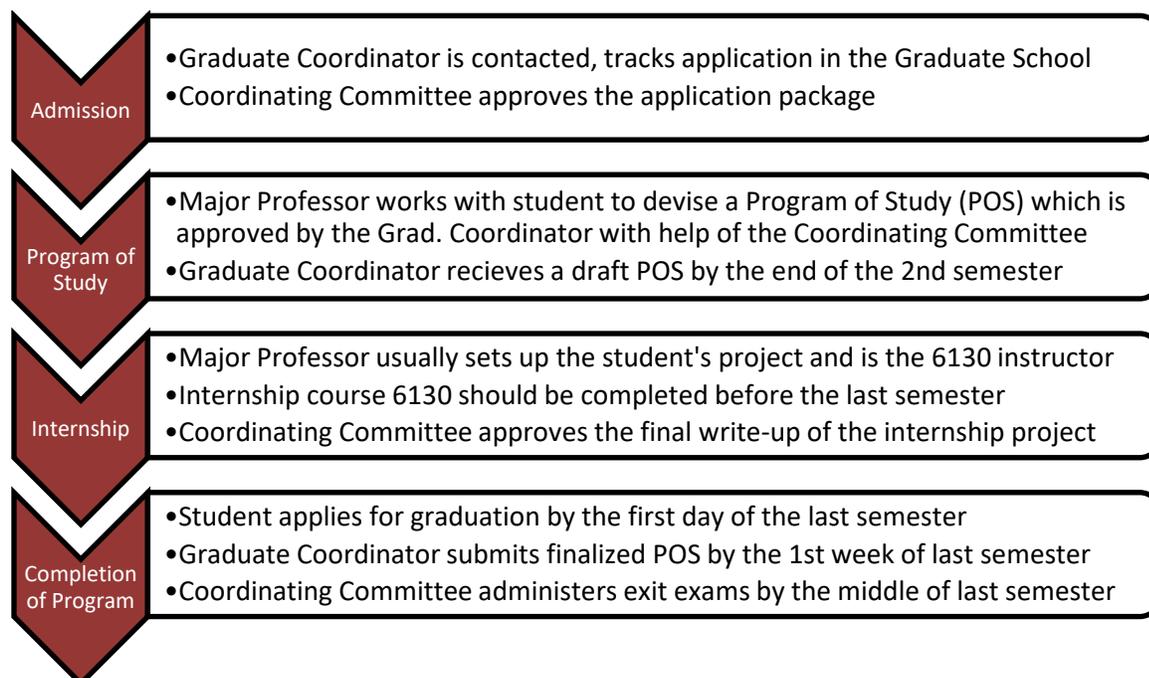
Use of state-owned vehicles must be closely monitored to ensure compliance with state laws and prevention of criticism of the University. State-owned vehicles may not be driven to and from a University employee's residence nor may they be parked overnight at an employee's residence. They may not be used for personal errands, i.e., grocery shopping, laundry, moving, etc. Families, friends, and other unauthorized persons are not permitted to ride in state-owned vehicles. Only persons with a valid driver's license, who are 18 of age and on the UGA payroll, will be permitted to operate a University vehicle. Only UGA employees are fully covered by insurance. The Georgia state law requires the use of seat belts. Drivers fined for speeding or convicted of driving under the influence of alcohol or other drugs may have the use of State vehicles withdrawn.

Academic Information for the MPPPM Degree

Advisory Committee

The MPPPM is a professional, non-thesis degree, and, as such, does not require the typical graduate faculty committee of multiple professors to oversee a full research program. Instead, it only requires a single Major Professor who must have the highest degree in his/her profession, e.g. PhD, and be a faculty member of one of the three participating University of Georgia Departments, i.e., Crop & Soil Sciences (CRSS), Entomology (ENTO) or Plant Pathology (PATH). The Graduate Coordinator, who is a member of the UGA Graduate Faculty, and this Major Professor are the two faculty members that approve and sign off on the Program of Study Form (see page 9). However, in addition to the major professor, the MPPPM Coordinating Committee serves as an information resource for the student, votes on all graduate student admissions to the MPPPM program, votes on the acceptability of all internships (this is in addition to the assignment of a passing grade by the Major Professor of the internship course CRSS/ENTO/PATH 6130), and administers the exit exams, one for each department (CRSS, ENTO, PATH).

Any member of the Coordinating Committee (and the Coordinator) can, and often does, serve as the Major Professor. The only requirement for the Major Professor is that he/she have academic credentials that conform to Graduate School requirements for faculty advisors. The major advisor and student will develop a program of study and internship. Again, remember that the internship report by the student must be routed through the Graduate Coordinator so that he can seek approval of the internship by the MPPPM Coordinating Committee prior to taking the three departmental, comprehensive exit exams.



PROGRAM OF STUDY

NOTE: Following notification of acceptance into the MPPPM program by the Graduate School, the applicant needs to contact the MPPPM graduate coordinator, David Riley (dgr@uga.edu), for initial advisement and assignment of a major advisor. The first task that the student must do is select coursework toward completion of the MPPPM degree, hence the need for immediate advisement when accepted. The sum total of the coursework that the MPPPM student will take is called the Program of Study. This Program of Study must include the MPPPM core curriculum before it can be approved by the MPPPM Graduate Coordinator and the Graduate School, so it is vital that the student be advised when completing the Program of Study Form (Page 10). Full time students must register for a minimum 12 credits for regular semesters, 9 credits for summer. All UGA Graduate students must maintain an average GPA of 3.0. Students with a cumulative graduate course average below 3.0 for two consecutive terms are placed on academic probation by the Graduate School. They then must make a 3.0 or higher semester graduate average each succeeding semester that their overall cumulative graduate average is below 3.0. These students are no longer on probation when their cumulative graduate average is 3.0 or above. If they make below a 3.0 semester graduate average while on probation, they are dismissed. No grade below C is acceptable for a course to be included on the MPPPM program of study form. The overall grade point average on this form as well as the cumulative GPA on the UGA transcript must meet the required 3.0 GPA in order for the degree to be awarded by the Graduate School. All graduate students must be enrolled in two out of three semesters in each academic year in order to remain in compliance with the Graduate Enrollment policy <http://grad.uga.edu/index.php/current-students/policies-procedures/academics/enrollment-policy/>.

MPPPM Core Curriculum

<u>Area</u>	<u>Credits</u>
Area I	19
<i>All are required courses:</i>	
CRSS 6340/L Weed Science (4)*	
ENTO 6000/L General Entomology (4)*	
ENTO/CRSS/PATH 6740 Integrated Pest Management (3)	
ENTO/CRSS/PATH 6250 Pesticides and Transgenic Crops (3)	
PATH 6280/L Diagnosis and Management of Plant Diseases (4)*	
CRSS/ENTO/PATH 6130 Internship (1)	
Area II	6-12
<i>Select at least one 2- to 4-credit course from each of the three MPPPM departments.</i>	
Area III	6-8
<i>Electives: Select any UGA graduate course related to pest management in the student's area of interest. Please check with the Graduate Coordinator for acceptability of courses not in the the three departments, CRSS, ENTO, PATH early in the program to avoid the possibility of electives not counting toward the 33 minimum credits</i>	
Total	33

Example of MPPPM Courses Arranged by Typical Semester Offerings (NOTE: This is only a guide. You must check the current UGA course listing at the Athena Homepage for availability. NOTE: PATH 6280 has an undergraduate PATH prerequisite).

Masters of Plant Protection and Pest Management (MPPPM) Example Curriculum			
Degree Requirements	Fall Semester	Spring Semester	Summer Semester
33 total credits required to graduate			
<u>Complete the following 19 hours (Area I required courses)</u>			
CRSS 6340/6340L Weed Science (4)*	CRSS 6340/L		
ENTO 6000/6000L General Entomology (4)*	ENTO 6000/L		
PATH 6280/6280L Diagnosis and Management of Plant Diseases (4)	PATH 6280/L		
ENTO/CRSS/PATH 6250 Pesticides and Transgenic Crops (3)*		ENTO/CRSS/PATH 6250	
ENTO/CRSS/PATH 6740 Integrated Pest Management (3)*	ENTO/CRSS/PATH 6740		
CRSS/ENTO/PATH 6130 Internship (1)*	CRSS/ENTO/PATH 6130	CRSS/ENTO/PATH 6130	CRSS/ENTO/PATH 6130
<u>Select at least one 2- to 4-credit course from each of the three MPPPM departments (CRSS/ENTO/PATH) 6-12 hours (Area II)</u>			
ENTO 8900 Special Problems (1-9) must be arranged with instructor	ENTO 8900	ENTO 8900	ENTO 8900
CRSS 8210 Special Problems in Crop and Soil Sciences (1-3)	CRSS 8210	CRSS 8210	CRSS 8210
PATH 8160 Special Topics in Plant Pathology (1-3)	PATH 8160	PATH 8160	PATH 8160
CRSS 6350 Herbicide Technology (3)		CRSS 6350	
ENTO 6500 Biological Control (3, E version online)		ENTO 6500 or E version	
PATH 8300 Clinical Plant Pathology (2)	PATH 8300	PATH 8300	PATH 8300
ENTO 8820 Concepts in Integrated Pest Management (2)		ENTO 8820	
<u>Electives - any graduate courses related to pest management in CRSS/ENTO/PATH or others with committee pre-approval 6-8 hours (Area III)</u>			
PATH 8000 Field Plant Pathology (1)	PATH 8000		PATH 8000
CRSS 6360 Weed Science Field Trip (1)			CRSS 6360
ENTO 6360 Ornamental Pest Management (3) via Tandberg	ENTO 6360		
HORT(CRSS) 6800 Agricultural Biotechnology (3)	HORT(CRSS) 6800		
CRSS 6580 Soil Erosion Conservation (3, E version online)	CRSS 6580		
CRSS 6050/L Improving Nutrient...GIS (4)	CRSS 6050/L		
CRSS 6010 Princ. of Sustainable Management (3)		CRSS 6010	
CRSS 6430 Plant Physiology (3, E version online)	CRSS 6430 or E version		
ENTO 7730E Entomology for Teachers (3)		ENTO 7730E	ENTO 7730E
CRSS 6450 Crop Physiology (3)		CRSS 6450 (even years)	
CRSS 8050 Advanced Crop Protection (3)		CRSS 6350 (odd years)	
CRSS/ENTO/PATH 7000 Master's Research (max 3 credits)	CRSS/ENTO/PATH 7000	CRSS/ENTO/PATH 7000	CRSS/ENTO/PATH 7000
ENTO 6350/L Crop Specific Insect Management (4)			ENTO 6350/L
CRSS 6030 Sensors in Precision Agriculture (3)			CRSS 6030
PATH 6125 Organic Agricultural Systems (4)		PATH 6125	
PATH 8310 Epidemiology of Plant Disease (3)		PATH 8310 (even years)	
* If a student has had the 4000-level equivalent of CRSS 6340, ENTO 6000, or PATH 6280, then a substituted course must be selected from the same MPPPM department.			
NOTE: Always check at which UGA Campus a course is offered. Remote access via ZOOM is wholly at the discretion of the Instructor of Record for a given course.			

Program of Study for Non-Doctoral Professional Degrees

Reset Form

Program of Study for Non-Doctoral Professional Degrees

The University of Georgia Graduate School
210 S. Jackson St., Athens, GA 30602

(Please submit this original **TYPED** form and one (1) copy of this form to the Graduate School)

Name CAN # (810) Text

Address Degree

Major

Course Prefix-#	Hours	Grade	Term	Course Prefix-#	Hours	Grade	Term	Course Prefix-#	Hours	Grade	Term
<input type="text"/>											
<input type="text"/>											
<input type="text"/>											
<input type="text"/>											
<input type="text"/>											
<input type="text"/>											
<input type="text"/>											
<input type="text"/>											

TOTAL NUMBER OF HOURS

Departmental Requirements

We approve the above Program of Study for the degree indicated.

Major Professor Date

Graduate Coordinator Date

APPROVAL

Graduate Dean Date

Courses start to expire at the beginning of: GPA

This page was last modified on 06/28/2013 - Questions and/or comments to gradinfo@uga.edu - Copyright by The University of Georgia

See the UGA Graduate School website for the pdf version of this file at http://grad.uga.edu/wp-content/uploads/2014/11/body_prgnonphd.pdf and fill out with course prefix and number, e.g. "ENTO6000", credit hours, grade, and term, e.g. "SUM 17" for Summer Semester 2017.

Example Requirements and Time Frame for the MPPPM Degree for a Traditional Full Time Student

The following is an example of a full time MPPPM student with a 1/3 time graduate assistantship who is attempting to go through the MPPPM program as quickly as possible. Note that all 4 credit courses have laboratory portions of the course that will require hands on participation which cannot be substituted with online or remote video conferencing. Be aware that, when scheduling classes, the student must coordinate with the Major Professor who is expecting work time for which the graduate assistantship is compensating. Whatever project that the assistantship is paying for takes priority over the coursework. For example, if the internship is funded by the Cooperative Extension Service during the summer and the project takes the student to a remote, off campus location full time for the summer, then the student will not be able to sign up for a summer semester laboratory course. Thus, when setting up the Program of Study with the Major Professor, make sure to include scheduling for assistantship duties.

Proposed Full Time Cohort - MPPPM Academic Track 2015-2017				
Color Legend: Area I (19 hrs needed) Area II (6-12 hrs, min. 2) Area III 				
Semester	course 1	course 2	course 3	course 4
Fall 2015	CRSS 6340/L 4	ENTO/CRSS/PATH 6740 3	ENTO/CRSS/PATH 7000 3	
Spr 2016	CRSS 6350 3	ENTO/CRSS/PATH 6250 3	ENTO 6500 3	PATH 8300 2
Sum 2016	PATH 8000 1	CRSS/ENTO/PATH 6130 1	ENTO 6350 4	
Fall 2016	ENTO 6000/L 4	PATH 6280/L 4		
(Internships must be approved by the committee by early last semester and exit exams must be taken before the end of the last semester)				
Total hours	Area I 19	Area II 8	Area III 8	Grand total 35

Example Requirements and Time Frame for the MPPPM Degree for an Active Employee Student

The following is an example of currently working/professional students who are completing their MPPPM program while actively employed. In this situation, the maximum recommended number of courses per semester is 1-2. Since the student is working as a professional, their job responsibilities take priority over coursework. In this situation, the student still is required to have a Major Professor in one of the three departments (CRSS, ENTO, PATH), even though the Major Professor may or may not be providing any assistantship support. Thus, the Major Professor, student and employer all need to agree on a draft Program of Study before this is sent to the Graduate Coordinator for approval.

Proposed Extension Agent Cohort - MPPPM Academic Track 2015			
Color Legend:		Area I	(19 hrs needed)
		Area II	(6-12 hrs, min. 2)
		Area III	(6-8 hrs)
Semester	course 1		course 2
Fall 2015	ENTO 6000/L	4	ENTO/CRSS/PATH 6740 3
Spr 2016	ENTO 6500	3	ENTO/CRSS/PATH 6250 3
Sum 2016	PATH 8000	1	CRSS/ENTO/PATH 6130 1
Fall 2016	CRSS 6340/L	4	
Spr 2017	PATH 8300	2	CRSS 6350 3
Sum 2017	ENTO 6350	4	CRSS 6360 1
Fall 2017	PATH 6280/L	4	
(Note that internships must be approved by the committee by early last semester and exit exams must be taken before the end of the last semester)			
Total hours	Area I	19	Area II 8
	Area III	6	Grand total 33

NOTE: The need for online or remote access to coursework is understandably desirable in these situations. However, the possibility of online or remote access to the lecture portions of the class should be addressed directly to the instructor of record for a given course.

Internship

Since the MPPPM program is a professional degree, an internship is required instead of research for a thesis. The internship is designed to strengthen a student's background in integrated pest management and to provide practical experience, such as with a research scientist, a pesticide company, or the Cooperative Extension Service. Prior to the internship, the student will meet with the major professor and discuss such things as the general mission of the employer, nature of anticipated work, and goals of the institution related to integrated pest management. These and other types of information will need to be collected during the internship for inclusion in a written report. If possible, the student and major professor should meet 4 to 6 weeks after initiation of employment and evaluate the student's progress. It may be desirable to alter the original goals and to be observant for different integrated pest management principles during the remainder of the internship. The recommended deadlines for completing the internship is the 1st week of the last term, and the exit exam NLT ½ way through the last term.

An internship report is required and should be reasonably concise, substantial in character, and reflective of biological principles related to integrated pest management. The report should demonstrate to the MPPPM coordinating committee that the student understands basic and practical implications of integrated pest management and has the ability to: (i) organize information in a clear manner, (ii) produce a professionally useful and technically acceptable report (supervisor can verify that privileged information is being used properly), and (iii) present material in a well-structured form, written in acceptable English. The report should include:

1. Title: The title should be descriptive of the nature of the work.
2. Title page: This should include title, name of student, previous academic degree(s), date of internship, name of employer, name of supervisor, degree program.
3. Approval page: Signatures of all members of the MPPPM coordinating committee and internship supervisor(s).
4. Table of contents
5. Introduction: This section should cover two important points: (i) a description of the employer, its mission, and how its mission relates to integrated pest management, and (ii) the anticipated goals of the student (it may be desirable to prepare an initial draft of this).
6. Description of work: Details should be presented concerning the nature of day-to-day activities and various procedures used during the internship.
7. Results: Factual information (data) of accomplishments and "failures" should be presented in this section. The information may be either, or both, objective or subjective, and it may be presented in the text, tables, and/or figures.
8. Discussion: The Results information should be evaluated, interpreted, and discussed. The discussion should demonstrate independent thinking and an understanding of principles of integrated pest management. Although not required, references may be used to support conclusions.
9. Summary: In this optional section, the internship can be evaluated: how was it important, problems encountered, how could it be improved, etc.
10. Literature cited (if needed): Cite pertinent references.
11. Appendix: Include information that is not suitable for the Results section.

The report will be typed on 8.5" x 11" paper. The margins and page numbers should correspond to the Graduate School requirements for theses and dissertations. Section headings, tables, and figures should follow the guidelines set forth by a discipline journal. The length of the report should be commensurate with the internship; the number of pages is not very significant, but the report(s) should be representative of the nature and variety of activities performed.

NOTE: Even if a grade of "S" (satisfactory) has been assigned to the CRSS/ENTO/PATH 6130 Internship course by the Instructor of Record/Major Professor, the Graduate Coordinator cannot inform the Graduate School that the internship requirement is complete until the Coordinating Committee has reviewed and approved of the final report. Traditionally, the Instructor of Record/Major Professor assigns a grade of "I" (incomplete) until the MPPPM coordinating committee has approved the internship report. Furthermore, students should be expected to complete the report during the semester following the internship semester. Also note that students on academic probation may not enroll for an internship.

Example Abstracts of Recent Internships

- 1) This paper details work done in the UGA County ANR Extension Internship Program and research on UAVs and aerial imagery on crops. For the extension project, I shadowed a county extension agent during his every day job. Consequently I was exposed to multiple farming issues and problems that farmers combat. For the research project, I was trying to determine if imagery from a UAV helicopter can be a useful tool for pest management under the direction of Glen Rains. Other research was done on GPS and how much the points move on a day to day basis at different heights. Flights were conducted at the same time of day and once at a later time in the day to see the difference. Measurements were taken from video taken during flight on a computer program to determine the differential distance of the GPS. The average GPS has a 3 meter differential/ error. Data concluded that the GPS on the copter had a differential/ error of only 1.33 meters. An MPPPM internship is a great learning opportunity for any student looking to work in the agricultural industry.
- 2) The cowpea curculio, *Chalcodermus aeneus* (Boheman) (Coleoptera: Curculionidae), is the key pest of southern pea or cowpea, *Vigna unguiculata* (L.), in Georgia and elsewhere in the southeastern USA. There has never been an effective trapping method reported for this pest. We developed a modified Tedder's trap that was tested against standard boll weevil traps and yellow sticky traps. The new trap detected *C. aeneus* adults earlier and in greater numbers than the other trapping methods. The new trap was used to monitor weekly movement of *C. aeneus* adults for two annual cycles in 2012 and 2013 at multiple locations. The detection of adults was consistent with early spring movement from overwintering sites followed by a summer generation and a fall generation. No adults were collected in traps from the end of December to the end of March. The temporal distribution of *C. aeneus* in traps over the season suggests three distinct periods of adult activity from mid-April to mid-June, late-July to early-October and then mid-November

to mid-December. The utility of monitoring *C. aeneus* for regional management strategies is discussed.

- 3) My internship project was conducted under the supervision of Dr. T. Brenneman. Specifically, the project was designed to evaluate several fungicides applied at two different timings for efficacy on *Sclerotinia* stem rot. My internship was an invaluable experience where I worked with chemicals and fungi that I learned about in my MPPPM classes. I was able to exercise my knowledge of pesticide safety and sprayer calibration when handling and applying those chemicals. It was a rewarding experience to use skills in the field that I learned in the class room. The central goal of my research was to find the most efficient fungicide for controlling white mold in canola. Fungicide research plays a critical role in finding the best spray program to recommend to farmers. Little research has been conducted in Georgia on canola, and this study showed that there is more research to be done in order to find the most productive spray program. Dr. Brenneman allowed me to work hands-on with the canola throughout the trial. The crop was planted before I started the MPPPM program in the spring of 2014, but I conducted the fungicide applications and took all of the ratings of disease as it progressed. I took 3 different ratings for white mold throughout the season and one rating of *Alternaria* black spot. The *Alternaria* black spot was unexpected and appeared on the seed pods in late April. I entered data into SAS and created the table of results. I also contributed with Dr. Brenneman and Dr. Grey on the disease report attached which will explain my project in more detail.
- 4) This paper details work completed on the UGA Internship program. Cultivars with resistance and tolerance to two different pathogens, Tobacco Black Shank (*Phytophthora nicotianae*) and Root-knot nematodes were evaluated. Research was performed on the UGA Bowen Farm and the UGA Black Shank Nursery both in Tifton, GA. Different Varieties of tobacco were selected based on pedigrees and know resistance. They were transplanted at the farms in *P. nicotianae* and *Meloidogyne arenaria* disease nurseries and data was collected the entire growing season. Varieties with the PHP gene have resistance to Race 0 of tobacco blacks shank and the Florida 301 which gene imparts tolerance to Race1 were chosen for the black shank test. For the Nematode trail varieties that showed tolerance or resistance to the root knot nematode in past years were chosen to be evaluated. The nematode variety trial had a few varieties that stood out. The best variety in the trial was the Cross Creek variety CC35 which had excellent yield in the nematode area at the Bowen Farm. Significantly ($P < 0.05$) outperformed all other entries in the test. The results from the Black Shank Trial demonstrated that Speights Variety SP225 had very promising resistance to both races of tobacco black shank. It had significantly less loss due to disease then all other varieties in the test. The Black Shank Nursery has over 50 years of continuous black shank, and represents the highest level of Black Shank severity that could be expect at the farm level.

MPPPM Internship Committee Approval Form

(Note: requires a simple majority of signatures, a minimum of one from each department (or attached email with signature authorization for Coordinator’s initials) and internship instructor/major professor signature for the Graduate Coordinator to issue a final approval)

MPPPM Student Name: _____

Athens Campus

Will Hudson, Department of Entomology

Bill Vencill, Department of Crop & Soil Sciences

Jean Williams Woodward, Department of Plant Pathology

Tifton Campus

Alton “Stormy” Sparks, Jr., Department of Entomology

Glen Harris, Department of Crop & Soil Sciences

Bhabesh Dutta, Department of Plant Pathology

Internship Instructor/Major Professor

_____, Department of _____

Exit Examination

The Master Degree of Plant Protection and Pest Management Program (MPPPM) has a final examination requirement of all students. The purpose of the examination is to measure education capabilities that encompass the entire program of the student. The examination consists of a written exam that is taken after all courses have been completed and will be administered by the student's advisor. The written exam will cover specific information and general concepts learned during the overall graduate program, including prerequisites, and core courses in area I. The student must have the internship report approved before taking the final exam to complete requirements for graduation. It is recommended that the student talk with his/her Major Professor about the range of pest management information with which they should be familiar during their program. It is also advisable to contact the Exit Examiners (see next page) before the last semester to request any recommended reading in preparation for the exam.



MPPPM Exit Exam Committee Approvals

(Note: requires a minimum of three signatures, one from each department from any combination of the 6 possible signatures below or three attached emails with signature authorization for the Graduate Coordinator initials to be complete)

MPPPM Student Name: _____

Athens Campus

Will Hudson, Department of Entomology

S/U grade

Bill Vencill, Department of Crop & Soil Sciences

S/U grade

Jean Williams Woodward, Department of Plant Pathology

S/U grade

Tifton Campus

Alton "Stormy" Sparks, Jr., Department of Entomology

S/U grade

Glen Harris, Department of Crop & Soil Sciences

S/U grade

Bhabesh Dutta, Department of Plant Pathology

S/U grade

GENERAL STUDENT INFORMATION

Assistantships and Tuition Waivers

Academic units of the university may employ graduate students in four types of graduate assistantships: teaching assistantship, lab assistantship, research assistantship, and general (including extension) graduate assistantship. The type of assistantship offered a student depends on the needs of the academic or administrative unit and the qualifications of the individual student. Whenever possible, the duties assigned to a graduate assistant should be relevant to the graduate program and the professional goals of the student.

Most full-time academic graduate students in the MPPPM program receive financial aid in the form of a 1/3 time assistantship that pays \$16,614 for the Master's Degree (2017 estimate). All students on assistantships receive out-of-state tuition waivers and in-state fee reductions. Students are responsible for paying incidental fees only (less in Tifton and Griffin). See <http://grad.uga.edu/index.php/current-students/financial-information/> for details. Students on a one third time) graduate assistantships are expected to work at least 13.3 hours per week over and beyond the work required to carry out their own internship projects.

So where do the funds for assistantships come from? These are typically provided by major professors who have a research project that is funded through contracts and/or grants that they have managed to acquire for the completion of that specific research project. Thus, the funds are not “free”, but tied to specific work that needs to be completed in a timely fashion. Since the research assistantship is typically year-round, the student needs to be prepared to become part of that UGA laboratory's regular personnel. One advantage of this situation is that the student gets to work directly in a university research laboratory while completing MPPPM coursework. The student also is usually assigned lab/office space on directly campus and granted access to UGA password protected desktop computers.

In recent years, MPPPM students have also been able to qualify for Extension Internship grants (note not necessarily the same thing as the academic internship course CRSS/ENTO/PATH 6130 unless set up by the Major Professor) and very recently general extension graduate assistantships through the University of Georgia Cooperative Extension Service. These funds are also tied to specific extension projects in specific counties working with county agents (see interactive map at the website <http://extension.uga.edu/about/county/> for county office locations). One advantage of this situation is that the students get profession experience with grower clientele, directly interacting with commercial agricultural industry while completing the MPPPM coursework.

What about actively employed students that do not have extra time outside of their jobs to commit to an assistantship? The MPPPM program has been fortunate to have working

professional graduate students and their employers pay tuition directly with no waiver because of their belief in the high value of the MPPPM program for their company's employees. These students are also required to have a Major Professor, but the relationship is a bit different in that the Major Professor does not have to find funds to support the student. In this case, the company gains direct access to the Major Professors area of expertise, often developing internship (research or informational) programs in this area of expertise at the company location.

There is another category working professional graduate students that have the benefit of tuition waivers even while they are actively employed. These are the students eligible for the Tuition Assistance Program (TAP). TAP is a supplemental educational assistance program for University System of Georgia employees. TAP provides free tuition and student fees for up to nine (9) credit hours per semester for USG employees who have been full-time, benefits eligible for at least six months prior to the TAP application deadline for the term for which they are applying. All employees will be required to go through the regular student admissions process prior to applying for TAP and employees must complete a TAP application for each semester in attendance. Certain courses and programs are ineligible for TAP under Board of Regents policy as follows. Those ineligible programs, or courses of study, include academic courses in the following professional schools: dental, law, medical, pharmacy, veterinary, or executive/premiere or comparable graduate school programs. Other ineligible programs, or courses of study, include: workshops, seminars, continuing education courses, management development programs, special examinations for admissions to degree programs, or private consultant refresher courses to take examinations such as C.P.A. certification, admissions examinations, and related types of programs or classes. Support for these types of programs, may be provided by departmental policies. Please review all TAP policies, procedures, frequent questions, and other information available on the University System of Georgia (USG) website, http://www.usg.edu/hr/benefits/tuition_assistance_program_tap/. The USG system-wide TAP application form is also available on the USG website. Application deadlines for TAP are: Fall-July 15, Spring-November 15, and Summer-April 15. TAP forms should be mailed to Blake Dye, Office of the Registrar, University of Georgia, Holmes/Hunter Academic Building, Athens, GA 30602-6113. For questions, contact the Assistant Registrar at reghelp@uga.edu or 706-542-8762.

Finally, there is a kind of hybrid category of part full-time academic graduate students and part working professional graduate students that makes it possible to qualify for the tuition waiver; but it is difficult to arrange with so many parties involved, all with expectations of student work in addition to coursework. To qualify for a UGA tuition waiver, the graduate student must have a minimum of 60% of the spring and fall semesters covered by a one-third time assistantship under his/her Major Professor. The rest of the time during that year the student may work for their non-UGA employer. Again, this is possible, but will take some innovative time management on the part of the student to effectively set up this situation without compromising their academic performance. *NOTE: All UGA graduate students must maintain a minimum GPA of 3.0 each semester to avoid academic probation.*

Online Access to Classes

Online or remote access to class lectures and other course materials is up to the discretion of the Instructor of Record for a given course. The level of online access will be set by the Instructor of Record; however, standard access is done through the learning management system at UGA which is called eLearning Commons, or simply eLC, powered by Desire2Learn 10.2. If you need assistance with eLC, you have a number of options to get help using the system. First, you can contact the EITS Help Desk by email helpdesk@uga.edu or telephone (706) 542-3106. The business hours are 8am - 10pm (Mon-Thurs), 8am-6pm (Fri), and 1pm-7pm (Sat-Sun). You can also go to the University System of Georgia D2L Help Center at <http://D2Lhelp.view.usg.edu>. From this site, you can search the Knowledge Base, browse popular articles, or click the link for live support (24 hours a day, 7 days per week) in the scrolling news area. Some of the typical questions that students may have about eLC are answered as follows.

1. How do I turn on “Notifications”?

1. On My Home, click on your name at the top right and click Notifications.
2. Confirm your email address and/or register your mobile number (text rates apply).
3. Choose the summary of activity or instant notifications you would like to receive. Summary activity is a daily summary or course activities, instant notifications allow you to choose which activities you would like delivered to your email and/or mobile device.
4. Click Save

2. How do I submit assignments to the Assignment Dropbox?

1. On Course Home navigation bar, click on Tools, then Assignments Dropbox.
2. Select the appropriate Dropbox folder.
3. Select Add a File, Browse, select file and click Upload.
4. Click Submit.

3. How do I email my instructor or other students within the course?

1. On Course Home navigation bar, click on Classlist.
2. If you want to email multiple people, select them by checking the select box next to their name, and then click the email icon at the top of the user list.
3. To email one person, click on their name in the Classlist.
4. Compose message and click Send.

4. I don't see a course in which I'm enrolled. How can I gain access?

1. **Drop/Add:** Student enrollments from Athena to eLC are only updated once each weekday, in the evening. If you drop/add a course today, those changes take 1-2 business days to become active in eLearning Commons. For example, if you drop or add a course on Friday, those changes will not be reflected in eLC until Monday morning.
2. **Course Availability to Students:** Courses are only visible/available to students one day before classes begin through two weeks after grades are due. Course availability/visibility is based on standard session terms that are established by the Registrar (see the [Schedule of Classes](#)). Instructors can change the availability dates of their courses and can also manually add users to their courses. If your course does not follow the established session terms, contact your instructor to gain access.

Career Development

Example Resume (also see http://career.uga.edu/resumes/resume_samples/)

Abraham Baldwin

228 Baldwin Street, Athens, GA 30601 770-555-1234 abebaldwin@uga.edu www.abebaldwin.com

OBJECTIVE

To obtain a summer 2011 internship in multimedia design/development to further utilize my creativity and experience in Macromedia Flash, JavaScript, Dreamweaver, and website development

EDUCATION

The University of Georgia, Athens, GA
Bachelor of Arts in Journalism, May 2011
Major: Publication Management **Minor:** Philosophy
Certificate: New Media
Cumulative GPA: 3.4/4.0

RELEVANT COURSEWORK

Multimedia for the Web, Interactive Media Authoring, Multimedia Writing, Web Communication, Multimedia Law, News Editing, Photojournalism, Graphic Communication, and Creative Nonfiction

MULTIMEDIA EXPERIENCE

Freelance Web Designer, Abraham Designs, Athens, GA, June 2007-Present

- Create engaging web presences for clients per requests and requirements
- Provide consulting services to evaluate and meet client needs
- Forge and maintain client relationships in order to build successful future business

Web Designer/Graphic Artist, Information Security Center, Valdosta, GA, June 2007-August 2009

- Maintained and designed three corporate websites for nonprofit organization
- Fabricated and manipulated web pages, graphics, and JavaScript in an office environment
- Maintained organized documentation to ensure that application scripts and web pages were dynamic and readily updatable for future employees
- Provided advice regarding graphic design and layout issues
- Instructed 25 peers on website organization and use of Dreamweaver to edit HTML

OTHER EXPERIENCE

Pool Manager, Atlantic Pool Service, Valdosta, GA, May 2009-August 2010

- Managed 400-member swimming facility and honed communication skills
- Maintained organized records for 35 employees utilizing PeopleSoft Database System
- Communicated with Board of Directors to ensure that the needs of the members were met
- Collected entrance fees totaling up to \$500 per day

COMPUTER SKILLS

- **Software:** Macromedia Flash, Director, Dreamweaver, Fireworks; Adobe Photoshop, ImageReady, Illustrator, Premiere, After Effects, Audition; Corel Bryce 5; Microsoft Office Suite (including Access); Apple Final Cut Pro, Quicktime Pro; Digidesign Pro Tools
- **Operating Systems:** Mac OS 9, X; Windows 95-XP; Dos; Linux
- **Programming Languages:** HTML; SQL; CSS; ActionScript; JavaScript; Director Lingo; VBA

AWARDS & HONORS

Broadcast Education Associate (BEA)
 Best of Festival 2005/King Foundation Award Winner, Fixed Media in the "To instruct/Train" category
 Won \$1000 top prize and attended BEA Festival in Las Vegas, NV
 HOPE Scholarship

Career Possibilities for MPPPM Graduates [Contacts]

Careers in for MPPPM graduates in private industries and in State and Federal government can be quite varied. Briefly these include, but are not limited to the:

- 1) Cooperative Extension Service [see <http://extension.uga.edu/about/join/careers.cfm> or comparable sites for other state extension services]
- 2) Pesticide Industry [Top 10 ranked companies in 2008 from the largest: Bayer (Germany), Syngenta (Switzerland), BASF (Germany), Dow AgroSciences (USA), Monsanto (USA), DuPont (USA), Makhteshim Agan (Israel), Nufarm (Australia), Sumitomo Chemical (Japan), and Arysta Lifescience (Japan)]
- 3) Seed Industry [Top 10 ranked companies in 2008 from the largest: Monsanto (US), DuPont (US), Syngenta (Switzerland), Groupe Limagrain (France), Land O' Lakes (US), KWS AG (Germany), Bayer Crop Science (Germany), Sakata (Japan), DLF-Trifolium (Denmark), and Takii (Japan)]
- 4) Academic Institutions [usually a Master's degree is the minimum requirement for a technical college instructor or university laboratory technician, field technician, see <http://www.hr.uga.edu/uga-staff-vacancies> for UGA or comparable sites for other colleges and universities]
- 5) Food & Beverage Industry [Top 16 ranked companies in 2013 from the largest: Pepsico Inc., Tyson Foods Inc., Nestle (U.S. & Canada), JBS USA, Coca-Cola Co., Anheuser-Busch InBev, Kraft Foods Inc., Smithfield Foods Inc., General Mills Inc., ConAgra Foods Inc., Mars Inc., Kellogg Co., Dean Foods Co., Hormel Foods Corp., Cargill Inc., and MillerCoors LLC]
- 6) Crop Consultants [can be independent or employed by other consultants, see <http://naicc.org/about/find-a-member/> or companies like Glades Crop Care, Inc.]
- 7) Urban/Structural Pest Control [Top companies: Orkin Pest Control, Terminix, Black & Decker Pest Control, Riddex Plus Pest Repeller, Bell Environmental Services, Bulwark Exterminating, Steritech Pest Prevention, Southern Pest Control, Ecolab Pest Control, McCloud Services, Plunkett's Pest Control, Wil-Kil Pest Control, Sprague Pest Solutions]
- 8) Federal jobs open only to USA citizens [can be searched at <https://www.usajobs.gov/>]
- 9) The State of Georgia has jobs [listed at <http://agr.georgia.gov/the-job-list.aspx>]
- 10) The Military has careers for entomologists [listed at <http://www.goarmy.com/careers-and-jobs/amedd-categories/medical-service-corps-jobs/entomologist.html>]

