



Graduate Studies Handbook

Department of Plant Pathology & Crop Physiology

Louisiana State University

www.lsu.edu/ppcp/

Revised August 2021

TABLE OF CONTENTS

DEPARTMENTAL FACULTY	1
INTRODUCTION	3
SPECIAL REQUIREMENT FOR INTERNATIONAL STUDENT APPLICATIONS	5
ADMISSION TO A DEGREE PROGRAM	6
REQUIREMENTS FOR THE MASTER’S DEGREE	7
M.S. PROGRAM IN PLANT PATHOLOGY.....	9
M.S. PROGRAM IN CROP PHYSIOLOGY.....	10
REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY DEGREE	11
Ph.D. PROGRAM IN PLANT PATHOLOGY	14
Ph.D. PROGRAM IN CROP PHYSIOLOGY	16
MINOR IN PLANT PATHOLOGY & CROP PHYSIOLOGY	17
BULLET POINT GUIDELINES FOR PURSUING AN M.S. OR PH.D IN PLANT PATHOLOGY & CROP PHYSIOLOGY	18
PLANT PATHOLOGY AND CROP PHYSIOLOGY COURSES.....	Error! Bookmark not defined.

DEPARTMENTAL FACULTY

NAME

AREAS OF INTEREST

Z. Y. Chen

Ph.D.1996, Louisiana State University

ZChen@agcenter.lsu.edu

Host-parasite interaction and resistance

C. A. Clark

Ph.D. 1976, Cornell University

CClark@agcenter.lsu.edu

Sweet potato pathology,
Disease control

L. E. Datnoff

Ph.D. 1985, University of Illinois

LDatnoff@agcenter.lsu.edu

Administration, silicon nutrition and disease resistance

V. P. Doyle

Ph.D. 2012, City University of New York

VDoyle@agcenter.lsu.edu

Mycology, systematics, population genetics,
phylogenomics

E. Oliveira-Garcia

Ph.D. 2013, Martin-Luther-Universitat

EOliveiraGarcia@agcenter.lsu.edu

Biotic stress, effector biology

J. H. Ham

Ph.D. 1999, Cornell University

JHam@agcenter.lsu.edu

Phytopathology, disease control, genetics

J. W. Hoy

Ph.D. 1983, University of California at Davis

JHoy@agcenter.lsu.edu

Sugarcane pathology, pathogen detection and identification, IPM, host plant resistance

G. B. Padgett

Ph.D. 1992, Louisiana State University

BPadgett@agcenter.lsu.edu

Plant Pathology, epidemiology, IPM, disease management of agronomic crops

P. Price

Ph.D. 2013, Louisiana State University

PPrice@agcenter.lsu.edu

Disease management, plant pathology, IPM

J. Richards

Ph.D. 2016, North Dakota State University

JRichards@agcenter.lsu.edu

Fungal biology, molecular plant-microbe interactions, genomics, host-parasite interactions, mycology, genetics, molecular biology

NAME

R. Singh
 D.P.M. 2004, University of Florida
RSingh@agcenter.lsu.edu

S. Thomas-Sharma
 Ph.D. 2012, University of Georgia
SThomasSharma@agcenter.lsu.edu

R. A. Valverde
 Ph.D. 1984 University of Arkansas
RValverde@agcenter.lsu.edu

T. Watson
 Ph.D. University of British Columbia, Canada
twatson@agcenter.lsu.edu

AREAS OF INTEREST

Plant diagnosis, horticulture pathology extension, pathogen detection and identification, disease control and losses, IPM

Field Crop Pathology, Epidemiology

Virology, pathogen detection and identification

Nematology

Adjunct/Affiliate Faculty

NAME

P. D. Colyer

LOCATION

Red River Research Station

AREA OF INTEREST

Field Crop Pathology

M. P. Grisham

USDA, Sugarcane Research Unit,
Houma

Sugarcane Pathology

D. E. Groth

Rice Research Station

Rice Pathology

G. Pettis

Biological Sciences, LSU

Phylobacteriology

P. South

Biological Sciences, LSU

Plant Physiology

INTRODUCTION

This document describes the graduate program of the Department of Plant Pathology and Crop Physiology. It supersedes all previous department documents and becomes effective for all students entering the program Fall Semester, 2013 and thereafter.

NATURE OF GRADUATE WORK¹

A graduate student's orientation toward scholarship differs appreciably from that of many undergraduates. The undergraduate is commonly directed into a rather specific and somewhat inflexible curriculum requiring the passing of a defined number of courses to obtain the baccalaureate degree. Graduate students must assume far greater responsibility in pursuing a program of study that will best meet their particular needs.

Class work at the graduate level serves mainly as a guide for independent study. Therefore, students should not expect to obtain a graduate degree merely by passing courses. Research plays an integral role in graduate education. As a result of constant and prolonged association with scholars and involvement in research, graduate students are stimulated to think clearly and independently and develop zeal for exploring the boundaries of knowledge.

APPLICATION PROCEDURE

Students interested in applying for graduate study in the Department of Plant Pathology & Crop Physiology may access the website www.lsu.edu/ppcp/ and click on "Application Info" and submit following items:

1. ON-LINE: A completed "Application for Graduate Admission" form and a \$50-70 non-refundable application fee.
2. To Graduate Student Services, 114 David Boyd Hall, Baton Rouge, LA 70803 USA: (a) One official transcript sent DIRECTLY FROM THE REGISTRAR of each college or university you attended. A request for transcripts of academic work done at LSU is not necessary. (b) The results of the Graduate Record Examination General (Aptitude) test should be sent by the Educational Testing Service to GSS. These test results are required for any application to be considered.

Three letters of recommendation by individuals who know your academic and professional qualifications should be sent directly to the Admissions Committee, Department Plant Pathology & Crop Physiology, 302 Life Sciences Building, Louisiana State University, Baton Rouge, LA 70803 USA.

¹ Readers are advised that the current LSU Undergraduate/Graduate School Catalog is the final authority for all regulations except those that are departmental.

Applicants should specify on the application form the degree program in which they wish to enroll. There are three options:

- Option 1:** Enroll in the M.S. degree program. Students wishing to continue their studies in the Department for the Ph.D. would need to reapply for admission to the graduate program.
- Option 2:** Enroll in the Ph.D. program. Applicants without an M.S. in Plant Pathology and Crop Physiology or a closely related field of study will be required to receive an M. S. degree in the course of their Ph.D. by doing the following: complete the M.S. course degree requirements, complete the “Introduction and “Literature Review” sections of their dissertation and a minimum of one chapter related to their research, submit these to their Advisory Committee, and have them approved at the M. S. exam. This M.S. thesis will then be submitted to the graduate school.
- Option 3:** Enroll in the M.S. non-thesis program. This program requires 36 hours of graduate level coursework to be selected by the students committee. Students who enroll in this program will not be eligible for the Ph.D. program in Plant Pathology at LSU. This option is not available to Crop Physiology majors.

Applicants must select one of the above options. Approval must be given by the Graduate Admissions Committee.

Applications are accepted year-round to begin in the Fall, Spring or Summer semester. The desired starting date should be specified by the applicant at the time of application to the program.

SPECIAL REQUIREMENT¹ FOR INTERNATIONAL STUDENT APPLICATIONS

In addition to meeting the general requirements for admission, applications whose native language is not English must demonstrate English proficiency by submitting scores of the Test of English as a Foreign Language (TOEFL) and a Test of Spoken English (TSE) administered by the Educational Testing Service¹. Official scores must be directly submitted by ETS to the LSU Graduate School (The ETS institution code for LSU Graduate School is 6373). A minimum TOEFL score of 550 on the paper scored exam or 213 on the computer scored exam is required to be considered for admission. Information on the TOEFL and TSE may be obtained from the American Embassies and Consulates, Office of the U.S. Information Service or from the Educational Testing Service in Princeton, New Jersey. Also, international students who are admitted are required to participate in the LSU Comprehensive English Language Test given during orientation preceding registration. If a language deficiency in English is detected, students will be assigned to the appropriate English courses.

International applicants who have not been awarded an assistantship must certify the availability of funds from a sponsoring agency sufficient to complete their degree programs before the permit to register and the Form I-20 (necessary for immigration) can be sent. Students entering the United States on a Form I-20 issued by another institution cannot be considered for admission to LSU until they have been enrolled for at least one semester at that other institution.

Because transcripts from foreign universities require special evaluation, prospective international students should begin the application process at least 10 months before the semester they plan to enroll. Transcripts should be submitted to the LSU Graduate School in the native language, and also translated into English. An applicant who has completed degree requirements outside the U.S. should follow guidelines specified in the General Catalog.

The Department of Plant Pathology and Crop Physiology can assist you in assembling application materials before submission to the LSU Graduate School. Should you have any questions concerning your application, please contact Ms. D. Dyess, Admissions Secretary (DDyess@agcenter.lsu.edu) or Dr. Z. Chen, PPCP Graduate Admissions Advisor (zchen@agcenter.lsu.edu).

¹The TOEFL and TSE Examinations are not required of international students who have completed a degree at an accredited U.S. college or university.

ADMISSION TO A DEGREE PROGRAM

REGULAR ADMISSION:

Regular admission to the degree program requires the following:

1. A bachelor's degree from an accredited college or university.
2. A grade-point average (GPA) of at least 3.00 ("A" =4) on all undergraduate work and a 3.00 GPA or better on any graduate work already completed. International applicants must have at least a 3.00 GPA, or equivalent, on all college-level work previously attempted.
3. A positive recommendation from the Department's Admission Committee and acceptance of this recommendation by the faculty.

M.S. AND PH.D. PROGRAMS IN PLANT PATHOLOGY AND CROP PHYSIOLOGY PREREQUISITES¹

Prerequisites for entrance into the M.S. curriculum in Plant Pathology and Crop Physiology are a B.S. or B.A. degree from an accredited college or university, college level mathematics through algebra, and one course each in plant physiology, organic chemistry, genetics, and botany/biology. Additional prerequisites are required for specific areas of research. Prerequisite courses may be taken after starting graduate work, but these courses do not count toward graduate degrees.

For Plant Pathology: In addition to the general curriculum prerequisites listed above, Plant Pathology research requires each entrant to have a general microbiology course.

For Crop Physiology: In addition to the general curriculum prerequisites listed above, a degree emphasis in Crop Physiology requires a course in organic chemistry with laboratory experience, and a course in plant physiology with laboratory experience or biochemistry with laboratory experience.

PROBATIONARY ADMISSION

Applicants who fail to meet one or more of the requirements stated above may be admitted on probation, provided additional evidence of capacity to do satisfactory work is presented. Such evidence might include superior performance in a substantial amount of post baccalaureate work, high GRE scores and other achievements.

Students entering on probation will remain on probation until the completion of nine hours of graduate-level, graded courses with at least a 3.00 average. Part-time students entering on probation and registering for fewer than nine hours may be dropped from the Graduate School if their grade-point average is less than 3.00 during any semester they are registered. Students admitted on probation may not be appointed to assistantships or fellowships until they attain good academic standing.

ASSISTANTSHIPS

Graduate research assistantships are available through the Department of Plant Pathology and Crop Physiology to support our graduate program. Assistantships are awarded to students on the recommendation of

¹Students not satisfying these prerequisites will be required to make up these deficiencies while enrolled in their graduate program. Students with three or more deficiencies cannot be appointed to a full-time assistantship.

the Graduate Advisor/Research Program Leader and with the approval of the Department Head. Consideration for awarding of assistantships is based on the availability of funds and the academic qualifications of the student.

Outstanding applicants will be nominated for fellowships administered through the Graduate School and the College of Agriculture. The completed application must be received by January 15 to ensure timely consideration for a fellowship beginning the following fall semester.

COURSE LOADS

Graduate assistants in Plant Pathology and Crop Physiology are required to register for a full load (a minimum of 9 credit hours in the Spring and Fall Semesters and 6 credit hours in the Summer) of graduate courses each semester until all degree requirements are completed. Full time instructors and research associates may carry a maximum of 4 credit hours of course work.

REQUIREMENTS FOR THE MASTER'S DEGREE

GUIDELINES AND FORMS

The LSU Graduate School has a "Graduation Checklist on their website at www.lsu.edu/graduateschool/currentstudents/steps-to-graduation.php. This checklist provides students with a step-by-step guide to graduate including requirements and forms that must be completed. Additionally, the Graduate School provides a page where all required forms may be downloaded. This page lists both general forms, as well as forms specific to the M.S. or Ph.D. degree. This page can be found at www.lsu.edu/graduateschool/currentstudents/enrolled_student_forms.php.

CREDIT HOURS REQUIRED

Plant Pathology requires 30 credit hours of which 6 are research credits. A non-thesis option is available as a terminal degree in Plant Pathology and requires 36 credit hours. Crop Physiology requires 30 credit hours of which 6 are research credits, and there is no non-thesis option.

THESIS RESEARCH

The preparation of a thesis is an important element in the program leading to the Master's degree. The Master's thesis should demonstrate a capacity for research, originality of thought, and facility in organizing materials. It must be acceptable in subject matter and exhibit credible literary workmanship. At minimum of 6 credit hours of thesis research are required for the Master's of Science degree with the thesis option. Instructions on preparation and submission of the Master's thesis may be obtained from the LSU Graduate School (see guidelines and forms above).

THESIS RESEARCH PROPOSAL AND PROGRAM OF STUDY

Within the first six months of beginning your degree program, you must select an advisory committee with help from your advisor. Within the first six-nine months, you must establish a program of study and research proposal with your advisor and help/agreement with your committee members. A Graduate Advisory Committee meeting must be scheduled 3 weeks prior to the proposal date. The research proposed and the proposed program of study must be in the hands of the Graduate Advisory Committee members 10 calendar days prior to the scheduled committee meeting. Graduate students are encouraged to prepare a detailed research proposal including an Introduction, Justification, Objectives, Materials and Methods, and Relevant Literature. The

proposed program of study should include a list of courses completed and those proposed to meet the requirements in a specified program of study.

GRADUATE ADVISORY COMMITTEE

Final acceptance of the Master's thesis rests with a Graduate Advisory Committee of three or more members of the Graduate Faculty. The major professor is designated as chair of this committee. One member of the committee must be a Full Member of the Graduate Faculty from the major department. Students who do not have a minor field of study may have all members of the committee from the department. If the student has selected a minor, one committee member must represent the minor department. The Dean of the Graduate School will appoint a Dean's representative to serve as a member.

COMPREHENSIVE FINAL EXAMINATION

Each candidate for a Master's degree will be required to pass a Comprehensive Final Examination. This examination may be oral, written, or both. In the case of a non-thesis program, greater weight is given to this examination, and will be broader in scope than the examination given to a student who completes a thesis. Prior to scheduling this examination, the student will need to make sure they have completed all the degree requirements and submit a **verification of graduate concentration form** to the graduate school (see guidelines and forms above).

It is the function of this committee to conduct the Comprehensive Final Examination which must be scheduled 3 weeks in advance of the actual date. The student must submit the request for **Master's defense and degree audit form** 3 weeks in advance too (see guidelines and forms above). At least 10 days prior to the scheduled Comprehensive Final Examination, the student must give each member of the examining committee a thoroughly edited and completed draft of the M.S. thesis. A candidate for the Master of Sciences degree will take the Comprehensive Final Examination during the semester in which he or she plans to graduate. The Comprehensive Final Examination Committee is composed of those faculty members who serve as the student's Graduate Advisory Committee. At least one member of the examining committee must be a full member of the Graduate Faculty from the major department. The major professor serves as Chair of the Comprehensive Final Examination Committee. A representative of the Graduate Faculty may be added by the Dean of the Graduate School. In order for the student to pass this examination, there may not be more than one dissenting vote. The student will need to bring the following forms to the final exam: **PPCP Graduate Program Assessment Instrument, Graduate Defense Results and Master Examination** and **Thesis Report**. These forms must be obtained from Robert Carver.

DEPARTMENTAL SEMINAR

Seminar is offered weekly during the Fall and Spring semesters. During this hour, faculty and students gather together to present, learn about and discuss the latest scientific information in plant pathology, crop physiology, and related fields. Additional seminars may be convened when distinguished scientists visit the department throughout the year. All graduate students (M.S. and Ph.D.) are required to present at least two seminars during the course of their degree programs (i.e. 2 credit hours of PLHL 7052). **The second required seminar will be an 'exit seminar' of their research.** Whether or not a student is formally enrolled for credit, all graduate students are **required** to attend seminar each semester, directly or remotely, that it is offered, unless they have a class conflict.

M.S. PROGRAM IN PLANT PATHOLOGY

<u>Required Courses</u>		<u>Credit Hours</u>	
		Thesis	Non Thesis¹
PLHL 4000	General Plant Pathology (if previously taken, substitute 4 credits subject to approval by Advisory Committee)	4	4
Choose 2 (thesis) or all 4 (non-thesis) of the following courses: PLHL 4054, PLHL 7000; PLHL 7011, PLHL 7040		8	16
Plant Pathology Course Options (See below) or other courses approved by Advisory Committee		10	14
PLHL 7052	Seminar	2	2
PLHL 8000	Thesis Research (Minimum)	6	0
<hr/> Total Credit Hours Required		30 ²	36

Plant Pathology Course Options

(Dependent on the student's area of research and committee approval)

PLHL 4001	Plant Disease Management and Control (3)
PLHL 4054	Introductory Mycology (4)
PLHL 7000	Phytonematology (4)
PLHL 7011	Phytobacteriology (4)
PLHL 7040	Plant Virology (4)
PLHL 7051	Advanced Topics in Plant Pathology (1-4)
PLHL 7080	Host-Parasite Interaction and Disease Resistance (3)
PLHL 7083	Epidemiology and Crop Loss Assessment (3)
PLHL 8800	Practicum in Plant Pathology (2)

A candidate must have completed a course in statistics **and** a course in biochemistry (4000 level or greater) or another course approved by the student's advisory committee that is deemed to be essential to the students training to be eligible for the M.S. degree.

¹Intended as a terminal degree. Students completing this program option will not be considered for the Ph.D. program in Plant Pathology at LSU.

²At least 15 credit hours must be at the 7000 level or above (this may include 6 credits of the PLHL 8000 in the thesis program).

M.S. PROGRAM IN CROP PHYSIOLOGY

REQUIRED COURSES

		No. of Credit Hours
BIOL 4087	Biochemistry (or 4093)	3
BIOL 4385	Biochemistry Lab	3
PLHL 7052	Seminar	2
Three courses of the following four:		9
PLHL 7010	Plant Molecular Biology (3)	
PLHL 7061	Plant Growth and Development (3)	
PLHL 7063	Plant Metabolism (3)	
AGRO 7040	Research Methods in Plant Science (3)	
PLHL 8000	Thesis Research (minimum)	6
Electives (requires Advisory Committee approval)		7 ¹
Total Credit Hours Required		30 ²

ELECTIVE COURSES OPTIONS³

AGRO 7040	Research Methods in Plant Science (3)
AGRO 7051	Advanced Soil Fertility and Plant Nutrition (4)
AGRO 7080	Applied Plant Genomics (3)
BIOL 4001	Physical Chemistry (3)
BIOL 4041	Plant Taxonomy (4)
BIOL 4093/94	General Biochemistry I/II (3 each)
BIOL 4308	Plants in Coastal Environments (3)
BIOL 7093	Plant Population Biology
BIOL 7280	Nucleic Acids (3)
BIOL 7284	Proteins (3)
BIOL 7285	Advanced Enzymology (3)
BIOL 7288	Lipid and Membrane (3)
EXST 7004	Experimental Statistics (4)
BIOL 7162	Molecular Biology of Microorganisms (3)
PLHL 7010	Plant Molecular Biology (3)
PLHL 7061	Plant Growth and Development (3)
PLHL 7063	Plant Metabolism (3)

¹ M.S. candidates are encouraged to undertake a special research problem (PLHL 8900) for two credits sometime during their program. The purpose of the special problem is to broaden the student's research experience.

² At least 15 credit hours must be at the 7000 level or above (including 6 credits of PLHL 8000) by Graduate School regulations.

³ This is not an exclusive listing; other courses may be used with the consent of the student's advisory committee.

REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY DEGREE

GUIDELINES AND FORMS

The LSU Graduate School has a "Graduation Checklist" on their website at www.lsu.edu/graduateschool/currentstudents/steps-to-graduation.php. This checklist provides students with a step-by-step guide to graduate, to include requirements, and forms that must be completed. Additionally, the Graduate School provides a page where all required forms may be downloaded. This page lists both general forms, as well as forms specific to the Ph.D. or M.S. degree. This page can be found at www.lsu.edu/graduateschool/currentstudents/enrolled_student_forms.php.

OVERVIEW

The Doctor of Philosophy degree (Ph.D.) is the highest academic degree offered by universities. It is conferred only for work of distinction in which the student displays decided powers of original scholarship and only in recognition of marked ability and achievement. Nothing in the following summary of minimum standards should be construed to imply that the degree will be granted merely in recognition of faithful performance of prescribed work. The basic requirements are twofold:

1. A student must exhibit evidence of mastery of a broad major field. Such evidence is provided by passing a general examination.
2. A student must prove an ability to complete a program of original research by preparing a dissertation embodying creative scholarship and by passing a rigorous final examination.

GRADUATE ADVISORY COMMITTEE

The Ph.D. program is to be directed by a special Graduate Advisory Committee during the entire period of the student's work toward the doctorate, and **shall be chosen within the first nine months of starting graduate school in the Department**. The Graduate Advisory Committee (minimally 3 members) should include at least one representative from the minor field, if a minor is selected. Two members of the committee must be from the major department and at least one must be a full member of the Graduate Faculty. The Dean of the Graduate School or his representative may serve as an *ex officio* member.

MINOR

Doctoral candidates may choose to earn a specified minor in a related discipline or take 15 credits in depth that will constitute an internal minor. The approval of the candidate's Graduate Advisory Committee is required for any minor.

PROGRAM OF STUDY AND DISSERTATION RESEARCH PROPOSAL

Within 9-15 months of starting graduate school in the Department, a program of study shall be established with input from your advisor and committee members.

The organization of a research project to be undertaken for a dissertation requires adequate planning and preparation and **shall be submitted to your advisor and committee members with 9-15 months of starting graduate school in the Department**. To this end and before significant research efforts are expended, all Ph.D. candidates in the Plant Pathology and Crop Physiology program are required to submit a detailed research proposal to their Graduate Advisory Committee at least 10 days prior to a scheduled meeting. The suggested format is that of the

Agricultural Experiment Station's Project Proposals. The proposal (similar to a Hatch/CRIS) should include an Introduction, Statement of Objectives, Relevant Literature, Materials and Methods, Justification, Likely Impact of Discoveries, Literature Cited, and a Signature Page for the candidate's Graduate Advisory Committee members.

DISSERTATION

The Ph.D. dissertation must be a contribution to scientific knowledge in the major field of study. The dissertation must demonstrate a mastery of research techniques, ability to do original and independent research, and must show skill in formulating conclusions that in some way enlarge upon, or modify, accepted ideas. The form and format of the dissertation must be in accordance with instructions available from the Graduate Records Office.

GENERAL EXAMINATION

A student becomes eligible to take the General Examination after demonstrating to his or her Graduate Advisory Committee adequate academic and professional aptitudes. A request, (**Request for Doctoral General Defense** and **Degree Audit Form** along with a **Verification of Graduate Concentration Form**), for a General Examination is submitted by the student with approval of their advisor at least 3 weeks prior to the proposed examination date (see guidelines and forms above to obtain copies). This request form states the time and place proposed and the names of faculty members nominated to serve on the examining committee while the verification form confirms the concentration requirements are met. Under ordinary circumstances, the nominated membership for the General Examination Committee will be the student's Graduate Advisory Committee. Any additions to or changes in the make-up of this committee must be approved by the Head of the Department, Dean of the College of Agriculture and by the Dean of the Graduate School. The Graduate School appoints one additional voting member of the General Examination Committee.

The General Examination is the most comprehensive and most difficult test of the entire doctoral program. In order for the student to pass this examination, there may not be more than one dissenting vote. The General Examination may be oral, written, or both, and the minor department has the right to independently decide the form of its part of the examination. The General Examination must be comprehensive enough to demonstrate the candidate's competence over broad segments of the major field and to demonstrate a high degree of familiarity in one or more related fields. The examination should be regarded as the culmination of a student's program of course work. In most cases, the remaining time spent in obtaining a Ph.D. degree is to be devoted to concentrated work on the dissertation and preparation for the final thesis defense.

FINAL EXAMINATION

A Final Examination for the Ph.D. degree is administered to provide the student an opportunity to "defend" his or her dissertation. Although questions may be asked concerning any topic generally related to the dissertation, Final Examinations usually focus on aspects of the dissertation research.

A request for a Final Examination (**Request for Final Doctoral Defense** form) must be submitted to the Dean of the Graduate School at least 3 weeks prior to the proposed examination date or by the current semester deadline. The application for a Final Examination must specify the major and minor fields, dissertation title, time and place proposed for the examination, and nominations for the examining committee. The examining committee must have copies of the dissertation at 14 days prior to the Final Examination.

Permission to hold the Final Examination will be granted by the Dean of the Graduate School only after all of the foregoing conditions has been satisfied and one academic year has elapsed since the student passed the General Examination. "One academic year" in this case is the interval between a General Examination held early in one semester and a Final Examination held toward the close of the following semester.

The Dean of the Graduate School will approve the Final Examination Committee. In most cases, it will consist of the student's Graduate Advisory Committee or a similarly constituted group to whom one or more additions may be made as representatives of the Graduate Faculty. The student will need to bring to the final exam the following forms: **PPCP Graduate Program Assessment Instrument, Graduate Defense Results** and **Doctoral Examination and Dissertation Report**. These forms must be obtained from Robert Carver.

CERTIFICATION REQUIREMENTS

Upon passing the Final Examination, with not more than one member of the committee dissenting, and after submitting a dissertation in acceptable form to the Graduate School, the student will be certified to the LSU Board of Supervisors by the Dean of the Graduate School as having fulfilled all requirements for the degree of Doctor of Philosophy. This certification will take place at the next commencement, at which time the degree is conferred.

Ph.D. PROGRAM IN PLANT PATHOLOGY

Required Courses (Substitutions will be made for courses taken in the M.S. program, subject to approval by the student's advisory committee):

		No. of Credit Hours
PLHL 7052	Seminar – 2 credit hours	2
PLUS:	One course from the following group ⁹	3
PLHL 8900	Special Research Problem (Teaching Experience) ¹⁰	
HRE 7202	Systems of Teaching and Learning Styles	
HRE 7205	Teaching in Higher Education	
	Subtotal	5
PLUS:	The following pathogens courses are required :	
PLHL 4054	Introductory Mycology	4
PLHL 7000	Phytonematology	4
PLHL 7011	Phytobacteriology	4
PLHL 7040	Plant Virology	4
	Subtotal	16
PLUS:	Two of the following three courses are required:	
PLHL 4001	Plant Disease Management and Control	4
PLHL 7080	Host-Parasite Interaction and Disease Resistance	3
PLHL 7083	Epidemiology and Crop Loss Assessment	3
	Subtotal	6-7

¹This is intended to broaden the graduate student's experience. Graduate students who previously have had teaching experience may with approval of their advisor and advisory committee opt to take PLHL 8900, Special Research Problem in place of a teaching experience. It is intended that the Special Research Problem would be under the supervision of a faculty member other than the student's thesis advisor.

²This may be either a first-hand teaching experience or a student may serve as a teaching 'apprentice' who would be involved in class preparation and would observe but not actually teach a class. When the Program of Study is prepared, the student and committee, after consultation with the appropriate professor in charge, should specify what course will be taught and in what semester it will be taught. The 'apprentice' option and last two options allow a teaching experience for international students who are interested in teaching, but who have not met the English proficiency requirements for classroom instruction.

PLUS: A minor or 15 credits of electives (at least two courses at the 7000 level¹)
(If the student has not had the PLHL 8800 Practicum in Plant Pathology (2), a single semester (2 credits) must be taken as part of this requirement)

15

PLUS: PLHL 9000 Dissertation Research – minimum of 14 credit hours

14

Total Credit Hours Required

56-57

A candidate must have completed a course in statistics **and** a course in biochemistry (4000 level or greater) or another course approved by the student's advisory committee that is deemed to be essential to the students training to be eligible for the Ph.D. degree.

¹This special elective requirement is an opportunity for each candidate to gain a background in an area of choice. The course selections for the topic are to be made with the advice of the candidate's Graduate Advisor and with the approval of the candidate's Graduate Advisory committee. They cannot be taken "pass-fail" or "satisfactory-unsatisfactory."

Ph.D. PROGRAM IN CROP PHYSIOLOGY

Additional prerequisites: In addition to the general prerequisites for the curriculum, students doing research in Crop Physiology are required to have the courses specified for the M.S. program in Crop Physiology.

Required Courses:	<u>No. of Credit Hours</u>
7 courses at the 4000 level or above ¹	21
PLHL 7052 Seminar	2
PLHL 7067 Selected Topics in Plant Physiology (2) (To include Professional Development)	2
PLHL 9000 Dissertation Research (minimum)	12
	Subtotal 37
PLUS: One course from the following group ²	
PLHL 8900, Special Research Problem (Teaching Experience) ³	3
HRE 7202, Systems of Teaching and Learning Styles ³	3
HRE 7205, Teaching in Higher Education ³	3
	Subtotal 3
PLUS: A minor either in another PLHL program or in another Department	~15
	Total Credit Hours Required ~55

¹ See the list of potential course electives listed under M.S. Program, Crop Physiology research area. Those courses completed at the M.S. Level may be applied to the fulfillment of the 7 required courses. The program of study must meet the approval of the student advisory committee.

² This is intended to broaden the graduate student's experience. Graduate students who previously have had teaching experience may, with the approval of their advisor and advisory committee. Opt to take PLHL 8900, Special Research Problem, in place of a teaching experience. It is intended that the Special Research Problem would be under the supervision of a faculty member other than the student's thesis advisor.

³ This may be either a first-hand teaching experience or a student may serve as a teaching 'apprentice' who would be involved in class preparation and would observe but not actually teach a class. When the Program of Study is prepared, the student and committee, after consultation with the appropriate professor in charge should specify what course will be taught and in what semester it will be taught. The 'apprentice' option and last two options allow a teaching experience for international students who are interested in teaching, but who do not have the English proficiency requirements for classroom instruction.

MINOR IN PLANT PATHOLOGY & CROP PHYSIOLOGY

The faculty of the Department of Plant Pathology and Crop Physiology encourages graduate students in other plant science curricula to consider a minor in one of several areas. The Department's Graduate Faculty representative, appointed to the student's Graduate Advisory Committee, is instructed to follow one of two areas of research concentration for this minor. The two areas are listed below with the expected course work. These recommendations are intended to foster the desired level of research and academic competence. Split minors with other disciplines are not permitted.

AREA OF CONCENTRATION IN PLANT PATHOLOGY

1. PLHL 4000 General Plant Pathology or equivalent
2. Three additional Plant Pathology courses (one of which must be 7000 level) for a least 9 credits total
3. PLHL 7052 Seminar (One credit)

AREA OF CONCENTRATION IN CROP PHYSIOLOGY

1. PLHL 7010 Plant Molecular Biology
2. PLHL 7061 Plant Growth and Development
3. PLHL 7063 Plant Metabolism
4. PLHL 7067 Selected Topics in Plant Physiology (Two credits)

For additional copies of this document or more information write to:

Graduate Program
Department of Plant Pathology & Crop Physiology
302 Life Sciences Building
Louisiana State University
Baton Rouge, LA 70803 USA

Phone: (225) 578-1464
Fax: (225) 578-1415
www.lsu.edu/ppcp/

BULLET POINT GUIDELINES FOR PURSUING AN M.S. OR PH.D IN PLANT PATHOLOGY & CROP PHYSIOLOGY

M.S. Program Requirements:

- Selection of Major Professor and Graduate Advisory Committee (**within first 6 months**)
- Discussion and establishment of course work requirements and research project with Graduate Advisory Committee; submit “M. S. program of study” and research proposal to committee (**within first 6-9 months**)
- Completion of course work
- Completion of research
- Preparation of thesis
- Submit “application for degree” and “application for admission to candidacy” forms.
- Submission of exam-ready thesis draft to Examination Committee (14 days prior to Final Examination)
- Presentation of exit seminar; final examination
- Make appointment with Grad School Editor
- Make thesis corrections; submit to supervisor, committee members, the Department of Plant Pathology and Crop Physiology and the Graduate School
- Complete Department check-out (see below)

Ph.D. Program Requirements:

- Selection of Major Professor and Graduate Advisory Committee (**within first 9 months**)
- Discussion and establishment of the program of study with Graduate Advisory Committee and research proposal; submit “program of study” to the Graduate School (**within first 9-15 months**)
- Completion of course work
- Submission of “Request for General Examination” form to the Graduate School
- Written and/or oral components of general exam
- Completion of research; satisfy residency requirements
- Preparation of dissertation
- File “application for degree” forms.
- Submission of exam-ready dissertation draft to Examination Committee (14 days prior to final examination)
- Present exit seminar; final examination
- Make dissertation corrections; submit to supervisor, committee members, the Department of Plant Pathology and Crop Physiology, and the Graduate School.
- Complete Department check-out (see below)

Department Check-Out

The following are the final requirements for completion of graduate degrees in the Department:

- Submission of an electronic copy of the approved version of Thesis or Dissertation to the Department Head
- Return of keys
- All laboratory leaders in labs where you have worked must sign-off that you have cleaned your work area, removed any temporary materials, returned any borrowed equipment, identified any reagents, chemicals or supplies that are remaining from your research, removed stored samples (including refrigerated and frozen), etc.
- Cleared your desk space
- Left a forwarding address for our alumni records
- Exit questionnaire and meeting with Department Head

PLANT PATHOLOGY AND CROP PHYSIOLOGY COURSES

Course #	Title	Cross-Listed	Hours	Sem	E/O	Instructors	Notes
2050	Introduction to Pest Management	ENTM 2050	3 lec/3 lab	S			
3000	Pest Management Internship	ENTM 3000	Max 6	Su			
3002	Pest Management Seminar	ENTM 3002		F			
3060	Introductory Plant Physiology	BIOL 3060	3 lec/3 lab	S			
3900	Undergraduate Research in Plant Pathology					TBA	
3960	Undergraduate Research in Crop Physiology						
4000	General Plant Pathology		2 lec/3 lab	F		McGawley (E) Clark (O)	
4001	Plant Disease Management and Control		2 lec/2 lab	S		Hollier	
4002	Special Topics in Agricultural Pest Management						
4018	Forest Insects and Diseases			F			See ENTM 4018
4054	Introductory Mycology	BIOL 4054	3 lec/3 lab	F		Doyle	
7000	Phytonematology		2 lec/4 lab	S		New Nematologist	
7011	Phytobacteriology		3 lec/3 lab	S	O	Ham	
7040	Plant Virology		2 lec/4 lab	F	E	Valverde	
7051	Advanced Topics in Plant Pathology			F	O		As needed.
7052	Seminar			F			
7052	Seminar			S		TBA	
7061	Plant Growth and Development	BIOL 7061		S	O	Smith (BIOL)	
7063	Plant Metabolism	BIOL 7063	3	S	E	Moroney (BIOL)	
7067	Professional Development for Plant Scientists	BIOL 7067	2	S		Cohn	
7080	Host-Parasite Interaction and Disease Resistance		2 lec/2 lab	S	E	Oliveira-Garcia/Chen	
7083	Epidemiology and Crop Loss Assessment		3	S	E	Hoy	
8000	Thesis Research		1-12 hrs				
8800	Practicum in Plant Pathology		2	Su		Clark	
8900	Special Research Problems		1-5 hrs				
9000	Dissertation Research		1-12 hrs				

F=Fall Semester, S=Spring Semester, Su=Summer Semester

E=Even Years, O=Odd Years