

Fiscal Unit/Academic Org	Plant Pathology - D1178
Administering College/Academic Group	Food, Agric & Environ Science
Co-administering College/Academic Group	
Semester Conversion Designation	Re-envisioned with significant changes to program goals and/or curricular requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)
Current Program/Plan Name	Plant Pathology Minor
Proposed Program/Plan Name	Minor in Plant Pathology
Program/Plan Code Abbreviation	PLNTPTH-MN
Current Degree Title	

Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		25	16.7	12	4.7
Required credit hours offered by the unit	Minimum	12	8.0	9	1.0
	Maximum	25	16.7	12	4.7
Required credit hours offered outside of the unit	Minimum	0	0.0	0	0.0
	Maximum	13	8.7	5	3.7
Required prerequisite credit hours not included above	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	0.0

Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table

This is the minimum credit hours required for a plant pathology minor. This will be 5-6 courses. This is the typical course load for a minor in the semester system.

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

Program Learning Goals

- (See attached file for specially formatted learning outcomes.)
- Know the effects of plant diseases on crop production and the environment and control practices; know standard disease management strategies.
- Critically evaluate plant health management options.
- Design and implement environmentally-sound disease management strategies and methods.
- Communicate in oral and written formats the tenets of plant pathology and basic plant health.

Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? No

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- PLNTPTH Minor Learning Outcomes 9-29-10.docx: PLNTPTHMinorLearningOutcomes9-29-10
(Other Supporting Documentation. Owner: Ellis, Sarah Dee)
- PLNTPTH Minor Assessment Plan and Curricular Matrix 11-19-10.docx: PLNTPTHMinorAssessmentPlan11-19-10
(Curricular Map(s). Owner: Ellis, Sarah Dee)
- CCI Subcommittee Chair Letter FAESMinors.doc: CCI Subcommittee Chair Letter
(Other Supporting Documentation. Owner: Vankeerbergen, Bernadette Chantal)
- PLNTPTH Minor Program Proposal 5-31-11.pdf: PLNTPTHMinorProgramProposal5-31-11
(Program Proposal. Owner: Ellis, Sarah Dee)
- 5-16-11 Minor Plant Pathology LG and LO.docx: LearningGoalsandOutcomes5-31-11
(Other Supporting Documentation. Owner: Ellis, Sarah Dee)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Ellis, Sarah Dee	10/01/2010 10:37 AM	Submitted for Approval
Revision Requested	Ellis, Sarah Dee	10/01/2010 10:45 AM	Unit Approval
Submitted	Ellis, Sarah Dee	10/01/2010 10:48 AM	Submitted for Approval
Revision Requested	Ellis, Sarah Dee	10/01/2010 11:06 AM	Unit Approval
Submitted	Ellis, Sarah Dee	10/01/2010 11:10 AM	Submitted for Approval
Approved	Graham, Terrence Lee	10/01/2010 11:43 AM	Unit Approval
Revision Requested	Pfister, Jill Ann	10/18/2010 08:08 PM	College Approval
Submitted	Ellis, Sarah Dee	10/28/2010 01:27 PM	Submitted for Approval
Approved	Mitchell, Thomas Kenneth	10/28/2010 01:55 PM	Unit Approval
Revision Requested	Stokoe, Laurie Anne	11/05/2010 03:56 PM	College Approval
Submitted	Ellis, Sarah Dee	11/10/2010 03:51 PM	Submitted for Approval
Approved	Mitchell, Thomas Kenneth	11/10/2010 05:22 PM	Unit Approval
Revision Requested	Stokoe, Laurie Anne	11/16/2010 07:42 AM	College Approval
Submitted	Ellis, Sarah Dee	11/22/2010 02:39 PM	Submitted for Approval
Approved	Mitchell, Thomas Kenneth	11/22/2010 02:54 PM	Unit Approval
Revision Requested	Stokoe, Laurie Anne	11/29/2010 03:23 PM	College Approval
Submitted	Ellis, Sarah Dee	12/08/2010 03:27 PM	Submitted for Approval
Approved	Mitchell, Thomas Kenneth	12/08/2010 05:19 PM	Unit Approval
Approved	Stokoe, Laurie Anne	01/14/2011 04:08 PM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	02/15/2011 04:12 PM	ASCCAO Approval
Submitted	Ellis, Sarah Dee	03/08/2011 11:30 AM	Submitted for Approval
Approved	Ellis, Sarah Dee	03/08/2011 11:31 AM	Unit Approval
Revision Requested	Pfister, Jill Ann	03/08/2011 07:20 PM	College Approval
Submitted	Ellis, Sarah Dee	03/09/2011 08:28 AM	Submitted for Approval
Approved	Ellis, Sarah Dee	03/09/2011 08:28 AM	Unit Approval
Approved	Pfister, Jill Ann	05/05/2011 08:32 AM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	05/31/2011 08:45 AM	ASCCAO Approval
Submitted	Ellis, Sarah Dee	05/31/2011 09:07 AM	Submitted for Approval
Approved	Ellis, Sarah Dee	05/31/2011 09:07 AM	Unit Approval
Approved	Pfister, Jill Ann	06/01/2011 10:23 AM	College Approval
Pending Approval	Nolen, Dawn Jenkins, Mary Ellen Bigler Meyers, Catherine Anne Vankeerbergen, Bernadette Chantal Hanlin, Deborah Kay	06/01/2011 10:23 AM	ASCCAO Approval



Department of English

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To: Larry Krissek, Chair, Committee on Curriculum and Instruction (CCI)
From: James Fredal, Chair, CCI Social, Behavioral, Biological, Mathematical and Physical Sciences Subcommittee
Re: Semester Conversion Proposals for FAES Minors

Date: May 10, 2011

Larry:

The Sciences subcommittee of the CCI has been reviewing semester conversion proposals for the a number of minors from FAES. All but two were approved with contingencies which have since been addressed and they have been resubmitted. The final two were approved recently (5/9) with contingencies and forward directly to CCI for review and final revision. A few of these minors have added a prerequisite of Econ/AED Econ 2001 (noted below). The PACER chart in some cases also shows this as a quarter prerequisite (of 5 hours) though such a prerequisite does not appear on the relevant quarter advising sheets. We missed this on the first pass, and CCI may want to ask them to change the prerequisite/quarter box on those PACER charts from 5 back to 0 (zero). Comments for each minor are listed below. Comment for the final two a slightly more substantial as they have not yet been sent back for revision.

- 1) **Turfgrass Management:** This minor converts from its quarter equivalent with only minor changes. It includes a core of two courses (down from three quarter courses), and 6-8 hours of elective courses for a total of 13-15 hours. The proposal had a couple of errors on the PACER form which have been corrected and it now appears ready to move forward.
- 2) **Landscape Design and Management** (formerly Landscape Horticulture): This minor is being proposed with a name change to better reflect the breadth and focus of the minor. The minor will include 2 required core courses (from three semester courses) and 6-9 hours of elective courses (from 9-10 semester hours). In other ways, the proposal amounts to a straightforward conversion from the quarter version. The PACER form lists it as having minimal changes, but that should probably be changed because it's undergoing a name change. A few extraneous documents were removed and credit hour numbers corrected, and it seems now ready for approval.
- 3) **Horticulture:** Horticulture converts unproblematically from its quarter version. Students will take 1 core course (from two choices, vs. two of three choices in the quarter version) and 9-11 elective hours (vs. 10-16 quarter hours) for a minor of 13-15 hours (vs. 20-25 quarter hours). We asked that some extraneous documents be removed and approved the proposal for CCI consideration.
- 4) **Agronomy:** This minor also includes a request for a name change from Crop Science to Agronomy as more widely used and better understood among the farming community. In other ways, the conversion is straightforward, involving one required course and a set of electives. As with other minors, we asked that some extraneous material be removed. The PACER chart, it seems, still needs correction though: The minimum required hours offered by the unit should be 4

rather than 13. Also, since it's going to get a name change, it should be listed as undergoing significant rather than minimal change on the PACER form. Otherwise this proposal seems to be ready for full CCI approval.

- 5) **Environmental Economics:** Unfortunately, the dreaded “will” in the program learning goals escaped the detection of the subcommittee and will need to be excised (or the entire learning goal amputated) before this program sees the light of day. It is not clear at this point just how the word-which-shall-not-be-used escaped detection; however, inquiries are being made. In other ways, the proposal seems tolerable and is a straightforward conversion from its quarter version, including one prerequisite (AED Econ or Econ 2001), two required courses (AED Econ 4310 and 5310), and 6-9 additional elective hours.
- 6) **Outreach Education:** This minor is now called Agricultural and Extension Education but has outgrown that name and would like in the future to be called simply the Outreach Education Minor. It was submitted with one error, listing AEE 342 as 3 rather than 5 credits. That has been fixed and the minor is now ready to move forward.
- 7) **Farm Management:** The Sciences subcommittee regrets that this minor too includes a program learning goal which asserts that students “will” do things. This will have to be changed. Otherwise this proposal looks fine and converts exactly from its quarter equivalent: one prerequisite and a set of required courses complemented by a range of electives.
- 8) **International Economic and Social Development:** This seems to be a straightforward conversion: Two required quarter courses convert to two required semester courses. 10-15 additional quarter hours convert to 6-9 additional semester hours. However, they did add a 3 hour prerequisite of Econ or AED Econ 2001. Otherwise it looks ready to move forward.
- 9) **Agribusiness:** The PACER form for this minor is wrong, it seems. The maximum required hours offered by the unit should be 12, I think, not 9. Otherwise, the minor has been reduced (more than required by the 2/3 or 3/5 ratios) from 23-25 hours down to 12-15 hours. That's why some of the PACER conversion numbers are so high.
- 10) **Plant Pathology:** The Plant Pathology minor is being reduced as well, from 25 hours down to 12-14 hours, and with a slightly simpler structure than its quarter version. Students will take three required plant pathology courses; they'll select one course on plant diseases from a set of electives, and they'll then chose 1-2 additional elective courses to reach the minimum 12-14 hours. We had initially requested a few changes to the proposal (PACER numbers, typos, and GEC language) which have all been addressed.
- 11) **Food Processing Minor:** Contrary to popular belief, this minor is not just about juicers and Cuisinarts. The Sciences subcommittee reviewed this proposal on May 9th, after CCI had altered the document flow process. Hence, we are forwarding this proposal directly to CCI along with our comments and corrections. The minor is listed as including minimal changes and is generally a straightforward conversion from the quarter version.

First, the PACER form will need a few corrections:

On the Credit Hour Explanation:

- Column C, 5th line: The maximum required credit hours offered outside the unit is listed as 4, but should be 11.
- Column C, last line: The maximum required prerequisite credit hours not included above is listed as 9, though it is not clear where they come from. The proposal should identify and explain the prerequisites or change this number to 0 (zero).

The program learning goals contain the hated “will [be able to]” formation. The proposal should remove the “students will.” The goals might then read (for example), “Students integrate...” and “Students understand...”

Also, there are a few errors on the list of semester courses to match those on the Semester Advising Sheet:

- Microbiology 4090 will be Microbiology 4000 (4 cr)
- Microbiology 5000 will be Microbiology 4100 and will be 5 credit hours.

Finally, for the sake of clarity and consistency, the proposal should include all credit hour numbers (including for Fd Sc&Te 5420, 5430, 5410, 5400, Anim Sci 4500, and Fa&B Eng 3481) on both the course list and the Semester Advising sheet.

12) **Food Safety:**

First, the PACER form Credit Hour Explanation:

- Column C, 5th line: The maximum required credit hours offered outside the unit should be 8 (instead of 7).
- Column C, last line: The maximum prerequisite hours not included above is listed as 9. The proposal should identify and explain the required prerequisite courses or change that number to 0.

Then, the PACER Program learning goals: Rephrase these goals without “will” to read: “Students understand...” and “Students apply principles...”etc.

Finally, the list of semester courses:

- Microbiology 4090 will be Microbiology 4000 (4 cr)
- Microbiology 5000 will be Microbiology 4100 and will be 5 credit hours.

Thank you.
Jim F.



Department of Plant Pathology

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Phone (614) 292 -1375
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September 15, 2010

Office of Academic Affairs
203 Bricker Hall
190 North Oval Mall
Columbus, OH 43210

Dear Office of Academic Affairs,

Currently the Department of Plant Pathology consists of 4 programs: Minor in Plant Pathology, Major in Plant Health Management, Masters of Science in Plant Pathology and Doctorate of Plant Pathology. All programs will remain in the semester system with modifications to each and the addition of a new major (Major in Plant Pathology) and tagged masters (Master in Plant Health Management).

The following document is the proposed Minor in Plant Pathology (within the College of Food, Agricultural and Environmental Science) to begin Summer of 2012. Currently the undergraduate minor in our department is Plant Pathology. When we convert to semesters we will keep the title of Minor in Plant Pathology and the curriculum will be noticeably similar to the current quarter curriculum. The main difference is a reduction in the number of credit hours required for the minor and slight modification of the content in core courses. Required courses include PLNT PTH 3001 and PLNT PTH 3002 (General Plant Pathology lecture and lab), as well as PLNT PTH 5603 (Plant Disease Management course). Students are then required to choose one of our commodity based disease courses (turfgrass, ornamentals, field crops, trees, or fruit and vegetable). For the remaining credit hours, students will select from a list of elective courses. The total credit hours for the minor are between 12 and 14.

As part of the development of this program proposal, we sought the assistance of our existing undergraduate and graduate students. On December 4, 2009, a group of students, both in the current major and outside of the major, met to discuss the conversion and their thoughts on how our courses can be best taught in the semester system. We met again with just the students in the major on June 9, 2010 where they were presented with the proposed curriculum and asked to review it along with faculty. We believe the input received from these meetings was vital to the quality of this proposal.

The faculty in the Department of Plant Pathology faculty, staff, and students met on March 6, 2010 in a retreat specifically designed to discuss the transition to semesters. At the retreat, the undergraduate minor's curriculum was determined. The faculty since has reviewed the curriculum, learning outcomes, rationale, assessment plan, transition policy, semester course list, and curriculum maps. A vote was conducted by the faculty on Thursday, June 17, 2010. The vote for the proposal was unanimously affirmative (13/13). Subsequently, we forwarded the proposal to the College of Food, Agricultural, and Environmental Science for review.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Mitchell', written in a cursive style.

Thomas Mitchell
Academic Affairs Committee Chair
Department of Plant Pathology
Assistant Professor
Ohio State University
Columbus, OH

Minor in Plant Pathology

Rationale for proposed program change and description of how the changes will benefit students and enhance program quality.

The new Minor in Plant Pathology is designed for students interested in how plants succumb to biotic and abiotic diseases, how plants defend themselves from microbial attack, and the best practices for minimizing losses due to disease. This minor is intended for all students interested in plants, microbiology, mycology, molecular biology, and ecology, but is specifically tailored for students majoring in Forestry, Urban Forestry, Turfgrass Science, Landscape Horticulture, Entomology, Crop Science, and Evolution, Ecology and Organismal Biology. Students majoring in Microbiology and Molecular Genetics should also be attracted to this minor. Students will learn the basic tenets of plant pathology, the biology of plant associated microbes, the physiology and biochemistry of plant host responses, and means of controlling plant diseases using genetic resistance, chemical and biological controls, as well as cultural practices. In the newly designed program, students will take 2 required courses covering general plant pathology and disease management and then select 2-3 courses to focus on a specific commodity and/or group of microbes. Revisions were made so that students will leave the minor having a solid, basic understanding of plant pathology while also gaining in-depth knowledge of select pathogen groups and commodities. The minor provides the flexibility to tailor course work to individual student interest in an attempt to attract the broadest and most diverse possible cohort of students.

Plant Pathology
Semester Course
List

Quarter Course Number	Semester Course Number	Course Title in Semester	Instructor(s)	Quarter Credit Hours	Semester Credit Hours	Number of Weeks	Semester Offered
	2000 - GEC	Molds, Mushrooms and Man	Tom Mitchell		3	14 weeks	Spring
201D	2001	Sick Plants and a Hungry World	Sarah Ellis	3	2	14 weeks	Autumn, Spring
401	3001	General Plant Pathology Lecture	Sarah Ellis	5	2	14 weeks	Autumn
	3002	General Plant Pathology Lab	Sarah Ellis		2	14 weeks	Autumn
395	3195	Plant Health Science Forum	Monica Lewandowski	1	1	14 weeks	May
597	3597	Societal Issues: Pesticides, Alternatives, and the Environment	Monica Lewandowski	5	3	14 weeks	Autumn, Spring
489	4191	Internship Experiences in Plant Health Management	Monica Lewandowski	1-5	1-6	14 weeks	Autumn, Spring, Summer
	4683	Research with Distinction	Faculty		1-6	14 weeks	Autumn, Spring, Summer
H683	4683 (H)	Research with Distinction	Faculty	1-10	1-6	14 weeks	Autumn, Spring, Summer
455	4550	Bioterrorism: An Overview	Michael Boehm	5	2	7 weeks	Spring
	4998	Undergraduate Research	Faculty		1-6	14 weeks	Autumn, Spring, Summer
600.01	5010	Phytobacteriology	Brian McSpadden-Gardener	3	2	7 weeks	Spring
600.02	5020	Introductory Plant Virology	Feng Qu	3	2	7 weeks	Spring
636	5030	Plant Nematology	Chris Taylor	3	2	7 weeks	Spring

660	5040	Science of Fungi: Mycology Lecture	Tom Mitchell	5	3	14 weeks	Autumn
	5041	Science of Fungi: Mycology Lab	Tom Mitchell		1	14 weeks	Autumn
610	5110	Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments	Enrico Bonello/Dan Herms	4	3	14 weeks	Spring
501	5120	Diseases of Ornamentals	Dennis Lewandowski	5	2	7 weeks	Spring
612/613	5130	Turf Diseases and Integrated Turf Health Management	Joe Rimelspach	3-4	3	14 weeks	Autumn
614	5140	Diseases of Field Crops	Anne Dorrance and Pierce Paul	3	2	14 weeks	Spring
615	5150	Fruit and Vegetable Diseases	Michael Ellis and Sally Miller	3	2	7 weeks	Spring
655	5550	Quantitative Methods for the Agricultural Scientists	Brian McSpadden-Gardener	3	3	14 weeks	Spring
603	5603	Plant Disease Management	Michael Ellis and Larry Madden	5	3	14 weeks	Autumn
	5604	Capstone Course: Problem-Based Studies in Plant Health	Faculty from Plant Path and Entomology		2	14 weeks	Spring
685	5685	Plant Disease Diagnosis	Sally Miller	3	2	3 weeks May/Summer	Summer, May
401	6001	Advanced Plant Pathology	Sarah Ellis		3	14 weeks	Autumn
693	6193	Individual Studies	Faculty	1-5	1-6	14 weeks	Autumn, Spring, Summer
702	7002	Plant Disease Epidemiology	Larry Madden	4	3	14 weeks	Spring
703	7003	Agricultural Genomics: Principles and Applications	Guo-Liang Wang and Eric Stockinger	3	3	14 weeks	Spring
830	8300	Current Topics in Plant Pathology	Bonello, Mitchell, McSpadden-Gardener, Wang	1-2	1-2	14 weeks	Autumn, Spring, Summer
602/841/842/843	8400	Molecular Bases of Plant Host-Microbe Interactions	Graham/ Bonello/ McSpadden-Gardener/Redinbaugh/	1-3	3	14 weeks	Spring

			Taylor/ Mitchell/Wang				
995	8899	Plant Pathology Seminar	Various Instructors	1	1	14 weeks	Autumn, Spring
901	8901	Mentored Teaching in Plant Pathology	Various Instructors	1-5	1-3	14 weeks	Autumn, Spring, Summer
902	8902	Mentored Extension/Outreach Teaching in Plant Pathology	Michael Ellis	1-3	1	14 weeks	Autumn, Spring, Summer
999	8999	Plant Pathology Research	Various Instructors	1-100	1-100	14 weeks	Autumn, Spring, Summer

*No longer offering: 294, 300, 602, 604, 613, 655, 694, 704, 832, 838, 839, 841, 842, 843. Either doing away with or incorporating course into other semester courses.

Semester Curriculum Advising Sheet:

Minor in Plant Pathology Curriculum

The Minor in Plant Pathology is designed to provide essential knowledge and training for careers that involve plant health management of agronomic crops, landscape/nursery plants, turfgrass, and forest plants. The minor is specifically targeted to Turfgrass Science, Crop Science, Landscape Horticulture, Forestry, and Urban Forestry majors, although it is open to all students interested in plants, mycology, biology, microbiology, and microbiology. The Minor in Plant Pathology is also valuable for students interested in the biology of plant disease and plant-microbe interactions, such as majors in Biology, Plant Biology and Microbiology.

Students pursuing the Minor in Plant Pathology are required to take Plant Pathology 3001, 3002 – General Plant Pathology – to develop a foundational understanding of plant pathology. This class has a prerequisite of a general biology class. Upon completion of Plant Path 3001, 3002 and Plant Path 5603 Plant Disease Management course, students must take one course that deals with diseases of a particular cropping system such as ornamental plants and flowers (Plant Path 5120), forest and shade trees (Plant Path 5110), turfgrass (Plant Path 5130), field crops (Plant Path 5140) and fruits and vegetables (Plant Path 5150). Additional courses in plant pathology, microbiology, soil science and plant biology are available as elective coursework.

The Minor in Plant Pathology consists of ~12-15 credit hours selected as follows.

<u>Course</u>	<u>Credit Hours</u>
<u>Required Courses (7 credit hours):</u>	
PLNTPTH 3001: General Plant Pathology Lecture	2
PLNTPTH 3002: General Plant Pathology Lab	2
PLNTPTH 5603: Plant Disease Management	3
<u>Select one of the following courses (2-3 credit hours):</u>	
PLNTPTH 5110: Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments	3
PLNTPTH 5120: Diseases of Ornamentals	2
PLNTPTH 5130: Turf Diseases and Integrated Turf Health Management	3
PLNTPTH 5140: Diseases of Field Crops	2
PLNTPTH 5150: Fruit and Vegetable Diseases	2
<u>Electives (Select one-two of the following courses) (2-5 credit hours):</u>	
ENR 5270: Soil Fertility	3
ENTMLGY 3000: General Entomology	3
MICROBIOL 4000: Basic and Practical Microbiology	4
MICROBIOL 4100: General Microbiology	5
MOLGEN 3436: Introductory Plant Physiology	3
PLNTPTH 2001: Sick Plants in a Hungry World	2
PLNTPTH 5010: Phytobacteriology	2
PLNTPTH 5020: Virology	2
PLNTPTH 5030: Nematology	2
PLNTPTH 5040 and 5041: Science of Fungi: Mycology Lecture and Lab	4
PLNTPTH 5110: Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments (<i>If not taken above</i>)	3
PLNTPTH 5120: Diseases of Ornamentals (<i>If not taken above</i>)	2
PLNTPTH 5130: Turfgrass Diseases and Integrated Turf Health Management (<i>If not taken above</i>)	3
PLNTPTH 5140: Diseases of Field Crop (<i>If not taken above</i>)	2
PLNTPTH 5150: Fruit and Vegetable Diseases (<i>If not taken above</i>)	2
PLNTPTH 5685: Plant Disease Diagnosis	2

A minimum of 12 credit hours are required for the Minor in Plant Pathology. Plant Pathology classes taken to fulfill major requirements generally cannot be used towards a minor. In the case that 3001 and/or 3002 are taken in a major, a student should select at least 12-15 credit hours from the list above, excluding 3001 and 3002.

TOTAL credit hours for minor in plant pathology ~12-15

1. The minor is not available to student majoring in Plant Pathology or Plant Health Management.
2. A minimum overall GPA for courses comprising the minor shall be 2.00
3. A minor should be declared at the time a student accumulates 60 hours.
4. A maximum of one course may overlap between the minor and the GE (Writing and Communication, Foreign Language, Literature, Visual and Performing Arts, Culture and Ideas, Historical Study, Quantitative Reasoning, Data Analysis, Natural Science, Social Science, Cross-Disciplinary Seminar, Service-Learning, Education Abroad)
5. Courses taken on a pass/non pass basis may not be applied to the minor.
6. At least six credits must be at the 3000 level or above.

PLANT PATHOLOGY MINOR (392)

**College of Food, Agricultural,
and Environmental Sciences
The Ohio State University**

**Mike Boehm, Coordinating Adviser
201A Kottman Hall
2021 Coffey Road
292-8038
boehm.1@osu.edu**

The Plant Pathology Minor is designed for students interested in how plant gets sick, how plants defend themselves from attack and how best to minimize losses due to plant disease. Although open to all students interested in plants, biology and microbiology, the minor is specifically designed for students majoring in Forestry, Urban Forestry, Turfgrass Science, Landscape Horticulture, Entomology and Crop Science. Students majoring in Microbiology, Plant Cell Molecular Biology or Evolution and Ecology might also be interested in the Plant Pathology Minor. Students minoring in plant pathology are required to take Plant Pathology 401 – General Plant Pathology – to develop a foundational understanding of plant pathology. Upon completion of Plant Path 401, students must take one course that deals with diseases of a particular cropping system such as ornamental plants and flowers (Plant Path 501), forest and shade trees (Plant Path 610), turfgrass (Plant Path 612) and fruits and vegetables (Plant Path 615). Students wrap up their required coursework in the minor by enrolling in an integrated plant health/disease management course – either Plant Path 603 (Plant Disease Management) or Plant Path 613 (Integrated Turf Health and Pest Management). Plant Path 603 provides greater insights into the use of genetic host resistance, cultural practices, chemical applications, biological control and quarantines. Plant Path 603 is an excellent course for students interested in a wide variety of cropping systems. In contrast to Plant Path 603, Plant Path 613 is designed for those majoring in Turfgrass Science and is designed to provide students with an opportunity learn about integrated turfgrass health management through hands-on exploration. Additional courses in plant pathology, microbiology, soil science and plant biology are available as elective coursework.

The Plant Pathology Minor consists of 25 credit hours selected as follows. For students that have taken Plant Path 401 as part of their major, only 20 credit hours are required for the Plant Pathology Minor.

Required: 12-14 hours	Credit Hours
PLNT PTH 401 General Plant Pathology	5
Select one course:	
PLNT PTH 501 Diseases of Ornamentals	3
PLNT PTH 610 Diseases of Forest and Shade Trees	4
PLNT PTH 612 Turfgrass Diseases	3
PLNT PTH 615 Fruit and Vegetable Crop Diseases	3
Select one course:	
PLNT PTH 603 Plant Disease Management	5
PLNT PTH 613 Integrated Turf Health and Pest Management	4

Required Electives: 11-13 hours of courses selected from the following list:

ENR 580	Soil Fertility and Fertilizers	3
ENTOMOL 531	Pesticides, The Environment, and Society	3
MICRBIOL 509	Basic and Practical Microbiology	5
MICRBIOL 520	General Microbiology I	5
PCMB 436	Introductory Plant Physiology	5
PLNT PTH 201D	Social Impact of Plant Diseases in Shaping Human Society	3
PLNT PTH 300	Field and Woodland Fungi	3
PLNT PTH 395	Plant Health Science Forum	1-4
PLNT PTH 455	Bioterrorism: An overview	5
PLNT PTH 501 (if not taken above)	Diseases of Ornamentals	3
PLNT PTH 600.01	Bacterial Plant Pathogens	3
PLNT PTH 600.02	Viral Plant Pathogens	3
PLNT PTH 602	Plant-Microbe Interactions	3
PLNT PTH 603 (if not taken above)	Plant Disease Management	5
PLNT PTH 610 (if not taken above)	Diseases of Forest and Shade Trees	4
PLNT PTH 612 (if not taken above)	Turfgrass Diseases	3
PLNT PTH 613 (if not taken above)	Integrated Turf Health and Pest Management	4
PLNT PTH 615 (if not taken above)	Fruit and Vegetable Crop Diseases	3
PLNT PTH 636	Plant Nematology	3
PLNT PTH 660	Mycology	5
PLNT PTH 685	Diagnostic Field Plant Pathology	3

Restrictions and General Information

1. This minor is not available to students majoring in Plant Health Management.
2. A minimum overall CPHR for courses comprising the minor shall be 2.5.
3. A minor should be declared at the time a student accumulates 90 hours.
4. A student may not double count courses between the minor and other requirements.
5. A student may count up to 4 credit hours of Plant Pathology 395.

Minor in Plant Pathology

Transition Plan

Starting Autumn 2010, a student pursuing a Minor in Plant Pathology will be advised to wait to complete the minor requirements in the semester system, with the exception of Plant Pathology 401 (3001/3002 in the semester system). If the student can complete PLNTPTH 401 in the quarter system, they will do so for the reason that they can take the remaining minor electives in the semester system. The rationale for this is that in the current system there is a requirement of 25 credit hours whereas in the new semester system there will only be a minimum requirement of 12 credit hours or 4-5 courses. This will help reduce the situation where a student will have to take one or more courses than necessary to complete the minor.

If a student enters OSU as a freshman in the Autumn 2010 they may take PLNTPTH 401 the following Autumn of 2011 followed by the remaining required Plant Disease Management and minor electives in the semester system. If a student enters as a freshman in the Autumn of 2011, the student will be advised to wait until the semester conversion to start on any courses in the minor. These students will take the minor courses starting their third year in the semester system.

Minor in Plant Pathology

Program Learning Goals

AREAS	Upon successful completion of the Plant Pathology Minor Program, students should:
Foundational Knowledge	<i>Plant Pathology</i>
	1. Know the effects of plant diseases on crop production and the environment; know standard disease management strategies.
Skills	<i>Plant Pathology</i>
	2. Critically evaluate plant health management options;
	3. Design and implement environmentally-sound plant disease management strategies and methods; and
	<i>Communication</i>
4. Communicate in oral and written formats the tenets of plant pathology and basic plant health.	

Plant Pathology Minor

Learning Goals and Learning Objectives

1. Learning Goal 1: Know the causes and effects of plant disease in agricultural and natural ecosystems.
Learning Outcome 1.1 Recall the effects of plant disease in agricultural and natural ecosystems and the impact on human society.
Learning Outcome 1.2 Describe biotic and abiotic causes of plant disease.
2. Learning Goal 2: Know how to convey the tenets of plant pathology and plant health management
Learning Outcome 2.1 Report the tenets of plant pathology and plant health
3. Learning Goal 3: Understand plant health management options
Learning Outcome 3.1 Select primary informational resources used in plant health and pest management
Learning Outcome 3.2 Describe plant disease management strategies
Learning Outcome 3.3 Construct management plans using sound integrated pest management approaches and appropriate informational resources

Minor in Plant Pathology
Assessment Plan

Learning Outcome-Course Matrix

	Program Learning Outcomes/Goals	Course that achieves this goal at a beginning level	Course that achieves this goal at an intermediate level	Course that achieves this goal at an advanced level
Foundational Knowledge	<i>Plant Pathology</i>			
	LO#1: Know the effects of plant diseases on crop production and the environment and control practices; know standard disease management strategies;	2000 (Molds, Mushrooms, Man), 3597 (Cont. Issues), 4550 (Bioterrorism), 5140 (Dis. of Field Crops), 6193 (Individual Stud.)	2001 (Social Issues), 5010 (Bacteriology), 5030 (Nematology), 5040 (Mycology Lecture), 5041 (Mycology Lab), 5130 (Turf Dis.), 5150 (Fruit and Veg Dis.), 5603 (Dis. Mgt.), 5685 (Dis. Diagnosis)	3001 (Gen. Plant Path), 3002 (Gen Plant Path Lab), 5110 (Forest Health Protect.)
Skills	<i>Plant Pathology</i>			
	LO#2: Critically evaluate plant health management options;	3002 (Gen. Plant Path Lab), 5010 (Bacteriology), 5030 (Nematology), 5120 (Dis. of Ornamentals), 5140 (Dis. of Field Crops)	3001 (Gen. Plant Path), 5130 (Turf Diseases), 5150 (Fruit and Veg Dis.), 5603 (Dis. Mgt.)	5110 (Forest Health Protect.)
	LO#3: Design and implement environmentally-sound disease management strategies and methods; and	3001 (Gen. Plant Path), 3002 (Gen. Plant Path Lab), 5030 (Nematology), 5140 (Dis. of Field Crops)	5120 (Dis. of Ornamentals), 5130 (Turf Dis.), 5150 (Fruit and Veg Dis.), 5603 (Dis. Mgt.)	5110 (Forest Health Protect.)
	<i>Communication</i>			
	LO#4: Communicate in oral and written formats the tenets of plant pathology and basic plant health.	2001 (Social Issues), 3001 (Gen. Plant Path), 3002 (Gen. Plant Path Lab), 3597 (Cont. Issues), 5130 (Turf Dis.), 5140 (Dis. Of Field Crops), 6193 (Individual Stud.)	5010 (Bacteriology), 5030 (Nematology), 5040 (Mycology Lecture), 5120 (Dis. of Ornamentals), 5603 (Dis. Mgt.), 5685 (Dis. Diagnosis)	5110 (Forest Health Protect.)

I. MEANS TO EVALUATE ACHIEVEMENT OF PROGRAM GOALS

A. Evaluation of the students

Classroom-based assessments - Learning Outcomes

Evaluation of LO#1, #2, #3 and #4 will be assessed through classroom examinations, quizzes, laboratory reports, written and oral assignments in the required classes for the minor: PLNTPTH 3001 and 3001 (General Plant Pathology Lecture and Laboratory), and PLNTPTH 5603 (Plant Disease Management). In these and elective courses, we expect that classroom examinations, quizzes, laboratory reports, and written and oral assignments will be for assessment.

B. Evaluation of the courses

1. Student feedback

Student feedback will be collected through the Student Evaluation of Instruction and narrative evaluations administered towards the end of each term in each course. Narrative evaluations, which are anonymous, ask for student feedback on the course content, delivery method and the effectiveness of the instructor. Student feedback is also sought informally through discussions with students.

2. Instructor feedback

Department chair meets with faculty and instructors to discuss course outcomes, teaching methods and related issues. For faculty, this is part of the annual program review process.

3. Staggered course reviews

On a staggered rolling schedule, each course will be evaluated by the Department of Plant Pathology Academic Affairs Committee with regard to content, quality of instruction, and course structure. Each course will receive a review once every 4 years. The committee will consider student written reviews, faculty self assessment of course, and student interviews. Specific attention will be given to how each course accomplishes the learning objectives they are prescribed (see table above). Courses that do not cover the expected learning objectives will be asked to alter the curriculum to do so, or work with the committee to insure that the objective is covered in another required course.

4. Faculty input from collaborating departments

Since most of the Plant Pathology minors are majors in the Department of Horticulture and Crop Science, faculty input that department will be sought.

C. Evaluation of the program/curriculum

1. Metrics on minor enrollment are monitored and reported to CFAES as part of the department's Annual Program Review. Changes in enrollment trends are evaluated by the Department Chair, Academic Affairs Committee and appropriate faculty/staff and suggestions for strategies to increase enrollment and quality in the minor are made.

2. Student feedback on the minor program is sought informally through discussions with students.
3. Input from Plant Pathology faculty, staff and students, as well as from the Department of Horticulture and Crop Science faculty will be sought on the minor program and curriculum.

II. USES OF THE ASSESSMENT DATA

A. Students

Instructors assess student performance on the classroom assignments, provide feedback and make suggestions for improvement. Additional assistance and resources are also made available to students as appropriate.

B. Courses

1. Student feedback

Each instructor uses the student evaluations/narrative comments to self assess course content and delivery methods, and to guide changes. Areas of strength and weakness are identified and adjustments are made accordingly. The department chair monitors evaluations and course enrollment trends and engages faculty in discussion about the course.

2. Instructor feedback

All faculty and instructors in the department are evaluated. For each P&T eligible faculty member, the department assigns a Teaching Evaluation (TE) Committee, composed of two faculty members of senior rank. Professors do not have a TE Committee but the department continually evaluates graduate student advising and Extension-Outreach teaching through informal discussions with graduate students.

A formal evaluation process for lecturers is being developed. In recent years, lecturers have been utilized more regularly to teach general education courses in the department. In 2009, the department chair began to implement a more formal evaluation of instructors, which include one-on-one meetings with each instructor. Feedback from faculty and the instructors was sought and will be incorporated into the evaluation process.

3. Evaluation of course enrollment

Department Chair and the Departmental Academic Affairs Committee make 4-year rolling assessments based on changes and trends in course enrollment. Changes can include discontinuing courses with low enrollment, adding course sections to accommodate growing enrollment, or adding courses based on student interest and need to cover learning outcomes.

C. Program/Curriculum

The minor program is periodically evaluated by the Department Chair, the Department academic Affairs Committee, and the CFAES Committee on Academic Affairs. Undergraduate Program faculty and staff regularly communicate with Plant Pathology minors on quality of courses and related issues.