072

Washington State University
MAJOR CURRICULAR CHANGE FORM - - NEW/RESTORE COURSE

- ☐ **Please attach rationale for your request, a complete syllabus,** and explain how this impacts other units in Pullman and other campuses (if applicable).
- ☐ **Obtain all required signatures with dates.**
- ☐ **Provide original stapled packet of signed form/rationale statement/syllabus** PLUS **10 stapled copies** of complete packet to the **Registrar's Office**, campus mail code 1035.
- ☐ **Submit one electronic copy of complete packet** to wsu.curriculum@wsu.edu.

Requested **Future** Effective Date: Fall, 2016 (term/year) Course Typically Offered: Every Fall

DEADLINES: For fall term effective date: **October 1st;** for spring or summer term effective date: **February 1st.** See instructions.

NOTE: Items received after deadlines may be put to the back of the line or forwarded to the following year. Please submit on time.

☒ **New Course** ☐ Temporary Course ☐ **Restore Course**

PI_P	570	Techniques in plant pathology
course subject/crosslist	course no.	title

3	(1	6)	
Credit hrs	lecture hrs per week	lab or studio hrs per week	prerequisite

Description for catalog: Laboratory techniques for isolating, cultivating and identifying the major groups of plant pathogenic organisms.

Additional Attributes: Check all that apply.

☐ Crosslisting (between WSU departments)* ☐ Conjoint listing (400/500): _____

☐ Variable credit: _____ ☐ Repeat credit (cum. max. hrs): _____

Special Grading: ☐ S, F; ☐ A, S, F (PEACT only); ☐ S, M, F (VET MED only); ☐ H, S, F (PHARMACY, PHARDSCI only)

☑ Cooperative with UI ☐ Other (please list request): _____

The following items require prior submission to other committees/depts. (SEE INSTRUCTIONS.)

☐ Request to meet Writing in the Major [M] requirement **(Must have All-University Writing Committee Approval.)**

☐ Request to meet UCORE in _____ **(Must have UCORE Committee Approval › › See instructions.)**

☐ Special Course Fee_____ **(Must submit request to University Receivables.)**

Contact: Scot Hulbert Phone number: 335-4504 Campus mail code: 6430

Email: scot_hulbert@wsu.edu Instructor, if different: _____

Scot Hulbert Digitally signed by Scot Hulbert DN: cn=Scot Hulbert, o=Washington State University, ou=Plant Pathology, email=scot_hulbert@wsu.edu, c=US Date: 2015.09.03 13:24:38 -07'00'	9/4/15	
Chair/date	**Dean/date**	**All-University Writing Com / date**
Chair (if crosslisted/interdisciplinary)*	**Dean (if crosslisted/interdisciplinary)***	**UCORE Committee Approval Date**
Catalog Subcommittee Approval Date	**GSC or AAC Approval Date**	**Faculty Senate Approval Date**

***If the proposed change impacts or involves collaboration with other units, use the additional signature lines provided for each impacted unit and college.**

MEMORANDUM

DATE: **August 31, 2015**

TO: **Kim Kidwell, Acting Dean, CAHNRS**

FROM: **Scot Hulbert, Chair, Plant Pathology**

SUBJECT: **Pl P 570, Techniques in Plant Pathology**

We are proposing a new graduate level course entitled 'Techniques in Plant Pathology' listed as PLP 570. If approved, it will be offered for three credits. It will be taught in Pullman every fall. It would include one hour of lecture and six hours of laboratory every week. It is designed to be a key course in Plant Pathology but would be available to graduate students from other departments.

The Department of Plant Pathology has graduate faculty located on the Pullman campus and at four Research & Extension Centers around the state (Mt. Vernon, Prosser, Puyallup and Wenatchee). Graduate students working with faculty located at the R & E Centers typically spend one to three semesters on the Pullman campus in order to take courses, and the remainder of their program is spent at the R & E Center. The R & E students are often unable to take one or more of the Plant Pathology courses they need because these courses are offered on an alternate year basis that does not correspond with the semesters they are on the Pullman campus. The department is able to deliver several non-lab courses by distance to accommodate the needs of the students and faculty at R & E Centers, but we have not been able to deliver four of our key, lab-based, organismal courses by distance: Virology (Pl_P 511), Nematology (Pl_P 513), Phytobacteriology (Pl_P 514), and General Mycology (Pl_P 521). As part of a Plant Pathology graduate curriculum revision that was discussed at a state-wide plant pathology faculty retreat in June, 2015, we agreed to revise these courses so they can be delivered by distance, and to create a new 3-credit laboratory course, "Techniques in Plant Pathology" (Pl_P 570) that will incorporate the essential lab components of the four organismal courses and will be offered on the Pullman campus every fall semester. We are therefore proposing to drop the labs and reduce the number of credits for Virology (Pl_P 511), Nematology (Pl_P 513), Phytobacteriology (Pl_P 514), and General Mycology (Pl_P 521) from four credits to three credits.

1. Syllabus for the proposed course.

Syllabus attached.

2. Justification of how the proposed course or degree program aligns with the intentions of the academic program for the department in which it is housed, and how it aligns with the strategic plan for CAHNRS.

The main purpose of the 'Techniques in Plant Pathology' class is to rearrange content in our curriculum to make it easier for faculty at RECs to train graduate students. It will facilitate their students to take all of our classes while studying in Pullman for as little as one semester and clearly contribute to goal 6 of the CAHNRS Strategic Plan. The course would also support several aspects of the mission statement including contributing to the development of agricultural production as well as contributing to natural resource and environmental sustainability. Additionally, we believe it would support Goals 4, 5, 8, 10, 17 and 18 of the CAHNRS Strategic Plan.

3. *A management plan, including name of the program manager, must be provided for degree programs.*

There will be no changes in the management of the Plant Pathology graduate degree programs associated with this course.

4. *Course delivery schedule: Identify who will teach the course, how often the course be offered and what delivery cycle (semester, odd year/even year) the course will be offered in.*

'Techniques in Plant Pathology' would be offered by a group of faculty with different expertise. Cynthia Gleason will teach the Nematology section of the class, Hanu Pappu the virology, Lori Carris the mycology. Tobin Peever will also participate.

The course will be taught every fall since we want new graduate students to be able to take it their first semester, especially if they will be moving to one of the RECs after their first semester.

5. *A marketing plan for the course/program, including target audience, programs of study it will support, expected student numbers, and methods of advertising the course must be provided.*

The main target audience will be Plant Pathology graduate students. We expect almost all of the Plant Pathology graduate students to take the course. It will not be absolutely required of PhD students who have had most on the content in previous MS programs, but the faculty have agreed that they would generally have their students enroll in it, probably their first semester on campus. Several other departments have graduate students with a large plant pathology component in their projects; Horticulture, Crop and Soil Sciences and MPS in particular. Since these graduate students may be attracted to the course, we will send the syllabus through student list serves to these departments and to any students advised by Plant Pathology faculty.

6. *Will the new course/program require redeployment of existing resources? If so, what will be the impact on existing courses and/or programs, teaching loads, research productivity, and service and outreach?*

Existing departmental FTE will be used to teach the courses. The content of the course will be derived from the previous laboratories of four other courses. We are requesting modifications of these four courses to remove the laboratory portion of the classes. We expect it will improve the accessibility of these four courses because it will make them available by videoconferencing. The overall number of credit hours for the program changes slightly with the modification of the

four courses (4-CR each to 3-CR) and the addition of this course. Since this course will be taught every year, it will be a slight increase in credits. In our old arrangement, four 4-CR courses were taught every two years (16 Cr./2 years). Now we propose to offer four 3-Cr. classes plus the 3-Cr. techniques class two times (18 Cr./2 years).

7. *Describe the funding model for the course if an instructor on permanent budget is not assigned to the course.*

The course will only be taught by instructors on permanent budgets.

PLANT PATHOLOGY 570 TECHNIQUES IN PLANT PATHOLOGY 3 Credits

Vogel Plant Science Building Room 31 Lecture TU 1:25-2:15;
Lab TU 2:25-5:15; TH 2:25-5:15

INSTRUCTORS: Dr. Lori Carris (329 Johnson Hall; 335-3733; carris@wsu.edu)
Dr. Cynthia Gleason (new faculty starting March 2016)
Dr. Hanu Pappu (353 Johnson Hall; 335-3752; hrp@wsu.edu)

COURSE OBJECTIVE: To provide a basic understanding of the techniques for isolating, cultivating and identifying the major groups of plant pathogenic organisms.

REQUIRED TEXT: None

COURSE WEBSITE: BLACKBOARD, accessed from MyWSU

GENERAL FORMAT: The course will consist of one lecture (TU 1:25-2:15) and two laboratories (TU/TH 2:25-5:15) each week.

Student Learning Outcomes At the end of this course, students should be able to:	Course Topics/Dates The following topic(s)/dates(s) will address this outcome:	Evaluation of Outcome: This outcome will be evaluated primarily by:
Demonstrate scientific literacy in major groups of plant pathogenic organisms	Throughout the semester	Three midterms and final exam
Identify plant associated fungi by morphological and other characteristics.	Week 1-5	Exam 1 and lab reports for weeks 1-5.
Demonstrate familiarity and understanding of techniques in plant virus detection and diagnosis	Week 6 -9	Exam 2 and lab reports for weeks 6-9
Collect and identify plant pathogenic nematodes based on plant symptoms and morphological differences.	Week 10-13	Exam 3 and lab reports from weeks 10-13
Approach disease diagnostics in a scientific manner.	Throughout the semester	Exam 3 and Final Exam. Lab reports for weeks 14-16

COURSE OUTLINE

WEEK

1 Lecture: Overview of major groups of plant pathogens; Lab: Requirements & lab safety
Lab: Fungal pathogens—mitosporic fungi

2 Lecture: Introduction to Ascomycota; Lab: Yeasts
Lab: Sordariomycetes

3 Lecture: Dothidiomycetes; Lab: Dothidiomycetes
Lab: Cup Fungi and Lichens

4 Lecture: Introduction to Basidiomycota; Lab: Rusts & Smuts
Lab: Agaricomycetes

5 Lecture: Introduction to Zygomycota and Oomycota; Lab: Zygomycota
Lab: Oomycota

Exam 1—Fungi and fungal-like organisms

6 Lecture: Introduction to viruses and viral diseases; Lab: Virus-induced symptoms
Lab: Physiology of virus infection

7 Lecture: Over view of virus detection methods; Lab: Biological assay
Lab: Serological assay (ELISA)

8 Lecture: Molecular techniques for virus detection; Lab: PCR and qPCR
Lab: cDNA cloning and sequencing

9 Lecture: Overview of molecular characterization. Lab: Bioinformatics
Lab: Next Generation Sequencing in virus discovery

Exam 2--Viruses

10 Lecture: Nematode morphology; Lab: Morphology and taxonomy
Lab: Morphology and taxonomy

11 Lecture: Root knot and cyst nematodes; Lab: Root knot nematodes
Lab: Cyst nematodes

12 Lecture: Migratory endoparasites and ectoparasites; Lab: Migratory endoparasites
Lab: Ectoparasitic nematodes

13 Lecture: Nematode reproduction and development; Lab: Nematode reproduction

Lab: Plant-nematode interactions

Thanksgiving break

14 Lecture: Bacteria basics of identification
Lab: Bacteria isolation and purification

15 Lecture: Disease diagnosis
Lab: Diagnosis of a variety of diseases

Exam 3—Nematodes, bacteria, disease diagnosis

Grading:
Three midterm exams covering lecture material (50 points each) and one laboratory final exam (100 points) will be given during the semester according to the schedule above. The exams will cover material from lectures, and laboratories. The final exam is cumulative and will test your understanding of concepts and material not covered in the midterm exams.

You will also be expected to write lab reports (150 points total), which are due each week. The required elements of the lab reports include:

Lab Topic and Date
Student Name
Objective of lab
Organisms examined
Observations, drawings and/or images illustrating key features
References

Point Summary:

	Number	Points each	Total points
Lecture Midterms	3	50	150
Lab Final	1	100	100
Lab reports	15	10	150
Total			400

Grade Assignment

94.0 – 100%	A
90.0 – 93.9	A-
87.0 – 89.9	B+
83.0 – 86.9	B
80.0 – 82.9	B-
77.0 – 79.9	C+
73.0 – 76.9	C
70.0 – 72.9	C-

60.0 – 69.9	D
< 59.9	F

Academic Integrity Statement
Academic integrity is the cornerstone of the university. Any student who attempts to gain an unfair advantage over other students by cheating, will fail the assignment and be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3).

WSU Disability Statement
Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center. For more information contact a Disability Specialist: 509-335-3417 http://accesscenter.wsu.edu, Access.Center@wsu.edu

WSU Safety and Emergency Notification:
Washington State University is committed to enhancing the safety of the students, faculty, staff, and visitors. It is highly recommended that you review the Campus Safety Plan (http://safetyplan.wsu.edu/) and visit the Office of Emergency Management web site (http://oem.wsu.edu/) for a comprehensive listing of university policies, procedures, statistics, and information related to campus safety, emergency management, and the health and welfare of the campus community.