APPLICATION FOR COURSE CHANGE (MAJOR AND MINOR)

Complete 1a – 1f & 2a – 2c. Fill out the remainder of the form as applicable for items being changed.

1.	**General Information.**				
a.	Submitted by the College of:	AGRICULTURE	Today's Date:	September 21, 2011	
b.	Department/Division:	PLANT PATHOLOGY			
c.	Is there a change in "ownership" of the course?		YES ☐	NO ☒	
	If YES, what college/department will offer the course instead?	_____			
d.	What type of change is being proposed?	☒ Major	☐ Minor[1] (place cursor here for minor change definition)		
e.	Contact Person Name:	Aardra Kachroo	Email: apkach2@uky.edu	Phone: 859 218 1292	
f.	Requested Effective Date:	☒ Semester Following Approval	OR	☐ Specific Term[2]: _____	
2.	**Designation and Description of Proposed Course.**				
a.	**Current Prefix and Number:** PPA500	*Proposed Prefix & Number*: *PPA500*			
b.	**Full Title:** PHYSIOLOGY OF PLANT HEALTH AND DISEASE	*Proposed Title*: *PHYSIOLOGY OF PLANT HEALTH AND DISEASE*			
c.	**Current Transcript Title** (if full title is more than 40 characters):	Phys Plant Hlth Disease			
c.	*Proposed Transcript Title (if full title is more than 40 characters)*:	*Phys Plant Hlth Disease*			
d.	**Current Cross-listing:** ☒ N/A	OR	Currently[3] Cross-listed with (Prefix & Number): _____		
	Proposed – ☐ *ADD[3] Cross-listing (Prefix & Number):*	_____			
	Proposed – ☐ *REMOVE[3, 4] Cross-listing (Prefix & Number):*	_____			
e.	**Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours[5] for each meeting pattern type.**				
Current:	X (2h/week) Lecture	_____ Laboratory[5]	_____ Recitation	_____ Discussion	_____ Indep. Study
	_____ Clinical	_____ Colloquium	_____ Practicum	_____ Research	_____ Residency
	_____ Seminar	_____ Studio	_____ Other – Please explain:	_____	
Proposed:	*X (3h/week) Lecture*	_____ *Laboratory*	_____ *Recitation*	_____ *Discussion*	_____ *Indep. Study*
	_____ *Clinical*	_____ *Colloquium*	_____ *Practicum*	_____ *Research*	_____ *Residency*
	_____ *Seminar*	_____ *Studio*	_____ *Other – Please explain:*	_____	
f.	**Current Grading System:**	☒ Letter (A, B, C, etc.)	☐ Pass/Fail		
	Proposed Grading System:	☒ *Letter (A, B, C, etc.)*	☐ *Pass/Fail*		

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Comment [1]: Excerpt from *SR 3.3.0.G.2* **Definition.** A request may be considered a minor change if it meets one of the following criteria:
a. change in number within the same hundred series*;
b. editorial change in the course title or description which does not imply change in content or emphasis;
c. a change in prerequisite(s) which does not imply change in content or emphasis, or which is made necessary by the elimination or significant alteration of the prerequisite(s); d. a cross-listing of a course under conditions set forth in *SR 3.3.0.E*;
e. correction of typographical errors.

*…for the specific purposes of the minor exception rule, the 600-799 courses are the same "hundred series," as long as the other minor change requirements are complied with. [RC 1/15/09]

[1] See comment description regarding minor course change. *Minor changes are sent directly from dean's office to Senate Council Chair*. If Chair deems the change as "not minor," the form will be sent to appropriate academic Council for normal processing and contact person is informed.
[2] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.
[3] Signature of the chair of the cross-listing department is required on the Signature Routing Log.
[4] Removing a cross-listing does not drop the other course – it merely unlinks the two courses.
[5] Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting generally represents at least two hrs per wk for a semester for 1 credit hour. (See *SR 5.2.1.*)

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g.	**Current number of credit hours:**	2	*Proposed number of credit hours:*	*3*	
h.	**Currently, is this course repeatable for additional credit?**			YES ☐	NO ☒
	Proposed to be repeatable for additional credit?			*YES* ☐	*NO* ☒
	If YES:	*Maximum number of credit hours:*	_____		
	If YES:	*Will this course allow multiple registrations during the same semester?*		*YES* ☐	*NO* ☐
i.	**Current Course Description for Bulletin:**	First-semester graduate students and upper class undergraduates will gain a basic understanding of physiology, structure and development of plants and their associated fungi, viruses, bacteria and nematodes, and to appreciate how interactions with symbionts and pathogens influence plant health and disease			
	Proposed Course Description for Bulletin:	*First-semester graduate students and upper class undergraduates will gain a basic understanding of physiology, structure and development of plants and their associated fungi, viruses, bacteria and nematodes, and to appreciate how interactions with symbionts and pathogens influence plant health and disease*			
j.	**Current Prerequisites, if any:**	PPA 400G (can be concurrent)			
	Proposed Prerequisites, if any:	*PPA 400G (can be concurrent)*			
k.	Current Distance Learning(DL) Status:	☒ N/A	☐ Already approved for DL*	☐ *Please Add*[6]	☐ *Please Drop*
	*If already approved for DL, the Distance Learning Form must also be submitted unless the department affirms (by checking this box ☐) that the proposed changes do not affect DL delivery.				
l.	**Current Supplementary Teaching Component, if any:**	☐ Community-Based Experience	☐ Service Learning	☐ Both	
	Proposed Supplementary Teaching Component:	☐ *Community-Based Experience*	☐ *Service Learning*	☐ *Both*	
3.	**Currently, is this course taught off campus?**			YES ☐	NO ☒
	Proposed to be taught off campus?			YES ☐	NO ☒
4.	**Are significant changes in content/teaching objectives of the course being proposed?**			YES ☒	NO ☐
	If YES, explain and offer brief rationale:				
	Additional content is necessary to keep abreast of the rapidly changing science in this area. Effort required of students will exceed that of a 2 credit course.				
5.	**Course Relationship to Program(s).**				
a.	**Are there other depts and/or pgms that could be affected by the proposed change?**			YES ☒	NO ☐
	If YES, identify the depts. and/or pgms: *PPS, HORT*				
b.	**Will modifying this course result in a new requirement[7] for ANY program?**			YES ☐	NO ☒
	If YES[7], list the program(s) here:	_____			
6.	**Information to be Placed on Syllabus.**				
a.	☐ Check box if changed to	If changed to 400G- or 500-level course you must send in a syllabus and *you must include the differentiation* between undergraduate and graduate students by: (i) requiring additional assignments			

[6] You must *also* submit the Distance Learning Form in order for the course to be considered for DL delivery.
[7] In order to change a program, a program change form must also be submitted.

		400G or 500.	by the graduate students; and/or (ii) establishing different grading criteria in the course for graduate students. (See *SR 3.1.4.*)

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Signature Routing Log

General Information:

Course Prefix and Number: PPA500

Proposal Contact Person Name: Aardra Kachroo Phone: 2181292 Email: apkach2@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
PPA Faculty	03/30/11	Christopher Schardl / 2180730 / schardl@uky.edu	
Undergrad Curr Comm	04/08/11	Larry Grabau / 257-3469 / larry.grabau@uky.edu	
Graduate Curr Comm	04/08/11	Larry Grabau / 257-3469 / larry.grabau@uky.edu	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[8]
Undergraduate Council	10/11/2011	Sharon Gill	
Graduate Council		Dr. Brian A. Jackson Digitally signed by Dr. Brian A. Jackson DN: cn=Dr. Brian A. Jackson, o=University of Kentucky, ou=Graduate School, email, c=US Date: 2011.12.15 16:58:44 -05'00'	
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[8] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

PPA 500: Physiology of Plant Health and Disease

- **Organizer:**
  - Aardra Kachroo 215 PSB
  - Email: apkach2@uky.edu

- **Instructors:**
  - L. Vaillancourt vaillan@email.uky.edu
  - M. Goodin mgoodin@uky.edu
  - P. Kachroo pk62@uky.edu
  - A. Kachroo apkach2@uky.edu
  - M. Farman farman@email.uky.edu

- **Office hours** (all instructors): by appointment (preferably email)

- **Day, Time, Location:** MWF 9.30-10:20 a.m., 266 PSB

- **Student Learning Outcomes:** After completing this course, first-semester graduate students and upper class undergraduates will:
  1. Learn the basic physiology, structure and development of plants and their associated fungi, viruses, bacteria and nematodes.
  2. Learn how interactions with symbionts and pathogens influence plant health and disease.
  3. Research literature on specific topics in plant-microbe interactions, and critically evaluate — orally and in writing — key hypotheses, experimental tests, and conclusions pertaining to the assigned topics.
  4. Develop basic skills to search literature databases, read scientific papers efficiently to identify key points, and write in appropriate scientific style while employing scientific conventions.

- **Prerequisite:** PPA 400G (can be concurrent)

- **Text and readings:**
  - Taiz & Zeiger, Plant Physiology, 5th ed. ©2010.
    - Study guides for the reading assignments will be provided at least one week ahead of each lecture.
  - Other readings and associated study guides will be provided no less than one week prior to the relevant lectures.
  - Assigned symposia will require exploration of the recent scientific literature.

- **Graded work (Graduate Students)**
  - Assignment 1: 10 pts (due 5.00 p.m. Monday of the 2nd week of class)
  - Class participation: 90 pts
  - Symposium: 400 pts total
    - Literature list: 50 pts (due 5.00 p.m. Monday, 3 weeks before symposium)
    - Outline: 50 pts (due 5.00 p.m. Monday, 2 weeks before symposium)
    - Oral Presentation: 200 pts (specific dates provided in the calendar)
    - Written Essay: 100 (due 5.00 p.m. 1 week after symposium)
  - Exam I: 170 pts
  - Exam II: 165 pts
  - Final Exam: 165 pts

- **Graded work (Undergraduate Students)**
  - Assignment 1: 25 pts (due 5.00 p.m. Monday of the 2nd week of class)
  - Class participation: 175 pts
  - Exam I: 275 pts
  - Exam II: 250 pts
  - Final Exam: 275 pts

Assignment 1: Find and answer the five questions embedded in this syllabus. Other questions are embedded in this document. Type your answers to all five questions in a text document (e.g. Microsoft Word or an email). From your uky.edu address, send that document to apkach2@uky.edu as an attachment. You must do this assignment on your own without any consultation or assistance from anyone else in the class. The word limit is 300-word maximum, and this assignment is due 5.00 p.m. Aug 29th. Your first question is, what is your name and UK email id?

Class participation: Each student will be expected to read and be prepared to discuss the assigned reading before class. A list of possible questions will be included in each study guide at least one week prior to the lecture. These questions should also help you focus your reading toward information most relevant to this course. During each lecture, students will be called upon to answer a question from the study guide for that or any previous lecture. Each student is allowed two free passes for which s/he may decline to answer, or may be absent. Each response will be graded on a scale of 1-5, as follows:

4: Outstanding answer demonstrating deep and critical understanding of the underlying principle(s) (such a grade will be very rare).
3: Excellent answer demonstrating strong grasp of the underlying principle(s).
2: Good answer, demonstrating good but incomplete understanding of the underlying principle(s).
1: Fair answer, demonstrating some understanding, but suggesting insufficient focus on the reading.

0: No answer or a poor answer that suggests that the assignment was not read attentively.

Extra class participation points can be gained by: (1) volunteering responses to other questions posed by the instructor during class, and (2) asking particularly insightful questions of student presenters during Symposium (for graduate students). Your second question for assignment 1 is, when is the best time to read the material assigned for a lecture, and why?

Average response grades will be multiplied by 25, and added to the extra class participation points, to give the Class Participation Grade up to 100 pts maximum (for 10 pts extra credit) for graduate students and 200 pts maximum (for 25 pts extra credit) for undergraduate students.

Symposium: Each graduate student will be assigned a research question or topic in class, and a date for the symposium. Students must provide the items listed below to A Kachroo via email by the respective deadline. **Note:** All written work must be submitted in a computer file, either as plain text, Microsoft Word, or pdf format. In addition a copy of the Powerpoint document used in presentation must also be provided to the instructor on the day of the presentation.

Assignments received after the specific deadlines will be given 0 credit

1) **Literature list** of up to six papers, including at least **four research papers** in peer-reviewed journals that are key to that topic. Research papers are defined as articles reporting a novel finding based upon experiments presented therein. Therefore, a literature list comprising primarily of review articles that summarize findings from various research papers are NOT considered appropriate. Failure to comply with these instruction will result in 0 points for this portion of the assignment. Deadline for literature list: 5.00pm Oct 17th
2) A **comprehensive outline** (approx. 1 page typewritten) of the presentation topic, plus an appended literature list (updated with any changes or additions to the previous literature list). This outline and literature list will be distributed to the class. Deadline for outline: 5.00pm Oct 24th
3) Give a 20 min (maximum) critical **presentation** of the topic. The presentation will be followed by a 5 min period for questions from the audience (students and instructors). Symposia dates: Nov 7th, 9th & 11th
4) Provide a 1500–2000 word **essay** on the assigned topic, including a 350-500 word **abstract**. Deadline for essay & abstract: 5.00pm Nov 18th

Your oral presentation and essay must **include descriptions of key hypotheses, key experimental tests of the hypotheses** (you **must present experimental data from at least two research papers** from your literature list), critical evaluations and interpretations of the results of those tests, conclusions that can be drawn, and important gaps needing further experimentation. Your third question for assignment 1 is: What is the difference between a research paper and a review article?

Exams: Location: 260 PSB, Time: 8.00am-10.00am (see calendar for specific dates). Exam questions for undergraduate and graduate students will have different point values to add up to the respective point totals for each exam. Exam I will cover all lectures, readings and student presentations prior to the exam. Exam II will cover all lectures, readings and student presentations from Exam I through Exam II. Final Exam will cover all lectures, readings and student presentations after Exam II. Your fourth question for assignment 1 is: What do you expect to learn from this course?

- **Grade scale (Graduate students)**
  - 851–1000 pts: A
  - 751–850 pts: B
  - 651–750 pts: C
  - <651 pts: E

- **Grade scale (Undergraduate students)**
  - 851–1000 pts: A
  - 751–850 pts: B
  - 651–750 pts: C
  - 551-650 pts: D
  - <551 pts: E

Mid-term Grade
Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (http://www.uky.edu/Registrar/AcademicCalendar.htm)

COURSE POLICIES

†Missed Exam: If you know of a conflict that will preclude you from taking an Exam at the appointed date and time, you must inform the course organizer (Dr. A Kachroo) prior to the test and provide official documentation. That documentation must refer to the specific date in question. If you are unable to inform Dr. A Kachroo ahead of time, you must provide official documentation for your absence at your earliest opportunity afterward. Either way, only documented, university-approved reasons for absence will be accepted.

Assignment Submission: Assignments must be submitted on the specific due date provided. Submissions past their respective deadlines will be returned without review. No credits will be awarded. If you are unable to submit an assignment on time, please contact Dr. A Kachroo in advance to provide a valid reason and discuss an alternate submission date.

*__Cheating or plagiarism will carry an automatic penalty of zero credit for the test or assignment. Any second infraction will result in failure for the course.__ Considering the importance of written work in this course, it is necessary to define **plagiarism**, which encompasses (1) the use of any text from a published source or another person, *even if you modify that text*, for a purpose in which you are required to use your own work, and

(2) inclusion without proper citation of ideas or findings that you find in the literature. Thus, all hypotheses or speculations that you identify in the literature, as well as descriptions of important experiments and observations, must be referenced in your written assignments and the reference list must be appended (reference lists won't be counted in the word limits of any assigned work). Your fifth question for assignment 1 is: Aside from issues of legality and university policy, why do you think plagiarism might negatively affect your learning experience?

Accommodations due to disability: If you have a documented disability that requires academic accommodations, please see Dr. A. Kachroo as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

PPA 500 Fall 2012 (9:30-10:20am 266 PSB)

CALENDAR

Lecture No.	Date	Topics	Reading Assign.*	Instructor
1		Plant anatomy	Ch 1	Vaillancourt
2		Plant cell structure	Ch 1	Goodin
3		Genome organization & gene expression	Ch 2	Goodin
4		Enzymes, amino acids, proteins	TBA	Vaillancourt
5		Water and plant cells	Ch 3	Vaillancourt
6		Water balance of plants	Ch 4	Vaillancourt
7		Mineral Nutrition	Ch 5	Vaillancourt
8		Solute Transport	Ch 6	Vaillancourt
9		Plant vasculature and translocation	Ch 10	Vaillancourt
10		Cell wall and matrix structures; lytic enzymes; endogenous elicitors.	Ch 15	Vaillancourt
11		Nutrient assimilation	Ch 12	Vaillancourt
12		Symbiosis: mycorrhizae, root nodules, etc.	TBA	Vaillancourt
13		**Exam I (8:00-10:00am)**		
14		Lipid Metabolism	Ch 11	P. Kachroo
15		Plant respiration	Ch 11	P. Kachroo
16		Photosynthesis part I	Ch 7	P. Kachroo
17		Photosynthesis part II	Ch 8	P. Kachroo
18		Photosynthesis part III	Ch 9	P. Kachroo
19		Phytochrome	Ch 17	P. Kachroo
20		Blue light responses	Ch 18	P. Kachroo
21		Defense molecules/signals I	Ch 13	P. Kachroo
22		Defense molecules/signals I	Ch 13	P. Kachroo
23		Growth & Development I	Ch 16	A. Kachroo
24		Growth & Development II	Ch 16	A. Kachroo
25		Control of Flowering	Ch 25	A. Kachroo
26		Auxin	Ch 19	A. Kachroo
27		Gibberellins	Ch 20	A. Kachroo
28		Cytokinins	Ch 21	A. Kachroo
29		**Exam II (8:00-10:00am)**		
30		Ethylene	Ch 22	A. Kachroo
31		Abscisic Acid	Ch 23	A. Kachroo
32		Brassinosteroids	Ch 24	A. Kachroo

33		Signal Transduction	Ch 14	A. Kachroo
34		Abiotic Stress I	Ch 26	A. Kachroo
35		Abiotic Stress II	Ch 26	A. Kachroo
36		**Student Symposia**		
37		**Student Symposia**		
38		**Student Symposia**		
39		Viral plant pathogenesis	TBA	Goodin
40		Bacterial plant pathogenesis	TBA	A. Kachroo
41		Beneficial plant bacteria	TBA	A. Kachroo
42		Fungal plant pathogenesis	TBA	Vaillancourt
43		Nematodes: Physiology of nematode-plant interactions; Syncytia and giant cells	TBA	Farman
44		Nematodes: part II	TBA	Farman
45		**Exam III (8:00-10:00am)**		
*Taiz & Zeiger, Plant Physiology, 5th ed. 2010. Note that web essays and web topics are online at <http://4e.plantphys.net/>; we = web essay; wt = web topic				
†Symposium topics:				