

# Cover Sheet: Request 15291

## PCB 3XXX – Disease Ecology and Evolution

### Info

Process	Course New Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Ana Longo Berrios ana.longo@ufl.edu
Created	9/25/2020 4:39:30 PM
Updated	2/19/2021 1:05:24 PM
Description of request	I am requesting to add a permanent number to the course Disease Ecology and Evolution. Let me know if you require further information. Thanks, Ana

### Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CLAS - Biology 16900300	Marta Wayne		9/29/2020
No document changes					
College	Recycled	CLAS - College of Liberal Arts and Sciences	Joseph Spillane	The College Curriculum Committee recycles this request, with the following notes: <ul style="list-style-type: none"> <li>Enumerate topics and make clear there are 15 weeks of content.</li> <li>Consult with [?] due to topic overlap?</li> <li>No grading scale.</li> <li>Telegraph Course Description.</li> <li>Course Objectives: remove/rewrite "Learn..."</li> <li>Provide some details about grading scheme, particularly for class participation.</li> </ul>	11/16/2020
No document changes					
Department	Approved	CLAS - Biology 16900300	Marta Wayne		1/22/2021
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Joseph Spillane		2/19/2021
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			2/19/2021
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					

Step	Status	Group	User	Comment	Updated
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

# Course|New for request 15291

## Info

**Request:** PCB 3XXX – Disease Ecology and Evolution

**Description of request:** I am requesting to add a permanent number to the course Disease Ecology and Evolution. Let me know if you require further information. Thanks, Ana

**Submitter:** Ana Longo Berrios ana.longo@ufl.edu

**Created:** 8/27/2020 10:09:59 AM

**Form version:** 1

## Responses

### Recommended Prefix

*Enter the three letter code indicating placement of course within the discipline (e.g., POS, ATR, ENC). Note that for new course proposals, the State Common Numbering System (SCNS) may assign a different prefix.*

Response:  
PCB

### Course Level

*Select the one digit code preceding the course number that indicates the course level at which the course is taught (e.g., 1=freshman, 2=sophomore, etc.).*

Response:  
3

### Course Number

*Enter the three digit code indicating the specific content of the course based on the SCNS taxonomy and course equivalency profiles. For new course requests, this may be XXX until SCNS assigns an appropriate number.*

Response:  
XXX

### Category of Instruction

*Indicate whether the course is introductory, intermediate or advanced. Introductory courses are those that require no prerequisites and are general in nature. Intermediate courses require some prior preparation in a related area. Advanced courses require specific competencies or knowledge relevant to the topic prior to enrollment.*

Response:  
Intermediate

- 1000 level = Introductory undergraduate
- 2000 level = Introductory undergraduate
- 3000 level = Intermediate undergraduate
- 4000 level = Advanced undergraduate
- 5000 level = Introductory graduate
- 6000 level = Intermediate graduate
- 7000 level = Advanced graduate
- 4000/5000= Joint undergraduate/graduate
- 4000/6000= Joint undergraduate/graduate

*\*Joint undergraduate/graduate courses must be approved by the UCC and the Graduate Council)*

**Lab Code**

Enter the lab code to indicate whether the course is lecture only (None), lab only (L), or a combined lecture and lab (C).

Response:

None

**Course Title**

Enter the title of the course as it should appear in the Academic Catalog. There is a 100 character limit for course titles.&nbsp;

Response:

Disease Ecology and Evolution

**Transcript Title**

Enter the title that will appear in the transcript and the schedule of courses. Note that this must be limited to 30 characters (including spaces and punctuation).

Response:

Disease Ecology & Evolution

**Degree Type**

Select the type of degree program for which this course is intended.

Response:

Baccalaureate

**Delivery Method(s)**

Indicate all platforms through which the course is currently planned to be delivered.

Response:

On-Campus

**Co-Listing**

Will this course be jointly taught to undergraduate, graduate, and/or professional students?

Response:

No

**Effective Term**

Select the requested term that the course will first be offered. Selecting "Earliest" will allow the course to be active in the earliest term after SCNS approval. If a specific term and year are selected, this should reflect the department's best projection. Courses cannot be implemented retroactively, and therefore the actual effective term cannot be prior to SCNS approval, which must be obtained prior to the first day of classes for the effective term. SCNS approval typically requires 2 to 6 weeks after approval of the course at UF.

Response:  
Earliest Available

**Effective Year**

Select the requested year that the course will first be offered. See preceding item for further information.

Response:  
Earliest Available

**Rotating Topic?**

Select "Yes" if the course can have rotating (varying) topics. These course titles can vary by topic in the Schedule of Courses.

Response:  
No

**Repeatable Credit?**

Select "Yes" if the course may be repeated for credit. If the course will also have rotating topics, be sure to indicate this in the question above.

Response:  
No

**Amount of Credit**

Select the number of credits awarded to the student upon successful completion, or select "Variable" if the course will be offered with variable credit and then indicate the minimum and maximum credits per section. Note that credit hours are regulated by Rule 6A-10.033, FAC. If you select "Variable" for the amount of credit, additional fields will appear in which to indicate the minimum and maximum number of total credits.

Response:  
3

**S/U Only?**

Select "Yes" if all students should be graded as S/U in the course. Note that each course must be entered into the UF curriculum inventory as either letter-graded or S/U. A course may not have both options. However, letter-graded courses allow students to take the course S/U with instructor permission.

Response:  
No

**Contact Type**

Select the best option to describe course contact type. This selection determines whether base hours or headcount hours will be used to determine the total contact hours per credit hour. Note that the headcount hour options are for courses that involve contact between the student and the professor on an individual basis.

Response:

## Regularly Scheduled

- *Regularly Scheduled [base hr]*
- *Thesis/Dissertation Supervision [1.0 headcount hr]*
- *Directed Individual Studies [0.5 headcount hr]*
- *Supervision of Student Interns [0.8 headcount hr]*
- *Supervision of Teaching/Research [0.5 headcount hr]*
- *Supervision of Cooperative Education [0.8 headcount hr]*

Contact the Office of Institutional Planning and Research (352-392-0456) with questions regarding contact type.

## Weekly Contact Hours

Indicate the number of hours instructors will have contact with students each week on average throughout the duration of the course.

Response:

3

## Course Description

Provide a brief narrative description of the course content. This description will be published in the Academic Catalog and is limited to 500 characters or less. See course description guidelines.

Response:

The goal of this course is to understand how ecological patterns and evolutionary processes shape host-pathogen interactions. Students will learn basic metrics to study infection and disease and will have the opportunity to analyze data and interpret patterns. We will use primary literature to discuss topics such as: emerging pathogens in plants, animals, and humans; evolution of host defenses; disease-diversity relationships; microbiomes and dysbiosis; herd immunity; and the one health concept.

## Prerequisites

Indicate all requirements that must be satisfied prior to enrollment in the course. Prerequisites will be automatically checked for each student attempting to register for the course. The prerequisite will be published in the Academic Catalog and must be formulated so that it can be enforced in the registration system. Please note that upper division courses (i.e., intermediate or advanced level of instruction) must have proper prerequisites to target the appropriate audience for the course.

Courses level 3000 and above must have a prerequisite.

Please verify that any prerequisite courses listed are active courses.

Response:

BSC2010

Completing Prerequisites on UCC forms:

- Use “&” and “or” to conjoin multiple requirements; do not use commas, semicolons, etc.
- Use parentheses to specify groupings in multiple requirements.
- Specifying a course prerequisite (without specifying a grade) assumes the required passing grade is D-. In order to specify a different grade, include the grade in parentheses immediately after the course number. For example, “MAC 2311(B)” indicates that students are required to obtain a grade of B in Calculus I. MAC2311 by itself would only require a grade of D-.
- Specify all majors or minors included (if all majors in a college are acceptable the college code is sufficient).
- “Permission of department” is always an option so it should not be included in any prerequisite or co-requisite.
- If the course prerequisite should list a specific major and/or minor, please provide the plan code for that major/minor (e.g., undergraduate Chemistry major = CHY\_BS, undergraduate Disabilities in Society minor = DIS\_UMN)

*Example: A grade of C in HSC 3502, passing grades in HSC 3057 or HSC 4558, and undergraduate PBH student should be written as follows: HSC 3502(C) & (HSC 3057 or HSC 4558) & UGPBH &nbsp;*

### **Co-requisites**

*Indicate all requirements that must be taken concurrently with the course. Co-requisites are not checked by the registration system. If there are none please enter N/A.*

Response:

N/A

### **Rationale and Placement in Curriculum**

*Explain the rationale for offering the course and its place in the curriculum.*

Response:

This course has only been offered in the Department of Biology as part of Special Topics. Considering the current pandemic, this course will benefit students not only interested in basic biology, but also in wildlife and conservation, microbiology, and health sciences. We are planning to include this course as part of the electives for a new undergraduate certificate in the Ecology and Evolution of Infectious Diseases. We do not anticipate any potential conflicts with other courses/departments.

### **Course Objectives**

*Describe the core knowledge and skills that student should derive from the course. The objectives should be both observable and measurable.*

Response:

- Compare and contrast major infectious diseases in plants, animals, and humans.
- Understand how species can persist with pathogens/parasites.
- Learn to use R to make figures and analyze data.
- Analyze data from case studies and identify the ecological and evolutionary factors promoting disease emergence.
- Apply concepts from ecology and evolution to mitigate disease emergence or control spread of infectious diseases.
- Communicate infectious disease information to broad audiences, including reliable sources of information.

### **Course Textbook(s) and/or Other Assigned Reading**

*Enter the title, author(s) and publication date of textbooks and/or readings that will be assigned. &nbsp;Please provide specific examples&nbsp;to evaluate the course and identify required textbooks.&nbsp;*

Response:

This course does not have an assigned textbook. Reading material will be primary literature.

Examples:

- Dobson, A. P., S. L. Pimm, L. Hannah, L. Kaufman, J. A. Ahumada, A. W. Ando, A. Bernstein, J. Busch, P. Daszak, J. Engelmann, M. F. Kinnaird, B. V. Li, T. Loch-Temzelides, T. Lovejoy, K. Nowak, P. R. Roehrdanz, and M. M. Vale. 2020. Ecology and economics for pandemic prevention. *Science* 369:379-381.
- Casadevall, A., and L. A. Pirofski. 2000. Host-pathogen interactions: basic concepts of microbial commensalism, colonization, infection, and disease. *Infection and Immunity* 68: 6511-6518.
- Hedrick, S. M. 2017. Understanding Immunity through the Lens of Disease Ecology. *Trends in Immunology* 38:888-903.
- Schneider, D. S., and J. S. Ayres. 2008. Two ways to survive infection: what resistance and

tolerance can teach us about treating infectious diseases. Nature Reviews Immunology 8:889-895.

### **Weekly Schedule of Topics**

*Provide a projected weekly schedule of topics. This should have sufficient detail to evaluate how the course would meet current curricular needs and the extent to which it overlaps with existing courses at UF.*

Response:

Welcome: Class Introduction

Review of Species Interactions

Measuring Disease: Host Susceptibility and Specificity

Evolution of Host Range

Evolution of defense strategies I: Pre-infection

Evolution of defense strategies II: Resistance and Tolerance

Trade-off theory

Red-Queen Dynamics

Challenge-based activity: Host-Pathogen Matchups

Opportunistic Infections

Antibiotic Resistance

Disease-diversity relationships

Wildlife Diseases and Population Declines: Animals

Wildlife Disease and Population Declines: Plants

Seasonality and Disease Dynamics

Disease Superspreaders

Landscape genetics and disease risk

Outreach and Social Media Activity: Host vs Pathogens

Introduction to Biological Invasions

Microbiomes: Dysbiosis and Disease

One Health Concept

Emerging Disease Hotspots

Eradication of Infectious Diseases

Herd Immunity and Vaccination

Learning Activity Post-it Parade: Infectious diseases Misconceptions in Mass Media

### **Grading Scheme**

*List the types of assessments, assignments and other activities that will be used to determine the course grade, and the percentage contribution from each. This list should have sufficient detail to evaluate the course rigor and grade integrity. Include details about the grading rubric and percentage breakdowns for determining grades. If participation and/or attendance are part of the students grade, please provide a rubric or details regarding how those items will be assessed.*

Response:

In class work and participation: 25 points

Learning activities: 20 points each x 5 = 100 points

Quizzes: 10 points each x 10 = 100 points

Class Project: 100 points

### **Instructor(s)**

*Enter the name of the planned instructor or instructors, or "to be determined" if instructors are not yet identified.*

Response:

Ana V. Longo, PhD  
Department of Biology  
Office Location: 412 Carr Hall  
Email: ana.longo@ufl.edu

### **Attendance & Make-up**

*Please confirm that you have read and understand the University of Florida Attendance policy.*

*A required statement related to class attendance, make-up exams and other work will be included in the syllabus and adhered to in the course. Courses may not have any policies which conflict with the University of Florida policy. The following statement may be used directly in the syllabus.*

- *Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.*

Response:  
Yes

### **Accommodations**

*Please confirm that you have read and understand the University of Florida Accommodations policy.*

*A statement related to accommodations for students with disabilities will be included in the syllabus and adhered to in the course. The following statement may be used directly in the syllabus:*

- *Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.*

Response:  
Yes

### **UF Grading Policies for assigning Grade Points**

*Please confirm that you have read and understand the University of Florida Grading policies.*

*Information on current UF grading policies for assigning grade points is require to be included in the course syllabus. The following link may be used directly in the syllabus:*

- *<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>*

Response:  
Yes

### **Course Evaluation Policy**

*Course Evaluation Policy*

*Please confirm that you have read and understand the University of Florida Course Evaluation Policy.*

*A statement related to course evaluations will be included in the syllabus. The following statement may be used directly in the syllabus:*

- *Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to*

give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/public-results/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

&nbsp;

Response:

Yes