

**PGEOG 31300/70160 Biogeography  
Spring 2018**

**Tentative Syllabus**

Lecturer: Peter J. Marcotullio  
Lectures schedule: Tuesday – Friday, 11:10 am – 12:25 pm  
Room: 1022 HN  
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**Course description**

This course is an introduction to the biogeography, the identification, description, interpretation and explanation of spatial patterns of biological diversity. Prerequisites include an introductory Physical Geography course (PGEOG 13000, GEOL 10100 or BIOL 1000 or BIOL 10200). The course provides a basic, but comprehensive, background in the subject at the global scale. Lectures emphasize the understanding and application of historic, geographic and ecological principles.

The course is based upon lectures provided by the instructor, class discussion and student presentations. All three of which are essential for understanding course material.

**Expected Learning Outcomes**

By the end of the semester, students will critically evaluate, discuss and write about the theoretical foundations, history and patterns of animal and plant distribution, speciation, extinction, dispersal and immigration of biodiversity on Earth. This will include the integration of geophysical history (i.e., plate tectonics, soil formation and climate change) with ecological processes (dispersion, immigration, speciation and extinction) in order to create a holistic picture of the life distribution patterns.

Specific student learning outcomes include:

- Identify and describe the natural forces that have created the current spatial distribution of life on earth;
- Recognize species classifications using cladograms
- Describe and explain plant and animal speciation, extinction, dispersal and immigration
- Explain variation in historical distribution patterns of life across different regions of the earth

## Required Books

There is one required book:

*Biogeography, 5<sup>th</sup> Edition*, (2016) Mark Lomolino, Brett R. Riddle and Robert J. Whittaker, Sunderland, MA, Sinauer Associates, Inc, ISBN- 1605354724, ISBN-13: 978-1605354729, new \$93.60 on Amazon.com. Used books start at \$72.91 and rentals at \$36.82 (All Bookstores.com) (30 October 2017)

## Course methods

This course is run as a lecture class. Each week material is presented based upon the readings. There are opportunities for in-class lab work. There will be four in-class labs including (but subject to change):

- Genetic speciation and evolution
- Animal identification
- Plant identification
- Cladograms

The class will be given on Tuesdays & Fridays from 11:10 am – 12:25 pm. Most class reading assignments are from the textbook required for the course. Extra material may be provided as Word or PDF files through Hunter Blackboard.

## Assignments and grades

*Undergraduate student evaluations are based upon:*

- 1) Class attendance (I take attendance) and participation in class discussions. Please come to class prepared to discuss the readings (attendance and participation count for 10% of the final grade);
- 2) In-class labs (10% total)
- 3) Individual project (40%) – Paper (2,500 words. For graduate students: GIS analysis and 1,000 words)
- 4) Two exams (class examines are 20% each)

*Graduate student evaluations will include:*

- 1) All these criteria mentioned above, and they are also required to;
- 2) Submit individual projects based upon spatial analysis. Examples can be drawn from generic or specific instances. For example, final projects may identify and describe the relationship between biodiversity and urbanization spatially or describe the spatial distribution of earth worms in and around New York City. Spatial analysis includes the use of GIS software or statistical analyses. Literature reviews will be accepted under limited circumstances.
- 3) Labs report from all in-class labs must be submitted in report format. Report format includes providing the following sections: Introduction, Background, Method, Results, Discussion and Conclusions. Reports should also include supplementary information provided from other sources.

## **Essential class policies**

There are no incompletes given for the course with the exception of a proven medical emergency. No late examines are accepted. Students receive a “0” on any test not taken, if they do not have a medical excuse for missing the test. I take attendance as class participation is an important part of student grades. For undergraduates, CR/NC can be received with appropriate notification. This option is not available to grad students.

If you email me during the week, you can expect a return email within 36 hours. I may not answer during the weekends. Please do not bring iPods or earphones to class and do not use your laptop computers except to take notes. Please do not bring food to class.

## **Syllabus change policy**

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. Any changes to the syllabus will be posted on Blackboard as well as discussed in class.

## **Hunter College Statement on Academic Integrity**

Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures. Plagiarism, dishonesty, or cheating in any portion of the work required for this course will be punished to the full extent allowed according to Hunter College regulations.

## **ADA Policy**

In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212) 772-4857 or (212) 650-3230.

## Hunter College Policy on Sexual Misconduct

In compliance with the CUNY Policy on Sexual Misconduct, Hunter College affirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationship. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, on contacting the College's Public Safety Office (212-772-4444)
- b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link:

<http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf>

## Course Schedule

The course will follow the textbook as outlined by the chapter plan below. Each chapter will be covered by 1-2 lectures.

### *Introduction to the Discipline*

Week of 29 Jan: Introduction,  
Ch 1 The science of Biogeography  
Ch 2 The History and Reticulating Phylogeny of Biogeography

### *The Geographic and Ecological Foundations of Biogeography*

Week of 5 Feb: Ch 3 The geographic template  
*In-class lab 1*

Week of 12 Feb: Ch 4 Distribution of species: Distributions of Species:  
Ecological Foundations

Week of 19 Feb: Ch5 The Distribution and Dynamics of Communities, Biomes,  
and Ecosystems  
*In-class lab 2*

### *Biogeographic Processes and Earth History*

Week of 26 Feb: Ch 6 Dispersal and Immigration

Week of 5 March: Ch 7 Speciation and Extinction  
*In-class lab 3*

Week of 12 March: Ch 8 The Changing Earth

**First exam, chapters 1-7**

Week of 19 March: Ch 9 Glaciation and Biogeographic Dynamics of the Pleistocene  
*In-class lab 4*

*Evolutionary history of lineages and biotas*

Week of 26 March: Ch 10 The Geography of Diversification and Regionalization

Week of 9 April: Ch 11 Reconstructing the Evolutionary History of Lineages

Week of 16 April: Ch 12 Reconstructing the Geographic History of Lineages and Biotas

*Ecological Biogeography*

Week of 23 April: Ch 13 Island Biogeography

Week of 30 April: Ch 14 Areography, Ecogeography, and Macroecology of Continental and Oceanic Biotas

*Conservation and the Frontiers of Biogeography*

Week of 7 May: Ch 15 Biogeography of Humanity, Biological Diversity, and Conservation Biogeography

Week of 14 May: Ch 16 From the Foundations to the Frontiers of Biogeography

**As scheduled: Final exam, chapters 8-16**