

BIOL 475-[Removed] Capstone: Invasion Ecology

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Fall 2018 – [Removed]
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Course description:

Semester course; 1 hr / week; 1 credit. Prerequisites: successful completion of the Biocore and 90 hours of undergraduate course work. Open to biology majors only. Students read assigned topical papers before class, prepare critical analyses, discuss and debate selected positions. See Schedule of Classes for specific topics.

Course objectives:

- Discuss causes and consequences of biological invasions in multiple environments and at multiple scales
- Explore varied examples and related concepts, and gain an understanding of the meaning and impacts of invasions
- Gain an appreciation for various types of invasions, including both naturally and anthropogenically caused cases
- Produce a literature review of related primary articles
- Engage in meaningful class discussions
- Explore possible applications beyond the classroom and beyond the college environment

Topics:

May include any substantive primary article dealing with an example or aspect of biological invasion and related ecology. Examples include (but are not limited to): Invasive Species (exotic / introduced); Invasive Species (native / aggressive); Island colonization; Pioneer Species; Primary Succession; Management; Physiological Ecology of Invasive Species; Unique Adaptations; Beneficial Invasions; The Expanding Definition of “Invasive”

Readings:

Will be chosen by students and read prior to attending each class meeting

Course requirements and grading:

Each student will present two articles. On Friday prior to presentation, each student will submit (via Blackboard discussion forum) ≥ 5 questions designed to stimulate meaningful class discussion. Each student is expected to participate in every discussion, and demonstrate both understanding of the article and broader consideration of the study. Grades are earned as follows:

- Presentations (2): 40% (20 each)
- Participation in discussions: 30%
- Discussion question quality: 15%
- Timely submission of discussion questions: 5%
- Sample Cover Letter: 5%
- Mock Interview: 5%

Final grades will follow the standard 10-point scale.

Important Dates:

[Removed]: last day of add / drop.

[Removed]: university closed

[Removed]: last day to notify instructor of special observances / conflicts.

[Removed]: reading days

[Removed]: last day to withdraw with a "W".

[Removed]: last day of classes

Example articles:

Prentis, P.J., J.R.U. Wilson, E.E. Dormontt, D.M. Richardson, and A.J. Lowe. 2008. Adaptive evolution in invasive species. *Trends in Plant Science* 13:288-294

Sharkey, T.D., F. Loreto. 1993. Water stress, temperature, and light effect on the capacity for isoprene emission and photosynthesis of kudzu leaves. *Oecologia* 95: 328-333

Dlugosch, K.M..2005. Understory community change associated with English Ivy invasions in Seattle's urban parks. *Northwest Science* 79: 52-59

Judge, C.A., J.C. Neal, J.F. Derr. 2005. Response of Japanese stiltgrass (*Microstegium vimineum*) to application timing, rate, and frequency of postemergence herbicides. *Weed Technology* 19(4): 912-917.

Griffith, A.B., T. Ahmed, A.L.G Hildner, S. Kuckreja, and S. Long. 2015. Constraints on coastal dune invasion for a notorious plant invader. *AoB PLANTS* 7: plv126;doi:10.1093/aobpla/plv126

VCU Syllabus Statement

The required syllabus statements originally included here are maintained by the Office of the Provost and are regularly updated. To prevent the dissemination of information which may no longer be accurate or complete, the full text of the required syllabus statements have been removed from this document.

Students should visit <http://go.vcu.edu/syllabus> and review all syllabus statement information. The full university syllabus statement includes information on safety, registration, the VCU Honor Code, student conduct, withdrawal and more.