**SYLLABUS**

**RNR 696A/496B Section 5 - Ecosystem Genomics Seminar**

**Tuesday 3-4 pm in Keating 247 (class meetings)**

**Thursday 4-5 pm Keating 103 -or- MRB 102 (seminar series)**

**Description of Course**

This undergraduate/graduate seminar will focus on current topics in 'Ecosystem Genomics,' a field that integrates data and theory in genes-to-ecosystems frameworks with the aim of predicting and managing ecosystem processes. Students will develop a critical thinking skill-set and interdisciplinary fluency to evaluate and propose cutting-edge research and methodologies in this newly emerging field.

**Course Prerequisites or Co-requisites**

No prerequisites stated.

**Instructor and Contact Information**

Laura K Meredith, Assistant Professor, School of Natural Resources and the Environment

Room N225, Environment and Natural Resources 2 (ENR2)

Room 203, Keating Bioresearch Building

Office Phone: (520) 626-4213

Email: [laurameredith@email.arizona.edu](mailto:laurameredith@email.arizona.edu)

Office Hours: “Open Door Policy” or by appointment

Course page will be conducted through Basecamp, and students will be added to the group using UA e-mails: <https://3.basecamp.com/3990662/projects/7804329>

**Course Format and Teaching Methods**

Seminar series with local and invited outside speakers, professional development exercises and tasks, readings and in-class discussions, and group work.

**Course Objectives and Expected Learning Outcomes**

At the end of this course undergraduate students should be able to:

* Critically assess published literature.
* Prepare and ask effective questions in seminars.
* Compose and deliver speaker introductions that integrate key academic points.
* Classify academic products (papers, talks) by discipline.
* Determine whether Ecosystem Genomics better (or more poorly) describes the content, methods, or practical components of academic products.
* Contrast understanding of Ecosystem Genomics over time.
* Recommend components of the Ecosystem Genomics definition that should be preserved, updated, or removed.
* Construct an updated definition for Ecosystem Genomics.

At the end of this course graduate students should be able to:

* Critically assess published literature.
* Prepare and ask effective questions in seminars.
* Compose and deliver speaker introductions that integrate key academic points.
* Manage questions for speaker by balancing time against constructive participation.
* Classify academic products (papers, talks) by discipline.
* Determine whether Ecosystem Genomics better (or more poorly) describes the content, methods, or practical components of academic products.
* Contrast understanding of Ecosystem Genomics over time.
* Recommend components of the Ecosystem Genomics definition that should be preserved, updated, or removed.

Construct an updated definition for Ecosystem Genomics.

**Absence and Class Participation Policy**

The UA’s policy concerning Class Attendance, Participation, and Administrative Drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.  
  
Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: <https://deanofstudents.arizona.edu/absences>

Participating in the course and attending lectures, seminars, and other course events are vital to the learning process. As such, attendance is required at all lectures, seminars, and discussion section meetings. Students who miss class due to illness or emergency are required to bring documentation from their health-care provider or other relevant, professional third parties. Failure to submit third-party documentation will result in unexcused absences. Students from departments with conflicting seminars (Thursdays 4-5pm) do not have to attend the seminars in person, but instead are required to watch the entire recorded seminar and participate in related assignments.

**Makeup Policy for Students Who Register Late**

Students who register after the first class meeting may make up missed assignments by the end of the 4th week of the semester.

**Course Communications**

Online communication will be conducted by official UA e-mail address and Basecamp project management online tool.

**Required Texts or Readings**

Required readings will be shared in .pdf form weekly.

Availability: via UA e-mail and Basecamp.

**Required or Special Materials or Extracurricular Activities**

None required.

**Assignments and Examinations: Schedule/Due Dates**

* **Read paper and complete reading guide (n=13)**
  + Due: Tuesdays by 4pm (starting August 28) – bring to class (digital or printed)
  + Papers will be assigned the Friday beforehand
  + Exceptions:
    - Week 12 – no paper reading (professional development). In class participation will be evaluated for grade instead of discussions.
    - Week 13 – read papers for two speakers - two guides due.
    - Week 14 – no paper reading (seminar instead).
    - Week 16 – no paper reading (last week).
* **Prepare two questions for speaker (n=13)**
  + Due: Thursday by 4pm (starting August 30) – submit through Basecamp
  + Question 1: Scientific, related to paper.
  + Question 2: Related to Ecosystem Genomics.
  + Students are encouraged to ask these questions during seminar.
* **Reflect on seminar (n=13)**
  + Due: Tuesday by 12 pm (starting September 4) – submit through Basecamp
  + A few sentences reflecting on how you see the speaker’s research (papers and seminar) fit within our evolving definition of Ecosystem Genomics. Each speaker will be asked to reflect on this, and it will be interesting to discuss their perspectives.
* **Final reflection on Ecosystem Genomics (1 day)**
  + Due: November 30 – submit to Basecamp
  + A 1-page summary of the initial Ecosystem Genomics definition will be provided a few weeks beforehand. You are asked to revisit this definition and modify (using track changes in a word processor) based on what you learned over the semester.
  + Students are required to read and comment on (name-redacted) submissions by peers before class on December 4.
  + In class on December 4, we will discuss our reflections and generate a new recommendation for the definition of Ecosystem Genomics at UA based on the research and interests of students, staff, and faculty.

A related activity will be to develop introductions for the seminar speakers. This will be done in class, and students are encouraged to introduce speakers and field questions as a part of their professional development. However, this activity will not be graded.

**Final Examination or Project**

No final examination is required.

**Grading Scale and Policies**

Grade distribution: A = 90-100%; B = 80-89%; C = 70-79%; D = 60-69%; E = <60%

*Graded Activities:* Your final letter grade will be based on the percentage earned of 100 possible points distributed over a variety of graded activities as follows:

|  |  |  |
| --- | --- | --- |
| ***Activity*** | ***Undergrad Points*** | ***Graduate Points*** |
| Class participation | 30 | 30 |
| Seminar participation | 30 | 30 |
| Weekly reading guide | 10 | 10 |
| Weekly questions | 10 | 10 |
| Weekly reflection | 10 | 10 |
| Final reflections | 10 | 10 |
| **TOTAL** | 100 | 100 |

University policy regarding grades and grading systems is available at <http://catalog.arizona.edu/policy/grades-and-grading-system>

**Requests for** **incomplete (I) or withdrawal (W)** must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

**Dispute of Grade Policy**: The acceptable time period for disputing a grade on assignment is two weeks.

**Honors Credit**

Students wishing to contract this course for Honors Credit should email me to set up an appointment to discuss the terms of the contract. Information on Honors Contracts can be found at <https://www.honors.arizona.edu/honors-contracts>.

**Scheduled Topics/Activities**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Tuesday meeting (3-4 pm)** |  |  |  | **Thursday meeting (4-5pm)** |  |  |  |
| **Week** | **Month** | **Date** | **Location** | **Topic** | **Month** | **Date** | **Location** | **Seminar** |
| 1 | ***August*** | ***21*** | ***ENR2 572*** | ***Class (EcoGen - Laura Meredith)*** | ***August*** | ***23*** | ***MRB 102*** | ***Class (ProfDev - Laura Meredith)*** |
| 2 | August | 28 | Keating 247 | Class (Paper Discussion) | August | 30 | Keating 103 | Scott Saleska, UA Ecology & Evolutionary Biology |
| 3 | September | 4 | Keating 247 | Class (Paper Discussion) | September | 6 | Keating 103 | Malak Tfaily, UA Soil, Water & Env. Science |
| 4 | September | 11 | Keating 247 | Class (Paper Discussion) | September | 13 | Keating 103 | Bonnie Hurwitz, UA Bioystems Engineering |
| 5 | September | 18 | Keating 247 | Class (Paper Discussion) | September | 20 | Keating 103 | Rod Wing, UA Plant Sciences |
| 6 | September | 25 | Keating 247 | Class (Paper Discussion) | September | 27 | Keating 103 | TBD |
| 7 | October | 2 | Keating 247 | Class (Paper Discussion) | October | 4 | Keating 103 | Rachel Gallery, UA Natural Resources & Environment |
| 8 | October | 9 | Keating 247 | Class (Paper Discussion) | October | 11 | MRB 102 | TBD |
| 9 | October | 16 | Keating 247 | Class (Paper Discussion) | October | 18 | Keating 103 | TBD |
| 10 | October | 23 | Keating 247 | Class (Paper Discussion) | October | 25 | MRB 102 | TBD |
| 11 | October | 30 | Keating 247 | Class (Paper Discussion) | November | 1 | Keating 103 | Jana U'Ren, UA Biosystems Engineering |
| 12 | ***November*** | ***6*** | Keating 247 | ***Malak Tfaily (ProfDev)*** | ***November*** | ***8*** | ***Keating 247*** | ***Betul Kacar, UA Molecular and Cellular Biology (ProfDev)*** |
| 13 | November | 13 | Keating 247 | Class (Paper Discussion) | November | 15 | Keating 103 | Russ Monson, UA Tree Ring Lab, Ecology & Evolutionary Biology |
| 14 | ***November*** | ***20*** | ***MRB 102*** | **Duke Pauli, UA Plant Sciences** | November | 22 | - | **Thanksgiving recess (no meeting)** |
| 15 | November | 27 | Keating 247 | Class (Paper Discussion) | November | 29 | Keating 103 | Regis Ferriere, UA Ecology & Evolutionary Biology |
| 16 | ***December*** | ***4*** | Keating 247 | ***Class (EcoGen - Laura Meredith)*** | December | 6 | - | **Reading day (no meeting)** |
| 17 | **December** | **11** | **-** | **Finals week (no exam or meeting)** | December\* | 13 | Keating 103 | Brendan Bohannan, University of Oregon |

\*Bonus seminar – attendance not required

**Bibliography**

Current research will be provided for each week via UA e-mail and Basecamp software.

**Classroom Behavior Policy**

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

**Threatening Behavior Policy**

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See <http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

**Notification of Objectionable Materials**

None.

**Accessibility and Accommodations**

At the University of Arizona we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, you are welcome to let me know so that we can discuss options.  You are also encouraged to contact Disability Resources (520-621-3268) to explore reasonable accommodation.

If our class meets at a campus location: Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

**Code of Academic Integrity**

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

The University Libraries have some excellent tips for avoiding plagiarism, available at <http://new.library.arizona.edu/research/citing/plagiarism>.

*Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor’s express written consent*. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

**UA Nondiscrimination and Anti-harassment Policy**

The University is committed to creating and maintaining an environment free of discrimination; see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

**Additional Resources for Students**

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>

Student Assistance and Advocacy information is available at <http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

**Confidentiality of Student Records**

<http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa>

**Subject to Change Statement**

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.