Ecological Sustainability
11:216:309 (3 Credits)
Mondays 12:35-3:35PM; HCK 129

Instructor:
Dr. Katie Malcolm
kmalcolm@njaes.rutgers.edu

Office Hours:
By Appointment
ENR 160

Course Description:
In 2015, the United Nations set Sustainable Development goals to reach by 2030. The seventeen goals encompass environmental, social and economic objectives, with each country outlining how they will individually meet their targets. A background in ecology is critical in understanding today’s global environmental problems and in how to approach sustainable development. During this class, we will discuss the ecology behind many of the UN Sustainable Development goals, with particular focus on how climate change, resource availability and ecosystem functioning relates to the goals. We will also connect the UN sustainability targets to a local level and discuss how a knowledge of ecology can be used to help meet those goals.

Prerequisites:
General Biology (119:115) OR Principles of Biology (119:103) OR Intro to Ecology and Evolution (216:101) OR by permission of instructor.

Website and Course Materials:
- A Sakai site will be established for this course which will contain copies of lectures within 24 hours of when the lecture is given. Information about the required readings each week will be posted on the site.
- There are no required materials to purchase for this course. Throughout the semester we will be reading peer-reviewed and popular media articles which will either be available online or through the Rutgers Library.

Course Objectives:
- To develop an understanding of how ecology relates to the interdisciplinary field of sustainability
- To apply your knowledge of ecology to critically evaluate global issues
- To make connections with ecology and sustainability to your everyday life

DEENR Learning Goals:
1. Explain basic population, community ecology and ecosystem concepts
6. Think critically and solve problems using evidence-based reasoning
7. Communicate effectively orally and through written text and graphics
8. Evaluate ecology, evolution and natural resource management concepts in a global context.

Class Format:
This is a discussion-based class. Each class will consist of a lecture followed by class discussions and group activities on the day’s topic(s). Reading assignments will be given at least one week before we will discuss them in class. You are expected to have read the materials before class.
and to come to class ready to discuss the content. Your active participation and preparedness for class are required.

**Grading and Evaluation:**
Your final grade will be calculated as (Points Earned/ 300 Points)*100. Your % grade will then converted to a letter grade using the grading scale.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points</th>
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<tbody>
<tr>
<td>2 Exams (100 points each)</td>
<td>200</td>
</tr>
<tr>
<td>Participation (5 points per day)</td>
<td>70</td>
</tr>
<tr>
<td>Presentation</td>
<td>30</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>300</strong></td>
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<table>
<thead>
<tr>
<th>Letter Grading Scale</th>
<th>Grade %</th>
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<tbody>
<tr>
<td>A</td>
<td>x ≥ 90</td>
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<tr>
<td>B+</td>
<td>90 &gt; x ≥ 87</td>
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<tr>
<td>B</td>
<td>87 &gt; x ≥ 80</td>
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<tr>
<td>C+</td>
<td>80 &gt; x ≥ 77</td>
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<tr>
<td>C</td>
<td>77 &gt; x ≥ 70</td>
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<tr>
<td>D</td>
<td>70 &gt; x ≥ 60</td>
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<tr>
<td>F</td>
<td>x ≤ 60</td>
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**Exams (Goals 1,6,7,8):**
- Multiple choice and short-answer format will assess your knowledge of principles of ecology (population, community and ecosystem ecology) as they apply to global change and sustainability. You will use evidence-based reasoning to support any of your opinions/arguments presented. Evidence (sometimes hypothetical) will be presented and you will be asked to critically evaluate the evidence based on their understanding of ecology and sustainability. Refer to the schedule for exam dates.

**Participation (Goals 1,6,7,8):**
- As a discussion-based class, your participation and preparedness for class is essential. Each week, you will be assigned readings (peer-reviewed and popular media articles) to read before class. Information about the readings (links or PDFs) will be provided on the Sakai site at least one week before we will discuss them in class. You are expected to have read the materials before class and to come to class ready to discuss the content. You may also be asked to submit an activity by the end of class. Each class may consist of class discussions, small group discussions and individual/group activities. You will be evaluated on your attendance, active participation in class discussions/activities and demonstration that you read that assigned materials. You will receive 0-5 points each day.

**Presentation (Goals 7,8):**
- You will be randomly assigned a topic/date on the first day of class. Select a recent (2010 onwards), peer-reviewed paper about the topic. The paper should relate to the ecological basis of the sustainability topic. Submit your paper to me for approval at least 10 days before you are scheduled to present; you may be asked to choose a different paper. The paper will then be available to the class one week before you are scheduled to present. You will give ~10-minute presentation about the selected paper and lead the class discussion about that paper. More information about the presentation, including the grading rubric, will be provided in class and through Sakai.
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Attendance and Participation Policy:
Your attendance and participation in class is expected and required. You will be evaluated on your timely arrival to class, participation in class discussion and participation in group work questions. You will receive 0-5 points towards your participation grade each day. Any excused absence must be approved in advance and confirmation of the reason for the absence must be provided if requested. You will not be penalized for excused absences.

Exam Policy:
There will be 2 exams, one mid-term during the semester and one final during Finals Week. If you know that you will miss the midterm exam for any reason, you must notify the instructor in advance and provide confirmation of the reason if requested. If an emergency occurs, you must notify the instructor within 24 hours of the start of the exam (i.e. by noon the following day). Documentation is required for the emergency event. If you do not show for the midterm exam and do not contact the instructor within 24 hours, you will receive a zero for the exam. The decision to make-up a midterm exam is at the discretion of the instructor. There is no make-up for the final exam. You will have the entire scheduled period to complete the exam. Electronic devices, notes and/or books are not permitted during the exams.

Tentative Course Schedule (Subject to change):

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>UN Sustainable Development Goal</th>
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<tbody>
<tr>
<td>1/28</td>
<td>Introduction to Ecological Sustainability</td>
<td>All</td>
</tr>
<tr>
<td>2/4</td>
<td>Human Population Growth</td>
<td>1, 2, 3, 10</td>
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<tr>
<td>2/11</td>
<td>Climate Change I</td>
<td>13, 14, 15</td>
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<td>2/18</td>
<td>Climate Change II</td>
<td>13, 14, 15</td>
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<td>2/25</td>
<td>Sustainable Agriculture</td>
<td>2, 15</td>
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<td>3/4</td>
<td>Sustainable Cities</td>
<td>9, 11</td>
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<td>3/11</td>
<td>Midterm Exam</td>
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<tr>
<td>3/18</td>
<td>Spring Recess</td>
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<td>3/25</td>
<td>Biodiversity and Biodiversity Loss</td>
<td>14, 15</td>
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<tr>
<td>4/1</td>
<td>Food and Water Resources</td>
<td>2, 6</td>
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<td>4/8</td>
<td>Product Consumption and Waste</td>
<td>12</td>
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<td>4/15</td>
<td>Alternative Energies</td>
<td>7</td>
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<td>4/22</td>
<td>Field Trip to Duke Farms</td>
<td>7, 9, 12</td>
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<td>4/29</td>
<td>Innovation</td>
<td>9</td>
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<td>5/6</td>
<td>Women in STEM</td>
<td>4, 5, 10</td>
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<td>5/7-5/8</td>
<td>Reading Days</td>
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<tr>
<td>5/9-5/15</td>
<td>Finals Week (TBA)</td>
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UN Sustainable Development Goals
https://sustainabledevelopment.un.org/

1. No Poverty
2. Zero Hunger
3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Product Consumption
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice and Strong Institutions
17. Partnerships and Goals

Accommodations for students with disabilities:
Please follow the procedures outlined at https://ods.rutgers.edu/students/registration-form. Full policies and procedures are at https://ods.rutgers.edu/

Academic Integrity:
The university's policy on Academic Integrity is available at http://academicintegrity.rutgers.edu/academic-integrity-policy. The principles of academic integrity require that a student:
· properly acknowledge and cite all use of the ideas, results, or words of others.
· properly acknowledge all contributors to a given piece of work.
· make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
· obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
· treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
· uphold the canons of the ethical or professional code of the profession for which he or she is preparing.
Adherence to these principles is necessary in order to ensure that
everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
· all student work is fairly evaluated and no student has an inappropriate advantage over others.
· the academic and ethical development of all students is fostered.
· the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

Student Wellness Services:

Just In Case Web App  [http://codu.co/cee05e](http://codu.co/cee05e)
Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)
(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ [www.rhscaps.rutgers.edu](http://www.rhscaps.rutgers.edu/)
CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students’ efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)
(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / [www.vpva.rutgers.edu](http://www.vpva.rutgers.edu/)
The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services
Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: https://ods.rutgers.edu/students/documentation-guidelines. If the documentation supports your request for reasonable accommodations, your campus’s disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss
the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: https://ods.rutgers.edu/students/registration-form.

Scarlet Listeners
(732) 247-5555 / https://rutgers.campuslabs.com/engage/organization/scarletlisteners
Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.