

SUS 206: Economics and Sustainability  
Brett Indelicato  
Stony Brook University

**Fall 2024**

**General Information:**

**Instructor:** Brett Indelicato  
**Lecture:** MW 8:25-9:20 AM  
**Recitation:** F 8:25-9:20 AM  
**Room Location:** Life Sciences 054  
**E-mail:** brett.indelicato@stonybrook.edu

**Office hours:** W 10 AM – 12PM  
**Office:** N602-B, 6<sup>th</sup> Floor, SBS Building, Economics Department

**Course Description:**

Introduction to the basic economic concepts used in sustainability analysis. Students will learn the basic concepts and how to apply them in various contexts. Topics include the analysis of situations in which the behavior of individuals indirectly affects the well-being of others, strategic behavior and the environment, and the use of market-oriented policies to help in the stewardship of the environment. Formerly offered as SBC 206; not for credit in addition to SBC 206.

**Course Topics:**

Supply and Demand in Sustainability, Economic Efficiency, Cost Benefit Analysis, Public Goods, Population, Food, Water, Economic Growth, Natural Resources, Resource Allocation, Energy, Ecosystem Management, Pollution, Metals & Rare Earth Metals, Government Agencies, Global Climate Policy, Electricity, Clean Energy, Introductory Data Analysis

**Course Learning Objectives**

Economics and Sustainability provides a broad overview to sustainability and climate policies, both in the U.S. and abroad, and explores the role that economic theory plays in climate change action.

Students will be introduced to several basic theoretical tools used in economics to better understand market failures and policy solutions in climate and sustainability topics.

**Textbook(s) and Course Materials:**

Roach, Brian and Harris, Johnathan. *Environmental And Natural Resource Economics – A Contemporary Approach*. 4<sup>th</sup> or 5<sup>th</sup> Edition. ISBN: 9780367531386

**R (Programming Language):**

Instructions to download R will be provided in class. R is also accessible via Stony Brook's Virtual SINC site.

**Grading:**

| Assessment             | Description   | % of Overall Grade |
|------------------------|---|--------------------|
| Attendance             | 10 randomly taken attendance days.  | 10                 |
| News Article Summaries | ~10 write ups of uploaded news articles.<br>Due before Friday recitation. | 20                 |
| Homework               | ~ 5 assignments   | 15                 |
| Midterm                | Open book midterm   | 25                 |
| Final                  | Open book final   | 30                 |

**Attendance:** Attendance will be taken at the end of class on 10 randomly chosen days throughout the semester. To receive the full 10% attendance grade, students must be present for at least 7 of these days. However, attending all classes is strongly encouraged. Absences excused by the University will neither positively nor negatively impact a student's attendance grade. Attendance days will be announced at the beginning of class. If a student needs to leave before the end of class, they may notify me to receive credit for attending.

**News Article Summaries:** To complete each news article summary, students will need to read the uploaded news articles available on Blackboard. For **each** article, students should write a 3-4 sentence summary. Students should create a free SBU New York Times Account using their stony brook email using this [link](#), as some articles are behind their paywall. Students will upload their summaries as a PDF or Word doc to Brightspace. Students should submit their own unique summary.

Below are some prompts to guide students in their writing:

1. **Summary and Analysis:** Summarize the main points of the article. What is the central issue, and why is it significant? Provide your economic analysis and insights on the issue.
2. **Connection to Course Material:** How does the article relate to what we've discussed in class? Provide specific examples and explain the connections to course topics.
3. **Critical Questions:** What questions arose for you after reading the article? What additional information would help you understand the topic better?
4. **Impact and Implications:** Discuss the potential effects of the events or issues covered in the article. How might they impact various stakeholders (e.g., individuals, communities, countries)?
5. **Policy Implications:** What are the policy implications of the issue discussed in the article? What policies should be implemented or changed in response to the issue?

**Homework:** Each homework assignment will comprise of questions related to the material covered in lectures and recitations. They will be in short answer form that will be a mix of understanding the workings of economic sustainability and understanding how to apply economic analysis. When necessary, students should utilize the lecture notes and textbook while completing these assignments.

Students are allowed to work with **one** other person. However, each student's submission must be unique and should not look the same as the other persons. If you work with someone, put their name at the top of the submission as well.

All assignments are due on the posted dates before class at **8:15AM EST**. The deadlines for assignments are strictly enforced. To avoid any last minute technical problems, it is recommended that students complete the assignments with some time to spare. Late assignments will not be accepted.

**Solutions:** Solutions to each assignment will be discussed in recitation on the due date. Solutions to the midterm and final will be discussed in recitation.

**Open Book Policy:** For both the midterm and final, a double-sided sheet of 8.5 in x 11 in printer paper will be allowed to be used during the exam. Electronic devices will not be allowed to be used during the exam.

**Midterm Exam:** The midterm exam will be tentatively scheduled for Wednesday October 9<sup>th</sup> in class. Any changes will be communicated during the semester ahead of time.

**Final Exam:** The final exam will be on December 18<sup>th</sup> from 8-10AM, as per the University's final exam schedule.

**Final Grades:**

| A      | A-    | B+    | B     | B-    | C+    | C     | C-    | D+    | D     | F        |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| 100-93 | 92-90 | 89-87 | 86-83 | 82-80 | 79-77 | 76-73 | 72-70 | 69-67 | 66-60 | Below 60 |

**Tips on How to Be Successful in this Class:**

- Attend all lectures and recitations.
- Identify anything you may not understand from lectures, recitations, and homework. Make it a daily/weekly habit to ensure you have seen everything posted to help you succeed in this class.
- Connect with others. Try forming an online study group and meet on a weekly basis for study and peer support.
- **Do not be afraid to ask questions.** If you have questions or are struggling with a topic, re-read class notes, read through the textbook, ask questions during recitations, reach out to other students, or contact your instructor.

**Class Schedule:**

| Week: | Day: | Date:        | Description:                         | Textbook Chapter: | Due Dates: |
|-------|------|--------------|--------------------------------------|-------------------|------------|
| 1     | M    | August 26    | Introduction                         | 1                 |            |
|       | W    | August 28    | GDP, Growth, Consequences of Growth  | 2                 |            |
|       | F    | August 30    | Calculate RGDP & Growth Rates        | 2                 |            |
| 2     | M    | September 2  | Labor Day                            |                   |            |
|       | W    | September 4  | Supply & Demand, Welfare             | 3                 |            |
|       | F    | September 6  | Supply & Demand, Welfare             | 3                 | Summary 1  |
| 3     | M    | September 9  | Externalities, Taxes, Subsidies      | 3                 |            |
|       | W    | September 11 | Common Property Resources            | 4                 |            |
|       | F    | September 13 | Extra Office Hours                   |                   | Summary 2  |
| 4     | M    | September 16 | Population                           | 15                |            |
|       | W    | September 18 | Population & Food                    | 15,16             |            |
|       | F    | September 20 | Food                                 | 16                | HW1        |
| 5     | M    | September 23 | Water                                | 20                |            |
|       | W    | September 25 | Water                                | 20                |            |
|       | F    | September 27 | Resource Allocation                  | 5                 | Summary 3  |
| 6     | M    | September 30 | No Class                             |                   |            |
|       | W    | October 2    | Resource Allocation/ Valuing Enviro. | 5,6               |            |
|       | F    | October 4    | Valuing the Environment              | 6                 |            |
| 7     | M    | October 7    | Midterm Review                       |                   |            |
|       | W    | October 9    | Midterm Exam Openbook                |                   |            |
|       | F    | October 11   | Go Over Midterm                      |                   |            |
| 8     | M    | October 14   | Fall Break                           |                   |            |
|       | W    | October 16   | Introduction to R                    |                   |            |
|       | F    | October 18   | Introduction to R                    |                   | Summary 4  |
| 9     | M    | October 21   | Data Analysis in R                   |                   |            |
|       | W    | October 23   | Data Analysis in R                   |                   |            |
|       | F    | October 25   | National Income & Enviro. Accounting | 10                |            |

|            |   |             |                                      |    |           |
|------------|---|-------------|--------------------------------------|----|-----------|
| 10         | M | October 28  | Cost Benefit Analysis                | 7  |           |
|            | W | October 30  | Cost Benefit Analysis                | 7  |           |
|            | F | November 1  | CBA Wrap Up/Intro to Excel           |    | HW 2      |
| 11         | M | November 4  | Pollution                            | 8  |           |
|            | W | November 6  | No Class                             |    |           |
|            | F | November 8  | Election Thoughts & Excel            |    | HW 3      |
| 12         | M | November 11 | Energy & Resources                   | 11 |           |
|            | W | November 13 | Greening the Economy                 | 14 |           |
|            | F | November 15 | Nonrenewable Resources & Metals      | 17 | Summary 5 |
| 13         | M | November 18 | World Trade & Environment            | 21 |           |
|            | W | November 20 | World Trade & Environment            | 21 |           |
|            | F | November 22 | No Class                             |    | Summary 6 |
| 14         | M | November 25 | Graphing/Plotting in Excel           |    |           |
|            | W | November 27 | Thanksgiving Break                   |    |           |
|            | F | November 29 | Thanksgiving Break                   |    |           |
| 15         | M | December 2  | U.S. Electricity Grid                |    |           |
|            | W | December 4  | Policies for Sustainable Development | 22 |           |
|            | F | December 6  | Final Review                         |    | HW 4      |
| 16         | M | Dec 2       | Extra Office Hours                   |    |           |
| Final Exam | W | December 18 | 8-10am Openbook                      |    |           |

Key:

Green - Exam

Yellow – No Class

Light Blue – Adjusted Class

## University and Course Policies

### **Student Accessibility Support Center Statement:**

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at [sasc@stonybrook.edu](mailto:sasc@stonybrook.edu). They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website:

<https://ehs.stonybrook.edu/programs/fire-safety/emergency-evacuation/evacuation-guidepeople-physical-disabilities> and search Fire Safety and Evacuation and Disabilities.

To receive an accommodation for a COVID related absence please see:

<https://www.stonybrook.edu/commcms/studentaffairs/student-support/Covid%20Support.php>

### **Academic Integrity Statement:**

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at [http://www.stonybrook.edu/commcms/academic\\_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html)

**Important Note:** Any form of academic dishonesty, including cheating and plagiarism, will be reported to the Academic Judiciary.

### **Critical Incident Management:**

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

## Course Policies:

**Syllabus Note:** Please note that this syllabus is subject to change at any time. Any modifications will be communicated promptly to ensure that all students are informed and can adjust accordingly.

### Understand When You May Drop This Course:

If you need to drop or withdraw from the course, it is your responsibility to be aware of the tuition liability deadlines listed on the registrar's [Academic Calendar](#). Before making the decision to drop/withdraw you may want to [contact me or] refer to the University's policies:

- [Undergraduate Course Load and Course Withdrawal Policy](#)
- [Graduate Course Changes Policy](#)

### Incomplete Policy:

Under emergency/special circumstances, students may petition for an incomplete grade. Circumstances must be documented and significant enough to merit an incomplete. If you need to request an incomplete for this course, contact me for approval as far in advance as possible. You should also read the University's policies that apply to you:

[Undergraduate Bulletin](#)

[Graduate Bulletin](#)

### Course Materials and Copyright Statement:

Course material accessed from Brightspace, Zoom, Echo 360, VoiceThread, etc. is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook's Academic Integrity.