Syllabus for

**SBC 401 Integrative, Collaborative Systems Studies**

Tuesday, 1:00 to 3:50 pm in Sustainability Studies Conference Room W0518, Melville Library

**Instructors:** Dr. Arlene Cassidy, Dr. James Hoffmann

**Offices:** Sustainability Studies Suite, Room W0515, Melville Library, Sustainability Studies Suite, Room W0517, Melville Library

**Phone:** 631-632-5362, 631-632-5366

**Email:** Arlene.Cassidy@stonybrook.edu James.Hoffmann@stonybrook.edu

**Office Hours:** Monday 11-1, Wednesday 1-2, and by appointment

**Tuesday 4-5, Friday 3-4, and by appointment**

**Blackboard:** blackboard.stonybrook.edu

**Course Description:** Problem-based capstone course. 3 credits

**Course Pre/co-requisites:** U3 or U4 status

**This Semester’s Course Topic:** Solar Electricity – Environmental factors, economic forces and government policies that are affecting the transition from fossil fuels to renewable solar energy.

**Additional Course Information:** The primary objectives of this course are to develop a way of thinking about complex systems in our present-day society, and to provide the necessary research, communication, and team-based skills to address the complex problems of moving towards a more sustainable society. This semester we will focus on the use of electricity in our society, and particularly the ongoing transitioning from fossil fuels to renewable energies with a specific focus on the adoption of solar technologies. While solar generated electricity currently supplies a very small percentage of our total energy, it is experiencing a rapid growth and given its vast potential will likely be the dominant method of power generation in the latter half of this century. This course will explore potential effects of climate change on the generation of electricity and potential aspects of solar technology on public health and the environment.

The course is organized as a seminar/research project course. As part of the course, the instructors will provide practical training in the skills needed to work in teams to conduct research and communicate the results. These skills include, but are not limited to: 1) literature search and use of reference software (Endnote); 2) hypothesis development; 3) data manipulation; 4) data analysis; 5) data presentation; 6) and reporting.

**LEARNING OBJECTIVES:**

- Demonstrate systems thinking by using it to analyze the dynamics of the multi-factor present-day transition from fossil fuels to renewable solar energy.
- Demonstrate the skill of locating information from a variety of sources (texts and books, web-based search tools, journal articles, online data bases…).
- Show the ability to organize and attribute the sources of information gathered with reference software (Endnote).
Successfully acquire relevant data about the ongoing transition from fossil fuels to renewable solar energy.

Execute a variety of graphical and numerical analysis techniques on the data acquired using appropriate software (Excel, Minitab...).

Evaluate and synthesize your researched information about the factors affecting the transition from fossil fuels to renewable solar energy.

Successfully use your analyses to inform future scenarios of the transition from fossil fuels to renewable solar energy.

Communicate your findings via an online report (Wiki) and PowerPoint presentation.

**COURSE REQUIREMENTS:**

*Attendance and Make-up Policy*

Students are responsible to attend all course meetings – attendance will be taken each week at the beginning of class and counts toward your final grade. Unexcused absences, excessive lateness (more than 10 minutes), or leaving class early will result in loss of attendance points (see grading section below for percentage breakdown of required course activities).

Late assignments will lose half a grade per day until completed (an assignment is not considered complete until it is delivered to the instructor).

*Description and schedule of Required Readings and/or Assignments.*

Required readings are provided as pdf files on BlackBoard.

There will be three required assignments:

1. a literature search assignment performed using EndNote
2. a data analysis and graphing assignment using Excel
3. an economic externality analysis assignment

Detailed instructions for these assignments are provided on BlackBoard and their due dates are listed in the class schedule below.

The data presentation assignment will consist of a 10-minute PowerPoint presentation of your data analyses and graphing assignment on the date indicated in the class schedule.

An online economic quiz will begin on the date indicated in the class schedule – you will have 24 hours to complete the quiz.

Your final project will be team based and will consist of a Wiki where you will post your research sources and information, data and analyses, summary and conclusions, and your annotated PowerPoint file for your project presentation. Your final project presentation will be 20-minutes long. Details and guides for these assignments and presentations will be available on BlackBoard.
Exams
There is no final exam, but there will be one online quiz (see meeting schedule section below).

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>POINTS</th>
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<tbody>
<tr>
<td>Attendance and Participation – (14 classes)</td>
<td>15</td>
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<tr>
<td>Assignments (3 at 10 points each)</td>
<td>30</td>
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<tr>
<td>Individual Data Presentation</td>
<td>10</td>
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<tr>
<td>Testing (1 Quiz)</td>
<td>10</td>
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<tr>
<td>Final Wiki Project and Presentation</td>
<td>35</td>
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<td>TOTAL POSSIBLE POINTS</td>
<td>100</td>
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GRADING:

Basis for grading (total possible points): 100-95 (A); 94-91 (A-); 90 – 88 (B+); 87 – 84 (B); 83-81 (B-); 80-78 (C+); 77-74 (C); 73-71(C-); 70-68 (D+); 67-60 (D).

MEETING SCHEDULE: [subject to change]

<table>
<thead>
<tr>
<th>Date (Tuesdays)</th>
<th>Topic</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>8/27</td>
<td>Introduction to the topic and the systems approach. Fill out background sheet. Review of syllabus and expectations.</td>
<td>Cassidy/Hoffmann</td>
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<tr>
<td>9/3</td>
<td>No Class</td>
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<tr>
<td>9/10</td>
<td>Brief introduction to electricity; contribution of Tesla; renewable energy. Research Skills: Transforming research questions into tentative hypotheses. Spreadsheet skills - Acquiring data, importing data into a spreadsheet. Introduction to Endnote</td>
<td>Hoffmann</td>
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<tr>
<td>9/17</td>
<td>Brookhaven National Laboratory Field Trip to Solar Array</td>
<td>Cassidy/Hoffmann</td>
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<tr>
<td>9/24</td>
<td>Research Skills: Working with data in a spreadsheet, EDA - exploratory data analyses; Graphing. <strong>Endnote assignment due</strong></td>
<td>Hoffmann</td>
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<tr>
<td>10/1</td>
<td>Research Skills: Basic Statistics (means, variability, fitting data to a line).</td>
<td>Hoffmann</td>
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<tr>
<td>10/8</td>
<td>Research Skills: Communication (presentations, posters).</td>
<td>Hoffmann</td>
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<tr>
<td>10/15</td>
<td>Review of economic models and systems</td>
<td>Cassidy</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>Instructor(s)</td>
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<tr>
<td>10/22</td>
<td>Individual Data presentation; Data and Graphing assignment due</td>
<td>Cassidy</td>
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<td>10/29</td>
<td>Electricity and externalities</td>
<td>Cassidy</td>
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<td>10/29</td>
<td>Social Costs and examples</td>
<td>Cassidy</td>
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<td>11/5</td>
<td>Government regulations and energy Economic quiz</td>
<td>Cassidy</td>
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<td>11/12</td>
<td>Student Project Work; Externality assignment due</td>
<td>Cassidy/ Hoffmann</td>
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<td>11/19</td>
<td>Student Project Work</td>
<td>Cassidy/ Hoffmann</td>
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<tr>
<td>11/26</td>
<td>Student Project Work</td>
<td>Cassidy/ Hoffmann</td>
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<tr>
<td>12/3</td>
<td>Project Presentations and Course Synthesis</td>
<td>Cassidy/ Hoffmann</td>
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**Blackboard:** You can access class information, documents, and assignments on-line at: [http://blackboard.stonybrook.edu](http://blackboard.stonybrook.edu) If you used Blackboard during the previous semester, your login information (NetID and Password) has not changed. If you have never used Stony Brook's Blackboard system: for help or more information see: [http://it.stonybrook.edu/services/blackboard](http://it.stonybrook.edu/services/blackboard) For problems logging in, go to the helpdesk in the Main Library SINC Site or the Union SINC Site, you can also call: 631-632-9602 or e-mail: helpme@ic.sunysb.edu

**Student’s Responsibility:** Students are required to use their Stony Brook University e-mail for all official communications. Ensure you have entered a working email account in your Black Board account. Access your BB account and make sure that you have access to this class, send yourself a test email using the email option within BB. Adhere to deadlines for term paper and other assignments. Adhere to the formatting instructions for the term paper. Seek help from instructor when problems arise. Should you have a disability, follow the regulations spelled out below so that it can be quickly evaluated.

**Cell Phone and Electronic Devices:** Use of cell phones, blackberries, laptop computers, iPods, MP3 players, and other audio and telecommunications devices is strictly prohibited during class. The only exceptions are through permission granted by the instructor for special purposes. Clickers are excluded from this prohibition, if required for the class. During regular class sessions, cell phones must be either in ‘vibrate mode’ or turned off. Calls cannot be answered. Text messaging is not allowed during class. Cell phones must be turned off and enclosed in a case, book bag, briefcase, or the like during tests and exams. YOU are responsible for ensuring this policy is followed. Students MAY NOT have cell phones, electronic dictionaries, calculators, pagers or other “information rich” devices (anything that can receive and/or store many pages of text) in their possession during tests and exams.

**Academic Dishonesty Policy:** Academic dishonesty is a serious offense and a breach of academic integrity that may result in failure of the course or failure for the individual paper or
assignment. The “Code of Student Conduct” states that all forms of academic dishonesty, including the following are prohibited (see student handbook):

- Plagiarism – the intentional use of ideas or words of another as one’s own paper or other academic assignments. If you are unsure of what constitutes Plagiarism visit this document [http://www.wpacouncil.org/positions/WPAplagiarism.pdf](http://www.wpacouncil.org/positions/WPAplagiarism.pdf) or ask the instructor.
- Cheating during examinations, whether by copying from a fellow student or by using information in the form of unauthorized aids brought to the examination.
- The submission of work for any assignment that has been prepared by another student.

**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 are 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)

**Classroom Policy:** Students are expected to follow the Stony Brook Code of Conduct while in the classroom. If you are not familiar with the Code you can find it at: [http://studentaffairs.stonybrook.edu/sites/handbook/Code_1-22-03.pdf](http://studentaffairs.stonybrook.edu/sites/handbook/Code_1-22-03.pdf)
Behavior that is disruptive to the function of the class, other students, or the instructor will not be tolerated. Poor class behavior or violations to the Code of Conduct will lead to removal from the class, possible withdrawal, or suspension. Food is not permitted in class. Beverages are OK, but please bring a container the can be closed to reduce spills. If a spill occurs please clean it up immediately.

**Instructional Responsibilities:** The University's statement of *Minimal Instructional Responsibilities* and *Minimal Undergraduate Student Responsibilities* are protocols with which you may already be familiar. They were established by the University Senate in 1996. If you have not already done so, please review them carefully. Both statements may be found beginning on page 81 of the *Academic Policies and Regulations* section of the on-line *Undergraduate Bulletin*: [http://www.stonybrook.edu/ugrdbulletin/current/index.shtml](http://www.stonybrook.edu/ugrdbulletin/current/index.shtml)

**DISABILITY SUPPORT SERVICES (DSS) STATEMENT**
If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, 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 Disability Support Services. For procedures and information go to the following website: [http://www.stonybrook.edu/ehs/fire/disabilities](http://www.stonybrook.edu/ehs/fire/disabilities)
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 Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn.

Course Content:
Course material accessed from Blackboard, SB Connect, SB Capture or a Stony Brook Course website 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 and Student Conduct Codes
http://www.stonybrook.edu/uaa/academicjudiciary/policies.shtml

Electronic Communication Statement
Email and especially email sent via Blackboard (http://blackboard.stonybrook.edu) is one of the ways the faculty officially communicates with you for this course. It is your responsibility to make sure that you read your email in your official University email account. For most students that is Google Apps for Education (http://www.stonybrook.edu/mycloud), but you may verify your official Electronic Post Office (EPO) address at http://it.stonybrook.edu/help/kb/checking-or-changing-your-mail-forwarding-address-in-the-epon.

If you choose to forward your official University email to another off-campus account, faculty are not responsible for any undeliverable messages to your alternative personal accounts. You can set up Google Mail forwarding using these DoIT-provided instructions found at http://it.stonybrook.edu/help/kb/setting-up-mail-forwarding-in-google-mail.

If you need technical assistance, please contact Client Support at (631) 632-9800 or supportteam@stonybrook.edu.