Technology and Society

EST 625  Advanced Theory and Practice in Science, Technology, Innovation Systems, and Policy

Meets Thursday, 1430-1720
COMPUTER SCI 1310

Instructor:  Professor Gerald Stokes
632-3402
Office Hours:  Tuesday 1-4
Thursday 10-1

GOAL: This PhD seminar evaluates ideas and applications of science, technology, policy and innovation systems by drawing from a wide range of early and contemporary literature. Emphasis is placed on deconstructing seminal ideas in the context of policy and technology change objectives. Students will refine analytical and communication skills that are relevant for working in positions at the interface of technology and management.

DESCRIPTION:

OBJECTIVES: Successful students will develop a fuller understanding of influential ideas relating to course themes; be able to critically evaluate theoretical concepts in the context of contemporary issues; and professionally convey substantive analysis of policy-relevant applications in writing and discussion.

REQUIRED TEXTS:  
The Ethics of Invention: Technology and the Human Future, by Sheila Jasanoff (provided)

We will also use The Science of Science Policy ed. Fealing, Lane, Marburger and Lane which was a required text for EST 600 – the prerequisite course

TEACHING STRATEGIES:

Seminar style motivated by readings with writing assignments associated; each student will manage an ongoing discussion on a science policy discussion based on current events.

PRE-REQUISITE: EST 600
METHODS OF EVALUATION –

• International Presentation – 30%
• Final Paper – 30%
• Current Events – 20%
• Homework and class participation - 20%

International Ecosystems Presentation:

• 30-minute presentation on the science ecosystem in a country other than the United States – choices include, but are not limited to, China, the EU, Japan, Australia and Korea.

• Should cover …
  • The organization of the enterprise
  • A history of funding and funding priorities
  • Relationship among public research, private research and the various research providers universities, government labs, companies and private labs.
  • Notable successes or failures in the system.

Final Paper: On a STIP controversy – past (not current)

• A 15-20 page paper on a past STIP controversy – examples include:
  • lead in gasoline,
  • health effects of smoking,
  • “First to invent” vs. First to file” in patenting,
  • Acid rain,
  • ABM systems,
  • CFC’s and the Montreal Protocol –

• Should, at a minimum, answer the questions
  • What was the nature of the controversy?
  • What role did science, technology and or innovation policy play in the controversy and the final resolution?
  • Were there any international aspects to the controversy?
  • Did the controversy inspire new research or technology development?

Current events

• There are many STIP related discussions going on right now.
• The goal of the current event strategy is, as a class, to track and discuss these issues as practical manifestations of the material covered in class.
• The process is:
  • We will identify several at the outset of the class that we will track –
  • Assign a lead for each topic.
  • Topics can be added (or removed) as the class goes forward.
We will discuss these topics in the first 30 minutes of each class.
Important to be prepared –
  • if you are the lead and no new activity, take the time to provide more depth on the topic.
  • Even if you are not the lead should be tracking all topics
Discussion area has been established on Blackboard for background material and discussion

CLASS STRUCTURE:

This a seminar class and the time is in general distributed as follows:

30 minutes: Current Events
45 minutes: Homework discussion
20 minutes: break
1 Hour: Lecture
15 minutes: Discussion

Given the workshop style of the course, students will be expected to come to class even when they are not scheduled to present. Students are allowed one unexcused absence without penalty. Any additional absence must be excused by the instructor – preferably in advance.
**COURSE OUTLINE:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 31</td>
<td>Introduction and requirements</td>
</tr>
<tr>
<td>February 7</td>
<td>STIP overview</td>
</tr>
<tr>
<td>February 14</td>
<td>Science and technology ecosystems</td>
</tr>
<tr>
<td>February 21</td>
<td>Creating results</td>
</tr>
<tr>
<td>February 28</td>
<td>How is STI value created? (1)</td>
</tr>
<tr>
<td>March 7</td>
<td>How is STI value created? (2)</td>
</tr>
<tr>
<td>March 14</td>
<td>International presentations – mid term</td>
</tr>
<tr>
<td>March 21</td>
<td>Spring Recess</td>
</tr>
<tr>
<td>March 28</td>
<td>Whither science?</td>
</tr>
<tr>
<td>April 4</td>
<td>A system for advice</td>
</tr>
<tr>
<td>April 9 (special day)</td>
<td>Environment and health</td>
</tr>
<tr>
<td>April 18</td>
<td>Climate Change</td>
</tr>
<tr>
<td>April 25</td>
<td>Technology and Ethics</td>
</tr>
<tr>
<td>May 2</td>
<td>Beyond economics</td>
</tr>
<tr>
<td>May 9</td>
<td>Review - Final Papers due</td>
</tr>
</tbody>
</table>
UNIVERSITY POLICIES

Americans with Disabilities Act
If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, 128 ECC Building (631) 632-6748. 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 Disability Support Services. For procedures and information, go to the following web site: http://www.ehs.sunysb.edu and search Fire Safety and Evacuation/Physical 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, as per the SHTM Academic Policies and Procedures.

Plagiarism Policy
Any act of plagiarism will be taken very seriously in this class. Plagiarism is a form of academic dishonesty. Plagiarism is the use of others’ words and/or ideas without clearly acknowledging their source. Plagiarism occurs when a writer uses another person’s words and/or ideas in a paper without giving credit to the original author. As students, you are learning about other people’s ideas in your course texts, your instructors’ lectures, in-class discussions, and when doing your own research. When you incorporate those words and ideas into your own work, it is of the utmost importance that you give credit where it is due.

Plagiarism takes many forms: The form you might be most familiar with is direct copying of another’s words without using quotation marks and/or without citing the source of those words. If you do quote verbatim from another source, always (a) use quotation marks around the words that are not yours and (b) properly cite the source at the end of the quoted material. Other forms of plagiarism are equally problematic and wrong. One such form is rewording parts of an author’s point (but not others) and not citing that source. Any portion, be it ever so small, of another author’s argument must be cited. If you 'borrow' phrases from an author, these phrases must be put in quotation marks and properly cited. A third form of plagiarism is when you reword an author’s words entirely but you keep the authors’ original sentence structure and paragraph structure without proper citation. Whenever you rely on other people’s work (which we all do), just make sure to cite their ideas. See the following sites for help understanding plagiarism:

http://www.indiana.edu/~wts/pamphlets/plagiarism.pdf

Plagiarism, intentional or unintentional, is considered academic dishonesty and all instances will be reported to the Academic Judiciary. To avoid plagiarism, you must give the original author credit whenever you use another person’s ideas, opinions, drawings, or theories as well as any facts or any other pieces of information that are not common knowledge. Additionally quotations of another person’s actual spoken or written words; or a close paraphrasing of another person’s spoken or written words must also be referenced. Accurately citing all sources and putting direct quotations – of even a few key words – in quotation marks are required. For further information on plagiarism and the policies regarding academic dishonesty go to the Academic Judiciary website athttp://naples.cc.sunysb.edu/CAS/ajc.nsf.
**Academic Integrity**
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 (see plagiarism policy, above). Faculty are required to report any suspected instances of academic dishonesty, as per the SHTM Academic Policies and Procedures.

**Academic Dishonesty**
Intellectual honesty is a cornerstone of all academic and scholarly work, including in an on-line format. Penalties for misconduct may vary according to the circumstances of each particular case. Penalties may range in severity from verbal warning to expulsion from the University with the reason recorded on the student’s permanent transcript. Academic dishonesty is a serious offense and will be treated in accordance with the University’s Policies and Procedures Governing Undergraduate Student Academic Dishonesty, which can be located at [http://www.uhmc.sunysb.edu/studserv/bulletin/03_SHTM2006.pdf](http://www.uhmc.sunysb.edu/studserv/bulletin/03_SHTM2006.pdf)

**Writing Center**
The Stony Brook University Writing Center, located in Humanities room 2009, supports writing at Stony Brook University. Trained undergraduate and graduate writing tutors help writers through one-on-one tutoring sessions that focus on each individual writer's needs. Writers of all skill-levels at any stage of the writing process are invited to make appointments at the Writing Center. Writers can bring in anything they're working on, be it a creative piece, a personal statement, or a paper for class. Tutors will help writers brainstorm, organize, focus, and develop their written works. To make an appointment on-line, go to [http://stonybrook.edu/writhet/wcabout.shtml](http://stonybrook.edu/writhet/wcabout.shtml).