

**Course Syllabus - The Impact of Materials on Society**  
**FALL 2014**  
**EMA 1004, ANT 3930. CLA 3930, HIS 3930, and IDS 4930**

*Meeting Times* – MWF, Period 3 (9:35-10:25am)

*Meeting Location* – Pugh 170

*Credit Hours* - 3 credit hours

*Instructor* – Prof. Kevin Jones; Office: 160 Rhines; Telephone: 846-3301; e-mail:  
[kjones@eng.ufl.edu](mailto:kjones@eng.ufl.edu)

*Office Hours:* Monday, Tuesday, Wednesday, Period 4; or when I'm in my office.

Prof. Jones will be joined by Dr. Sophia Kryzs-Acord (Sociology), Prof. Susan Gillespie (Anthropology), Prof. Ken Sassaman (Anthropology), Prof. Mary Ann Eaverly (Classics), Prof. Florin Curta (History), Prof. Sean Adams (History), Prof. Bonnie Effros (History) and Prof. Marsha Bryant (English)

***Catalog Description*** –

This course explores the connections between the discovery of new materials -- such as ceramics, concrete, precious stones and metals, glass, steel, plastics and semiconductors - - and the development of technologies and social structures worldwide. To see these connections, the course will fuse basic concepts in materials science and engineering with perspectives and methods from anthropology, history, English, classics, literature, and sociology. From ancient cities and Roman baths, steel foundries and Tupperware parties, to virtual communities and nanomedicine, we will learn how the physical properties of different materials intersect with cultural variables like gender, race, power/authority, religious beliefs, values, and financial and political systems to shape human civilization. By connecting lessons from the past to the inventions of cutting-edge materials, we will also explore the future social impacts of new materials in medicine, construction, transportation, clean energy, sports, and other areas. Engineers play important roles in changing or maintaining the structure and fabric of society. This course will explore how their materials-based technologies shape our society, as well as how society shapes engineering innovations.

***Prerequisites and Co-requisites*** - none

***Required Reading*** – *The Substance of Civilization* by Stephen L. Sass, ISBN-13: 9781559704731. Additional readings and course materials will be provided on Sakai throughout the semester.

***Course Objectives***

Introduce students to how new materials impacted social structure both historically and in the present day, and to the social and cultural forces that shape the development and use of materials and technologies from the past to future. To do this, this course will

- Examine the interrelated nature of society and materials engineering
- Demonstrate how materials can be manipulated to solve technical and sociocultural

problems

- Explore how social and cultural systems shape how humans perceive the intrinsic physical properties of materials
- Discuss how the impact of materials on society varies with the cultural and historical context.
- Give students a variety of approaches from the humanities, social sciences, and sciences to examine and shape the impact of materials on society.
- Teach students basic skills in cross-disciplinary communication, team work, and argumentative writing.
- Teach critical thinking about how disciplinary approaches and personal beliefs shape our understanding of materials.
- Teach creative thinking about how to apply this knowledge through applied projects discussing future materials innovations.

### ***Course Outline***

This course serves as a test bed for the development of a new course at universities and colleges around the country. Each week of the course will focus on a particular class of materials. The first two days of each week will examine the discovery of a particular material, its physical properties, and historical case studies of its major social impacts. In preparation for the third class meeting each week, we will watch a short video lecture on modern materials being developed by scientists from around the U.S. The third class meeting will feature an in-class activity to discover the possible social impacts of these future materials. A schedule of topics will be provided in the course notes.

***Attendance and Expectations*** - All students are expected to attend and participate in class. The class is taught in an interactive lecture format, and includes discussion and practice activities. Cell phones should be turned off in class. Reading of newspapers, work on assignments for this or other classes, or other activities that are not part of the class are not allowed during class time.

<b><i>Assignment</i></b>	<b><i>Due Date</i></b>	<b><i>Credit</i></b>
Homework assignments	each Friday	30%
Midterm	Wednesday, Oct. 15	20%
Final Exam	Thursday, Dec. 18	20%
Final Project	Dec. 3 or Dec 5	20%
Class Participation		10%

\*Extra-credit opportunities will be announced throughout the semester.

***Grading Scale*** - 92-100= A; 91-89 = A-; 88-86 = B+; 85-82 = B; 81-79= B-; 78-76 = C+; 75-72 = C; 71-69 = C-; 68-66 = D+; 65-62 = D; 61-59 = D-; Less than 59 = E  
Grades are not curved.

***Make-up Exam Policy*** - Make-up exams are given only for reasons of illness and in accordance with University of Florida regulations.

***Honesty Policy*** – All students admitted to the University of Florida have signed a

statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

***Accommodation for Students with Disabilities*** – Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

***UF Counseling Services*** – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling.
- SHCC Mental Health, Student Health Care Center, 392-1171, personal counseling.
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
- Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

***Software Use*** – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.