DESIGN THINK DO MAKE

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What is design? How does one do it? Is doing design similar to doing science, engineering, art, or some combination? Or is design its own thing? An activity and a mindset that approaches the world with its own goals, tools, and procedures?

We will explore these questions *by doing design* – short deep dives and extended engagements with a range of design problems -- and *by taking design apart* – careful, considered, and speculative unpacking of some everyday products. You will have the opportunity to work in 3-4 laboratories for these activities, including:
- physical prototyping (materials, finishes, textures), to occur in the Industrial Design laboratories,
- mechanical design and fabrication (mechanisms), to occur in the ME Invention Studio,
- electronic prototyping (microcontrollers, circuits), to occur in the GVU labs, and
- virtual/software development (code, web-site design, game engines).

In addition, you will work on one or more large projects throughout the semester which will immerse you into design within, across, and in-between the disciplines and "majors" that exist across campus. In the process you will see how design spans technical, human (thought processes, interfaces, collaboration), and cultural aspects of our world. And how complex problems cross scales and systems.

Our goal for you is to help you develop *design literacy* and *design agency*: both an awareness of *and* an ability to participate in the challenges, pleasures, and possibilities of doing and thinking design that go beyond your disciplinary education. We will explore a variety of design representations that are used in different disciplines. We will also investigate various design processes used in these disciplines and compare and contrast them.

We are looking for juniors and seniors across campus who want to experience design outside of their disciplines, who want to be challenged, and who want to help raise the profile of design on campus.

Learning Objectives
- An awareness of how design is conceived and practiced in a wide range of disciplines, professions, and situations;
- An ability to carry out a design project through all its phases: select and formulate 'problem', design, model/prototype, fabricate, evaluate, modify, propose;
- An understanding of design processes and how to design them;
- A preliminary understanding of how to "theorize" or "problematize" interdisciplinary design, its important concepts, concerns, approaches, and goals.

There are two additional **larger goals** for the class:
- To explore, debate, and socialize the larger question of "interdisciplinary design" and the proposed institute minor in particular;
- To sponsor design curiosity and literacy: to spark an interest in and awareness of design in all its diverse manifestations.

GRADUATE   Level I (Masters & Phd courses)_____   Level II (Phd courses)_____   **UNDERGRADUATE X**_____

SCHOOL, DEPARTMENT, COLLEGE: Mechanical Engineering_____   **DATE:** _____4/12/12_____

1. Proposed Course Number: ME4803 (Verify with Registrar's Office)	2. Hours: *LECTURE 3* *LAB/RECITATION 0* *SEMESTER CREDIT 3* *Is this course repeatable for credit?* No

3.   Descriptive Title:
DESIGN ACROSS DISCIPLINES

4.   Recommended Abbreviation for Transcript – (24 characters including spaces):

D	E	S	I	G	N		A	C	R	O	S	S		D	I	S	C	I	P	L	I	N	E

5.   Catalog Description – (25 words or less)
This course provides an introduction to interdisciplinary design. Technical, cultural, and human-centered aspects will be covered through a series of projects.

6.   Basis: L/G X   P/F X   Audit X

7.   Prerequisites: (For graduate level courses, Graduate Standing or Permission of Instructor is assumed)   none
Prerequisites with concurrency: none
Corequisites: none

8.   Has the course been taught as a special topic? NO   If YES,   When   Enrollment

9.   Is this course equivalent to another course (graduate or undergraduate) taught at Ga. Tech? If yes, list course number(s): NO

10. For undergraduate courses, are you requesting that this course satisfy:
~~Humanities~~   ~~Social Science~~   ~~Ethics~~   ~~Global Perspective~~

11. Expected Mode of Presentation:	*MODE*	*% of COURSE*
• Lecture	Lecture	60
	Discussion	15
	Seminar	10
	Demonstration	
	Other (Specify)	
• Lab/Recitation	Supervised	
	Unsupervised	15
12. Planned Frequency of Offering:	*TERM TO BE OFFERED*	*EXPECTED ENROLLMENT*
	Fall	20
	Spring	
	Summer	

13. Probable Instructor(s) – *Please mark with an asterisk any non-tenure track individuals.*
David Rosen, Sabir Khan (Arch/ID), Alexandra Mazalek (LCC)

14. Purpose of Course: Relation to other courses, programs and curricula:
The purpose is to offer interdisciplinary design experiences to the students so that they can compare and contrast design processes, methods, and tools from various disciplines. Students will design artifacts and reverse engineer products as part of small and large projects in interdisciplinary teams. Students will gain an awareness of how design is conceived and practiced in a wide range of disciplines, professions, and situations; an ability to carry out a design project through all its phases; an understanding of design processes and how to design them; and a preliminary understanding of how to "theorize" or "problematize" interdisciplinary design, its important concepts, concerns, approaches, and goals. The course is intended to be the first course in the Interdisciplinary Design Minor that is under development. To our knowledge, no other course at Georgia Tech is similar.

15. Required   Elective   X

16. Submit a course syllabus

17. Can the class count toward degree requirements at Georgia Tech? YES

18. Is this class restricted to Free Elective only? NO