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ENST 391.02: Introduction to UM FLAT

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Spring 2013

ENST 391.02 Intro to UM FLAT

Wed 4:40-6:30 pm

JRH 205 & UM FLAT 639 5th St.

Instructor Len Broberg

107A Rankin Hall

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Office Hours: W, Th

FLAT Coordinator: Katie Nelson

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Class Purpose: This class will familiarize students with basic principles of sustainability including cradle to grave life cycle analysis, biomimicry, green building, and renewable energy. Students will gain experience designing, planning, funding and implementing sustainability projects in the built environment. The class is a supervised internship with the UM FLAT and satisfies the EVST internship requirement.

Readings: Readings will be on ERES under the class or instructor- the password is "tech11" or handed out

Tentative Schedule

Jan 30	Class intro, Kless Revolving Energy Fund intro, FLAT tour
Feb 6	Cradle to Grave life cycle analysis- Social Marketing Sustainable behavior
Feb 13	Biomimicry
Feb 20	Biomimetic solar power- KRELf project sign up
Feb 27	Solar panel construction
Mar 6	Solar panel construction cont'd
Mar 13-April 24	FLAT and Kless Revolving Energy Loan Fund projects
April 10	Draft KRELf proposal due
April 19	UM FLAT Earth Day Event participation
May 1	Project Review & Final KRELf Proposal due
May 8	Project Review

Kless Revolving Energy Loan Fund Project

Students will develop and submit a KRELf proposal for funding an energy conservation, renewable energy generation or behavior change project to ASUM for funding by the KRELf Fund. Proposals can be submitted by groups or individually. The instructor will develop some possible projects to choose from but students may also work on their own projects. See <http://www.umt.edu/greeningum/KRELf/RELf%20Project%20Ideas.aspx> for examples.

FLAT Projects

The UM Forum for Living with Appropriate Technology is a kind of living learning laboratory where residents try out various approaches to reducing their ecological footprint through adapting their behavior and built environment. Each semester the residents develop projects to pursue and implement on site. Students will be expected to develop a project idea through the design phase by the end of the semester in addition to the KRELf project. Limited funds are available to support project implementation. Students may work individually or in groups to develop and implement projects.

Time Expectations

This course is a supervised internship and students are therefore expected to put in 90 hours toward the work in the course, the KRELf project and FLAT projects/work. This means that students must keep a weekly log of hours spent on course related activities. At the start of the course this will involve course readings, class attendance and other usual course related activities. As the semester moves along we will move to a more independent model of class participation. You may be working with a single FLAT resident, the ASUM Sustainability Coordinator or a UM Building Manager or staff on various projects. There will also be research time and brainstorming sessions necessary to develop ideas. These activities all qualify. If you have any questions about what counts consult the instructor.

Each Wednesday throughout the term each student will turn in a time sheet reflecting time spent from the prior Wednesday through Tuesday.

DO NOT DELAY GETTING STARTED! YOU CANNOT MAKE UP A BUNCH OF TIME AT THE END OF THE SEMESTER!

Each week starting by the week of March 6 the FLAT residents will have a list of activities you can sign up for that week. Take advantage of this each week and gathering time will be easy and less stressful.

Field Trips

There will be at least 1 field trip that will be scheduled during the regular class time. Transportation will be provided.

Grading

The course is CR/NCR and credit can be assured by:

1. Attending class and doing the readings
2. Participating in class activities
3. Completing a KRELF Proposal accepted by the instructor
4. Completing a FLAT project design accepted by the instructor
5. Completing a project review in class
6. Documenting 90 hours of work during the semester before the end of finals week (May 17)

Learning Objectives

By course completion students will:

1. Understand and be able to apply basic concepts of :
 - a. Lifecycle analysis
 - b. Biomimicry
 - c. Renewable energy
 - d. Green building
2. Be able to develop an energy related project including:
 - a. Design the project
 - b. Partner with non-students
 - c. Develop a budget
 - d. Write a proposal for funding
3. Be able to apply sustainability principles to conceive and design a project for the residential built environment
4. Understand the steps of constructing a solar panel and be able to execute at least some of them