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# CHM311

## Green Chemistry and Industrial Processes

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WINTER 2012  
MWF 12-12:50PM MAK A1184

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### Overview

Green Chemistry is the design of chemicals and processes while eliminating the use and generation of hazardous substances. Focuses on green chemistry principles and their industrial applications.

### Goals at the end of the semester you should be able to:

1. **locate, evaluate, and use** information concerning green chemical processes effectively; use the information as a platform to think critically
2. **integrate** the principles of Green Chemistry into your main area of expertise
3. **make** sensible use of the variety of data addressing the concerns related with the reciprocal effect of humans environment
4. **articulate** expression through effective speaking –Student individual project & presentations (three throughout the semester)
5. **articulate** expression through effective writing – Student individual projects & presentation-Written final report
6. **acquire** a better understanding of the role chemistry plays in our everyday lives

### Requirements

Three exams; (should get a C or better to pass) No make-up  
Three oral presentation  
Project: oral presentation and written report (need a C or better to pass)  
*Knol-of-science*-individual (web)  
SS Day presentation-group (poster) April 11, 2012

### Evaluation

**45% Exams:** 10% Exam 1; 15% Exam 2; 20% Final Exam  
**35% Assignments:** 5% Knol-of-Science; 5% SS Day Presentation; 5% GC Presidential Award presentation; 10% Case Study; 5%Homework; 5% Class & Discussion Board participation  
**20% Final Project**

### Materials

*Green Chemistry-An introductory text* by M. Lancaster  
*Green Chemistry: Theory and Practice*, by P. Anastas J. C. Warner  
*Sustainable Industrial Chemistry: Tools and Industrial Examples*, by Cavani, Centi, Parathoner, Trifiro, (Eds),

### Milestones

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#### FEBRUARY 3<sup>rd</sup>

Green Chemistry: definition, Principles, Tools, Practice

- Exam 1
- Knol-of-Science - DUE

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#### MARCH 2<sup>nd</sup>

Green processes & Case Studies

- Exam 2

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#### APRIL 2<sup>nd</sup>

• SS Day Presentation - DUE

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#### APRIL 20<sup>th</sup>

Sustainable Industrial Chemistry- Industrial applications

- Presidential GC Award presentation
- Final project - DUE

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#### APRIL 25<sup>th</sup>

• Final Exam

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