METROPOLITAN STATE COLLEGE *of* DENVER
Office of Academic Affairs

REGULAR COURSE SYLLABUS

School of: Professional Studies

Department: Engineering Technology

CIP Code: 15.0201

Prefix & Course Number: **CET 3330** **Crosslisted With*:** _____

Course Title: Environmental Technology Processes

Check All That Apply: Required for Major: X Required for Minor: _____ Specified Elective: _____

Required for Concentration: _____ Elective: _____ Service Course: _____

Credit Hours: 3 (3+0)

Total Contact Hours per semester (assuming 15-16 week semester):

Lecture 45 Lab 0 Internship _____ Practicum _____ Other (please specify type and hours):_____

Schedule Type(s): L **Grading Mode(s)**: L

Variable Topics Courses (list restrictions, including the maximum number of hours that can be earned**):

____

**** NOTE: This information must be included in the course description.**

Restrictions (Variable Topics Course): _____

Prerequisite(s): CHE 1100 or CHE 1800 with a grade of "C" or better, at least junior standing; or permission of instructor

Corequisite(s): None

Prerequisite(s) or Corequisite(s):

Banner Enforced:
Prerequisite(s): _____
Corequisite(s): _____
Prerequisite(s) or Corequisite(s): _____

Catalog Course Description:

This course covers chemistry basics, acid-base reactions, biochemical processes and reactions. Also included is an overview of water and wastewater processes following fieldtrip(s) in this area.

APPROVED:

Department Chair **OR** Program Director — Date: 3 Apr 08

Dean **OR** Associate Dean — Date: 4/8/08

Associate VP, Academic Affairs — Date: 5/19/08

*If crosslisted, attach completed Course Crosslisting Agreement Form

Prefix and Course Number: CET 3330

Required Reading and Other Materials will be equivalent to:
Nathanson, Jerry A. (2008), *Basic Environmental Technology: Water Supply, Waste Management & Pollution Control* (5th Edition), Prentice Hall.

Specific, *Measurable* Student Behavioral Learning Objectives:
Upon completion of this course the student should be able to:
1. Identify the nature of ecosystems, the components and response to changes in the environment.
2. Examine both mass and materials balances around a treatment process, estimate the quantities of given substances at each stage and judge whether the process will meet regulatory criteria.
3. Examine oxidation-reduction reactions and write overall balanced relationships.
4. Compare the role of microorganisms and plants in maintaining aquatic balance and in the degradation of nutrients, pollutants and toxins.

Detailed Outline of Course Content (Major Topics and Subtopics) **or Outline of Field Experience/Internship (experience, responsibilities and supervision):**

I. Basic Concepts
   A. Hydraulics
   B. Hydrology
II. Water
   A. Water quality
   B. Water pollution
   C. Drinking Water Purification
III. Water Distribution Systems
IV. Sanitary Sewer Systems
V. Stormwater Management
VI. Waste
   A. Wastewater Treatment and Disposal
   B. Municipal Solid Waste
   C. Hazardous Waste Management
VII. Pollution Control
   A. Air Pollution and Control
   B. Noise Pollution and Control
VIII. Fieldtrip

Evaluation of Student Performance:
1. Written examinations
2. Performance of assigned homework problems
3. Oral presentations on instructor-assigned topic
4. Written report
5. Final Project