FLORIDA ATLANTIC UNIVERSITY

COURSE CHANGE REQUEST
Undergraduate Programs

Department CEGE

College CoE&CS

UUPC Approval _____
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner Posted _____
Catalog _____

***Current* Course Prefix and Number**	ENV4053	***Current* Course Title**	Environmental Fate and Transport

*Syllabus must be attached for **ANY** changes to current course details. See Checklist. Please consult and list departments that may be affected by the changes; attach documentation.*

Change title to:

RI: Environmental Fate and Transport

Change prefix

From: **To:**

Change course number

From: **To:**

Change credits*

From: **To:**

Change grading

From: **To:**

Change WAC/Gordon Rule status**

Add ☐ **Remove** ☐

Change General Education Requirements***

Add ☐ **Remove** ☐

*Review Provost Memorandum

**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See WAC Guidelines.

***General Education criteria must be indicated in syllabus and approval attached to this form. See GE Guidelines.

Change description to:

This course introduces students to the study of the major physical, chemical and biological processes of pollutant transformation and transport between air, water and the subsurface. This is a research intensive course.

Change prerequisites/minimum grades to:

Change corequisites to:

Change registration controls to:

Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).

Effective Term/Year for Changes:	Spring 2021	**Terminate course? Effective Term/Year for Termination:**	

Faculty Contact/Email/Phone Meeroff/dmeeroff@fau.edu/7-2658

Approved by		***Date***
Department Chair		08/24/2020
College Curriculum Chair	Dan Meeroff	08/24/2020
College Dean		
UUPC Chair	Jerry Haky	9-15-20
Undergraduate Studies Dean	Edward Pratt	9-15-20
UFS President		
Provost		

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

[ENV 4053]: [RI: ENVIRONMENTAL FATE & TRANSPORT]

Department of Civil, Environmental & Geomatics Engineering
Fall 2021
3 Credit Hours

Instructor: Dr. Daniel E. Meeroff, Professor and Associate Chair
Office Location: Engineering West (EG-36) Bldg., Room 206
Office Hours: T/R 11:00 – 12:20 pm, or by appointment
Phone Number: 561-297-2658
Email: dmeeroff@fau.edu
Video Conferencing Tool Name: Cisco WebEx

COURSE DESCRIPTION

This course introduces students to the study of the major physical, chemical and biological processes of pollutant transformation and transport between air, water and the subsurface.

COURSE PREREQUISITES

Prerequisite: ENV 3001C and CHM 2046 and CHM 2046L all with minimum grades of "C"

This is a research-intensive (RI) course.

This course contains multiple assignments designed to help students conduct research and inquiry at an intensive level. If this class is selected to participate in the university-wide assessment program, students will be asked to complete a consent form and submit electronically some of their research assignments for review. Visit the Office of Undergraduate Research and Inquiry (OURI) for additional opportunities and information at http://www.fau.edu/ouri.

This is an upper division required BSEV course, and a technical elective for other majors.

COURSE OBJECTIVES

Upon successful completion of this course, students will demonstrate:

1. Ability to understand the physical, chemical, biological, and ecological concepts necessary to analyze basic environmental engineering problems (1,4,6,7)
2. Ability to understand the fundamental processes of pollutant fate necessary to conceptualize natural or engineered systems (1,3,4,5,6,7)
3. Ability to apply knowledge of environmental processes to general modeling or problem solving (1,3,4,5,6,7)

COURSE DELIVERY MODE

This course is accessible only through FAU's learning management system, Canvas. You must log into Canvas with your FAU ID and Password to access the materials and assignments in this course. If you do not know your FAU ID or Password, contact OIT for help.

The course delivery mode is mostly online class live lecture using synchronous virtual trainings via Cisco WebEx on Mondays from 4:00pm to 6:50pm, EST each week. You are expected to participate in online active learning sessions during the synchronous virtual trainings. Laboratory sessions will be scheduled for Wednesdays and Fridays from 2:00pm to 3:20pm, EST but are not scheduled every week.

The course is organized into modules with due dates. Unless otherwise specified, each module begins on Monday at 12:00am, EST, and ends on Sunday at 11:59pm, EST. The course begins with the Start Here module, which will familiarize you with the organization and navigation of the course. You will open a new learning module to access the assigned reading materials, videos, presentations, and other relevant materials for each subsequent module.

The course meets for one 170-minute lecture per week. There is also a laboratory component. Homework assignments are given weekly, typically. There is a team term paper with oral presentation, lab reports, and a midterm exam and a final exam are given. Tests will be conducted using the Lockdown Browser/Respondus Monitor technology.

TIME COMMITMENT PER CREDIT HOUR

This course has 3 credit hours. For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

REQUIRED TEXTS & MATERIALS

Texts

In this course, you will need the following texts and/or materials.

- Dunnivant & Anders, Pollutant Fate and Transport in Environmental Multimedia, Wiley, 2019. ISBN: 978-1-119-41462-9
- National Council of Examiners for Engineering and Surveying. Fundamentals of Engineering Supplied-Reference Handbook, Version 9.5. www.ncees.org. ISBN: 978-1-932613-67-4

Optional Texts/Materials

- Hemond & Fechner, Chemical Fate and Transport in the Environment, 3rd edition. Elsevier, 2015. ISBN: 978-0-12-398256-8

Reference list

- Hart, J. (1988). Consider a Spherical Cow: A Course in Environmental Problem Solving. University Science Books, Sausalito, CA. ISBN: 0-935702-58-X
- Masters, G. M. and W. P. Ela. (2008). Introduction to Environmental Engineering and Science. Third Edition. Prentice Hall, Upper Saddle River NJ; 2008. ISBN: 0-13-148193-2.
- Morel, F. M. M. And J. G. Hering. Principles and Applications of Aquatic Chemistry. John Wiley & Sons, Inc., New York; 1993. ISBN: 0-471-54896-0.
- Sawyer and McCarty, Chemistry for Environmental Engineering, Third Edition, McGraw-Hill, Inc., 1978
- Schnoor, J.L. (1996), Environmental Modeling: Fate and Transport of Pollutants in Water, Air and Soil, John Wiley & Sons, New York, NY.
- Thibodeaux, L.J. Environmental Chemodynamics: Movement of Chemicals in Air, Water, and Soil. Wiley-Interscience, New York, 1996
- W.J. Weber Jr. Environmental Systems and Processes. John Wiley & Sons, New York, 2001.
- Weber, Jr., W.J. and DiGiano, F.A. Process Dynamics in Environmental Systems. Wiley-Europe, 1996.

MINIMUM TECHNOLOGY & COMPUTER REQUIREMENTS

HARDWARE & SOFTWARE REQUIREMENTS

Hardware

- Dependable computer with Windows 10 or macOS Sierra (or higher) Specifications
- Computer speakers
- Headset with microphone
- Webcam
- A backup option should be available to minimize the loss of work. This can be an external hard drive, a USB drive, cloud storage, or your folder on the FAU servers

Software

- Microsoft 365 Suite
- Reliable web browser (recommended Chrome or Firefox)
- Canvas mobile app: Download instructions for iOS device or Android device
- Adobe Reader
- Adobe Flash Player
- Once logged in to Canvas make sure your Internet browser is compatible.
- Other software may be required for specific learning modules. If so, the necessary links to download and install will be provided within the applicable module.

Internet Connection

- Recommended: Broadband Internet connection with a speed of 4 Mbps or higher.
- To function properly, Canvas requires a high-speed Internet connection (cable modem, DSL, satellite broadband, T1, etc.). The minimum Internet connection speed to access Canvas is a consistent 1.5 Mbps (megabits per second) or higher.
- Check your Internet speed here.

MINIMUM TECHNICAL SKILLS REQUIREMENTS

The general and course-specific technical skills you must have to succeed in the course include but are not limited to:

- Accessing Internet.
- Using Canvas (including taking tests, attaching documents, etc.).
- Using email with attachments.
- Creating and submitting files in commonly used word processing program formats such as Microsoft Office Tools.
- Copying and pasting functions.
- Downloading and installing software.
- Using presentation, graphics, and other programs.
- Using spreadsheets to manage data and create graphs.
- Posting and commenting in an online discussion.
- Searching the FAU library and websites.

TECHNICAL SUPPORT

In the online environment, technical issues are always possible (e.g., lost connection, hardware or software failure). Many of these can be resolved relatively quickly, but if you wait until the last minute before due dates, the chances of these glitches affecting your success are greatly increased. Please plan appropriately. If a problem occurs, it is essential you take immediate action to document the issue so your instructor can verify

and take appropriate action to resolve the problem. Most issues in Canvas can be resolved by clicking on the "Help" tab located on the menu bar.

When a problem occurs, click "Help" to:

- Report a Problem
- Live Chat with Canvas Support
- Search Canvas Guides

Additional Technical Support

1. Contact the eLearning Success Advisor for assistance: (561) 297-3590
2. If you can, make a Print Screen of the monitor when the problem occurs. Save the Print Screen as a .jpg file. If you are unfamiliar with creating a Print Screen file, see Print Screen instructions.
3. Complete a Help Desk ticket. Make sure you complete the form entirely and give a full description of your problem so the Help Desk staff will have the pertinent information in order to assist you properly. This includes:
    a. Select "Canvas (Student)" for the Ticket Type.
    b. Input the Course ID.
    c. In the Summary/Additional Details section, include your operating system, Internet browser, and Internet service provider (ISP).
    d. Attach the Print Screen file, if available.
4. Send a message within Canvas to your instructor to notify him/her of the problem. Include all pertinent information of the incident (2b-d above).
5. If you do not have access to Canvas, send an email to your instructor with all pertinent information of the incident (2b-d above).
6. If you do not have access to a computer, call your instructor with all pertinent information of the incident. If he/she is not available, make sure you leave a detailed message.
7. If you do not hear back from the Help Desk or your instructor within a timely manner (48 hours), it is your responsibility to follow up with the appropriate person until you obtain a resolution.

COURSE ASSESSMENTS, ASSIGNMENTS & GRADING POLICY

GRADING CRITERIA

Class Assignments, Homework, Discussion Boards, Quizzes, Class Participation (20%)

Discussion Boards. As part of the class assignments, you will be asked to post an original submission to the discussion board and reply to at least two other students' posts with a substantive response. A substantive response adds value to the discussion by bringing new ideas, research, evidence, etc. to the conversation. "I agree," "Ditto" and the like are not acceptable replies. The rules of Netiquette must be followed. Replies are not texts with your friends. Full sentences, proper spelling, source citations, etc., are expected.

Ensure that postings contain detailed responses to each question and that course and chapter contents are applied in your discussion responses. For example, consider taking a new approach in presenting chapter content, cite new examples, present external research (paraphrase, avoid unnecessary and/or lengthy quotations; **do not plagiarize, cite references**). For maximum points, please reference external research or examples as well as the discussion rubrics.

All original posts for each module discussion board must be submitted by 11:59pm, EST, on Sunday. Responses to peers are due at 11:59pm, EST, on Sunday.

Homework, quizzes, and other class assignments will be posted on Canvas well in advance of the due date, which is typically on a Sunday at 11:59pm EST.

Class Participation. You are expected to participate with a smile in live online synchronous sessions and laboratory sessions. Active learning approaches and small group discussions will be utilized to assess class participation. This is not merely an attendance grade.

Course Examinations (35%)

There are two exams (midterm, 15% and final, 20%). Examinations will be based on readings, lectures, homework, and class discussions. The exams will include a variety of question types. Answers will be evaluated based on content in terms of accuracy of information and ability to analyze the issues. Exams will be taken online in the Canvas Learning Management System using Lockdown Browser/Respondus Monitor. Tests will be timed. No make-up exams are given.

Lab Reports (20%)

There will be multiple laboratory exercises conducted. Each one will require students to conduct background research, formulate a hypothesis, develop a methodology, collect observations, produce graphs and data tables, and critically analyze the data to articulate conclusions. There is a laboratory report rubric to assist with the content and expectations.

Group Project (25%)

You will be required to participate in a team project that will involve collaborating with other students to produce a final product. This assignment offers you the opportunity to practice virtual collaboration skills that are applicable to the 21st Century global workforce. Though group work is often challenging, it is a reality in nearly every employment setting. Learning to be a supportive team member, resolve conflicts, and discover your role preferences within group projects is an important part of the skills you will develop through your FAU education. The group project will have a final report and presentation that is assessed using a rubric.

The instructor will calculate your grade based on the following weighted distribution:

Assessment	Percentage (%)
Class Assignments, Homework, Discussion Boards, Quizzes	20%
Midterm Exam	15%
Lab Reports	20%
Group Project	25%
Final Exam	20%
TOTAL:	**100%**

GRADE SCALE (INSTRUCTOR RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO THE SCALE AS NEEDED)

Grade	Percentage (%)
A	93 – 100%
A-	90 – 92%
B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C+	77 – 79%
C	73 – 76%
C-	70 – 72%
D+	67 – 69%
D	63 – 66%
D-	60 – 62%
F	0 – 59%

You are expected to participate in all synchronous class sessions and assigned laboratory sessions with a smile and keep up with the material. You are not expected to be a distraction in the class. Final grades will be reduced by one letter grade for lack of participation in more than three (3) live lecture sessions or for any other form of class disruption (as determined by the instructor).

LATE ASSIGNMENTS POLICY

Late work is not acceptable. Failing to submit an assignment will result in a score of "-1." Students who turn in late work after the deadline may receive feedback and the score will be changed to "0." Participation in University-approved activities or religious observances, with prior notice, will not be penalized.

MAKE-UP POLICY FOR TESTS

Exams will be given only at the scheduled times and places, unless previous arrangements have been made no less than one (1) full week in advance. No one is exempt from exams.

Makeups are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student of participating in the exam. Makeup exams will be administered and proctored by department personnel unless there are other pre-approved arrangements.

Note: The minimum grade required to pass the course is "C."

INCOMPLETE GRADE POLICY

Incomplete grades are against the policy of the Department. Unless there is solid evidence of medical or otherwise serious emergency situation, incomplete grades will not be given. The University policy states that a student who is passing a course but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor but is allowed only if the student is passing the course.

GROUNDS FOR DISMISSAL AND/OR INVALIDATION OF EXAM RESULTS

- Having an unauthorized device with copying, recording, or communication capabilities in your possession during the exam. These include but are not limited to cell phones, cameras, pagers, PDAs, radios, headsets, tape players, MP3 players, calculator watches, electronic dictionaries, electronic translators, and transmitting devices.
- Copying from another examinee's answer sheet or colluding with other examinees
- Accessing any unauthorized materials during the exam
- Leaving the exam area without authorization

COURSE POLICIES

CODE OF ACADEMIC INTEGRITY POLICY STATEMENT

Students at Florida Atlantic University should endeavor to maintain the highest ethical standards. Academic dishonesty is a serious breach of these ethical standards because it interferes with the University mission to provide a high-quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive to the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001.

PLAGIARISM

Plagiarism is unacceptable in the University community. Academic work must be an original work of your own thought, research, or self-expression. When students borrow ideas, wording, or organization from another source, they must acknowledge that fact in an appropriate manner. Plagiarism is the deliberate use and appropriation of another's work without identifying the source and trying to pass off such work as one's own. Any student who fails to give full credit for ideas or materials taken from another has plagiarized. This includes all discussion board posts, journal entries, wikis, and other written and oral presentation assignments. If in doubt, cite your source.

ONLINE ATTENDANCE POLICY

Since the course is online, you should access the course **at least three times per week** to ensure you do not miss pertinent postings, messages, announcements, or assignments. Attendance to the synchronous sessions is mandatory. It is imperative that you meet course deadlines and stay active in discussion boards, group projects, etc. If you are experiencing major illness, absences due to University duties, or other large-scale issues, contact the instructor immediately to formulate a resolution.

Students are responsible for arranging to make up work missed because of a legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

SPECIAL COURSE REQUIREMENTS

The goal of integrating writing in this course is to improve students' ability to produce professional quality engineering reports. Contact the University Center for Excellence in Writing at 561-297-3498 or www.fau.edu/UCEW for assistance.

If you need help finding appropriate research or background information for reports, try the libguide: http://libguides.fau.edu/basic_engineering-boca

Report all technical problems in Canvas to the IRM helpdesk (http://www.fau.edu/helpdesk)

NETIQUETTE

Due to the casual communication common in the online environment, students are sometimes tempted to relax their grammar, spelling, and/or professionalism. Please remember that you are adult students and professionals—your communication should be appropriate. For more in-depth information, please see the FAU statement on netiquette.

CLASSROOM ETIQUETTE/DISRUPTIVE BEHAVIOR POLICY STATEMENT

Disruptive behavior is defined in the FAU Student Code of Conduct as "... activities which interfere with the educational mission within classroom." Students who disrupt the educational experiences of other students and/or the instructor's course objectives in a face-to-face or online course are subject to disciplinary action. Such behavior impedes students' ability to learn or an instructor's ability to teach. Disruptive behavior may include but is not limited to non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor's expectations for classroom conduct. For more information, please see the FAU Office of Student Conduct.

RESEARCH-INTENSIVE (RI) DESIGNATED COURSE

This course contains multiple assignments designed to help students conduct research and inquiry at an intensive level. If this class is selected to participate in the university-wide assessment program, students will be asked to complete a consent form and submit electronically some of their research assignments for review. Visit the Office of Undergraduate Research and Inquiry (OURI) for additional opportunities and information at http://www.fau.edu/ouri.

Design projects are expected to achieve all six of the following Student Learning Outcomes (SLOs):

SLO 1: Knowledge. Students are expected to demonstrate content knowledge, and knowledge of core principles and skills.

SLO 2: Formulate Questions. Students are required to formulate research questions, scholarly or creative problems in a manner appropriate to the planning discipline.

SLO 3: Plan of Action. Students are expected to develop and implement a plan of action to address research and inquiry questions or scholarly problems.

SLO 4: Critical Thinking. Students are expected to apply critical thinking skills to evaluate information, their own work, and the work of others.

SLO 5: Ethical Conduct. Students are expected to identify significant ethical issues in research and inquiry and/or address them in practice.

SLO 6: Communication. Students will convey all aspects of their research and inquiry (processes and/or products) in appropriate formats, venues, and delivery modes.

OURI Student Learning Outcomes (SLO)	Description of Assignment Requirements and Assessments
SLO 1: **Knowledge**	Students will demonstrate a fundamental basis of discipline-specific knowledge required for effective professional practice in the fields of environmental engineering. Students will also demonstrate working knowledge of tools and practical skills needed to analyze engineering design problems related to multiple

	realistic constraints, such as environmental issues, engineering economics, design codes, ethics, climate change, and/or other contemporary design issues.
SLO 2: **Formulate Questions**	Students will develop and refine a problem statement in which they specifically address their research questions. Students are expected to articulate the scope of the problem to be able to address the research question with an engineering solution. When appropriate, students should be able to create additional (albeit related) questions for smaller subsections of the overall design project.
SLO 3: **Plan of Action**	Students will create a plan of action that will include the problem statement (or research question), scope of work, literature review and background context, methodology or approach to the solution, analysis plan (including sensitivity analysis), conclusion and design documents. Students will develop a hypothesis if needed, identify research methods and experimental designs, and select appropriate statistical techniques, if warranted.
SLO 4: **Critical Thinking**	Students will demonstrate critical thinking skills by taking into consideration multiple perspectives and examining implications and consequences of design decisions or engineering alternatives. Students will also demonstrate an ability to use evidence and reasoning to objectively justify decisions and an ability to apply codes and design standards to make reasonable engineering judgments. Students are asked to peer review student work and provide feedback during the juried presentations.
SLO 5: **Ethical Conduct**	Students will familiarize themselves with the Code of Ethics of their engineering discipline. All work is held to the standards established by the governing professional societies (FES, ASCE, FSMS, ASPRS, AWWA, WEF, AW&MA, SWANNA, etc.) in the discipline.
SLO 6: Communication	Students will present and defend their work in written and oral formats, including a final. All deliverables are expected to be of professional quality. Students are expected to demonstrate knowledge of technical report writing, visualization in 3D, and persuasive presentation skills.

COMMUNICATION POLICY

EXPECTATIONS FOR STUDENTS

Remember you are an adult—your communication with the professor and your classmates should be appropriate.

Announcements

You are responsible for reading all announcements posted by the instructor. Check the course announcements each time you log in.

Email/Video Conferencing

You are responsible for reading all your course email and responding in a timely manner.

Course-Related Questions

Post course-related questions to the FAQ discussion board. This is the preferred method of communication for course-related issues. This allows other participants with the same question to benefit from the responses. Also, make sure you review this forum prior to posting a question. Someone may have already asked and answered the question in previous posts. Such posts should be used to communicate public matters.

INSTRUCTOR'S PLAN FOR CLASSROOM RESPONSE TIME & FEEDBACK

Course-Related Questions/Email/Video Conferencing Policy

Except for weekends and holidays, the instructor will typically respond to email (Canvas inbox or FAU email) within 48 hours. You should ask course-related questions in the FAQ discussion board. Personal or confidential matters should be sent via email directly to the professor.

Assignment Feedback Policy

The instructor will typically provide feedback on submitted assignments within one week of the submission date. Some assignments may require a longer review period, which the instructor will communicate to you.

Electronic Communication Policy

In addition to the University's policy, please consider the following:

- Privacy, confidentiality, and security in all electronic communications.
- All electronic communication resources must be used for the course and in alignment with to the University mission.
- Prohibited use of false identity, false identity pseudonyms, or anonymous (sender's name or electronic identification is hidden).
- Access without consent.
- Disruption of services including introducing computer contaminants (viruses).
- Harassment of any kind.

Please see the Office of Information Technology's policies on Cyber Security Awareness.

SUPPORT SERVICES & ONLINE RESOURCES

- Center for eLearning and Student Success
- Counseling and Psychological Services
- FAU Libraries
- Freshmen Academic Advising Services
- Math Learning Center
- Office of Information Technology Helpdesk
- Office of International Programs and Study Abroad
- Office of Undergraduate Research and Inquiry
- Student Accessibility Services
- University Center for Excellence in Writing

FACULTY RIGHTS & RESPONSIBILITIES

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise.

To ensure these rights, faculty members have the prerogative to:

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the *Student Code of Conduct*.

SELECTED UNIVERSITY & COLLEGE POLICIES

ACCESSIBILITY POLICY STATEMENT

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations to properly execute coursework due to a disability, must register with Student Accessibility Services (SAS) located in the Boca Raton, Davie, and Jupiter campuses and follow all SAS procedures. For additional information, please consult Student Accessibility Services.

Contact

- **Boca Raton:** (561) 297-3880
  Fax: (561) 297-2184, TTY: 711

- **Davie:** (954) 236-1222
  Fax: (954) 236-1123, TTY: 711

- **Jupiter:** (561) 799-8721
  Fax: (561) 799-8721, TTY: 711

GRADE APPEAL PROCESS

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

Chapter 4 of the University Regulations contains information on the grade appeals process.

RELIGIOUS ACCOMMODATION POLICY STATEMENT

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. For further information, please see Academic Policies and Regulations.

UNIVERSITY APPROVED ABSENCE POLICY STATEMENT

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is your responsibility to notify the instructor at least one week prior to missing any course assignment.

DROPS/WITHDRAWALS

For any issues that arise in the class that might result in a student electing to withdraw or stop attending, it is imperative that the student contact the instructor beforehand to discuss the consequences of that decision on timely graduation.

If after this consultation, the decision to withdraw is made, you are responsible for completing the process of dropping or withdrawing from a course. Please click on the following link for more information on dropping and/or withdrawing from a course. Please consult the FAU Registrar Office for more information.

COURSE TOPICAL OUTLINE

Week	Topics	Assignments
1	Introduction, Overview, Basic Concepts, Sources/Sinks, Measurement, Mass Balance	Reading 1 Discussion Board 1 HW Problem Set 1
2	Transport, Advection, Dispersion, Diffusion	Reading 2 Discussion Board 2 HW Problem Set 2
3	Part 1: Chemistry for Fate & Transport: Polarity, Organic Chemistry, Biochemistry	Reading 3 HW Problem Set 3
4	Part 1: Chemistry for Fate & Transport Continued: Free Energy and Thermodynamics and Kinetics	Reading 4 HW Problem Set 4
5	Part 2: Chemistry for Fate & Transport: Chemical Equilibrium, Homogeneous and Heterogeneous Equilibria, Acid-Base Reactions, pH, Carbonate System, Alkalinity, Electroneutrality, Redox	Reading 5 HW Problem Set 5 Lab Report 1
6	Partitioning and Transformation	Reading 6 HW Problem Set 6
7	Mass Balance Models and Reactor Design	Review for Midterm Exam Lab Report 2
8	Midterm Exam	Project Deliverable 1

Week	Topics	Assignments
9	Surface Water Systems	Reading 7 HW Problem Set 7 Lab Report 3
10	Groundwater Systems	Reading 8 HW Problem Set 8 Project Deliverable 2
11	Atmospheric Systems	Reading 9 HW Problem Set 9 Lab Report 4
12	Extension of Modeling Concepts to Natural and Engineered Systems	Reading 10 HW Problem Set 10
13	Risk Analysis	Reading 12 HW Problem Set 11 Lab Report 5
14	Project Presentations	Project Deliverable 3
15	Final Exam	Final Report Due

* * *

The instructor reserves the right to adjust this syllabus as necessary.