

Syllabus

Water and Environmental Chemistry Lab

WEEM 1310

Sunday & Monday 14:00-17:00

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Course text: None required. This manual is work in progress and will be handed out a week ahead of conducting each experiment. In addition some experiment will undergo modification and updating. Please be patient as the manual and our laboratory evolve. You are encouraged to check your GJU mail a head of each lab. Notes and changes will be sent via e-mail.

Reference texts: Same text as the WEEM 131

Course objective: This course is designed to introduce first-year water and environment engineering students to experiments that demonstrate principles that are learned in WEEM131 course. Student will learn technical skills, how to use and calibrate measurement devices, how to conduct experiment that test samples for physical and chemical characteristics, and how to write a report.

Grading:

*Attendance/participation	12
Written lab reports	18
Lab quizzes & Pre Lab	20
Midterm	20
Final	30

Reports:

Reports on experiments will be due **ONE WEEK** after the experiment is completed, at the beginning of each class. Reports submitted after 14:00 on will be counted as one day late. Late reports are accepted for only 2 days and will be penalized 35 points per day. No report after that day will be accepted at all.

Schedule:

Week Order	Date	List of Experiment**
1 st Week	1 st & 2 nd March	Orientation and Safety Glassware / EXCEL / Report
2 nd Week	8 th & 9 th March	Exp 1 pH/ Conductivity
3 rd Week	15 th & 16 th March	Exp 2 Color / Turbidity
4 th Week	22 nd & 23 rd March	Exp 3 Acidity
5 th Week	29 th & 30 th March	Exp 4 Alkalinity
6 th Week	5 th & 6 th April	Exp 5 Chloride
7 th Week	12 th & 13 th April	Exp 6 Total Hardness
8 th Week	19 th & 20 th April	Midterm
9 th Week	26 th & 27 th April	Exp 7 The Solubility Product Constant
10 th Week	3 rd & 4 th May	Exp 8 Dissolved Oxygen (A)/ Dissolved Oxygen (B)
11 th Week	10 th & 11 th May	Exp 9 Biochemical Oxygen Demand
12 th Week	17 th & 18 th May	Exp 10 Chemical Oxygen Demand
13 th Week	24 th & 25 th May	
14 th Week	31 st May & 1 st June	Finals

**** Note that experiment order or even can be change according to the instructor.**

Course Policies: The following course policies must be followed. At the discretion of the instructor or teaching assistances, non-complacence with course policy may negatively impact your final course grade.

- **Preparation:** Before coming to the laboratory, read the description of the experiment and relevant background material must be read. For each experiment, be prepared to complete a short quiz covering the objective of work, theory and procedure, the quiz may also cover the previous experiment.
- **Attendance and work:** Attendance is compulsory for all labs during the semester. If an emergency arises, you must inform the instructor and the TA before class and arrangements will be made since there will be no remake of any lab. Unexcused absence count as zero on the quiz, experimental work and lab reports. **No** written report will be accepted **without attending** the experiment.
Exceeding one lab absence will mean expelling from the lab.
The experimental work is an individual effort, unless told otherwise. When laboratory work is completed, you are to write your own reports with **NO SHARING OF WRITTEN WORK.**

- **Integrity:** Each student work and behavior is assumed to hold the highest standards of honesty. Cheating, fabrication, plagiarism, and helping the others to commit these actions are all forms of dishonesty and they are wrong. You are prohibited from using old reports and files from previous years. You are prohibited from copying sections from any resources including other students' work, text books, and websites. All resources, including figures downloaded from the internet must be cited. First instances of plagiarism will negatively impact your final course grad; in other words, no warning will be given for plagiarism cases and a NEGATIVE grade will be given to such cases.
- **Midterm and Final:** The midterm exam will be a practical/oral test; details will be given previous to conducting the test. The final test will be a written one.
- **Safety:** Safety in laboratory is tantamount to good laboratory practice. No rule, unless augmented with safety awareness and good sense, will protect you from accidents.

**Bottom line**

Maintain high standards for your own work. Start work early so the temptation to cut corners does not arise. If you have questions or concerns, do not hesitate to ask the instructor or TAs.



The following practices will be exercised in the laboratory:

1. On laboratory days, long pants must be worn, and shoes must be closed-toe (no sandals). If students dressed inappropriately, they will be asked to change before the beginning of the experiment. If not, they will be prohibited from the conducting the experiment and will lose marks based on that.
2. In the laboratory, safety glasses, white apron are required as well as gloves.
3. You are to bring only your manual, calculator and pen into the lab. Your back bags, hand bags will all be gathered away and not allowed to be put on the lab benches
4. Smoking, eating or drinking are not allowed in the laboratory. GUM chewing is included!
5. Cell phones are to be shut down during the lab, or they will be confiscated during other labs for students who break the rule.
6. Report all injuries and accidents to the instructor or TAs immediately, no matter how minor.
7. Each student is responsible of cleaning his/her station all the time. Marks will be deducted from your work if the station and glassware were left dirty.

Please refer to the sheets concerning the safety rules that MUST be conducted in the lab. Students must affirm that they have read and understood the laboratory safety manual and sign the agreement given by the lab supervisor.