

VIRGINIA STATE UNIVERSITY
Department of Chemistry and Physics
GECH 119 CHEMISTRY AND SOCIETY LABORATORY, Fall, 2008

Room 232N, Hunter McDaniel

Instructor: Keith Dias

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Office Hours: Posted in the lab (232N) and on the door to 40Na Hunter McDaniel

Course Description

Using the laboratory experiment, chemical principles are introduced. Students will gain first-hand experience with chemical and physical investigations.

Course Text

Catylst: The Benjamin Cummings Custom Laboratory Program for Chemistry. Special edition for *Chemistry and Society, GECH 119, Virginia State University, Chemistry and Physics.* **You must have a copy of the text for the first experiment on September 2/4.**

Course Requirements

YOU MUST BE ENROLLED IN, OR HAVE COMPLETED, THE COMPANION GECH 119 LECTURE COURSE. IF YOU DROP THE LECTURE COURSE, YOU MUST DROP THE LAB. ATTENDANCE AND PUNCTUALITY AT EXPERIMENTS ARE MANDATORY. IF YOU ARE 10 MINUTES LATE, YOU WILL NOT BE ALLOWED TO ENTER THE LAB

A missed experiment will receive an automatic grade of zero. This includes the first class meeting where you will check in and receive instruction on safety and the syllabus. Your lowest lab score will be dropped from your average. This allowance will help you cope with unexpected emergencies.

Prelab assignments are due at the start of class, and must reflect your independent effort. At the start of class, I will usually provide information beyond what is in your lab manual to help you complete your work. After that, you should put on your safety glasses and start on the day's experiment.

Student Evaluation

Prelab assignments	10%
Laboratory reports	30%
Mid Term Examination	30%
Final Examination	30%

Grading Scale

90 – 100	A
80-89	B
70-79	C
60-69	D
<60	F

Laboratory procedures. Students are expected to carefully read and review the experiment to be done that day before they come to class. I will typically review the experiment and procedure early in the period, stressing the safety aspects of what you will be doing. The time to ask questions about the procedure is then, before we start. After we start, I will circulate around the room to see how people are doing, and give you an opportunity to ask questions. I will not respond to questions from all parts of the lab. Experiments will be done by pairs of students. If we have an odd number of students, I may approve a group of three. If you work in a group of three without my approval, your grade on that report will be reduced.

Laboratory reports: Reports will consist of pages taken from your lab manual, and will usually be due at the end of the lab period. Put your lab partner's name on your report before you hand it in. **If a student fails to hand in more than three lab reports, a course grade of F will be assigned. Absences for documented university sponsored events will be excluded from grade calculations, but not from the requirement to miss no more than three labs.**

Midterm and Final Examinations: Midterm and final exams will cover topics taken directly from the lab experiments. They will be constructed to benefit those who actually do the hands-on work, and will be difficult for those who stand around and watch and copy lab partners' results. **NO makeup examinations for the midterm or final will be given.** If you have are required to participate in a documented university-sponsored event on the day of the exam, it is your responsibility to make arrangements to take the exam before the rest of the class. You will not be allowed to take the exam after the rest of the class. If you wish to use a calculator in the exams, you may bring a any standard non-graphing calculator. **You will not be allowed to use your cell phone.** You will not need a Scantron. **Any student found to have cheated during an exam will receive a failing grade.**

Academic Integrity: I expect lab partners to work together, and it is your responsibility to be sure you contribute to the effort. Your report must be based on work you and your partner did that day. Prelabs and exams, however, must be your own individual work. I will not tolerate copying prelabs from others, copying on midterm and final exams, and I will also not tolerate copying lab report results or answers from someone who is not your lab partner. The Student Academic Code, available to you on Blackboard, will be followed.

THE SAFETY RULES WILL BE STRICTLY ENFORCED. Any student who fails to abide by these rules will be penalized. Minor infractions may result in 5 point deductions for the day's work. Repeated infractions of the safety rules will result in the student being removed from the course. **Students will not be allowed in class without safety glasses, which must be worn any time that experiments are in progress anywhere in the room.** Progressive discipline will be applied as follows:

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| First infraction: | 25 point reduction of score for that day's lab. |
| Second infraction: | Student is expelled from the lab, with a zero grade for the day. |
| Third infraction: | Dismissal from the course, and a grade of F. |

If you are told to put your safety glasses on and you refuse, you will be dismissed from the course.

Safety Rules

1. **Protect your eyes:** All persons (faculty, staff, students and visitors) in the laboratories and preparation room **MUST** wear approved eye protection at all times when laboratory work is in progress, even if you and your partner are finished
2. **Protect your feet:** All persons in the laboratories must wear adequate foot protection. Bare feet, sandals, or any footwear that leaves any part of the foot exposed is not considered safe attire. Shoes **MUST** be worn the entire time while in the laboratory. It is required that shoes should cover the foot. Sandals or flip-flops are not acceptable footwear.
3. **Protect your torso:** All persons **MUST** wear adequate protective clothing. Long pants and shirts covering the shoulders are required. Shorts, Capri pants, skirts, tank tops and halters are not considered safe attire and are not permitted. Loose long hair or loose clothing should be restrained to prevent accidents. Clothing may have to be immediately removed if grossly contaminated with chemicals or ignited. Loose fitting clothes, easily combustible clothes, and long unrestricted hair are all fire and accident hazards, and are not appropriate in the laboratory. Do not wear something that you can not afford to have damaged.
4. **Handling Chemicals:** Smoking, drinking and eating are forbidden in the laboratory due to danger of chemicals entering the mouth or lungs. Never taste or eat anything in the lab. **Do not bring food to the lab.** Treat all chemicals in the laboratory as toxic substances. Minimize your exposure to them. Do not place your mouth on any chemical equipment. Avoid inhalation of fumes of any kind. Exhaust fumes through hood. Never inhale fumes from a chemical substance. Never leave excess or spill chemicals on equipment. Avoid violent splattering by always pouring concentrated solutions (e.g. acid) into water or less concentrated solutions while stirring. Never pour water into a concentrated solution (e.g., acid)

Do not point the mouth of a reaction vessel containing chemicals toward yourself or someone else.

Never leave a reaction in progress unattended.

Most organic substances are flammable. Chemicals spilled on hot plates can ignite.

5. **Emergency procedures:** Immediately alert the instructor to any fire, injury or accident. Be familiar with the location and operation of eyewash foundations, safety showers, etc.
6. **Laboratory procedures:**

Do not perform any laboratory work until you have been briefed. **IF YOU ARRIVE AFTER THE REST OF THE CLASS HAS BEEN BRIEFED, YOU CANNOT START UNTIL YOU HAVE BEEN BRIEFED BY THE INSTRUCTOR. THIS WILL NOT BE DONE AT YOUR CONVENIENCE. THIS WILL NOT ENDEAR YOU TO YOUR LAB PARTNER.**

In laboratory each student has the use and responsibility for a drawer containing itemized equipment.

Never use chipped, broken or cracked glassware. Give it to the instructor to discard into the broken glass box provided.

7. **Sideshelf**: Sideshelf refers to community area. Items located in the sideshelf areas are balances, chemicals, and supplies. Be careful to avoid contaminating sideshelf reagents.
8. **Reagent Use**: Do not remove any laboratory supply items or chemicals from the laboratory. Do not alter the laboratory set-up. Ask your instructor if you think something is missing or out of place. Know the amount of reagent you wish to obtain before you go to the sideshelf. Take only what you need.

Remove solids by shaking desired quantities from the bottle onto weighing paper or container. Use a clean spatula inside reagent bottle only if solids will not shake freely from the bottle.

Do not return excess reagent to sideshelf containers. Check the needs of others before discarding excess in proper container.

Hold stoppers and droppers while using a container. Replace stoppers, lids, and droppers immediately after use to proper containers.

Do not use reagent containers without labels or with improper labels. Report these situations to your instructor. Always check sides of reagent containers for drips before and after use. Remove excess chemicals with a damp towel and wipe dry.

For reagent disposal, place all solid organic wastes or water insoluble liquids (Mercury, etc.) in designated containers as instructed.

9. **Electronic Balance**: Instructions for use of these items must be followed carefully. Chemicals should not be allowed to contact the surfaces of these instruments. Spills should be thoroughly cleaned.

Tentative Class Schedules

Tentative class schedules for Tuesday and Thursday sections are provided on the next page. These are also posted inside the lab door.

Disclaimer

This syllabus is an announcement of present course requirements and policies. It is not a legal contract with the student. Implicit in enrollment in this course is an agreement to comply with the course requirements and policies, which may be modified by the instructor in order to properly exercise my educational responsibility. Announced changes to the syllabus will be made during class. You are responsible for being aware of these announcements.

GECH 119 Experiments

Tuesday Schedule

Date	Experiment/Activity
Aug 19	No lab session—First week of classes.
Aug 26	Check-in, safety rules, and review syllabus (Counts as one lab)
Sep 2	1. Laboratory Safety and Common Techniques (p. 11)
Sep 9	2. Measurement and Significant Figures (p. 21)
Sep 16	3. Percent Water in Popcorn (p. 47)
Sep 23	4. A Lesson in Density (p.31)
Sep 30	5. Electrolytes and Insoluble Salts (p. 57)
Oct 7	Mid term exam—Experiments 1-5 and General Lab Skills
Oct 14	NO CLASS Fall Break
Oct 21	6. Precipitation Reactions and Filtration (p. 81)
Oct 28	7. Electron Configuration and Periodic Properties (p. 71)
Nov 4	8 Salt and Sand (p. 53)
Nov 11	9. Acid Base Indicators (p. 65)
Nov 18	10. Saponification and Soaps (p. 89)
Nov 25	Final Exam—Experiments 6-10 and General Lab Skills

Thursday Schedule

Date	Experiment/Activity
Aug 21	No lab session—First week of classes.
Aug 28	Check-in, safety rules, and review syllabus (Counts as one lab)
Sep 4	1. Laboratory Safety and Common Techniques (p. 11)
Sep 11	2. Measurement and Significant Figures (p. 21)
Sep 18	3. Percent Water in Popcorn (p. 47)
Sep 25	4. A Lesson in Density (p.31)
Oct 2	5. Electrolytes and Insoluble Salts (p. 57)
Oct 9	Mid term exam—Experiments 1-5 and General Lab Skills
Oct 16	6. Precipitation Reactions and Filtration (p. 81)
Oct 23	7. Electron Configuration and Periodic Properties (p. 71)
Oct 30	8 Salt and Sand (p. 53)
Nov 6	9. Acid Base Indicators (p. 65)
Nov 13	10. Saponification and Soaps (p. 89)
Nov 20	Final Exam—Experiments 6-10 and General Lab Skills