

ANNE ARUNDEL COMMUNITY COLLEGE

CHE 134-875 Chemistry Topics for Engineering
 Professor Maureen A. Sherer
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Fall 2017 Syllabus
 Office: DRGN 226
 Email: masherer@aacc.edu
 Office Hours: See Professor's webpage or Canvas

This online course uses the Canvas Learning Management System. Log into Canvas through myaacc:
<http://myaacc.aacc.edu> ; Then choose CHE 134 under My Classroom

TEXTS & Supplies:	1) Brown, LeMay, Bursten, Murphy, Woodward, & Stoltzfus, <u>Chemistry, the Central Science</u> , 13 th ed., 2015. (Solution Manual available & recommended, but not required.)
	2) Scientific Calculator (programmable calculator not allowed for exams)

TENTATIVE SCHEDULE

WEEK OF	MODULE/TEXT REFERENCE	Assignments Due
Aug 28	Introduction & Chap 15 Chemical Equilibrium	
Sep 4	Chap 15 Chemical Equilibrium	Course Check-in Assign. due Wed Clausius-Clapeyron Hmwk due Fri
Sep 11	Chapter 16 Acid-Base Equilibria	Equilibrium Hmwk due Fri Equilibrium Discus. ends Sun 9/17
Sep 18	Chapter 16 Acid-Base Equilibria	Acids-Bases Hmwk due Fri Acids-Bases Discus. ends Sun 9/24
Sep 25	Chap 17.4 – 17.6 Solubility & Precipitation	
Oct 2	Chap 17.4 – 17.6 Solubility & Precipitation Exam 1: Thursday - Saturday	
Oct 9	Chap 20 Electrochemistry	Solub/Precipitation Hmwk due Tue
Oct 16	Chap 20 Electrochemistry	
Oct 23	Chap 20 Electrochemistry	Electrochem Discus. ends Sun 10/29
Oct 30	Chap 14 Chemical Kinetics Exam 2: Thursday - Saturday	Electrochem Hmwk due Tue
Nov 6	Chap 14 Chemical Kinetics	Kinetics Discus. ends Sun 11/12
Nov 13	Chap 12 Solids & Modern Materials	
Nov 20	Chap 12 Solids & Modern Materials	
Nov 27	Chap 24 Organic Chemistry	
Dec 4	Chap 24 Organic Chemistry	

Exam I.....Oct 5 - 7; covers independent review**, Equilibrium, and Acids & Bases

Exam II.....Nov 2 – 4; covers Solubility & Precipitation, and Electrochemistry

Final Exam.....Dec 11 - 12; comprehensive

** Student must independently review first semester general chemistry concepts, especially solution stoichiometry, electrolytes in solution, writing net ionic reactions, and nomenclature (Chapters 4 & 2) and Intermolecular Forces and Phase Transitions (Chap 11) in order to be successful in this course.

CHE 134 can be the appropriate course for certain engineering majors who are transferring in engineering to UMCP. If you are unsure about the suitability of this course for you, see the instructor and the engineering department chair immediately.

GRADING	Points
Two Exams @ 100 points	200
4 Discussions	45
5 Graded Homework Sets	55
Final Exam (comprehensive)	100
TOTAL	400 points

A student with 90% of the points (360 or more) earns an “A”. To earn a “B” requires at least 80% (320 to 359), 70% for a “C”, and 60% for a “D”. Less than 60 % is a failing grade.

Exams are administered in the AACC Testing Centers according to the schedule on this syllabus. It is essential to write each exam during the scheduled time. In the event of a missed exam, there will be a cumulative make-up exam given in the Testing Center during the last week of classes. It is the student’s responsibility to contact the instructor about the absence immediately and to request permission to sit for the make-up exam. Documentation of a compelling reason will be required.

Solving problems is crucial to master new material and develop skill in applying concepts. Exercises (problems) from the end of the chapters are assigned for practice. Answers to odd-numbered exercises are in the back of the text (starting on page A-1), and the *Solutions to Problems Manual* is available. Additional practice problems are available on the professor’s website. Tests are problem solving oriented, and will be similar to these various problems.

Graded Homework:

Students are to hand-in the **detailed** solutions of the “*Additional Practice Problems*” presented in the modules by the due dates listed. Each problem solution must be neatly shown in a logical order. **Work must be done by the student’s own hand**, not machine formatted. Be sure to use units and significant figures. The assignments can be submitted electronically or dropped off at the Science Office in DRGN 226. If the office is closed, there is a mailbox drop box outside the door. Be sure your name & my name are on your assignment. Alternatively, homework may be sent by US Mail, or scanned & submitted within Canvas. If you choose to scan, make sure it is readable: sufficiently large with clear, crisp characters. Otherwise it will have to be resubmitted in a readable format. Note the answers to these problems are available by hyperlink within the module. You only need to develop the detailed solution. Of course you may ask the professor questions as you work.

Homework Set	Due Date Deadline
Clausius-Clapeyron	Fri, Sep 8
Equilibrium	Fri, Sep 15
Acids & Bases	Fri, Sep 22
Solubility & Precipitation	Tue, Oct 10
Electrochemistry	Tue, Oct 31

Ideally, you will finish and hand-in each problem set **well before the due date**. These dates are deadlines. While the “*Additional Practice Problems*” from the later modules will not be collected and graded, you certainly need to do them and ask questions if you are having trouble. Solving problems is an essential part of test preparation.

A general guideline says an average of 2 to 3 hours of study time per week (for a 16 week semester) is necessary for each 1 credit hour. For this online course, this translates to an average of 5 to 6 hours per week. Some students will need to study more than this. Also, effective study is essential. Please see more information at <http://ola2.aacc.edu/vc/timemanagement/TimeManagementWebShop>

As soon as possible, log into the course in Canvas, click on “Modules” from the left vertical menu bar, then click on “Course Advice” from the “Getting Started” Module and follow the directions.

Additional Learning Resources:

1. Professor's Office Hours
2. Science Tutoring Center in the basement of the Dragun Science Bldg, Rm 5.
3. *Solutions to Problems Manual* (Bookstore & Library Reserve)
4. **Recommended reference textbook** (Library Reserve): Jespersen, Brady & Hyslop, Chemistry, the Molecular Nature of Matter, (recent edition is the 6th ed., 2012.)
5. Current course textbook is also at the Library Reserve Desk
6. Free peer tutor (upon availability) arranged through Academic Support.
7. Online Tutoring (<http://ola.aacc.edu/ostc/>)
8. Computer Lab in DRGN 120 – open schedule posted by door.

Discussions: There are two types.

A) The Class Discussion is ongoing throughout the semester. It provides an opportunity for students to interact with classmates and to enhance understanding of course concepts by informal 'peer tutoring'. In your **required** posting for the first week, you will introduce yourself to your classmates (further details within the online class). For the following weeks, the posting may either be a comment, question, or reply to another student's question. This discussion is not graded.

B) Module Discussions: Many modules include a discussion about the content of that module. Students are required to post a thoughtful response to the professor's assignment, and a thoughtful response to another student's response. The discussion for a module opens when the module begins (according to the syllabus) and concludes at the closing date posted on the syllabus. To participate in a Discussion, you may access a Discussion from the module itself, or by clicking "Discussion" from the left navigation bar .

Discussion postings may have a conversational style, but they should not be sloppy. They need to be grammatically correct and punctuated appropriately. Abbreviations are acceptable only if they are standard abbreviations or otherwise explained. In all our discussions and other interactions in the course, we will express ourselves courteously to everyone.

E-mail correspondence: Use the e-mail function in Canvas ('Inbox', upper right corner near 'Help') for routine correspondence that does not require me to respond to you using subscripts or superscripts. For questions of this sort, use masherer@aacc.edu. Please include your class section (CHE 134-875) in all email messages.

All written communication must follow the conventional rules of grammar, punctuation, spelling, composition, and etiquette. This includes email messages, discussion postings, and essay questions. Communication is one of the AACC Competences addressed by this course.

Practice Quiz Participation: The final activity of each module is a practice quiz. It is scored online and results are immediately reported to the student. You may take these quizzes as many times as you desire. There are no course points associated with this activity. It is simply a diagnostic tool for the student. If you do not understand these questions, you are not ready for the exam. Do ask the professor questions when needed.

Announcements (on class homepage, left Navigation Menu): Please check 'Announcements' regularly for current class information, reminders, and such - *at least* twice each week, near the beginning and end of a week.

Withdrawal: In order to receive a "W" for the course, a student must submit the appropriate form at the Records Office by Nov 20. If you stop attending class, but do not formally withdraw with the Records Office, be aware that you will receive a grade based on your earned points out of the course total .

Academic Integrity and Civil Discourse: Read the AACC policy on Academic Integrity at <http://www.aacc.edu/policies> and in the *AACC Catalog*. It is understood that students will abide by this and all college policies. The consequences of an academic integrity violation are very serious. A report is filed with the dean's office and the penalty is substantial: It may include failure for the course or suspension, depending on the gravity of the violation.

Impolite behavior will not be tolerated in this course.

Cell phones and all electronic communication devices must be silent & not used during all exam times. During exams these devices must be turned off and in a backpack, purse or closed tote bag.

Attendance Reporting: AACC requires that professors report whether or not each student has participated in the online class on a weekly basis.

AACC Catalog Description for CHE 134, Chemistry Topics for Engineering

1 credit hour - One hour of lecture weekly; one term.

Study general chemistry topics relating to phase transitions, crystalline solids and semiconductors, chemical equilibrium including weak electrolytes, electrochemistry, kinetics and introductory organic chemistry

Prerequisite(s): CHE 111 with a grade of C or better and either MAT 141 (formerly MAT 131) with a grade of C or better or eligibility for MAT 151.

Note: This course is intended for students transferring in certain engineering programs to the University of Maryland College Park. Consult with the engineering department chair before registering.

Learning Outcomes: The particular College-wide Core Competencies which are emphasized in this course are 1) Scientific Reasoning, 2) Quantitative Reasoning, 3) Innovative and Critical Thinking, and 4) Communication. Please read accompanying information about College-wide Competencies and CHE 134 Expected Learning Outcomes on the course webpage in Canvas.

Science Office Address and Phone Number:

Anne Arundel Community College
101 College Pky
Dragun Science Building, Room 226
Arnold, MD 21012

410-777-2260

Disability Support Services Statement: The Disability Support Services Office (DSS) provides equal access to educational opportunities for qualified students with disabilities. Students interested in course accommodations must provide relevant documentation in order to receive accommodations. For information, please call Courtney Sales, Program Manager for DSS, at 410.777.2306, email her at cjsales@aacc.edu or visit <http://www.aacc.edu/resources/disability-support-services> . Deaf and hard of hearing students can reach the office by calling Maryland Relay 711 or by emailing dss@aacc.edu.

Canvas ADA Statement: Canvas provides a user experience that is easy, simple, and intuitive. Special attention has been paid to making Canvas screen-readable. The Rich Content Editor encourages users to create universally accessible content. Canvas is designed to allow limited customization of colors and schemes to be accessible for all users. The National Federation of the Blind granted Canvas the Gold Level Web Certification in 2010. Find more information here: <http://www.instructure.com/accessibility>

Notice of Nondiscrimination: AACC is an equal opportunity, affirmative action, Title IX, ADA Title 504 compliant institution. Call Disability Support Services, 410-777-2306 or Maryland Relay 711, 72 hours in advance to request most accommodations. Requests for sign language interpreters, alternative format books or assistive technology require 30 days' notice. For information on AACC's compliance and complaints concerning sexual assault, sexual misconduct, discrimination or harassment, contact Suzanne Boyer, federal compliance officer at 410-777-1239 or complianceofficer@aacc.edu or Felicia Patterson, Title IX coordinator at 410-777-2256, or Maryland Relay 711.

Student Conduct Policy: Students shall at all times conduct themselves in a manner that demonstrates mutual respect and courtesy, displays appropriate standards of behavior, and refrains from any actions or inactions that impinge on the rights of others or disrupt the teaching and/or learning process or the operations of the college. A student found in violation of this policy or any other College policy shall be subject to appropriate sanctions in accordance with the student conduct procedures. The full text of the policy is available on the AACC website (<http://www.aacc.edu/policies>) and in the Student Handbook and College catalog.

Acceptable Use of Information Technology Resources: This policy governs the acceptable use of the college information resources by anyone. This policy applies to students enrolled in this course at any time they are using college resources. The goal of the usage policy is to encourage an environment of learning in which all students can interact in an open, legal, and ethical manner. The full text of the policy is available on the AACC website (<http://www.aacc.edu/policies>) and in the Student Handbook and College catalog.

Emergency Class Cancellation: If an emergency arises in which the college is closed, the planned activity for that day or assignment will occur or be due the next day that classes resume on campus. Students can also check www.aacc.edu. You can sign up for text messaging to your cell phone using the following website: <http://www.aacc.edu/campusalerts> .

ACA 100-020 Student Success for Science Students is a support class that has shown to increase student grades in the past. It does not start until a few weeks into the semester and only meets once per week. This one credit class can help you improve your learning/study skills. This section is taught by science faculty and is targeted to specific study skills needed in science. It does not reteach your science class, it helps you to become a better student.