

Abilene Approval Chart for Curriculum Changes

A = Approve I = Information Item R = Respond in Writing

Course Number CHEM 101 or Degree Plan(s) _____

State the requested change and reason. A memo may be attached if more space is

necessary.

This request is to add CHEM 101, Consumer Chemistry, to the Life and Physical Sciences
Menu

Indicate the requested change.

	Change to a Course	Dept./School ¹	College	Dean	TEC	UGEC	AUAC/Grad	Provost	President
1.	Title (description unchanged)	A	A	A	I	–	I	I	I
2.	Description (not affecting content)	A	A	A	I	–	I	I	I
3.	Course term(s)	A	I	A	I	–	I	I	I
4.	Content (change of course outcomes)	A	A	A	I	–	I	A	I
5.	Number of hours (lecture, lab, contact)	A	A	A	A	–	A	A	I
6.	Course number within the hundred	A	A	I	I	–	I	I	I
7.	Course number beyond the hundred	A	A	A	A	–	A	A	I
8.	Prerequisites	A	A	A	I	–	I	I	I
9.	Course fee(s)	A	–	A	–	–	–	A	I
10.	From U to G or G to U	A	A	A	A	–	A	A	I
11.	Cross-list course	A	A	A	A	–	A	A	I
12.	Department of record	A	A	A	A	–	A	A	I
13.	Close a course	A	A	A	A	–	A	A	I
14.	New course (includes combining or splitting courses)	A	A	A	A	–	A	A	I

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	Change to the University Requirements (All Campuses)	Dept./School¹	College	Dean	TEC	UGEC	AUAC/Grad	Provost	Faculty	President	Trustees
1.	University Requirements — Change course outcomes of an included course ²	A	A	A	–	A	–	A	–	A	–
2.	University Requirements — Add or drop a required course from the University Requirements ²	A	A	A	–	A	–	A	A	A	–
3.	University Requirements — Add or drop a course from a menu within the University Requirements ²	A	–	–	–	A	–	A	–	A	–
4.	University Requirements — Change hours within a menu in the University Requirements ²	A	A	A	–	A	–	A	A	A	–
	Change to Catalog Information (for Campus)										
1.	General Requirements for Bachelor's Degrees and Associate's Degrees	–	–	–	–	–	A	A	A	A	–
2.	Policies governing academic probation and suspension	–	–	–	–	–	A	A	A	A	–
3.	Requirements for graduating with honors	–	–	–	–	–	A	A	A	A	–
	Change to a Degree Plan Proposed by Faculty or College										
5.	Educational Program — Revise ³	A	A	A	A	–	A	A	–	A	–
6.	Educational Program — Adopt/change admission requirements	A	A	A	A	–	A	A	–	A	–
7.	Educational Program — Add ³	A	A	A	A	–	A	A	A	A	I
8.	Educational Program — Discontinue	A	A	A	A	–	A	A	A	A	I
9.	GPA — Revise program-required GPAs	A	A	A	A	–	A	A	–	A	–
10.	Minor — Revise	A	A	A	I	–	I	I	–	I	–
11.	Minor — Add	A	A	A	A	–	A	A	–	A	–
12.	Minor — Discontinue	A	A	A	A	–	A	A	–	A	–
13.	Degree — Add	A	A	A	A	–	A	A	A	A	I
14.	Degree — Discontinue	A	A	A	A	–	A	A	A	A	I
	Change to a Degree Plan Proposed By Provost										
15.	Educational Program — Discontinue	R	–	R	A	–	A	A	A	A	I
16.	Minor — Discontinue	R	–	R	A	–	A	A	–	A	–
17.	Degree — Discontinue	R	–	R	A	–	A	A	A	A	I

¹ When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.

² Courses that satisfy ACU's University Requirements will normally have lower-level numbering, be free of prerequisites and co-requisites, appeal to more than one or two majors, and "not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession" (SACS 2.7.3). Departments may request exceptions to the first three criteria.

³ For undergraduate majors, a minimum of 30 hours is required. These programs must have a minimum of 6 elective hours, unless the requirements of external accrediting bodies make it impossible.

Department/School Chair(s)	
	9/6/2022
_____ <i>Signature</i>	_____ <i>Approval date</i>
_____ <i>Signature</i>	_____ <i>Approval date</i>

College Academic Council(s)	
_____ <i>Signature</i>	_____ <i>Approval date</i>
_____ <i>Signature</i>	_____ <i>Approval date</i>

Dean(s)	
_____ <i>Signature</i>	_____ <i>Approval date</i>
_____ <i>Signature</i>	_____ <i>Approval date</i>

Teacher Education Council	
_____ <i>Chair's signature</i>	_____ <i>Approval date</i>

University General Education Council	
_____ <i>Chair's signature</i>	_____ <i>Approval date</i>

Abilene Undergraduate Academic Council	
_____ <i>Chair's signature</i>	_____ <i>Approval date</i>

Graduate Council	
_____ <i>Chair's signature</i>	_____ <i>Approval date</i>

Provost	
_____ <i>Signature</i>	_____ <i>Approval date</i>

Faculty	
_____ <i>Chair of Faculty Senate</i>	_____ <i>Approval date</i>

President	
_____ <i>Signature</i>	_____ <i>Approval date</i>

Application for Life and Physical Sciences Menu

Guidelines For All General Education Courses

1. All general education courses must be 100-level or above.
2. General education courses should present a breadth of knowledge, not focusing on skills, techniques, and procedures specific to a particular occupation or profession.
3. Individual courses will fulfill only a single general education requirement.
4. Courses free of prerequisites are preferred. Applications to add courses with prerequisites must provide additional evidence that the course contributes to a student's breadth of knowledge and is not specific to a particular occupation or profession.
5. Each course may appear on a maximum of two menus that accept applications (arts and humanities, cultural literacy, life and physical sciences, and social and behavioral sciences).

Life and Physical Sciences Description

Courses within this domain use the methods and models of the natural sciences to describe, explain, and predict phenomena in the physical world; they employ empirical evidence, scientific principles, and interactions among natural phenomena to understand the world around us.

Instructions

Complete this form and submit it with a course syllabus and approval chart to the University General Education Council. Faculty submitting an application should be prepared to perform annual assessment for their course. The assessment will be conducted with the rubric included in this course application.

Subject code, course number, and title of course:	CHEM 101 - Consumer Chemistry
Terms offered:	On demand
Catalog description:	A study of chemistry's influence on consumers, the environment, and society with emphasis on grasping the beauty and order of the Creator's handiwork and on equipping citizens for more informed decisions.
Course prerequisites:	N/A
Cross-listed courses: *Note: Many gen ed courses are cross-listed between the Abilene and Dallas campuses.	CHMO 101
Other general education menus on which the course appears or you are applying for:	N/A

Prerequisites

The council understands that many of the courses on this menu will have corequisites and that the second course in a sequence may also have a prerequisite.

1. Is the course a lower-division (100- to 200-level) course in astronomy, biology, chemistry, physics, agricultural science, environmental science, or geology?

☒ Yes ☐ No

If yes, continue to 2. If no, please explain how this course meets the description of life or physical sciences above. Applications for courses originating in other disciplines will be considered.

2. Does the course have more than one prerequisite and/or more than one corequisite?

☐ Yes ☒ No

If no, continue to 3. If yes, please explain why an exception should be made to include this course in the Life and Physical Sciences menu.

3. If the course has prerequisites, provide evidence that the course contributes to a student's breadth of knowledge. Also provide evidence that the course content is not specific to a particular occupation or profession (200 words or less).

Relevant Outcomes

- C2: Analyze quantitative data, published writing, or observable phenomena to draw informed conclusions.
- C3: Interpret mathematical and/or logical models such as formulas, graphs, tables and schematics, and draw inferences from them; and
- C4: Integrate new data into their existing knowledge.

Describe how the course meets the C2 outcome (100 words or less).

Analyzing information from a variety of sources and drawing conclusions is central to chemistry. Consumer chemistry focuses on how chemistry impacts everyday life and the world around us. In consumer chemistry, students analyze data and phenomena in a variety of ways including analyzing nutritional data to find the caloric content of food, analyzing information about the various elements and compounds to learn to categorize them and studying how chemical compounds can act as pollutants. The skill of learning to use data and phenomena can then be extended to new information when it is presented.

Describe how the course meets the C3 outcome (100 words or less).

In Consumer Chemistry, students are required to solve many types of chemical problems utilizing models. Students use mathematical models when studying the chemical make-up of the atmosphere. They use the Periodic Table throughout the semester to identify periodic trends, determine numbers of subatomic particles, and predict bonding. They use different models of matter (macroscopic, symbolic, and particulate) to better understand how matter behaves. In these, as well as the numerous other ways students are using models in Consumer Chemistry, students are then able to make predictions and to infer different conclusions for observable real-life chemical phenomena.

Describe how the course meets the C4 outcome (100 words or less).

In Consumer Chemistry, students utilize the tools they have used throughout the course to complete a project in which they assess a chemical related product or technology that was not discussed in the course.

Outcomes assessment should occur within one or two exams/assignments. Please indicate which exams or assignments will be used for each outcome. Provide assignment prompts if available.

Area to Be Assessed	Assessment Artifact
Outcome C2	Course final exam
Outcome C3	Course final exam
Outcome C4	End of course project

Please use the following rubric to perform assessment each year.

Student Learning Outcome C2

Students will be able to:	Shortcomings	Meets Expectations	Points of Excellence
Analyze data to draw conclusions	Lacks sufficient analysis of data or published writing.	Analyzes data and/or published writing in an effective manner.	Analyzes data and/or published writing in an exemplary manner.

Student Learning Outcome C3

Students will be able to:	Shortcomings	Meets Expectations	Points of Excellence
Interpret mathematical and/or logical models such as formulas.	Little to no demonstrated ability to interpret relationships and/or data in models.	Demonstrates ability to interpret relationships and/or data in models.	Exceptional ability to interpret relationships and/or data in models.

Student Learning Outcome C4

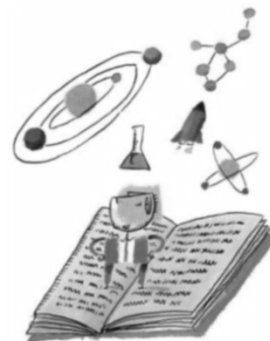
Students will be able to:	Shortcomings	Meets Expectations	Points of Excellence
Integrate new data into their existing knowledge	Shows little to no grasp of new information and/or does not demonstrate adequate connection to previous learning.	Grasps new information and makes connections to previous learning.	Exceptional grasp of new information and/or demonstrates outstanding ability to connect to previous learning.



**Consumer Chemistry
Abilene Christian University
Spring 2022**

Chem 101
MWF 8:00-8:50 AM

HAL 303B



Dr. Autumn Sutherlin, Chair and Professor of Chemistry and Biochemistry
Office: Halbert-Walling 302 Lab: Halbert-Walling 340
Office phone: 674-6511 E-mail: autumn.sutherlin@acu.edu

Office Hours: Mon, Tues, Thurs 2:00-4:00 (Other times by appointment)

ACU Mission: "To educate students for Christian service and leadership throughout the world."

Department Mission: "To prepare students for careers in chemistry, biochemistry, chemical education, and health professions by displaying high professional standards and by modeling Christian values, leadership, and service."

Course Description: *The main goal of this course is to help prepare the student for a fuller and more informed role as a consumer and citizen in a technical society.* To that end, we will focus on both the technical and societal aspects of topics such as air and water, local and global environmental challenges, energy production and uses, nuclear power, medicines, genetics, and other materials and resources that we consume and produce.

Audience and Prerequisites: The primary audience for this course is students with a non-science major. There are no prerequisites.

Required materials:

Text: American Chemical Society. *Chemistry in Context: Applying Chemistry to Society*. 10th ed. New York: McGraw Hill Higher Education, **2021**.

Other Required Resources: Chem 101 Canvas Course, Chemistry Connect Access

Attendance Policy: Because of the nature of the subject and size of the class, this is primarily a lecture course. Attendance is expected and required. The professor may drop a student from the class who has more than **9** absences (excused and unexcused). Roll will be taken in the form of a sign-in sheet. If you are tardy, please see the professor after class to assure that you were counted as present (do not chase the roll sheet). If you will miss class for a school-sponsored trip, you must bring the required signed dean's notice one week before the anticipated absence as per ACU policies. Habitually late students will be dealt with on an individual basis.

Course Learning Objectives

Students in Consumer Chemistry will:

1. Describe the basic nature of chemicals.
2. Use data and graphs to solve problems and predict outcomes.
3. Describe the impact of chemicals on the environment and in their daily lives.

Course Requirements:

Quizzes Eleven quizzes will be given during the semester, generally on Fridays. Quizzes will be based upon assigned homework, material covered in lecture, and assigned reading. The two lowest quiz scores will be dropped. The quiz will be given at the beginning of the period and will be collected after 10 minutes. **If you arrive late to the quiz, you will only have until the 10 minutes given to everyone else is up. Quizzes will not be made up if you are absent or arrive after the quiz has been given.** Since two quizzes will be dropped, quizzes will not be made up for excused absences. If more than two quizzes are missed for excused absences, the problem will be dealt with on an individual basis.

Getting to Know Chemistry: Five assignments will be given during the semester that will introduce you to some history and current events in chemistry. The details of these assignments are given in Canvas. Assignments are due at class time on the assigned date. A 5% penalty will be assessed for every day the assignment is late.

Green Product Video: You and your partners will create a 5-7 minute video infomercial about a green product. There will be several assignments associated with this project to help you along the way. Due dates will be given in Canvas. As we will be viewing the videos in class the day that it was due, a late penalty of 20% will be assessed starting at 9 AM and for the following 24 hours. A 10% penalty will be given for every day after that. The Infomercial will not be accepted after the final exam.

Homework and Participation: Problems from each chapter will be assigned from McGraw-Hill Chemistry Connect. implemented through Canvas. Due dates will be given in Canvas. A 5% penalty will be assessed for every day the assignment is late. All homework will be turned in online. Instructions for setting up Chemistry Connect are provide in Canvas. The student is ultimately responsible for issues with technology exams on time. When there are difficulties, the student should reach out to technology support listed in Course Resources.

Most days in class will consist of lectures with group work and in class activities. Your participation is expected and required.

Exams: Four major examinations will be given. Attendance is required at exams. The professor must be notified **BEFORE** the exam if you will not be able to attend. Make-up exams will only be given for excused absences (see attendance policy.)

Grading:

Summary of Activities:

4 Regular Exams	50%
Final Exam	12.5%
Quizzes	12.5%
Video	15%

Getting to know Chemistry	5%
Homework and Participation	<u>5%</u>
Total	100%
Grade Distribution:	
A	90 – 100 %

B 80 – 89%
C 70 – 79%
D 60 – 69%

F 59% and below

Groups: Students will be assigned to groups which will generally consist of 4 students each. Groups are for the purpose of studying, doing homework, and working in teams for in class assignments. Groups will sit together in class. Your group will not have a negative effect on your grade, unless you do not participate. (See Participation.) It can however have a positive effect. The average of the group members' individual scores on the three exams and the final can raise the grade by the corresponding amount.

Exam Average	Raised
C	0.5 %
B	1.0 %
A	1.5 %

Academic Integrity: Academic integrity is defined as academic work completed as assigned for each class by the individual or group responsible for the work. Violations of academic integrity and other forms of cheating involve the intention to deceive, mislead, or misrepresent and therefore, are a form of lying. Such actions are contrary to behavioral norms that flow from the nature of God. Academic misconduct includes, but is not limited to, the following: 1) Failure to give credit to sources used in a work in an attempt to present the work as one's own, 2) Submission of papers or projects obtained from another source (e.g., research service or club paper file) as one's own, 3) Falsifying information orally or in writing, and 4) Receiving, giving, or using unauthorized aid on an examination or quiz.

The first instance of academic misconduct will result in a 0 for the assignment. A second incident will result in an F in the course. Additionally, the department chair, Dean of the College of Arts and Sciences, and the Dean of Student Life will be notified. See the full university policy, including how to appeal a decision, by following this link: <https://www.acu.edu/community/offices/administrative/office-of-the-provost/academic-integrity-policy/overview.html>

The Americans with Disabilities Act (ADA): Abilene Christian University is dedicated to removing barriers and opening access for students with disabilities in compliance with ADA and Section 504 of the Rehabilitation Act. The Alpha Scholars Program facilitates disability accommodations in cooperation with instructors. In order to receive accommodations, you must be registered with Alpha Scholars Program, and you must complete a specific request for each class in which you need accommodations. If you have a documented disability and wish to discuss academic accommodations, please call the Alpha Scholars Program office directly at 325-674-2667.

Dress Code: Students should conform to the dress code as outlined in the Student Handbook. Students wearing inappropriate attire will be asked to leave class.

Chem 101 – Tentative Schedule			
Week	Date	Chapter	Assignment Due
1	10-Jan	0	
	12-Jan	1	Introduction to Connect
	14-Jan	1	Quiz 1
2	17-Jan	Martin Luther King Jr. Day No Class	
	19-Jan	1	
	21-Jan	2	Ch 1 Hwk previous night/ Quiz 2
3	24-Jan	2	
	26-Jan	2	Element 1
	28-Jan	2	Quiz 3
4	31-Jan	2	
	2-Feb	2	
	4-Feb	Exam I	Ch 2 Hwk previous night/Exam I
5	7-Feb	3	
	9-Feb	3	Famous Chemists and Biochemists
	11-Feb	3	Quiz 4
6	14-Feb	3	
	16-Feb	4	Ch 3 Hwk previous night
	18-Feb	4	Quiz 5
7	21-Feb	4	Green Product Approval
	23-Feb	4	
	25-Feb	Exam II	Ch 4 Hwk previous night/ Exam II
8	28-Feb	5	
	2-Mar	5	Science in the News 1
	4-Mar	Infomercial Work day	Quiz 6
9	7-Mar	5	
	9-Mar	5	Quiz 7
	11-Mar	Catch up Day	Ch 5 Hwk previous night
	14-Mar	Spring Break	
	16-Mar	Spring Break	
	18-Mar	Spring Break	
10	21-Mar	6	
	23-Mar	6	Element 2
	25-Mar	6	Quiz 8
11	28-Mar	6	Research Due
	30-Mar	6	
	1-Apr	Exam III	Ch 6 Hwk previous night/ Exam III
12	4-Apr	Infomercial Work day	
	6-Apr	CC 1	Script/ Storyboard Due
	8-Apr	CC 1	Quiz 9
13	11-Apr	CC 1	
	13-Apr	CC 1	Quiz 10
	15-Apr	Good Friday	
14	18-Apr	CC 2	CC 1 Hwk previous night
	20-Apr	CC 2	Science in the News 2
	22-Apr	CC 2	Quiz 11
15	25-Apr	CC 2	
	27-Apr	Exam IV	CC 2 Hwk previous night/ Exam IV
	29-Apr	Infomercial Watching	Infomercial Due
16	2-May	Dead Day	
	6-May	Final Exam	Final Exam

