

# COURSE SYLLABUS



Education That Works For a Lifetime

<b>Course Title:</b>	Introduction to Organic Chemistry	<b>Date submitted:</b>	November (AAC:17-61)	
<b>Department:</b>	Mathematics and Science			
<b>Curriculum:</b>	Chemistry			
<b>Course Descriptors:</b> Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.	<b>Course Code:</b> (eg. ACC 101) <table border="1"><tr><td>CHE*210</td></tr></table>	CHE*210	<b>Prerequisites:</b>	
	CHE*210			
	<b>Course Type:</b> <table border="1"><tr><td>X</td></tr></table>	X	C- or better in General Chemistry I (CHE*121) or permission of Department Chair/Division Director.	
	X			
	A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: M: Seminar Internship P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/Clinical/Lab Z: Combined Lecture/Studio			
	<b>Elective Type:</b> <table border="1"><tr><td>G/LAS/S</td></tr></table>	G/LAS/S		
	G/LAS/S			
	E: English FA: Fine Arts FL: Foreign Language G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science			
	<b>Credit Hours:</b> <table border="1"><tr><td>4</td></tr></table>	4	<b>Corequisites:</b>	
	4			
<b>Developmental:</b> (yes/no) <table border="1"><tr><td>NO</td></tr></table>	NO	None		
NO				
Lecture: <table border="1"><tr><td>3</td></tr></table>	3			
3				
Clinical: <table border="1"><tr><td>0</td></tr></table>	0			
0				
Lab: <table border="1"><tr><td>3</td></tr></table>	3			
3				
Studio: <table border="1"><tr><td>0</td></tr></table>	0			
0				
<b>Contact Hours:</b>	Other: <table border="1"><tr><td>0</td></tr></table>	0		
0				
	TOTAL: <table border="1"><tr><td>6</td></tr></table>	6	<b>Other Requirements:</b>	
6				
	<b>Class Maximum:</b> <table border="1"><tr><td>20</td></tr></table>	20	Safety glasses, scientific calculator, technology skills	
20				
	<b>Semesters Offered:</b> <table border="1"><tr><td>F/Sp/Su</td></tr></table>	F/Sp/Su		
F/Sp/Su				
<b>Ability-Based Education (ABE) Statement:</b>	At Tunxis Community College students are assessed on the knowledge and skills they have learned. The faculty identified the General Education Abilities critical to students' success in their professional and personal lives. In every class, students are assessed on course abilities, sometimes program abilities, and, in most classes, at least one General Education Ability. Students will receive an evaluation of the degree to which they have demonstrated or not demonstrated that General Education Ability.			
<b>Catalog Course Description:</b>	A one-semester survey of organic chemistry. Includes nomenclature, aliphatic, aromatic and heterocyclic compounds, functional groups, reaction mechanisms, biochemistry, organic syntheses and modern techniques of instrumental analyses. Lecture and laboratory.			
<b>Topical Outline:</b> List course content in outline format.	Lecture: 1. Nomenclature 2. Bonding and isomerism, stereoisomerism 3. Alkanes and cycloalkanes 4. Alkenes and alkynes 5. Aromatic compounds 6. Halogen compounds, substitution and elimination reactions; reaction mechanisms			

	<ol style="list-style-type: none"> <li>7. Alcohols, phenols, and thiols</li> <li>8. Ethers and epoxides</li> <li>9. Aldehydes and ketones</li> <li>10. Carboxylic acids, esters and amides</li> <li>11. Amines</li> <li>12. Heterocyclics, pyridines, pyrroles and furans</li> <li>13. Polymers</li> <li>14. Lipids</li> <li>15. Carbohydrates</li> <li>16. Amino acids, peptides and proteins</li> <li>17. Nucleotides and nucleic acids</li> <li>18. Spectroscopy: IR, Vis and UV, MS and NMR</li> </ol> <p>Laboratory:</p> <ol style="list-style-type: none"> <li>1. Melting point determination</li> <li>2. Recrystallization</li> <li>3. Distillation</li> <li>4. Isolation of caffeine</li> <li>5. Chromatography</li> <li>6. Molecular models</li> <li>7. Synthesis of alkenes</li> <li>8. Diels-Alder reaction</li> <li>9. Electrophilic aromatic substitution</li> <li>10. Stereoisomerism</li> <li>11. Reactions of alcohols</li> <li>12. Reactions of ketones</li> <li>13. Infrared spectroscopy</li> <li>14. Dyes and dyeing</li> </ol>
<p><b>Outcomes:</b> Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.</p>	<p><b>Upon successful completion of this course, the student will be able to do the following:</b></p> <ol style="list-style-type: none"> <li>1. demonstrate knowledge of naming organic molecules</li> <li>2. demonstrate understanding of bonding, isomerism and stereoisomerism</li> <li>3. demonstrate knowledge and understanding of alkanes, alkenes, alkynes, aromatics, alcohols, ethers, carboxylic acids, amines and heterocyclics and their reactivity and chemistry</li> <li>4. demonstrate an understanding of polymers</li> <li>5. demonstrate an understanding of principles of biochemistry: lipids, carbohydrates, proteins and nucleic acids</li> <li>6. demonstrate an understanding and utility of spectroscopic techniques</li> </ol> <p><b>PROGRAM:</b> <i>(Numbering reflects Program Outcomes as they appear in the college catalog)</i> N/A</p> <p><b>COMPETENCY FULFILLED:</b> Scientific Knowledge &amp; Understanding (SCKX) OR Scientific Reasoning (SCRX)</p>
<p><b>Evaluation:</b> List how the above outcomes will be assessed.</p>	<p><b>Assessment will be based on the following criteria:</b></p> <p>quizzes examinations brief library research reports laboratory reports</p>

	evaluation of laboratory techniques
<p><b>Instructional Resources:</b></p> <p>List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.</p>	<p><b>Required:</b> chemistry laboratory</p> <p><b>Desired:</b> software for molecular modeling</p>
<p><b>Textbook(s)</b></p>	<p>Hart, <u>Organic Chemistry, A Short Course</u>, 11<sup>th</sup> ed.; Houghton Mifflin</p>