

Chemistry General Education Goals Meeting

**Goal #1 Communicate effectively using listening, speaking, reading, and writing skills.**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
CHM2132C	Reading papers, choose project, PowerPoint presentations, project results.	
CHM2210L	Report on the use of instrumental and or chemical methods to confirm the identity of substances.	Answers should follow established results.
All CHM labs	Read experiment, write up notebook so that they are able to carry out the experiment in a safe and timely manner. Data is collected effectively, analyzed, and reported both qualitatively and quantitatively so that proper and effective conclusions can then be drawn.	Grade report for correctness.
CHM1025, 1045 CHM2210	Crossword puzzles Seminar presentation.	
CHM1033	Current event on current health science issue.	Extra credit based on relevance of topic and presentation discussion.
CHM1033	Team presentation on research of an element.	Assessed by extra credit points based on assignment guidelines.
All CHM labs	Give instructions on conducting experiments and following safety.	Data and results, notebook, record keeping.
CHM1025, 2210	Read articles of historical interest or a historical figure.	Grade papers.
All CHM courses	Email students relevant articles, URL's, test review sheets, test date reminders, etc..	Student responses appreciating articles, reminders, asking specific content questions.

**Goal #2 Use quantitative analytical skills to evaluate and process numerical data.**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
CHM2132C	Collect data, use mathematical methods to evaluate data.	
CHM1025, 1045, 1046 CHM1045	Mathematical problem solving. Economics and chemistry.	Tests, quizzes Homework
CHM2210, 2211, 1033, 1033L	Identification of substances from physical constants and properties.	Quiz, test.

CHM1045, 1046, 2210, 2211, 1025	Interpret physical data from a mathematical relationship.	Nonlinear and linear regression analysis.
CHM1046L	Graphing techniques as they apply to experimental data.	Lab reports.

**Goal #3 Solve problems using critical and creative thinking and scientific reasoning.**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
CHM1045, 1046	Given information and numerical data, solve problems presented dealing with concentrations of solutions, converting from one type of concentration unit to another. Need to come up with a method to do it based on the information given and requested. The strategy is problem solving in class and homework assignments.	Tests, web assignment quizzes.
CHM1033	Food pyramid, diet analysis, analysis of food labels, %fat, carbohydrates and proteins, should we change nutrition behavioral patterns? Lecture, discussion.	%fat in our diets quiz, % cholesterol quiz.
CHM2132C	Students develop their own projects, design procedures, and evaluate data. Allow students to design "easy" labs.	Demonstration

**Goal #4 Formulate strategies to locate, evaluate, and apply information**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
CHM2210	Writing research type paper on an organic compound	Grading of research paper
CHM1046	Product information search	
All CHM courses	Web search for appropriate websites to teach children scientific concepts.	Website analysis
CHM1046L	Cation, salt analysis	Results on experiment
CHM2132C	Develop research project, do research and reach conclusion about research results.	

**Goal #5 Demonstrate knowledge of diverse cultures, including global and historical perspectives.**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
CHM1045	Chemistry history assignment	
CHM1025, 1045, 1046	Emphasizing the historical aspects of chemical developments over time.	
CHM1025, 1045, 1046	Assignment to research a scientist or the discovery of an element.	Completion of assignment
CHM1025, 2210	Paper on the structure of penicillin	Grade paper

**Goal #6 Create strategies that can be used to fulfill personal, civic, and social responsibilities.**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
CHM1045H	Service learning	Documentation (in writing)
CHM1033	Service learning activities- Training/help in hospitals, doctor's offices, nursing homes.	Present a written report.
CHM1045, 1046	Highlighting the tension in balancing social needs of a society with its need for scientific and technological developments and asking the students to make a decision on a case scenario.	
CHM1025, 1033	Cooperative learning: World food supply. e.g. 16 lbs. of wheat to form one lb. of beef.	Test question
CHM1045, 1046	Service learning-UF agricultural research center, Biscayne Bay Aquatic Preserve-water analysis	Extra credit

**Goal #7 Demonstrate knowledge of ethical thinking and its application to issues in society.**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
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CHM1025, 1045, 1046	Lecture and discussion of pharmaceuticals (FDA approval process-companies only selecting "good" studies, engineering (examples of design and inspection flaws such as Metrorail, Dadeland Station parking garage, and Minnesota bridge).	
All CHM labs	Honest and appropriate data collection and calculations.	Grading lab reports.
CHM1033	Ethical issues in health field-case studies-lectures and discussion.	Participation in case studies discussions.
CHM2210	Possible scenarios of unethical chemical practices in pharmacy	
All CHM labs	Data collection as a legal document.	Penalty for writing in pencil.

**Goal #8 Use computer and emerging technologies effectively.**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
CHM1045, 1046, 2210	Using WebCT on line assignments	
All CHM classes	Using email to send worksheets and receive papers.	Not assessed but critical to performance.
All CHM classes	Use websites to post lectures, handouts, homework, syllabus, schedules, etc.	Tests and quizzes
CHM1045, 1046	Assign electronic homework on book's website, "ARIS".	Points earned via electronic grade book used as extra credit points towards final grade.
CHM1046L	Use EXCEL, Word, to plot data.	Lab Report
CHM1025	On line homework assignments.	Submit answers/reports on line. (WebCT, Angel, others.)
CHM1025L, 1045L, 1046L	On line homework, web assignment	Submit answers for grade.
All CHM classes	Use faculty web page for test reviews, extra journal, sources.	
CHM2132C	Write own reports, search internet.	

**Goal #9 Demonstrates an appreciation for aesthetics and creative activities.**

<b><u>Course(s)</u></b>	<b><u>Intentional Learning Strategies</u></b>	<b><u>Assessment Strategies</u></b>
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All chemistry courses and labs	Change in colors of compounds indicate strong bond for matter as a result of reactions that took place.	
CHM2132L	Research project on creative idea	Cooperative learning (Group Project)
CHM2210, 2211	Research paper assignment	Test related
CHM1045, 1046, 2210	Asking questions that foster creativity.	
CHM1045 Honors	Assigning/supervising student designed project.	

**Goal #10 Describe how natural systems function and recognize the impact of humans on the environment.**

<u>Course(s)</u>	<u>Intentional Learning Strategies</u>	<u>Assessment Strategies</u>
CHM1025	Research paper on the environment	Grade paper for content and grammar
CHM1046	Global warming/greenhouse effect, smog, acid rain, good and bad ozone-Lecture and Discussion	
CHM1025, 1045, 1046, 2210, 2211	Electrical storms create ozone, $S + O_2$ yields $SO_2$ , $SO_2 + H_2O$ yields $H_2SO_4$ Acid rain is a threat to the atmosphere	Test questions on various reactions.
CHM1025	Air/ocean condensation and evaporation	Test on knowledge.
CHM1025, 1033, 1045, 1046	Evaporation from trees causes cooling. Natural air conditioning.	Test questions, reading assignments
CHM2132C	Analyze metal content in many water sources (well, lake, tap, rain)	Cooperative learning in classroom.