

Syllabus for UWXCH114

Chemistry in the Kitchen

NOTE: This syllabus document contains the basic information of this course. The most current syllabus is available in the full course.

Course Description

This course explores the chemistry of food at a beginning level, and presents concepts about the structure of molecules, interactions between molecules, and how foods change in the cooking process. Laboratory exercises are completed with materials used in a home kitchen, and include activities such as measurement, phase change, denaturation, extraction, and energy studies. This course is not a suitable prerequisite for higher-level chemistry courses or pre-professional programs.

Prerequisite(s)

None.

Course Outcomes

1. Describe and model matter at its atomic and molecular levels.
2. Show the relationship between a structure and its properties for small molecules and ionic compounds/dietary minerals.
3. Apply concepts of intermolecular forces to the interactions between substances in foods.
4. Show the relationship between the structure of a compound and its properties for macronutrients, and for vitamins.
5. Discuss the types of energy required for the transformation of matter in cooking.
6. Apply concepts of chemical change to common applications in cooking.
7. Apply conventions of scientific practice and communication standards for laboratory work.
8. Evaluate the validity and credibility of popular dietary claims while using and citing credible evidence gathered from research.

Course Requirements/Components

This course is offered entirely online, and includes chemistry instruction through recorded lectures, assigned readings, learning activities, discussions, and laboratory work. You will have opportunities to demonstrate your learning through quizzes, exam-level projects, discussions, and lab reports. In the exam-level projects, you will demonstrate mastery of many learning goals through a role as a curator in an imaginary workplace called The Chemistry Museum. You are encouraged to work collaboratively on many assessments, but group work is not required.

Grading

The following grading scale will be used to evaluate all course requirements and to determine your final grade:

Grade	Percentage Range
A	93-100%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	60-66%
D-	59 and under
F	93-100%

Assignment	Percent of Grade
Laboratory	20%
Laboratory Notebook	5%
Projects	30%
Quizzes	30%
Evaluate Scientific Claims	15%
Total Points	100