

SPT 100 – The Chemistry of Food
Course Syllabus
Fall 2015

Instructor:

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Office Hours:

Tues. / Thurs. 9 – 11am; 2 – 4pm
Wed. 2 – 4pm

Lecture: MW 11:00 – 11:50am, McAllister Room 103

Lab: M 2:00 – 4:00pm, McAllister Room 203

Course Description: This course is an introduction to the field of food chemistry, which seeks to explain what we eat and how we prepare food in terms of the chemistry. We will be looking at how food is made of chemicals, from the main constituents of proteins, carbohydrates and fats to the trace components of vitamins, minerals, preservatives and flavoring. When food is cooked, these components interact and undergo chemical changes in ways that can be explained and predicted using chemical principles. Understanding the chemistry underlying food and cooking can lead to a better understanding of the food that we eat.

This course is a 4 credit hour course, which means you should be working on chemistry 12 hours out of each week. You will be in class 2 times a week (100 minutes) and lab once a week (2 hours). Thus, you are expected to work on homework sets, prelab assignments and course reading materials for at least 8 hours and 20 minutes outside of class and lab each week.

Purpose of the Course: The Chemistry of Food will introduce simple chemical concepts and how they are used in everyday cooking. This course seeks to achieve the following goals: introduce the language of chemistry, examine the main constituents of food, examine relationships between cooking and chemistry and will look to the future of where food chemistry is headed.

Student Learning Outcomes: The student will understand basic chemical concepts; to develop scientific writing skills, critical thinking and interpersonal skills through lab and lecture class work. Students will demonstrate their knowledge of appropriate chemical principles and their ability to apply these principles to food chemistry problems.

Assessment Measures: Upon satisfactory completion of this course, the student will demonstrate competency in the chemistry of food by their performance on quizzes, laboratory reports, evaluated written prompts and exams. It is expected that upon completing their course with a C or higher you will be prepared similar to other chemistry courses for non-majors from accredited colleges/universities.

Method of Instruction: The Chemistry of Food will be primarily a lecture-based course (using Power Point, white board and handouts) with a textbook that the majority of the material comes from. Students are expected to come to class have read the material assigned the previous class that will be covered that day's lecture. Questions in class as well as visits to office hours are encouraged.

Requirements:

Text: What Einstein Told His Cook, Wolke, Robert L., 2002, Scribner;
ISBN: 978-0-393-32942-1

Calculator: A scientific calculator is required. I recommend a Texas Instruments model TI-83 or higher. **No sharing of calculators will be allowed on exams or quizzes.**

Course Webpage: The course webpage can be found at <http://sites.berry.edu/asuroviec/>. This page contains links to the course syllabus, PowerPoint slides, grade books as well as other pertinent information. Every effort is made to keep this page as up to date as possible

Cell phones: Cell phones are NOT allowed during quizzes or exams and need to be silenced during lecture for the consideration of those around you as well as myself.

Attendance Policy: It is expected that class attendance will be 100% and that full attention will be given to any subject while present in class. Attendance and participation in the lectures and labs are part of the grade and as such, you must have an official excuse to miss class. The student will be held responsible for the material presented and any assignments made during a class session s/he was not able to attend. A student who has been absent continuously for one week will be reported to the Registrar.

Grades: The course grade will be based on the total points accumulated from the 3 regular exams, the final exam, quizzes, homework assignments, video presentation and the chemistry lab. Each of these are weighted as follows:

Quizzes	5%
Homework	10%
Exams	20%
Final Exam	20%
Presentation	20%
Lab	15%
Participation	10%

Total points accumulated and weighted by the table above will determine final grades. Students obtaining 93–100 points total for the course (total points [rounded to the nearest whole number in the standard mathematically correct manner] as above for exams, final exam, problem sets and lab grade), will be afforded an "A" as a final grade. Students obtaining 90–92 points total will be afforded an "A-" as a final grade. Students obtaining 87–89 points total will be afforded a "B+" as a final grade. Students obtaining 83–86 points total will be afforded a "B" as a final grade. Students obtaining 80–82 points total will be afforded a "B-" as a final grade. Students obtaining 77–79 points total will be afforded a "C+" as a final grade. Students obtaining 73–76 points total will be afforded a "C" as a final grade. Students obtaining 70–72 points total will be afforded a "C-" as a final grade. Students obtaining 67–69 points total will be afforded a "D+" as a final grade. Students obtaining 60–66 points total will be afforded a "D" as a final grade. Students obtaining 59 points total or less will be afforded an "F" as a final grade.

Laboratory: Laboratory experiments are an essential element of any introductory course in chemistry. Laboratory work begins during the week for **August 25th**. You are required to

attend each of your lab sessions. A separate lab syllabus will be provided during the first meeting of your lab. **NOTE: You must receive greater than a 59.9% in lab to receive credit for this course.**

Examinations: There will be three regular examinations plus a final exam. The dates for the three regular exams are: **Monday, September 21, Wednesday, October 21 and Monday, November 16.** These dates are firm, and exams will be given during class time. Make-up exams will only be allowed for well-documented illnesses or absences approved in advance. Excuses must be presented in writing. Exams will not be moved so plan ahead.

Final examination: A cumulative final will be given on **December 11th 2014 at 2:00 pm.**

Quizzes: At the *end* of most Monday class periods, a short 10-point quiz will be given, except on exam days, and the days following mid-semester break and Thanksgiving break. These quizzes will be closely related to the problems assigned as homework. I will allow you to take the quiz early, with my approval, but **NO** late quizzes will be given.

Homework: At the end of each class period I will give a homework assignment/writing prompt to be completed by the next period. The homework and writing prompts will be assigned both from the textbook and from supplemental materials. *Homework may be completed late, but they will only be worth a maximum of 50% after the due date.* Quiz and test problems will be closely related to the homework so it is in your best interest to complete the assignment and get corrections if needed.

Reading: The reading assignment will be based on the material to be covered in the next lecture and will be the starting point for the discussion in class the following class period.

Grading of homework: You are welcome and encouraged to work on the all the homework problems together. However, each of you must still submit your own work to receive credit.

Creative Project: Students will work in groups of 3 – 4 students for the creative project. The groups will be expected to turn in a project as part of the course requirements. In this project you will be asked to interpret a chemical concept that we have covered through producing a short (8-10 minute) cooking demonstration video. This project is not meant to be a research paper or a book report but a creative reaction to one of the topics that we have been studying. The final project will also need script for the video and a demonstration of how your project creatively shows a chemical principle covered in Chemistry 102.

A call for ideas will be made **October 15th**, the scripts are due **November 10th** and the final project is due **December 1st**. The project will be graded on quality of the script and final product (40%), creativity (20%), understanding of chemical principle that is being used in the creative project (30%) as well as participation in the group (10%).

FERPA: Berry College's statement of compliance with the 1974 Federal Family Educational Rights and Privacy Act (FERPA or the Buckley Amendment) states: "Grades should not be distributed or posted in any fashion that permits identification of the student by anyone other than the student." Your grades will be posted on VikingWeb which is private only to you unless you choose to give away your password. Exams and quizzes will always be handed back individually.

Additional Accommodations: Students with disabilities who believe that they may need accommodations in this course are encouraged to contact the Academic Support Center found in the Library as soon as possible to ensure that such accommodations are implemented in a timely fashion.

Academic Integrity: Each student is expected to adhere to the policies outlined in the college's academic handbook. Cheating of any kind will not be tolerated. As in all of my classes, students will be asked to sign an integrity pledge on each quiz/exam. The pledge reads as follows:

"I affirm that I have neither committed nor witnessed a violation
of academic integrity in the completion of this quiz/examination."

Any student found to have violated academic integrity will be subject to the following:

First Offense: No credit for the particular quiz/exam and a report filed to the Academic Dean's office.

Second Offense: Removal from the course, automatic failure in the course and a report filed to the Academic Dean's office.

Tentative Course Schedule

	Date	Topics	Homework	Readings	Lab
August	24 26	Introduction Chemistry review			Check in/ Kitchen Conversions
August	31 2	Carbohydrates	Homework 1	Chapter 1	Effect of pH and heat on food
September	7 9	Labor Day Fats	Homework 2	Chapter 3	No lab
September	14 16	Proteins	Homework 3	Chapter 5	Achieving hard crack candy
September	21 23	Exam I Vitamins and Nutrition		Handout	Peanut oil saturation of a potato
September	28 30	Flavor	Homework 4	Handout	Vitamin C in commercial beverages
October	5 7	Eggs and Meat		Handout	Sensory qualities
October	12 14	Fall Break Chemicals in the Kitchen	Homework 5	Chapter 4	No lab
October	19 20	Exam II			Effect of heat on eggs
October	26 28	Cheese and Milk	Homework 6	Handout	Making a water filter
November	2 4	Fire and Ice	Homework 7	Chapter 6	Making cheese
November	9 11	Liquid Refreshment	Homework 8	Chapter 7	Food Calorimeter
November	16 18	Exam III Microwaves		Chapter 8	Making cookies
November	23 25	Thanksgiving Break	Homework 9		Food scavenger hunt
November December	30 2	Tools and Technology	Homework 10	Chapter 9	Video Presentation
December		Final Exam 2pm - 4pm			