

MASTER SYLLABUS DOCUMENT

COURSE: CHM 107
KITCHEN CHEMISTRY - 4 credits

INSTRUCTOR: Nancy Thorpe (lead faculty)

COURSE DESCRIPTION:

Intended for the non-major, this course introduces the fundamental concepts of inorganic and organic chemistry through the perspective of food and cooking. The course includes topics of scientific method, measurements, unit conversions, physical and chemical properties, reactions, acid and base chemistry, stoichiometry, biomolecules, chromatography, and spectroscopy. The specific objectives of the course are to provide the basic vocabulary of chemistry and a basic understanding of the experimental process as it relates to food and cooking. This course does not count towards any science or allied health major or minor. Laboratory fee required. 45 hours lecture and 45 hours laboratory. Prerequisite: MAT 099 or appropriate score on placement test. Semesters offered: Fall, Spring. 4 Credits.

TEXTBOOK:

General, Organic, and Biological Chemistry; 3rd ed. L. Frost and T. Deal. Pearson. 2017. Required
ISBN: 978-0134041568 (Book and Access Code)
978-0134042428 (Book alone)
978-0134177168 (Access code alone)

Culinary Reactions, The Everyday Chemistry of Cooking. ISBN: 978-1569767061_ Required
Exercises for the General, Organic, and Biochemistry Laboratory. William G. O'Neal. Morton Publishing
Company. 2015. ISBN: 978-1-61731-209-0 Required
Students will also need: **scientific calculator** (not graphing calculator) and **safety goggles**.

STUDENT LEARNING OUTCOMES:

At the completion of this course, students should be able to:

1. Identify and apply the fundamental concepts and methods of chemistry while exploring the chemistry of cooking.
2. Organize and evaluate numerical measurements using dimensional analysis to setup and solve problems
3. Communicate chemical information using chemical nomenclature, formulas, equations, and proper writing skills.
4. Use technology to make laboratory measurements and analyze and present data.
5. Work collaboratively with other to accomplish a task.
6. Access, process, analyze and synthesize scientific information.

TOTAL HOURS OF COURSE WORK EXPECTED:

In order to meet the minimum requirements for a 4 credit class, the number of class/study hours expected of the student is multiplied by 3. The total work required to earn four college credits – 150 hours/semester, or 12 hours/week during a 15 week semester (includes class time plus additional homework/study time outside of class).

Please be aware that certain courses, or certain students, may require more than *minimum* hours of work per credit each week in order to be successful in that course.

Credit Hour to Clock Hour Calculation (for 4 credit course) – Face to Face

Direct Faculty Instruction: One hour Instruction/week/credit

$$(50 \text{ min} * 15 \text{ weeks}) \div 60 \text{ min/h} = 12.5 \text{ h/credit} * 4 \text{ credits} = 50 \text{ hours}$$

Student work out of classroom: (Two hours per credit per semester)

$$(2 * 50 \text{ min} * 15 \text{ weeks}) \div 60 \text{ min/h} = 25 \text{ h/credit} * 4 \text{ credits} = 100 \text{ hours}$$

	Direct Faculty Instruction (in-Class)	Student work outside of class
“Lecture” time	37.5 h	
3 Lecture Exams in testing center		6 h (taking exams)
Prep time LSC/Home		21 h (exam prep)
9 quizzes	(included in lecture time)	9 h (quiz prep)
Comprehensive Final Exam (11 ch)	(Included in lecture time)	7+ h Final exam prep (review notes/group study)
Homework Assignments (online and written)		30+ h
“Lab” time	37.5 h	
Lab Preparation	0.5 h/lab*12 labs	6 h
Lab Practical Prep	3 h study time*2	6+ h
Lab Report Completion	(included in lab time)	
Total Lecture and Lab	75.0 h	75 h+
TOTAL	160+ hours (may exceed minimum of 150 h for 4 credits)	

***Remember: the above hours are estimated for the average student. You may require more or less than the suggested hours.**