Hagerstown Community College
MASTER SYLLABUS

COURSE: CHM 103, General Chemistry I, 4 credits

INSTRUCTOR: V. Stein, C Nelling **SEMESTER/YEAR: SP 2017**

COURSE DESCRIPTION: This is the first semester of a two semester sequence for science majors and pre-professional students with strong backgrounds in chemistry and math. It presumes a working knowledge of dimensional analysis, chemical formulas and nomenclature, stoichiometry, gas laws and solutions Laboratory fee required. Prerequisites: CHM 101 or high school chemistry. MAT 101 or equivalent scores on placement test or enroll in MAT 101 concurrently.

TEXTBOOK:

TextBook: Tro, *Chemistry, A Molecular Approach 4ed,* Pearson Prentice Hall, 2017

Online Program: www.MasteringChemistry.com (access code required)

Lab manual: J.A.Beran, *Laboratory Manual for Principles of General Chemistry, 10th Ed.*, John Wiley & Sons, Inc., 2014

Scientific calculator that can perform the following functions: scientific notation (exponential notation), logarithms and simple arithmetic.

Safety goggles

STUDENT LEARNING OUTCOMES:

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

1. Apply quantitative thinking processes and reasoning skills to physical laws, stoichiometry, and atomic and molecular structure.
2. Communicate core course concepts in writing while using appropriate technology
3. Solve quantitative chemistry problems and demonstrate reasoning clearly and completely. Integrate multiple ideas in the problem solving process. Check results to make sure they are physically reasonable.
4. Collect, analyze, and evaluate empirical data to substantiate chemical concepts.
5. Access, process, analyze and synthesize scientific information.
6. Relate chemical concepts to real life scenarios

TOTAL HOURS OF COURSE:
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)

Direct Faculty Instruction: One hour Instruction/week/credit

(50 min * 15 weeks) ÷ 60 min/h = 12.5 h/credit * 4 credits = 50 hours

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

(2*50 min * 15 weeks) ÷ 60 min/h = 25 h/credit * 4 credits = 100 hours

	Direct Faculty Instruction (in-Class)	Student work outside of class
"Lecture" time (3 credits)	37.5 h	
3 Lecture Exams Prep time LSC/Home	(included in lecture time)	30 h (exam prep)
7 quizzes	(included in lecture time)	7 h (quiz prep)
Comprehensive Final Exam (10 chapters)	(Included in lecture time)	10+ h Final exam prep (review notes/group study)
Homework Assignments (online)		30+ h
"Lab" time (1 credit)	37.5 h	
Lab Preparation 2 Lab Exams Lab Report Completion	1 h/lab*10 labs (included in lab time) (both in lab and outside of lab)	10 h (prelabs) 10 h 10 h
Total Lecture and Lab	75.0 h	107 h
TOTAL	**180+ hours (may exceed minimum of 150 h for 4 credits)**	