

# SYLLABUS

# CHEMISTRY 102

SPRING 2016

LECTURES: MWF 1:10PM in Fulmer 226

INSTRUCTOR: Dr. Amy E. Nielsen

OFFICE: Fulmer 313    PHONE: No phone calls please    Email: [amy.nielsen@wsu.edu](mailto:amy.nielsen@wsu.edu)

When sending an email, include "Chem 102" in the subject line – emails without this will not get a response!

OFFICE HOURS: M W F 2-3PM (sign up on sheet), and by appointment (make appointments by email)

GENERAL CHEMISTRY OFFICE: Fulmer 319A    BULLETIN BOARD: Outside Fulmer 319

GENERAL CHEMISTRY COORDINATOR: Nikki Clark    PHONE: 335-1516    Email: [nikki\\_Clark@wsu.edu](mailto:nikki_Clark@wsu.edu)

INTERNET: We will be using Mastering for online homework and Learning Catalytics for in class questions. All class information, notices, and schedule changes will be posted to the Chem 102 facebook page. Handouts and other supplementary information will be on your Blackboard page. Important notices will be emailed to your WSU email account **only**. It is your responsibility to check it regularly. You can also use the Chem 102 Facebook page to ask questions of TA's, other students, and Professor Nielsen.

|                 |                          |                         |
|-----------------|--------------------------|-------------------------|
| <b>GRADING:</b> | 3 tests                  | 35% or 50% <sup>1</sup> |
|                 | Learning Catalytics      | 5%                      |
|                 | Mastering homework sets  | 20%                     |
|                 | 12 of 13 lab experiments | 25%                     |
|                 | Final Exam               | 15% or 0% <sup>1</sup>  |

<sup>1</sup> The final exam is optional and comprehensive. If you do not take the final your grade will be determined with this formula.

|               |       |            |              |                    |
|---------------|-------|------------|--------------|--------------------|
| <b>EXAMS:</b> | 1     | Feb. 11th  | 6:00–7:00pm  |                    |
|               | 2     | March 10th | 6:00–7:00pm  |                    |
|               | 3     | April 14th | 6:00–7:00pm  |                    |
|               | Final | May 4th    | 7:00–10:00pm | <b>tentative!!</b> |

## GRADE RANGES:

|    |        |    |             |
|----|--------|----|-------------|
| A  | 93-100 | C+ | 74-76       |
| A- | 90-92  | C  | 65-74       |
| B+ | 87-89  | C- | 60-64       |
| B  | 80-86  | D+ | not awarded |
| B- | 77-79  | D  | 55-59       |
|    |        | F  | below 55    |

**TEXT:** General, Organic and Biological Chemistry, Volume 2. McMurry, Ballantine, Hoeger & Peterson. 7<sup>th</sup> edition, (2013), Pearson/Prentice Hall. This is a custom print for WSU of Chapters 12-29. Access to the Modified Mastering Chemistry homework system as well as Learning Catalytics is required. If you were in Chem 101 Fall 2014, your Mastering/Learning Catalytics account is still valid.

Modified Mastering Chemistry/Learning Catalytics is included with the new text bundle available at the bookstore. If you purchased the book from another source, you may purchase Mastering Chemistry and Learning Catalytics when you register for Mastering Chemistry through Blackboard. It is important that you only register through our Blackboard site at <http://learn.wsu.edu>. Mastering Chemistry costs \$65 without an eBook and \$110 with an eBook. If you purchase Mastering without an eBook there will be an additional charge of \$12 for Learning Catalytics.

If you were not enrolled in Chem 101 last semester, access codes for Mastering and Learning Catalytics may be purchased at the bookstore or directly on the Mastering Chemistry website as described above. All of this will be explained on the first day of class. In order to use Learning Catalytics, you will need an internet device in lecture. These include smart phones (any OS), tablets, and laptops.

**LAB TEXT:** *Chemistry Related to Life Sciences Laboratory Manual*, WSU Chemistry Department, Star Publishing (2015).

**LABORATORY NOTEBOOK:** Duplicating with numbered pages. (Available in Fulmer 318 the 1<sup>st</sup> and 2<sup>nd</sup> week of class, available in the bookstores, or continue to use the notebook from a previous semester)

**GOGGLES: Required** (Sold in Fulmer 318 the 1<sup>st</sup> and 2<sup>nd</sup> week of class. Also available in the bookstores.)

**LABORATORY COAT:** Mandatory. Lab coats are available from the bookstores and the Chemistry Club.

**CALCULATORS:** Each student is expected to have and to be able to use a simple scientific calculator. Graphing calculators are allowed but not required. Calculators with a full QWERTY keyboard; PDAs; palmtops; laptops and/or handheld computers; and cell phone/calculator combinations may not be used in the labs. Each student is responsible for bringing a calculator to all labs. Unless otherwise announced, calculators of any type may not be used during quizzes and exams in this course.

**ACADEMIC INTEGRITY:** Cheating or plagiarism in any form will not be tolerated. Cheating includes, but is not limited to: copying work or allowing your work to be copied; use of unauthorized material at quizzes and exams, any communication between students during a quiz or exam, the use of any stored information/programs in a programmable calculator during a quiz or exam, and actively looking at another student's paper during a quiz or exam. Students repeating the course must rework and rewrite all assignments. Plagiarism includes resubmitting previously graded homework or lab reports from a previous semester, even if they were your own work. Plagiarism also includes using laboratory data from another person or a previous semester. Obtaining information about quizzes taken in other sections is considered cheating. Any use of a cell phone or other communication device during any quiz or exam is cheating. Use of any electronic device other than an approved calculator during a quiz or examination is cheating. All incidences of cheating will be reported to the Office of Student Conduct. The first incidence of cheating will result in a score of zero for that assignment, quiz or exam. A second incident of cheating will result in an F for the course and possible dismissal from the University.

**LECTURES:** Lectures must be attended on a regular basis. You will be expected to read the textbook AHEAD of coming to class. The PowerPoint presentations of the lectures will be available after lecture via Panapto.

**Final Exam and Tests:** There will be three midterm exams and a comprehensive final that will cover lecture and homework material. All exams will be short answer or equivalent. Unless otherwise announced, no calculators may be used during the exams. Exams may be given in rooms other than the regular classroom. These rooms will be announced. No make-up exams will be given. If you are unable to take a scheduled exam for academic reasons beyond your control, you may be allowed to schedule the exam at an earlier time. Tests missed due to illness will be excused, with the other exams and the final exam prorated to count for more. **Evening tests take precedence over all other university activities.**

**HOMEWORK:** There will be a total of 14 weekly homework assignments administered through the Mastering Chemistry, of which 12 will be counted towards your grade. (20% of your grade).

If you took Chemistry 101 in the Fall 2015 semester, you will already be registered with the Mastering Chemistry system. The first time you access Mastering Chemistry through Blackboard – you will be prompted for your Pearson username and password. Make sure to use the same one you created from Chemistry 101. If you were not in Chemistry 101 at WSU last semester, you must purchase a student access code for Modified Mastering Chemistry from the bookstore or when you are registering for Mastering through Blackboard.

The due date/time for each assignment will be listed with the assignment on the homework site. It is recommended that you examine the homework on the Monday it is posted and print it out so that you may consult TAs in lab and office hours during the week. The option to request answers to the homework problems will not be available until the day after the assignment is due. If you wish to see the answer to a problem, go back to the assignment after the due date and request the answers. If you have questions about how to answer a question, consult with the instructor or a TA. Remember that the course Facebook account is also a great way to get help with homework by uploading screenshots.

**LEARNING CATALYTICS:** [http:// learningcatalytics.com](http://learningcatalytics.com) This will be used in class to ask questions that will be 5% of your grade. Many days credit will be given for any answer not just the correct answer. Students must bring an internet able device

in order to use Learning Catalytics (smart phone, tablet, laptop). If you have a device that has a browser you are internet enabled. Only the top 80% of your answers will be counted. Learning Catalytics is included with your Mastering subscription if you have access to the eText. If you purchased access without an eText – there will be a \$12 fee for this service.

## LABORATORIES:

### Schedule:

| Week of | 102                               |
|---------|-----------------------------------|
| 11-Jan  | Chem 101 Review                   |
| 18-Jan  | Molecular Modeling                |
| 25-Jan  | Alcohols/Aldehydes/Ketones        |
| 1-Feb   | Amino Acid Titration              |
| 8-Feb   | Polymers- Synthesis of Nylon      |
| 15-Feb  | Coupled Enzymatic Reaction        |
| 22-Feb  | Handout/Ethanol from Yeast Part 1 |
| 29-Feb  | Ethanol from Yeast Part 2         |
| 7-Mar   | Antioxidants-Vitamin C            |
| 14-Mar  | Spring Break                      |
| 21-Mar  | DNA                               |
| 28-Mar  | Riboflavin                        |
| 4-Apr   | Ester Synthesis                   |
| 11-Apr  | Drug Receptor Lab                 |
| 18-Apr  | Body Fluids – Buffer Lab          |
| 25-Apr  | Review                            |

**Attendance:** The laboratory must be both attended and passed as this is a Lab GER course. *Failing the lab will result in a failing grade for the whole course.* Students **will not be admitted to lab late.** Fail to submit 3 labs and you will fail the entire course no matter what your other scores are.

**Make-up labs (rescheduling):** Labs missed for reasons beyond your control may be made up, on a space available basis, *in the same week that the lab is missed.* Permission for a make-up lab must be obtained, in writing, from the Chemistry Office, Fulmer 319A. The permission slip will be collected and signed by the make-up TA. **We cannot guarantee that make-up space will be available.** If you know in advance that you will miss a lab, visit Fulmer 319A as soon as possible in order to maximize the chance that make-up space will be available. A **maximum** of two laboratory experiments may be rescheduled in this manner.

**If rescheduling is not possible or allowed:** If make-up space is not available or you have already used your two rescheduling opportunities, a report may be written from data supplied by the instructor. Such reports are due at the normal time (in lab one week after your regularly-scheduled lab time) and *will be worth no more than ½ credit.* You must obtain this data directly from the instructor in her office. Data will not be sent via email.

**Pre-laboratory assignments:** Pre-laboratory assignments are due at the start of the lab period. Students who have not completed the pre-lab assignment (or completed the wrong assignment) will receive a 20% penalty on the entire laboratory report, but will be permitted to complete it outside the laboratory in Fulmer 319 before they begin the lab. Once the pre-lab is submitted to the TA, the student will have the *remaining time* to complete the laboratory work. **No additional time will be allowed.**

**Laboratory procedure:** Students are to perform the experiments individually unless otherwise instructed by the TA. Each student is required to record all data and observations for each experiment directly into their own laboratory notebook. Data may not be recorded on loose, 'scratch' paper then transferred to the notebook. Submission of identical data by two or more students who are not assigned to be laboratory partners will be considered cheating. Appropriate penalties will be applied to all parties. You are required to get your TA's signature on your data and calculations before you leave lab. Failure to do so will result in zero credit for that experiment.

**Laboratory dress code:** For your safety, a strict dress code will be enforced in the laboratory. Failure to comply with the dress code will result in expulsion from the laboratory and a consequent score of zero for that experiment. The dress code requires that you be fully clothed from shoulder to toe. It is recommended that you purchase and use a full-length lab coat. This will adequately cover the upper body, but your legs, ankles and feet must be completely covered by your 'street clothing'.

**Laboratory Reports:** Laboratory reports will be due at the start of your lab period the week after the experiment associated with that report was performed. All laboratory reports must be written out in the laboratory notebook, with the carbon copy retained in the notebook and the original copy handed in for grading. Students are responsible for writing their own laboratory report discussion. Although the concepts covered in lab may be discussed with other members of your group, **the report must be in your own words.**

**Adjustments to laboratory scores:** The instructor will make every effort ensure that the grading of laboratory reports is consistent and fair. To this end, the instructor reserves the right to normalize the laboratory scores from the different laboratory instructors to the same average. Any such adjustment will be made at the end of the semester after all scores have been submitted. TA performance will be assessed throughout the semester with the goal of eliminating any necessity for these adjustments. Students are encouraged to bring any concerns about the equity of the grading process to the attention of the course instructor.

**ACCOMODATIONS:** Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the **first week of class** of any accommodations needed for the course. Late notification may cause the requested accommodations to be unavailable. All accommodations must be approved through the Access Center in Washington Bldg, Room 217. Stop by or call 509-335-3417 to make an appointment with a disability specialist. Students requiring extra time on midterm exams due to a documented disability should plan to take the midterm exams early (4:00 pm) on the test days under the supervision of the course instructor.

Accommodations are available for students for whom examinations fall on days objectionable due to religious beliefs or for those who must be absent from campus an exam days due to an official university activity. Requests for such accommodation must be presented, in writing, to the course instructor at least one week prior to the examination.

#### **CLASS POLICY ON LATE (OR EARLY) ASSIGNMENTS:**

**Laboratory reports:** *Early Policy:* You will receive 0.25 points EXTRA CREDIT for each day you turn in your lab prior to the due date (maximum of 1 point per lab). If you wish to turn in a lab early, give it to your TA directly or put it in the box (see method of submission below).

*Late Policy:* There is none. It has been superseded by the Early Policy. **Labs turned in after the due date will be scored as a 0 (zero) and counted as a completed lab and thus cannot be made up at the end of the semester.** No reports will be accepted after 5:00 pm on the last day of classes even if they are not yet one week late.

**Method of submission:** It is best to personally deliver late or early submissions to the instructor or to your TA. Note that, outside of class/laboratory times and posted office hours, we make no pledge to be present or available for this purpose. If you are submitting work at other than the specified time, it is your responsibility to find us. The only other acceptable method of submission is via the box in Fulmer 319A during normal office hours. If this office is closed, there will either be a sign redirecting you to another office or you must wait until the office is reopened. Assignments slid under the door of Fulmer 319A may be swept up as trash and thrown away. Assignments delivered in any other way (slid under the instructor's office door, for example) will be considered to have been submitted at the time they are found, **if they are found.**

**Homework assignments:** Homework assignments may only be submitted via the Mastering Chemistry system. Late homework assignments will not be accepted for *any reason*.

**TA OFFICE HOURS.:** All chemistry TA's hold their office hours in the TA room in Fulmer 318 from 10:00am – 4:00pm Monday – Thursday. You may ask any Chem TA for help in this course, however, TA's are NOT allowed or obligated to do your homework, pre-labs or lab reports for you, they can *only* guide you. When you go to office hours for help, be prepared with questions ahead of time! TAs will also monitor the course Facebook page and offer help there.

**THE CHEMISTRY DEPARTMENT COMPUTER LABORATORY.** The chemistry department has a computer laboratory in Fulmer 401. You have already paid a fee to support this facility. You may use the computers in this lab for no additional charge, although there may be restrictions on printing.

**SAFETY:** The campus safety plan is at <http://safetyplan.wsu.edu/> . Go to <http://oem.wsu.edu/Planning.html> to prepare for emergencies. The campus-wide alert system is at <http://alert.wsu.edu/>.

**STUDENT LEARNING OUTCOMES:** At the end of the course the student should

1. Have an understanding of the concepts, models, and theories that form the foundation of the fields of organic chemistry and biochemistry
2. Apply the standard algorithmic calculation procedures, individually and in combination, associated with these concepts, models, and theories.
3. Be able to describe, explain, and predict the behavior and interactions of substances on the atomic, molecular and macroscopic levels.
4. Be able to communicate in the basic vocabulary of organic chemistry and biochemistry, including the ability to transition between chemical names and chemical formula in a facile manner and the ability to describe organic reactions and their role in metabolic cycles.
5. Understand the relationship between molecular structure the physical and chemical properties of a substance.
6. Create procedures to solve problems by applying single and multiple concepts to new situations.
7. Apply chemical procedures and evaluate experimental results to develop an appreciation for the experimental basis of chemical knowledge and experimental methods through laboratory work, with special emphasis on qualitative analysis.
8. Write effectively about scientific experiments by describing laboratory procedures and results from both the student's laboratory experience and articles from the scientific literature. Be able to evaluate and present a discussion of these results in the manner of a scientific report.

**ASSESSMENT:** SLO #s 1-7 will be assessed using examinations, quizzes, laboratory experiments and reports, homework, and in-lecture assignments. SLO #8 will be assessed using the quizzes and lab reports.

## Get started with Modified MasteringChemistry and Blackboard Learn

### First, make certain that you have these 2 things...

**Email address:** You'll get important emails from your instructor at this address.

**Access code or credit card:** The required access code is part of the textbook bundle purchased at the bookstores. If you did not purchase the bundle, you can buy instant access with a credit card or a PayPal account during registration.

### Next, register!

1. Log in to Blackboard Learn, <https://learn.wsu.edu>, using your WSU network ID and password. Click on the link to our course: "Introduction to Chemistry (2015 Fall Pullman Chem 101)". Click the "Mastering Chemistry" link on the left hand menu. Then click on the link to **Mastering Chemistry Course Home** to begin the registration process.
2. The registration page will appear in a new window or tab. It will start with the Mastering user agreement. Click the "I accept" button.
3. Sign into or create your Pearson account:  
You will be prompted to login with your Pearson account. If you have a Pearson account, enter the username and password. If you don't have a Pearson account, select the option to Create a new Pearson account. If you have ever used a Pearson Publishing on-line product before, you have a Pearson account. If you are not certain, select "Create" and enter the email address and username you want to use. The system will tell you if there is already an account associated with that email/user name.
4. The next page will offer you four options:
  - If you purchased the text bundle from the bookstore, click the button labeled "Access Code". Your access code is in a cardboard insert wrapped with the text book. Enter your **Access Code** in the spaces provided on the page that appears.  
-OR-
  - Purchase Mastering Chemistry access with the e-book text by clicking on the upper button in the **Use a Credit Card or PayPal** section (the right column). The cost is listed on the button. Follow the instructions to complete your purchase.  
-OR-
  - Purchase Mastering Chemistry access without the e-book by clicking on the lower button in the **Use a Credit Card or PayPal** section (the right column). The cost is less than for the homework/e-book combination. But, if you choose this option, you will be required to pay separately for access to LearningCatalytics (\$12 at the LearningCatalytics site). Follow the instructions to complete your purchase.  
-OR-
  - If you are not yet ready to purchase homework access, you may select the "Get temporary access without payment for 14 days". If you choose to do this, keep in mind that you will lose access to and credit for the homework if you do not actually purchase a code before the fourteen days are up.
5. You are now registered! Click on the "Go to your course" button to access your Modified Mastering product.