SYLLABUS

FST 466/566 – Chemistry and Biochemistry of Wine

Winter each year, MWF – 3-3:50pm

Instructor:

Dr. Elizabeth Tomasino, Associate Professor, 220A Wiegand Hall,

737-4866 Email: elizabeth.tomasino@oregonstate.edu

Office Hours:

By appointment

Course Description:

Principles of wine production technology from grape berry development through bottling, covering the microbiology and chemistry and biochemistry of fermentation, aging and production practices of red and white table wines as well as sparkling and dessert wines.

Three credit hours: 3 hours of lecture per week Course

Objectives:

Describe the different wine processes and select those processes most appropriate for the desired wine style.

Identify the chemical, biochemical and microbiological changes associated with different wine processes.

Create wine processes for given grape and wine styles and compare the effectiveness of different processes.
**Prerequisites:**
BI 212 or 212H, CH331 and 332. Co-req MB302
A minimum grade of C- is required in BI 212, BI 212H, CH 331 and CH 332.

**Course Content:**

Grape & wine composition, aromas & flavor, grape ripening, phenolics, alcoholic fermentation, malolactic fermentation, oxidation & reduction, SO₂, Using Oak, white winemaking, red winemaking, sparkling winemaking, how to taste wine

**Learning Resources:**

Lectures will be available before class and can be downloaded through canvas. There is no required textbook for this course; however background reading for each lecture will be taken from the following texts, which are on reserve at the library. These texts may also be made available on Canvas, depending on copyright laws.


**Student Learning Outcomes**

All students will be able to explain how wine production practices effect grape and wine chemistry.

Students will distinguish production techniques unique to different wine styles and be able to create a successful wine based off of specified raw materials and desired final product.
Students will be able to communicate their understanding of production techniques and their relation to wine quality by receiving a “C” or better in exams and writing assignments.

Students will evaluate wines through sensory analysis to understand how different compositional elements impact wine quality. They will begin to develop the language needed to thoroughly evaluate wines in a professional manner.

Students will communicate their sensory evaluation knowledge by receiving a passing grade on the 2 tasting journals and receiving a “C” or better on the tasting exam.

**Evaluation of Student Performance:**

**Exams (All Students,)**

- Two comprehensive exams; 1 midterm and one final. Midterm will cover material from the start of class until the midterm and final will cover material from the entire term.
- A short tasting exam will occur at the end of the course. You will evaluate 2 wines and be asked a range of questions based on what was discussed in the class tastings.

**Assignments (All students, unless specified)**

- A minimum of one assignments per week will be given. This may consist of readings with an associated quiz, article critique, opinion piece etc. All assignments are posted on Canvas and will include all information including due date. All assignments are handed in through Canvas unless otherwise noted. Assignments may be graded or pass/fail.
- All students will keep a tasting journal (tasting sheets provided and submitted through Canvas). Journal will be submitted 2 times, February 14, 2017 and
March 12, 2017. A minimum of 12 wines must be evaluated (3 wines per week) for each of the grading periods (24 wines in total). More information will be provided at the first tasting where the tasting sheet will be reviewed, as well as the proper tasting procedure.

- In addition to weekly assignments, 3 short writing assignments will be assigned throughout the term to all undergraduates. All students must complete 2 of the 3 assignments. Should you pass in all 3 assignment I will drop the lowest graded writing assignment. All writing assignment information will be posted on canvas and passed in through canvas.

Participation (all students)

- Attendance for class lectures is not mandatory. While many classes are lecture based, activities and questions are asked each day. Activities that factor into your participation grade include activity during discussions, class activities, in-class group work etc. Perfect attendance and attentive listening will earn you a passing participation grade, but a better than passing grade requires making a valuable contribution to the majority of the classes.

- Attendance is mandatory for all tasting sessions. Attendance will be taken and you cannot makeup a missed tasting session.

Article critiques (graduate students)

- Students will read and critically evaluate one scientific journal per week. Students will choose their own articles and submit at maximum a 2 page critique. More details will be found with the first critique link posted in canvas.

Term paper (graduate students, 1/3 of grade is based on grammar & format, 2/3 on content)

- Term paper is assigned (15-20 pages) in which student will choose a grape varietal and wine style, must be approved by the instructor by 5pm January 20, 2017. Paper will include information on origins of grape, regions it is associated with, styles of wine produced from that grape, production techniques used to
produce those styles and trends associated with that varietal. More details and example worksheet given after class during the 2nd week of term.

**Percentage of final grade**

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<th>Activities</th>
<th>Undergraduate</th>
<th>Graduate</th>
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<tr>
<td>Mid-term</td>
<td>15%</td>
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<tr>
<td>Final</td>
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<td>Tasting exam</td>
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<td>Assignments</td>
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<td>Participation</td>
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<td>Writing Assignments</td>
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Grading will be based on a curve, but the following scores are guaranteed.

- 90% - No less than an A-
- 80% - No less than a B-
- 70% - No less than a C-
- 60% - No less than a D-

**Tasting Sessions**

There are four tasting sessions scheduled during the term. Attendance and participation is mandatory. Attendance and tasting exam results are factored into the tasting journal grade. Tasting sessions cannot be made-up. Additionally only 6 of the twelve wines in each tasting journal may be from those tasted in class.
Statement Regarding Students with Disabilities

“Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.”

Student Conduct Expectations:

http://studentlife.oregonstate.edu/code

Academic or Scholarly Dishonesty is prohibited

Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:
- cheating--use or attempted use of unauthorized materials, information or study aids
- fabrication--falsification or invention of any information
- assisting--helping another commit an act of academic dishonesty
- tampering--altering or interfering with evaluation instruments and documents
- plagiarism--representing the words or ideas of another person as one's own

Behaviors disruptive to the learning environment will not be tolerated and will be referred to the Office of Student Conduct for disciplinary action.

"The goal of Oregon State University is to provide students with the knowledge, skill and wisdom they need to contribute to society. Our rules are formulated to guarantee each student freedom to learn and to protect the fundamental rights of others. People must treat each other with dignity and respect in order for scholarship to thrive. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Student Conduct Program for disciplinary action. Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office."

In this class a plagiarized paper or assignment in which cheating took place will receive an 0 and a report will be filed with the Student Conduct Office. Two reports at OSU can lead to suspension or expulsion.
Reach Out for Success

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it’s important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success at oregonstate.edu/ReachOut. If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255)

Extra credit may or may not be assigned during the term. **IF extra credit is given then it is made available to the entire class.**

Additional Course policies

- Turn off and put away all cellphones, iPods, MP3 players etc. before entering lecture. If you would like to record lecture using your phone and other device then please let me know the 1\textsuperscript{st} or 2\textsuperscript{nd} week of class, as only recording devices can be out.
- If you need to take the mid-term or exam at an alternate time you need to let me know as soon as possible and no later than 1 week prior to the exam. You cannot retake or reschedule a tasting session.
- It is the student’s responsibility to look over all grades carefully. Students have 1 week from the time grades are posted to contest a score.
- If you asks for points at the end of term, you will lose ALL extra credit points and any points added back to assignments, projects or exams.