COURSE BC 480 SYLLABUS

INSTRUCTOR INFORMATION
Instructor: Paul Laybourn, Ph.D., Professor of Biochemistry and Molecular Biology
Office: E206E Anatomy/Zoology Building
Email: paul.laybourn@colostate.edu Phone: 970-491-5100
Q&A/Study Sessions: E206E A/Z Mondays 10-11 AM and Wednesdays 11 AM - noon

GRADUATE TEACHING ASSISTANT INFORMATION
Eva Keohane eva.keohane@colostate.edu

TECHNICAL SUPPORT
Need technical assistance with your online course? Try the following:

- Visit the Canvas Student Resources for guides and videos.
- Visit Central I.T. Technical Support Helpdesk for technical support.
- Call 970-491-7276.
- Email Help Desk Support.

IMPORTANT COVID-19 INFORMATION FOR STUDENTS
Masks are required inside university buildings. You must also meet university vaccine or exemption requirements.

All students are expected and required to report to the COVID Reporter (https://covid.colostate.edu/reporter/) when:
- You suspect you have symptoms of COVID, regardless of whether or not you are vaccinated and even if your symptoms are mild
- You have tested positive for COVID through a non-CSU testing site, such as home test or test at a pharmacy
- You believe you may have been exposed to COVID go to the COVID Reporter and follow the guidance under “I believe I have been in close contact with someone who has COVID-19.” This guidance will depend upon your individual circumstances

You will not be penalized in any way for reporting symptoms or concerns.

Do not ask me as your instructor to report for you. It is your responsibility to report through the COVID Reporter promptly.

As your instructor I may not ask you about vaccination status or if you have COVID-19 but you may freely volunteer to send me information from a public health official - if you have been asked to isolate or quarantine.

When you complete the COVID Reporter, the CSU Public Health office is notified. Once notified, that office will contact you and, depending upon each situation, will conduct contact tracing, initiate any necessary public health requirements and notify you if you need to take any steps.
If you do not have internet access to fill out the online COVID-19 Reporter, please call (970) 491-4600. For the latest information about the University’s COVID resources and information, including FAQs about the spring semester, please visit the CSU COVID-19 site https://covid.colostate.edu/.

**COURSE DESCRIPTION**

- BC 480A1 is a course-based undergraduate research experience (CURE) for students.
- Students will receive a brief introduction to beer brewing and key biochemical analytic methods, with both theory and hands-on experience.
- The research focus will be on no/low alcohol and low carbohydrate beer brewing in small breweries.

Students in the course will start with learning basic lab techniques (pipetting, sterile technique, safety, etc.) and beer brewing theory. Students will analyze the chemical properties and components of beer including ethanol, carbohydrates/sugars and other CHO compounds (volatile and nonvolatile, higher (longer chain) alcohols and VDKs), nitrogenous compounds (proteins, amino acids), sulfur compounds, color and haze. Analyses will include GC-MS. Students will be conducting analyses to determine the effect of modifications in the brewing process. The primary learning outcomes sought relate to hands on lab experience in biochemical analysis.

**COURSE PREREQUISITES AND COREQUISITES**

BC 404 or FTEC 447 or LIFE 203 or LIFE 212.

**COURSE GOALS**

Upon the completion of BC 480, a successful student will be able to:

**REQUIRED TEXTS**

Course materials will be handed out in class and provided on the Canvas course.

**OTHER REQUIRED AND SUPPLEMENTAL MATERIALS**

**Assignments**

How will you know that you have learned and understood the BC 480 core concepts and skills? What will your grade be based upon?

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz 1 on the beer brewing process overview</td>
<td>10%</td>
</tr>
<tr>
<td>Quiz 2 on the analytical methods to be employed</td>
<td>10%</td>
</tr>
<tr>
<td>Notebook organization, completeness, etc.</td>
<td>20%</td>
</tr>
<tr>
<td>Participation and leadership as part of research team</td>
<td>10%</td>
</tr>
<tr>
<td>Research journal style written report</td>
<td>30%</td>
</tr>
</tbody>
</table>
Course Materials

I will provide materials on Canvas to help you grasp my organization of the course content. These materials define what concepts I want you to know and understand. The materials also aid your study for exams.

1. Supplemental article reading
2. Lecture slides for note taking
3. Study guides and answers

ACADEMIC INTEGRITY POLICY

This course will adhere to the CSU Academic Integrity Policies and Guiding Principles as found in the General Catalog and the Student Conduct Code.

Academic integrity is conceptualized as doing and taking credit for one’s own work. Violations of the university’s academic integrity standards include, but are not limited to:

- **Cheating**—includes using unauthorized sources of information and providing or receiving unauthorized assistance on any form of academic work or engaging in any behavior specifically prohibited by the faculty member.
- **Plagiarism**—includes the copying of language, structure, ideas, or thoughts of another, and representing them as one’s own without proper acknowledgment.
- **Unauthorized Possession or Disposition of Academic Materials**—includes the unauthorized selling or purchasing of examinations or other academic work; stealing another student’s work; unauthorized entry to or use of material in a computer file; and using information from or possessing exams that an instructor did not authorize for release to students.
- **Falsification**—includes any untruth, either verbal or written, in one’s academic work.
- **Facilitation**—includes knowingly assisting another to commit an act of academic misconduct.
- The use of online “homework helper” sites including, but not limited to, Chegg, NoteHall, Quizlet, and Koofers is not permitted during exams in this course. Please reach out to the instructor or one of the LAs to discuss if a specific service you are thinking about using for this course is acceptable.

Use of these types of resources during exams will be considered receiving unauthorized assistance and, therefore, a violation of the student conduct code. Using them may result, at the discretion of the instructor, in a zero for the course, assignment, quiz, or exam. All incidents of this type will be referred to the CSU Student Resolution Center and may be subject to additional University disciplinary action.

At a minimum, violations will result in a grading penalty in this course and a report to the Office of Conflict Resolution and Student Conduct Services.
CSU HONOR PLEDGE

Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, I will ask that you affirm the CSU Honor Pledge as part of completing your work in this course. While you will not be required to affirm the honor pledge, you will be asked to affirm the following statement at the start of your exams:

"I have not given, received, or used any unauthorized assistance."

Further information about Academic Integrity is available at CSU’s [Practicing Academic Integrity](#).

UNIVERSAL DESIGN FOR LEARNING

I am committed to the principle of universal learning. This means that our classroom, our virtual spaces, our practices, and our interactions be as inclusive as possible. Mutual respect, civility, and the ability to listen to others carefully are crucial to universal learning.

If you are a student who will need accommodations in this class, please contact me to discuss your individual needs. Any accommodation must be discussed in a timely manner prior to implementation. A verifying memo from [Resources for Disabled Students](#) may be required before any accommodation is provided.

COURSE PRESENTATION AND PROCEDURES

Organization of content: 1 module/week comprised of readings, lectures, recordings, learning activities, quizzes and graded assignments. | Students should complete all tasks in each module before moving on.

SUGGESTED STUDY METHODS

Attend the lectures prepared (know something about what I will talk about) having read the textbook pages and looked over the lecture outlines and the study guide questions for the lecture. Review lecture notes and the study guide questions and attempt to answer these questions completely. If you do not have a good understanding of the questions and how to answer them ask about them in class, by email to the instructor or GTA, by posting your question on the Canvas Discussion Board (Coffee Shops) and at Q&A sessions. I strongly suggest that you **practice drawing out the biochemical processes on a white board multiple times** rather than just looking over them in order to study them and that you **start this process a few weeks before the quizzes**. You will find the information sticks in your memory much more quickly and you will recognize gaps in your understanding more readily. Using this approach in a study group is even more effective.

College education requires skills and habits that may be less essential in traditional courses. In order to be successful in your online course you will need:
Space—Establish a comfortable and well-organized physical study space.

Time management skills—Set personal study and "classroom" time as you would do for a traditional course.

Organization skills—Print out all class material (modules, PowerPoints, assignments, additional resources, and any work you generate) and keep everything in a single location. Maintain electronic backups of all class materials.

Communication skills—Demonstrate a willingness to interact with your instructor and classmates through email, phone calls, discussion boards, and active participation in all class activities.

Initiative—Seek help from your instructor and classmates, ask questions as they arise on the Canvas Discussion Board Coffee shops.

Discipline—Pace yourself, complete all activities and assignments before the due date, follow through on all class requirements to completion. Start studying immediately after an exam for the next exam.

The more closely you adhere to the recommendations above the greater your chances of having a successful semester and a rewarding online experience.

**GRADING**

As a student enrolled in this course, one of your responsibilities is to submit course work by the due dates listed in the Course Schedule. With that said, I take my role as your instructor very seriously, and, in fact, I care about how well you do in this course and that you have a satisfying, rewarding experience.

There are a total of 100 points for quizzes. Each of the 2 quizzes in BC 351 will be worth 50 points each (100 total). There will be 200 notebook points possible. There will be 100 participation and leadership points possible. There will be 300 points possible for a journal style written report and 200 points for a poster presentation. There is a total of 1000 core assignment points possible. If you achieve the following point totals for BC 351 you will be assured of the minimum letter grade shown:

- 900-1000 (≥90%) A
- 800-899 (80-90%) B
- 700-799 (70-80%) C
- 600-699 (60-70%) D
- <600 (<60%) F

Each quiz and assignment will not be curved individually, but the final total points required for a course grade might be curved downward depending on the averages and distribution of points. In addition, your grade for BC 480 will be determined based on the total 1000 points (combined). Students in my courses have averaged around 78 to 80% of the total points possible over the past several years. As a result, there is usually no grading curve. Please note that plus/minus grading will be used.

**Missed Quizzes and Re-grading of Quizzes**
There will be no make-up quizzes offered. Quizzes you have missed without an excuse will be graded as zero. If you have an excused absence (based on written or other verifiable evidence) from a quiz, your final grade will be based on a percentage of the total possible points for the quiz you did take. Students can schedule to take an quiz early with the instructor or GTA if they know they cannot take the quiz during the regularly scheduled date and time. If you have questions concerning the grading of any of your quizzes of assignments, you should submit an email indicating the questions you want re-graded to the instructor within one week of the date of being graded. You must also provide a written explanation as to why you feel the question should be re-graded. Re-grade requests will not be accepted after this one-week period, so go over your quiz carefully soon after it has been returned to you.

**QUIZ AND EXAM DETAILS**

Quizzes will consist of true/false questions (10 question sets with 5 T/F statements worth 1.4 points each, 70 points total) and three free response (three two- to four-part questions worth 3-5 points each, 30 points total).

**GRADE DESCRIPTION**

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>97.5-100 %</td>
<td>A+</td>
</tr>
<tr>
<td>90-97.4 %</td>
<td>A</td>
</tr>
<tr>
<td>88.8-90 %</td>
<td>A-</td>
</tr>
<tr>
<td>87.5-88.7 %</td>
<td>B+</td>
</tr>
<tr>
<td>80-87.4 %</td>
<td>B</td>
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<tr>
<td>78.8-80 %</td>
<td>B-</td>
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<tr>
<td>77.5-78.7 %</td>
<td>C+</td>
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<td>C</td>
</tr>
<tr>
<td>60-69.9 %</td>
<td>D</td>
</tr>
<tr>
<td>0-59.9 %</td>
<td>F</td>
</tr>
</tbody>
</table>

**MAKE UP POLICY**

There will be no make-up quizzes offered. Quizzes you have missed without an excuse will be graded as zero. If you have an excused absence (based on written or other verifiable evidence) from a quiz, your final grade will be based on a percentage of the total possible points for the quiz you did take. Students can schedule to take an exam early with the instructor if they know they cannot take the exam during the regularly scheduled dates.

**SYSTEM, MULTIMEDIA, AND SOFTWARE REQUIREMENTS**

Having trouble with the multimedia in this course? See the solutions below. Also, it is highly recommended that you access your course via a high-speed Internet connection.

- Problems with opening PDFs?
  - Download Adobe Reader.

- Canvas acting funny?
  - Review Canvas guide for Supported Browsers.
You must have speakers installed and working properly on your computer before beginning the course.

You may need access to Microsoft Word, PowerPoint, and/or Excel to complete assignments. If you do not have access to the Microsoft Office applications, you may use one of the following free resources that allow you to save your files with Microsoft Office file extensions (.doc, .docs, .ppt, .xls.):

- Google Apps for CSU—a free, outsourced communications suite endorsed by The University Technology Fee Advisory Board (UTFAB)
- Office 365—the full version of Microsoft Office free of charge for CSU students.