

REQUIRED TEXT: The required text for BCH 3025 is Lehninger Principles of Biochemistry by David L. Nelson and Michael M. Cox, Sixth Edition, 2013.

ADDITIONAL RESOURCES: The publisher website for the text is at <http://www.macmillanlearning.com/Catalog/product/lehningerprinciplesofbiochemistry-sixthedition-nelson> . It contains summaries for each chapter and some electronic media that may be helpful to you.

COURSE DESCRIPTION: Introducing biochemistry with emphasis on intermediary metabolism.

PREREQUISITE KNOWLEDGE AND SKILLS: Prereq: CHM 2200 and CHM 2200L (or preferably CHM 2210, CHM 2211 and CHM 2211L) with minimum grades of C

PURPOSE OF COURSE: The course should introduce each student to biochemical concepts and provide different mechanisms for each student to demonstrate to future admission committees or employers the ability to:

- Answer questions about biochemical concepts and facts;
- Critically read the biochemical literature and communicate the finding to peers;
- Utilize the internet to find the most recent credible information concerning biochemical concepts and questions.

COURSE GOALS AND/OR OBJECTIVES: By the end of this course, students will:

1. Appreciate why the broad spectrum of biochemistry is important in medicine, agriculture, pharmaceuticals, and ethics;
2. Understand the basis for the molecular structure of different biochemical compounds;
3. Understand the biosynthesis of basic biochemical “building blocks”;
4. Understand the conformation, dynamics, and function of proteins;
5. Understand the generation and storage of metabolic energy;
6. Understand overall aspects of the integration of metabolic processes;
7. Have developed the skills to accumulate, integrate, and apply biochemical information in their own field of study.

INSTRUCTIONAL METHODS: Each chapter covered by the exams is presented in different formats. The textbook is your main source of information. For those who

prefer to read the lecture, PowerPoint slides including the lecture notes can be downloaded. For the more audio learners there are narrated lectures with slides. Each student has the material in several formats and can cover the material at a pace that is most comfortable for the individual. On average, two to four chapters will be introduced each week of the course. Short quizzes will be given as many of the chapters are introduced and will comprise 20% of the course grade. The quizzes are an incentive to read the chapters as they are scheduled for the course and to give a “preview” of the exam to come. An extra credit opportunity will be provided in the form of an optional term paper.

The chapter modules are organized by week with Monday being the first day of the week and Friday being the last day of the week.

You can use the video summary as the first step and the last step of your study plan. Viewing the video summary as an introduction provides you with an overview of the material to come. Viewing it again as the last step of your studying allows you to ask yourself if you feel comfortable with all the material. You should read the chapter in your textbook which is the source of all the content details. The course instructor has outlined the most important information in each chapter and made it available to you as a PowerPoint with audio and as a PowerPoint with notes. This material very closely follows the textbook in order to provide audio learners and visual learners with the material in the best format for them. This format is more similar to a “live lecture”, but can be viewed at your convenience during the week. You can also review any slides that seemed to go too fast the first time you viewed them.

Each module has a section “Beyond the Textbook” for those students who wish to venture beyond the material in the textbook. Some of the material is taken from <http://www.macmillanlearning.com/Catalog/product/lehningerprinciplesofbiochemistry-sixthedition-nelson> . The remaining material is taken from journals, websites, and other textbooks.

COURSE POLICIES:

ATTENDANCE POLICY: BCH 3025 is completely online, but has strict due dates listed in the syllabus calendar.

QUIZ/EXAM POLICY: Quizzes and exams use the Quiz tool on E-learning. The exams must be taken using ProctorU as described in the course technology section below.

MAKE-UP POLICY: There are no regularly scheduled makeup exams, quizzes, and no dropped scores. Truly extraordinary circumstances will warrant some accommodation,

but **requests for makeup exams and quizzes for other than personal or immediate family emergencies** will not be considered. Any allowance will be arranged on a case-by-case basis.

ASSIGNMENT POLICY: The Journal Club and the Biochemistry Treasure Hunt are required assignments with specific due dates listed in the syllabus. The Extra Credit Paper is an optional assignment but also with specific due dates. Each assignment is discussed in detail in a document listed on the home page in E-Learning.

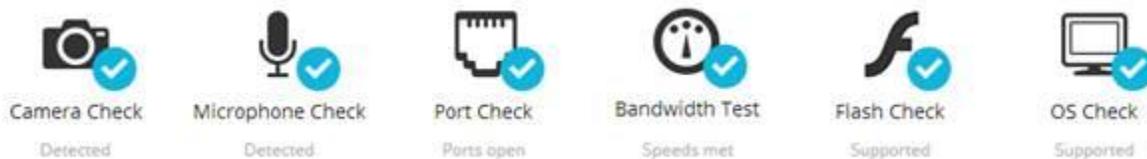
COURSE TECHNOLOGY: Canvas will be used to present course material, to communicate, to post assignments, and to take quizzes and exams.

Proctored Exams

In order to maintain a high standard of academic integrity and assure that the value of your University of Florida degree is not compromised, course exams will be proctored online by ProctorU. You will take your exam electronically using the course website, but you will register with ProctorU early in the semester, and then sign up for a time for a certified proctor in a testing facility to observe you on your computer while you take your exam. You need a webcam, speakers, microphone and reliable Internet connection to be able to take your exams. Wireless internet is not recommended. You may also need a mirror or other reflective surface.

Sign up for an account with ProctorU during the first week of the semester. If you already have a ProctorU account, you can use the same account. Register with ProctorU for your exam appointment times early in the semester. You must sign up at least **72 hours** before an exam. Failure to do so will result in additional fees and reduce the likelihood that the time you want will be available. You should receive a confirmation email from ProctorU. If you experience any trouble with online registration, you can call **855-772-8678**.

Prior to each exam, go to the [ProctorU Test Page](#) to ensure your computer is ready for online proctoring. After you get the 6 checks that your system is ready:



Take the extra step to connect to a live person:

Connect to a live person 

This process takes just a few minutes and is completely free.

If you are unable to take an exam because of a technical glitch on your end, that is your responsibility. However, if you do experience technical difficulties during the exam, ProctorU will document those difficulties and communicate with your instructor to make alternative arrangements.

For additional questions, review the [Proctored Exams Student Guide](#).

UF POLICIES:

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES: Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT: As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated.

Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

NETIQUETTE: COMMUNICATION COURTESY: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

CAMPUS HELPING RESOURCES: Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/*
 - Counseling Services
 - Groups and Workshops
 - Outreach and Consultation
 - Self-Help Library
 - Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
 - Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.
- *Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/*

ISSUES WITH DISTANCE DELIVERED COURSES: Each online distance learning program has a process for, and will make every attempt to Resolve, student complaints within its academic and administrative departments at the Program level. See <http://distance.ufl.edu/student-complaints> for more details.

GETTING HELP:

For issues with technical difficulties for E-learning in Canvas, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

** Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for:

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

Should you have any complaints with your experience in this course please visit <http://www.distance.ufl.edu/student-complaints> to submit a complaint.

GRADING POLICIES:

Grades will be calculated from the total points earned during the semester according to the following table.

Assignments and Quizzes	Points
Quizzes for Exam 1 section	20
Biochemistry Treasure Hunt #1	10
Exam 1	60
Quizzes for Exam 2 section	20
Biochemistry Treasure Hunt #2	10
Exam 2	60
Quizzes for Exam 3 section	20

Biochemistry Treasure Hunt #3	10
Exam 3	60
Quizzes for Exam 4 section	20
Biochemistry Treasure Hunt #4	10
Exam 4	60
Journal Club Project	40
Total Points	400
Possible points from Extra Credit Paper	25
Points deducted if extra credit paper is requested, but not posted on time	5

The quizzes and Exams are mainly multiple choice and allow an average of 1 minute per question (For example an exam with 30 questions must be completed within 30 minutes).

Assignments are described in detail in documents linked to the course main page in Canvas.

GRADING SCALE:

Final Grade	Total Points
A	373-400
A-	360-372
B+	348-359
B	333-347
B-	320-332
C+	308-319
C	293-307
C-	280-292
D+	268-279
D	253-267
D-	240-252

There will be no curve in this course. Final grades will be simply calculated from the total accumulated points.

COURSE SCHEDULE:

Spring 2017 Course Schedule

<u>Week 1</u>	
Wednesday – January 04, 2017	Introduction to course; – Module 1 (Chapter 1 in textbook) - The Foundations of Biochemistry Module 2 (Chapter 3 in textbook) - Amino Acids, Peptides, and Proteins
Friday – January 06, 2017	Module 3 (Chapter 5 in textbook) - Protein Function The deadline for quizzes for Module 1 (Chapter 1), Module 2 (Chapter 3), Module 3 (Chapter 5) are delayed to next Friday due to drop/add.
<u>Week 2</u>	
Monday – January 09, 2017	Module 4 (Chapter 6 in textbook) – Enzymes
Wednesday, January 11, 2017	Module 5 (Chapter 7 in textbook) - Carbohydrates and Glycobiology
Friday – January 13, 2017	Quizzes for Module 1, Module 2, Module 3, Module 4 and Module 5 must be completed online before 12 Noon
<u>Week 3</u>	
Monday – January 16, 2017	Martin Luther King Holiday
Wednesday, January 18, 2017	Post Biochemical Treasure #1 by 12 noon Authors must post journal club article before 3 PM (Step 1)

Friday – January 20, 2017	Exam 1 on Module 1, Module 2, Module 3, Module 4, and Module 5 must be completed online via ProctorU between 7:00 AM and 10:00 PM.
<u>Week 4</u>	
Monday – January 23, 2017	Module 6 (Chapter 8 in textbook) - Nucleotides and Nucleic Acids Deadline to request an extra credit paper on a topic not listed
Wednesday, January 25, 2017	Module 7 (Chapter 9 in textbook) - DNA-Based Information Technologies
Friday – January 27, 2017	Quizzes for Module 6 and Module 7 must be completed online before 12 Noon - Extra Credit Contracts due before 12 Noon. Authors must post outline of journal club presentation before 3 PM (Step 2)
<u>Week 5</u>	
Monday – January 30, 2017	Module 8 (Chapter 10 in textbook) - Lipids
Wednesday, February 01, 2017	Module 9 (Chapter 11 in textbook) - Biological Membranes and Transport
Friday – February 03, 2017	Quizzes for Module 8 and Module 9 must be completed online before 12 Noon
<u>Week 6</u>	
Monday – February 06, 2017	Module 10 (Chapter 12 in textbook) - Biosignaling

Wednesday, February 08, 2017	Quiz for Module 10 must be completed online before 12 Noon Post Biochemical Treasure #2 by 12 noon
Friday – February 10, 2017	Exam 2 on Module 6, Module 7, Module 8, Module 9, and Module 10 must be completed online via ProctorU between 7:00 AM and 10:00 PM.
<u>Week 7</u>	
Monday – February 13, 2017	Module 11 (Chapter 13 in textbook) - Bioenergetics and Biochemical Reaction Types
Wednesday, February 15, 2017	Module 12 (Chapter 14 in textbook) - Glycolysis, Gluconeogenesis, and the Pentose Phosphate Pathway
Friday – February 17, 2017	Quizzes for Module 11 and Module 12 must be completed online before 12 Noon Authors must post a draft of journal club PowerPoint by 3PM (Step 3)
<u>Week 8</u>	
Monday – February 20, 2017	Module 13 (Chapter 15 in textbook) - Principles of Metabolic Regulation
Wednesday, February 22, 2017	Module 14 (Chapter 16 in textbook) - The Citric Acid Cycle Authors must post to the designated discussion Group pairing by 3PM the same file posted in Step 3 (Step 4)
Friday – February 24, 2017	Quizzes for Module 13 and Module 14 must be completed online before 12 Noon
<u>Week 09</u>	

Monday – February 27, 2017	Module 15 (Chapter 17 in textbook) - Fatty Acid Catabolism Extra Credit Papers due before 12 Noon
Wednesday, March 01, 2017	Module 16 (Chapter 18 in textbook) - Amino Acid Oxidation and the Production of Urea
Friday – March 03, 2017	Quizzes for Module 15 and Module 16 must be completed online before 12 Noon Editors must post critique of the draft journal club PowerPoint by 3 PM (Step 5)
<u>Week 10</u>	
<u>Monday</u> <u>March 06 –</u> <u>Friday</u> <u>March 10,</u> <u>2017</u>	Have a safe and fun Spring Break!
<u>Week 11</u>	
Monday – March 13, 2017	Module 17 (Chapter 19 in textbook) - Oxidative Phosphorylation and Photophosphorylation
Wednesday, March 15, 2017	Quiz for Module 17 must be completed online before 12 Noon Post Biochemical Treasure #3 by 12 noon
Friday – March 17, 2017	Exam 3 on Module 11, Module 12, Module 13, Module 14, Module 15, Module 16, and Module 17 must be completed online via ProctorU between 7:00 AM and 10:00 PM.
<u>Week 12</u>	
Monday – March 20, 2017	Module 18 (Chapter 21 in textbook) - Lipid Biosynthesis

Wednesday, March 22, 2017	Module 19 (Chapter 22 in textbook) - Biosynthesis of Amino Acids, Nucleotides, and Related Molecules
Friday – March 24, 2017	Quizzes for Modules 18 and Module 19 must be completed online before 12 Noon Authors must post final PowerPoint presentation for Journal Club by 3 PM (Step 6)
<u>Week 13</u>	
Monday – March 27, 2017	Module 20 (Chapter 23 in textbook) - Hormonal Regulation and Integration of Mammalian Metabolism
Wednesday, March 29, 2017	Module 21 (Chapter 24 in textbook)- Genes and Chromosomes
Friday – March 31, 2017	Quizzes for Module 20 and Module 21 and must be completed online before 12 Noon
<u>Week 14</u>	
Monday – April 03, 2017	Module 22 (Chapter 25 in textbook)- DNA Metabolism
Wednesday, April 05, 2017	Module 23 (Chapter 26 in textbook)- RNA Metabolism
Friday – April 07, 2017	Quizzes for Module 22 and Module 23 and must be completed online before 12 Noon
<u>Week 15</u>	

Monday – April 10, 2017	Module 24 (Chapter 27 in textbook) - Protein Metabolism
Wednesday, April 12, 2017	Module 25 (Chapter 28 in textbook) - Regulation of Gene Expression
Friday – April 14, 2017	Quizzes for Module 24 and Module 25 must be completed online before 12 Noon
<u>Week 16</u>	
Monday – April 17, 2017	Post Biochemical Treasure #4 by 12 noon
Wednesday, April 19, 2017	Exam 4 on Module 18, Module 19, Module 20, Module 21, Module 22, Module 23, Module 24, and Module 25 must be completed online via ProctorU between 7:00 AM and 10:00 PM.
No Final Exam – Have a great summer break!	

Disclaimer: This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.