

**HUN 4813C**  
***Laboratory Techniques in Molecular Nutrition***  
Fall 2020

- Lecture:** 2 Credits, Monday, Periods 2-3 (8:30-10:25 am) DUE TO THE COVID-19 PANDEMIC CLASSES FOR THE FALL 2020 SEMESTER WILL BE HELD ONLINE VIA ZOOM. (ACCESS THROUGH CANVAS)
- Laboratory:** 1 Credit, Wednesdays, Periods 2-4 DUE TO THE COVID-19 PANDEMIC LABS FOR THE FALL 2020 SEMESTER WILL BE HELD ONLINE VIA ZOOM AS DEMONSTRATIONS AND THROUGH LABSTER INTERACTIVE LABS. (ACCESS THROUGH CANVAS)
- Instructor:** Robin da Silva  
FSHN - Room 449  
Tel: (352) 294-3751  
Email: robindasilva@ufl.edu
- T/A:** NONE
- Office Hours:** Monday and Wednesdays 2:00 – 4:00 pm (PLEASE SCHEDULE)
- Prerequisites:** CHM 2211, CHM 2211L
- Corequisites:** BCH 3025 or BCH 4024

**Description:**

Laboratory techniques relevant to the study of nutrition, ranging from biochemistry, molecular biology, genomics and bioinformatics.

**Course Learning Objectives:**

A main objective of this course is to introduce students to the theory, practice, and application of a variety of laboratory techniques that can be used to address and answer research questions in nutritional sciences. This course will cover both gold standard and cutting-edge research techniques in nutrition. Students will be challenged to apply their knowledge of nutrition to real research questions. After completing this course students should have a good knowledge of how common techniques are performed in nutritional science. Students will be able to fully comprehend scientific articles relevant to nutritional sciences, identify the components of experimental design and offer informed critique of findings in the literature.

- Demonstrate knowledge of biochemical analysis used in life sciences
- Identify limitations of research techniques

- Identify and understand study design and scientific models
- Refine laboratory skills and interpret results from techniques used in the lab
- Interpret and critique scientific articles

**Required Textbooks:** There is no required textbook for this course. Students will use relevant literature available through UF libraries (both physical and online).

**Recommended Materials:** There is a nominal materials fee associated with the lab component of this course. The fee will be in accordance with FSHN policy.

**Lectures and Laboratory (Subject to change)**

Week	Date	Day	Topic
1	24-Aug 26-Aug	Mon (Lecture) Wed (No Lab)	Introduction No Lab
2	31-Aug 2-Sept	Mon (Lecture) Wed (No Lab*)	Study design and models IRB training and Human Clinical Plan (Independent)
3	7-Sept 9-Sept	Mon (HOLIDAY) Wed (Lab)	Labor Day Pipetting
4	14-Sept 16-Sept	Mon (Lecture) Wed (Lab)	Diet Studies Spectrophotometry
5	21-Sept 23-Sept	Mon (Lecture) Wed (Lab)	Paper review (Posted on Canvas) and Quiz Western blot
6	28-Sept 30-Sept	Mon (Lecture) Wed (Lab)	Nutrient Metabolism, Genetics and Proteins qPCR
7	5-Oct 7-Oct	Mon (Lecture) Wed (Lab)	Paper review (Posted on Canvas) and Quiz ELISA
8	12-Oct 14-Oct	Mon (Exam) Wed (Presentation)	Metabolomics and Imaging Clinical trial (Mock)
9	19-Oct 21-Oct	Mon (Lecture) Wed (No Lab)	Paper review (Posted on Canvas) and Quiz Presentations
10	26-Oct 28-Oct	Mon (Lecture) Wed (Lab)	Presentations Presentations

11	2-Nov 4-Nov	Mon (Discussion) Wed (Open)	Presentations Presentations
12	9-Nov 11-Nov	Mon (Discussion) Wed (Holiday)	Presentations Veterans Day Holiday
13	16-Nov 18-Nov	Mon (Discussion) Wed (Lab)	Presentations Presentations
14	23-Nov 25-Nov	Mon (Discussion) Wed (Holiday)	Presentations Thanksgiving Holiday
15	30-Nov 7-Dec	Mon (Discussion) Wed (Discussion)	NO CLASS NO LAB

### Critical Dates:

Classes Begin	August 24 <sup>th</sup>
Exam	September 21 <sup>st</sup>
Exam	October 5 <sup>th</sup>
Exam	October 19 <sup>th</sup>
Lab report 1 (molecular)	October 12 <sup>th</sup>
Lab report 2 (clinical trial)	October 26 <sup>th</sup>
Presentations	Last classes of semester
Major Assignment due	Nov 16 <sup>th</sup>
Last day of Classes	November 23 <sup>rd</sup>

THERE IS NO FINAL EXAM FOR THIS COURSE

### Evaluation Scheme:

There will be three quizzes, one major written assignment, 2 laboratory assignments and a presentation in this course.

**Presentations:** Individuals or Groups of students (TBD) will select a **peer-reviewed primary research article to present in class** near the end of the semester. This must **NOT** be a review article or any other type of article than primary research. **The article must utilize molecular techniques covered in class. You will use this article to complete the Major assignment as well.**

**Major written assignment:** Each individual student will compose a **research project proposal** based on the article that they choose. **The idea must incorporate molecular techniques;** the assignment cannot be questionnaires or interviews etc. The proposal will be comprised of:

- 1) Introduction with background literature search and rationale for the project

- 2) Outline of the experimental plan that includes description of methods and techniques used
- 3) Description of the possible outcomes
- 4) Limitations
- 5) Future directions.

**Limit of 5 pages not including references.**

**Laboratory assignments: There are TWO lab assignments.** Each lab assignment should be written in the format of a primary research article. Similar to those that will be reviewed in class.

- 1. Laboratory Assignment 1 (Molecular Analysis):** Students will write a summary of the molecular techniques that they performed in the labs (COVID-19 online lab activities). The assignment must include:

Give a summary description of each lab activity. For each technique be sure to include the main purpose of the technique and what it can be used for. Also for each technique give an example from peer-reviewed article(s) that utilizes the technique used in the labs and explain how the technique contributed to the conclusion in the article(s). Reference the articles!

**Limit of 3 pages (you may use extra pages for figures and references only)**

- 2. Laboratory Assignment 2 (Human Clinical):** Students will write a summary of their laboratory work on their human experiment. **MOCK DATA WILL BE PROVIDED.** The assignment must include:

- 1) Introduction
- 2) Brief methods description
- 3) Results (FROM MOCK DATA)
- 4) Discussion (results and discussion can be discussed together)
- 5) Design a test meal for Group 3 and discuss how it might influence the results

**Limit of 3 pages (you may use extra pages for figures and references only)**

Quizzes	30%
Laboratory Assignments	20%
Presentation	20%
Major Assignment	30%

**UF Grading Policy:**

Grade %	Letter Grade	GPA
93.4-100	A	4.00
90.0-93.3	A-	3.67
86.7-89.9	B+	3.33
83.4-86.6	B	3.00

80.0-83.3	B-	2.67
76.7-79.9	C+	2.33
73.4-76.6	C	2.00
70.0-73.3	C-	1.67
66.7-69.9	D+	1.33
63.4-66.6	D	1.00
60.0-63.3	D-	0.67
0-59.9	E	0.00

### **Class and Laboratory Attendance:**

Class and lab attendance and participation are mandatory in accordance with the University of Florida's policy on attendance that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Students will behave in an appropriate manner in class, taking care not to disrupt other students learning activities. Students are asked to be punctual and submit assignments on time.

1. For face to face courses a statement informing students of COVID related practices such as:

We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.

- You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
- Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
- If you are experiencing COVID-19 symptoms ([Click here for guidance from the CDC on symptoms of coronavirus](#)), please use the UF Health screening system and follow the instructions on whether you are able to attend class. [Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.](#)

- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. [Find more information in the university attendance policies.](#)
2. For online course with recorded materials a statement informing students of privacy related issues such as:

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

### **Online Course Evaluation Process:**

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

### **Academic Honesty:**

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>.

### **Software Use:**

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

### **Services for Students with Disabilities:**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues.

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

Rm 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

### **Campus Helping Resources:**

Students experiencing crises or personal problems that interfere with their general well-being 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.

Health and Wellness

*U Matter, We Care:* If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.

*Counseling and Wellness Center:* [Visit the Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.

*Student Health Care Center:* Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).

*University Police Department:* [Visit UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).

*UF Health Shands Emergency Room / Trauma Center:* For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).

## Academic Resources

*E-learning technical support:* Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).

*Career Connections Center:* Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

*Library Support:* Various ways to receive assistance with respect to using the libraries or finding resources.

*Teaching Center:* Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

*Writing Studio:* 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

*Student Complaints On-Campus:* [Visit the Student Honor Code and Student Conduct Code webpage for more information](#).

*On-Line Students Complaints:* [View the Distance Learning Student Complaint Process](#).

University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://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/](http://www.umatter.ufl.edu/)

Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)



**Student Complaints:**

The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy. More information can be found here:

[https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)