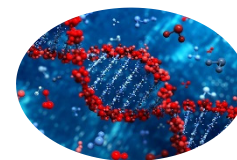




## BMB 101: Frontiers in Biochemistry Professor Sophia Lunt



### Lecture Information

---

Time: Wednesdays 3:00 – 3:50 PM  
Location: **158 Natural Resources Building**  
Lecture recordings available on D2L



### Instructor and Course Coordinator

---

Dr. Sophia Lunt, Biochemistry & Molecular Biology  
522A Biochemistry Building  
Email: [sophia@msu.edu](mailto:sophia@msu.edu) (include "BMB101" in the subject line)  
Pronouns: she/her/hers



### Teaching Assistant

---

Tamia Waller, Graduate Student.  
Email: [wallereta@msu.edu](mailto:wallereta@msu.edu) (include "BMB101" in the subject line)  
Pronouns: she/her/hers



### BMB Academic Advisors

---

Leslie Thompson, BMB  
305 Biochemistry Building  
Pronouns: she/her/hers  
Email: [lathomp@msu.edu](mailto:lathomp@msu.edu)  
(include "BMB101" in the subject line)



Evelyn Grace, BMB  
305 Biochemistry Building  
Pronouns: she/her/hers  
Email: [graceeve@msu.edu](mailto:graceeve@msu.edu)  
(include "BMB101" in the subject line)



Instructions to schedule an appointment with Leslie or Evelyn:

[https://docs.google.com/document/d/14WBGYj9wDQTts8YXe-IL5VMuJdN7Kzz\\_9o511iwqs/edit](https://docs.google.com/document/d/14WBGYj9wDQTts8YXe-IL5VMuJdN7Kzz_9o511iwqs/edit)

### Course Description

---

Biochemistry is the study of chemical processes that occur in living organisms and impacts many fields including medicine, biotechnology, pharmacology, agriculture and environmental science. A major in Biochemistry will provide you with an understanding of fundamental concepts in the field, including matter and energy transformation, homeostasis, biological information, evolution, and macromolecular structure and function. The major will also prepare you for diverse career paths such as healthcare, public health, pharmaceuticals, food science, agriculture, research, forensics, cosmetics, environment, science writing, patent law, education, and sales. Successful completion of your degree will provide excellent preparation for biotechnology, pharmaceutical industry, graduate school, medical school, dentistry school, veterinary school, law school, and many others. This course will help you succeed through the following objectives:

- Learn about biochemistry topics covered in major courses, including: 1) structure and catalysis; 2) bioenergetics and metabolism; 3) information pathways; 4) biochemical methods and techniques such as



spectrophotometry, protein purification, chromatography, and enzyme assays and kinetics; and 5) modern biological research techniques such as cloning, recombinant DNA, protein expression and purification, gel electrophoresis, and immunochemical analysis.



- Learn the requirements to graduate with a degree in Biochemistry & Molecular Biology or Biochemistry & Molecular Biology/Biotechnology
- Learn about resources available to you to succeed as a Biochemistry major
- Develop a plan for acquiring necessary skills for your future career
- Learn about the cutting-edge research being conducted in the department
- Compare possible career paths in biochemistry



## Required Technologies

---

- High speed internet access (minimum internet speed of 25 Mbps recommended).
- D2L (<http://d2l.msu.edu>). You will access online lectures, course materials, homework assignments, and additional resources through D2L.

## Technical Assistance

---

If you need technical assistance at any time during the course, or to report a problem, you can:

- Visit the MSU Help site at <http://help.msu.edu>
- Visit the Desire2Learn Help Site at <http://help.d2l.msu.edu>
- Call the MSU IT Service Desk at (517)432-6200, (844)678-6200, or e-mail at [ithelp@msu.edu](mailto:ithelp@msu.edu)
- Request assistance navigating and requesting instructional design help: <https://tech.msu.edu/service-catalog/teaching/instructional-design-development/>
- Browser/mobile support for D2L: [https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

## Expectations

---

- Lectures will be delivered in person in 158 Natural Resources Building on Wednesdays at 3pm Eastern Time. They will also be recorded and posted in D2L whenever possible.
- Your attendance is expected for all classes. If you are unable to come to class, you must watch the lecture recording on D2L and complete the homework. You may make up for missed attendance credit by completing extra credit assignments.
- You are expected to complete the weekly assignment and the final exam.
- Academic honesty is central to the educational process. Acts of academic dishonesty are serious offenses within the University community. Suspension from the University could be the consequence for acts of academic dishonesty. At MSU, [General Student Regulation 1.00](#) states in part that “no student shall claim or submit the academic work of another as one’s own.”

## Learning Continuity

---

Should you become unable to attend class for an extended period of time due to illness, please provide a doctor's note to Dr. Lunt via email.

- You will be given additional time to watch lectures (posted in D2L).
- You will be given additional time to complete homework assignments.

## Course Continuity

---

Should the instructor be required to be absent for an extended period of time, the TA or one of the BMB Academic Advisors will continue leading the course. If a speaker is unavailable due to illness, a class may be cancelled. Announcements will be communicated by email.

## Policies and Resources

---

- **Inclusive classroom:** We are committed to creating a supportive and welcoming environment where all students can pursue academic and personal success. If you have a concern about the something that occurs in class, please contact one of us to so that we can address the situation.
- **Mandatory Reporting Policy:** As employees of MSU, we have the responsibility to report any instances of sexual harassment, sexual violence and/or other forms of prohibited discrimination. If you would rather share information about sexual harassment, sexual violence or discrimination to a confidential employee who does not have this reporting responsibility, you can find a list of those individuals here: <https://centerforsurvivors.msu.edu/resources-and-coping/resources-and-coping-2/>.
- **The Spartan Code of Honor Academic Pledge:** "As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor in ownership is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do." Spartan Code of Honor Academic Pledge and Student Rights and Responsibilities: <http://splife.studentlife.msu.edu/spartan-code-of-honor-academic-pledge>.
- **Policy on Accommodations for Students with Disabilities:** MSU is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at <https://www.rcpd.msu.edu/>. Once your eligibility for an accommodation has been determined, you will be issued a verified individual services accommodation ("VISA") form. Please present this form to me at the start of the term.
- **Chosen Name and Pronoun Policy:** All people have the right to be addressed and referred to in accordance with their personal identity. Many people do not identify with the name on their birth certificate, school ID, or other forms of identification. Please advise us at any point if you need to update your name and/or pronouns in my records. If you would like to change your name, you can do that through Stulnfo. Your gender marker can be changed by filing a request through the Office of the Registrar. More information: <https://lbgtrc.msu.edu/trans-msu/msu-name-and-gender.html>.
- **Policy on religious observance:** MSU permits students to observe religious holidays. If you will be absent on your religious holiday, please make arrangements with Dr. Lunt in advance.
- **Grief Policy:** If you experience death of a family member or emotional distress from a similar tragedy, please review the Grief Absence Policy: <https://msu.edu/unit/ombud./classroom-policies/index.html#GriefAbsencePolicy>.

- **The Office of the University Ombudsperson** (<https://ombud.msu.edu/>) offers students a confidential and impartial place to discuss academic and nonacademic concerns. Staff will assist students to define problems, explore options, outline strategies, review policies, find resources, and manage expectations while upholding the values of respect, integrity, diversity and freedom from bias or harassment.
- **Mental health concerns** or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. Services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available via the Counseling & Psychiatric Services (CAPS) website at <https://caps.msu.edu/>
- **The Office of Institutional Equity (OIE)** reviews concerns related to discrimination and harassment based on sex, gender, gender identity, race, national origin, religion, disability status, and any other protected categories under the University Anti-Discrimination Policy ([https://hr.msu.edu/policies-procedures/university-wide/ADP\\_policy.html](https://hr.msu.edu/policies-procedures/university-wide/ADP_policy.html)) and Policy on Relationship Violence and Sexual Misconduct ([https://hr.msu.edu/policies-procedures/university-wide/RVSM\\_policy.html](https://hr.msu.edu/policies-procedures/university-wide/RVSM_policy.html)). If you experience or witness acts of bias, discrimination, or harassment, you can report these to: <https://oie.msu.edu/>
- **The Dean of Students Office** (<https://www.deanofstudents.msu.edu/>) supports student success by ensuring a civil and inclusive learning environment based on academic and personal integrity. All community members have a responsibility for establishing, maintaining, and fostering a commitment to our shared values, ethical decision-making, and personal and collective excellence. The Dean of Students Office supports personal and community accountability and addresses conduct inconsistent with the Spartan Code of Honor with honesty, respect, and fairness.

## Grading

---

Class attendance	20 points (2 points per class. Must attend 10 of 13 classes for full credit. Additional class attendance is extra credit.)
D2L assignments	60 points (6 points per assignment. Must complete 10 of 11 assignments. Final assignment is extra credit.)
Final exam (open note)	20 points
<b>TOTAL</b>	<b>100 points</b>

Grade	Points
4.0	≥ 90
3.5	≥ 85

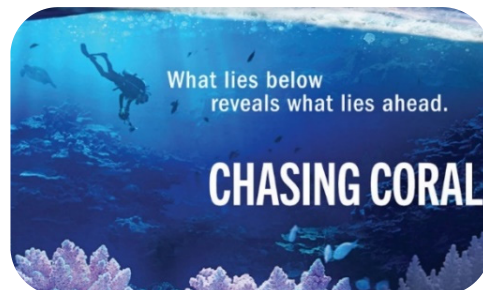
Grade	Points
3.0	≥ 80
2.5	≥ 75

Grade	Points
2.0	≥ 70
1.5	≥ 65

Grade	Points
1.0	≥ 60
0.0	< 60

- **Attendance** (2 points per class x 10 classes)
  - There is a total of 13 classes. You must attend at least 10 classes to receive full class attendance credit. If you attend additional classes, you will receive 2 extra credit points per class attended, for up to 6 extra credit points.
  - Sign next to your name on the sign-in sheet during the first 10 minutes of each class.
  - If you are unable to come to class, please watch the lecture recording on D2L and complete the homework.
  - You may make up for missed attendance credit by completing extra credit assignments.

- **D2L assignments** (60 points: 6 points per assignment x 10 assignments)
  - There is a total of 11 assignments. You must complete 10 assignments to receive full credit. If you complete the final assignment, you will receive up to 6 extra credit points.
  - Must be completed in D2L and is due before the beginning of next class.
  - Each assignment consists of 12 questions. You will receive 0.5 point per correct answer and 0.25 point per incorrect answer.
  - Late assignments will not be accepted. If you miss a homework assignment, you may make up for it by completing extra credit assignments.
- **Final exam** (20 points) – given during class on **November 30**.
  - The final will be administered through D2L in class. Please bring a laptop, tablet, or smart phone to class.
  - You may use your notes, internet, and laptop, but NOT your classmates.
- **Extra credit:** In addition to extra credit from attending additional classes (see “Attendance” section above) you may get up to 20 extra credit points (4 points per event) by attending/completing up to 5 of the events below and writing a 250-word essay describing the event, what you learned, and how it relates to biochemistry (except for the first event). To obtain extra credit, please email your essay to the TA within 1 week of participating in the event. Extra credit assignments will be accepted until **November 30**.
  - Meet with one of your BMB Advisors, Leslie or Evelyn, to complete your 4-year plan. Leslie and Evelyn will keep track of students who complete this assignment, so you do not have to email your TA after meeting with your BMB Advisor.
  - Meet with a Student Ambassador from the MSU Undergraduate Research Office. Details here: <https://venture.msu.edu/ambassadors>
  - Undergraduate Research Workshops: <https://urca.msu.edu/workshops>
  - BMB Colloquia: <https://bmb.natsci.msu.edu/research/seminars/bmb-colloquium-series/>
  - Other department seminars (Physiology, Pharmacology & Toxicology, Molecular Plant Science, Microbiology and Molecular Genetics, Plant Biology, Science At The Edge, Integrative Biology, Institute for Quantitative Health Science and Engineering, Computational Math Science and Engineering, Horticulture, etc.)
  - Biochemistry Club: <https://bmb.natsci.msu.edu/undergraduate/undergraduate-club/>
  - MSU Career Fair or other career events: <https://careernetwork.msu.edu/events/>
  - Watch the documentaries below:
    - Documentary “Picture a Scientist”: <http://catalog.lib.msu.edu/record=b14200933~S39a>. Click on the link under "Available Online" & log on with MSU credentials.
    - Documentary “Chasing Coral”: <https://www.youtube.com/watch?v=aGGBGcjdjXA>



## Important Dates to Remember

---

- D2L homework assignments are due **before the beginning of next class**. Late assignments will not be accepted. If you miss a homework assignment, you may make up for it by completing extra credit assignments.
- **November 30**: Open note final exam on D2L. Please bring your laptop, tablet, or smart phone to class. This is the last day extra credit assignments will be accepted.
- **December 7**: Class discussion on any topic covered during the course. Please come prepared with questions. This will be the last opportunity to receive attendance credit. Please also check your final grade on D2L and raise any concerns with your TA.

Week	Date	Topic	Homework	Due
1	9/7	Welcome & Course Overview & BMB Club	Quiz 1 on D2L	9/14
2	9/14	Topics in Biochemistry	Quiz 2 on D2L	9/21
3	9/21	Undergraduate Research & Internships	Quiz 3 on D2L	9/28
4	9/28	Career Exploration	Quiz 4 on D2L	11/30
5	10/5	BMB major & 4-year plan	Quiz 5 on D2L	11/30
6	10/12	Resume Building & Interviewing	Quiz 6 on D2L	11/30
7	10/19	Pharmaceutical Industry	Quiz 7 on D2L	11/30
8	10/26	Careers in Biochemistry	Quiz 8 on D2L	11/2
9	11/2	Graduate and Professional Schools	Quiz 9 on D2L	11/9
10	11/9	Diversity, Equity, and Inclusion	Quiz 10 on D2L	11/16
11	11/16	How to Read a Journal Article	Quiz 11 on D2L	11/30
	11/23	No class – Thanksgiving break		
12	11/30	Final exam (open note)		
13	12/7	Class Discussion		