

**BMB 101: Frontiers in Biochemistry**  
Thursdays 3:00 – 3:50 PM in 101 Biochemistry  
Fall 2017

**Instructor and Course Coordinator**

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Dr. Sophia Lunt  
Biochemistry & Molecular Biology  
Email: [sophia@msu.edu](mailto:sophia@msu.edu) (must include "BMB101" in the subject line)

**Teaching Assistant**

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Matthew Bates  
Biochemistry & Molecular Biology, Chemical Engineering and Materials Science  
Email: [batesma7@msu.edu](mailto:batesma7@msu.edu) (must include "BMB101" in the subject line)

**BMB Academic Advisor**

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Kendra Pyle Kanaboshi  
Biochemistry & Molecular Biology  
105B Biochemistry Building  
Email: [kpyle@msu.edu](mailto:kpyle@msu.edu) (must include "BMB101" in the subject line)  
To schedule an appointment with Kendra, please log in to the [Student Success Dashboard](#)

**Course Objectives**

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A major in Biochemistry will provide you with an understanding of fundamental concepts in the field and prepare you for diverse career paths. Biochemistry is the study of chemical processes that occur in living organisms and impacts many fields including medicine, biotechnology, pharmacology, agriculture and environmental science. Successful completion of your degree will provide excellent preparation for industry, professional schools, graduate schools, and many other career paths. This course is designed to help you succeed as a Biochemistry major through the following objectives:

- Compare possible career paths in biochemistry
- 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

**Expectations**

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- Your attendance and participation is expected at all classes.
- Attendance will be taken using Top Hat (Join Code: 798252). Attendance will be active until **3:10pm**. If you arrive late, you will not receive attendance points for that day. If you forget your phone/tablet/computer, you may submit a signed form to the TA one time.
- If you miss a class, you may make up for it through extra credit (see next section). You are expected to complete the weekly assignment even if you miss class.
- 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.”

## Grading

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Attendance	28 points (2 points per class)
Weekly assignments (Weeks 1-6, 9, 12, 13)	40.5 points (4.5 points per assignment)
2 Essays (Weeks 7, 8, 10, 11)	20 points
Completed survey on last day of class	11.5 points
<b>TOTAL</b>	<b>100 points</b>

Grade	Points
4.0	≥ 80
3.5	≥ 75
3.0	≥ 70
2.5	≥ 65
2.0	≥ 60
1.5	≥ 55
1.0	≥ 50
0.0	< 50

- **Extra credit:** you may get up to 8 extra credit points (2 points per event) by attending up to 4 of the events below and writing a 500 word essay describing the event and what you learned. To obtain extra credit, please email your essay to the TA (batesma7@msu.edu) within 1 week of participating in the event. You may attend the Biochemistry Colloquia or Biochemistry Club meetings multiple times.
  - Biochemistry Colloquia: Thursdays at 11 AM in 101 Biochemistry
  - Biochemistry Club: Meets twice monthly on Thursdays at 6pm in 101 Biochemistry. Meeting dates: <https://bmb.natsci.msu.edu/undergraduate/undergraduate-club/>
  - MSU Career Fairs: <http://careernetwork.msu.edu/jobs-internships/Career-Fairs/index.html>

## Weekly assignments (Weeks 1-6, 9, 12-14)

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- There will be approximately 1 assignment per week.
- All assignments must be typed, unless otherwise noted.
- Submit all assignments before the beginning of next class.

## Essays (Weeks 7, 8, 10, 11)

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- You must write 2 essays based on 2 of the 4 research presentations by MSU professors.
- After the faculty presentation, write a 500 word (1 page) essay due the following week.
- The MSU Writing Center (<http://writing.msu.edu/>) is available as a resource.
- Formatting: 1 inch margins, Arial font, size 11.
- All essays must be **typed and printed** before the beginning of the following class.

Content	Points
Formatting	2
Grammar and spelling	2
Research topic	2
Importance of research	2
Future directions of research	2
<b>TOTAL</b>	<b>10</b>

Wk	Date	Topic	Instructor	Assignment	Due
1	8/31	Course Overview, Academic Honesty	Dr. Sophia Lunt	Homework in Top Hat	9/7
2	9/7	Academic Success Strategies	Kendra Pyle Kanaboshi	Homework in Top Hat	9/14
3	9/14	First Impressions & Elevator Pitch	Jack Pyle	Homework in Top Hat	9/21
4	9/21	MSU Library & Electronic Resources	Susan Kendall	Homework in Top Hat	9/28
5	9/28	Resume Building & Interviewing	Brian Telfor	Meet with career services advisor, turn in resume	10/5
6	10/5	How to Read a Journal Article	Dr. Lori Seischab	Worksheet	10/12
7	10/12	Mitochondrial Role in Life and Death	Dr. Shelagh Ferguson-Miller	Essay option 1	10/19
8	10/19	Metabolic Engineering with Electric Bacteria	Dr. Michaela TerAvest	Essay option 2	10/24
9	10/26	Research Opportunities and Internships	Kendra Pyle Kanaboshi	Homework in Top Hat	9/28
10	11/2	Hydrocarbon Emissions from Plants	Dr. Thomas Sharkey	Essay option 3	11/9
11	11/9	Autophagy, a Cellular Recycling System	Dr. Xiangshu Jin	Essay option 4	11/16
12	11/16	Industry Career Panel	Biochemistry alumni	Homework in Top Hat	11/30
	11/23	Thanksgiving – no class			
13	11/30	Graduate School and Research	Matt Bates	Homework in Top Hat	12/7
14	12/7	Course Recap	Dr. Sophia Lunt	In-class survey using Top Hat	12/7

## Policies

- **Policy on Academic Freedom and Integrity:** Article 2.3.3 of the Academic Freedom Report states that "the student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." The University's General Student Regulations 1.0, Protection of Scholarship and Grades, and the all University Policy on Integrity of Scholarship and Grades, which are included in Spartan Life: Student Handbook and Resource Guide, apply to student conduct.
- **Policy on Accommodations for Students with Disabilities:** Students with disabilities should contact the [Resource Center for Persons with Disabilities](#) to establish accommodations. It is up to you to let the professor know if you need an accommodation.
- **Name and Pronoun Preference:** All people have the right to be addressed and referred to in accordance with their personal identity. Please advise me of preferences early in the semester so that I may make appropriate changes to my records. [Information on MSU's preferred name policy.](#)

## Top Hat

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- **Orientation video:** [https://www.youtube.com/watch?v=w\\_WUSXP2EVU](https://www.youtube.com/watch?v=w_WUSXP2EVU)
- **If you need assistance with your account:**
  - [Getting Started](#) with Top Hat
  - Learn more about Top Hat's [iOS](#) App.
  - Learn more about Top Hat's [Android](#) App.
  - How to Purchase your [Top Hat Subscription](#)
  - Managing your [Account Settings](#)
- **If you encounter any further issues**, the Top Hat Support team can help. They have a library of Support Articles you can access [here](#). You can also contact their [Support Team](#) directly with any of your questions or concerns.