

**BIOL 830P: Readings in Biotechnology**  
**Online Course (1 credit)**  
**Fall 2020 - TENTATIVE SYLLABUS**

**Instructor**

Dr. Saili Moghe

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You may contact me at any time through email (using your Lopermail account), Canvas inbox messages, or the "Course Questions" discussion board in the course site on Canvas. I will respond to emails, inbox messages, and discussion board posts within 48 hours.

If a video/voice call appointment is needed, please email me to set up a time.

**Course Description**

In this course, students will read and analyze scientific literature about recent advances in biotechnology. We will discuss emerging methods in biotechnology as well as the novel applications of both established and new techniques. It is strongly recommended that students have had at least an introductory course in either genetics, molecular biology, or cell biology prior to taking this course.

**Course Objectives**

Upon successful completion of this course, students will be able to:

1. Understand and appreciate the latest advances in biotechnology and their applications in various fields such as medicine, agriculture, and environmental sciences
2. Identify both the common and latest methods used in biotechnology
3. Critically evaluate and effectively communicate, major findings from research articles, and discuss their implications for future work

**Course Materials**

**Technical Requirements:** Full access to a computer and high-speed internet

All required reading materials will be posted on Canvas, there is no textbook required for this course.

**Course Structure**

Every week you will be provided 1-2 scientific papers to read, which you will then discuss and evaluate within a discussion group. Discussions contributions may include an array of items including, raising and answering questions as they pertain to the topic, critical evaluation of relevant studies, proposing ideas for future work, introducing new papers or information etc. As graduate students you will all be expected to involve yourself in and contribute to, the learning process. A grading rubric regarding the expectations for each discussion will be posted on Canvas.

**Assessments**

Your progress in this course will be assessed by graded discussions and a final paper in which you will summarize, discuss, and critically evaluate a paper of your choice.

## **Grades**

12 Discussions (10 points each) – 120 points

Paper Selection – 10 points

Final Paper – 30 points

TOTAL POINTS: 160 points

## **Grade Assignment**

Final grades will be assigned using the following grade scale:

A+ (97 – 100%); A (93 – 96%); A- (90 – 92%); B+ (88 – 89%); B (83 – 87%); B- (80 – 82%); C+ (79 – 78%); C (73 – 77%); C- (70 – 72%); D+ (68 – 69%); D (63 – 67%); D- (60 – 62%); F (below 60%)

\*All grades are final unless there is a calculation error

## **Class Policies**

**Extensions or rescheduling:** All students are expected to complete and submit any assignments and discussions by the provided deadlines (date and time), failure to submit by the given deadlines will result in zero (0) points for the assignment or discussion. Extensions or rescheduling will only be possible if you are facing extraordinary circumstances. Please inform me as soon as you can if you have a valid and legitimate excuse for missing any class activity (I will inform you about the next steps to take; do not submit any of your personal health information directly to me).

**Academic honesty:** Anyone caught cheating or plagiarizing any exercises will receive zero (0) points for that exercise; subsequent violations will result in referral to the Vice Chancellor for Academic Affairs for dismissal from the university.

**Policy on Incomplete:** In unusual circumstances beyond the student's control, an incomplete (I) may be issued. The (I) is issued as a final grade with the student having 12 months to complete the necessary work. If the coursework is not completed in this time the (I) will be converted to a failing grade (F) on the student's transcript. Incompletes will only be considered if circumstances are exceptional and beyond your control (and will require documentation). When needed, a request for an Incomplete must be made before the end of the semester.

**Course Withdrawal:** Students may withdraw from the course before 9 weeks have been completed and a (W) will appear on the transcript. Instructors are not able to withdraw students, and students are responsible for the process of withdrawing through MyBlue. If a student drops the class, the (W) will not contribute to the student's overall GPA.

## **Students with Disabilities**

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities. To receive accommodation services for a disability, students must be registered with UNK Disabilities Services Coordinator,

David Brandt, in the Disability Services for Students office, 175 Memorial Student Affairs Building, 308-865-8214 or by email [unkdso@unk.edu](mailto:unkdso@unk.edu).

### **Students Who Are Pregnant**

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students who are pregnant. To receive accommodation services due to pregnancy, students must contact Cindy Ference in Student Health, 308-865-8219. The following link provides information for students and faculty regarding pregnancy rights.

<http://www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students>

### **Reporting Sexual Harassment, Sexual Violence or Sexual Assault**

Reporting allegations of rape, domestic violence, dating violence, sexual assault, sexual harassment, and stalking enables the University to promptly provide support to the impacted student(s), and to take appropriate action to prevent a recurrence of such sexual misconduct and protect the campus community. Confidentiality will be respected to the greatest degree possible. Any student who believes she or he may be the victim of sexual misconduct is encouraged to report to one or more of the following resources:

Local Domestic Violence, Sexual Assault Advocacy Agency 308-237-2599

Campus Police (or Security) 308-865-8911

Title IX Coordinator 308-865-8655

Retaliation against the student making the report, whether by students or University employees, will not be tolerated.

### **Tentative Course Schedule**

<b>TOPIC</b>	<b>WEEK</b>
Class Introductions, Syllabus and Course basics	1 (Aug 24 – Aug 30)
Medical Diagnostics	2 (Aug 31 – Sep 6)
Therapeutics	3 (Sep 7 – Sep 13)
Metagenomics	4 (Sep 14 – Sep 20)
Sequencing	5 (Sep 21 – Sep 27)
Proteomics	6 (Sep 28 – Oct 4)
Gene Editing	7 (Oct 5 – Oct 11)
Paper Selection	8 (Oct 12 – Oct 18)
Fall Break	9 (Oct 19 – Oct 25)
Agriculture	10 (Oct 26 – Nov 1)
Environmental Remediation	11 (Nov 2 – Nov 8)
Nanotechnology	12 (Nov 9 – Nov 15)
Peer Reviews	13 (Nov 16 – Nov 22)
Thanksgiving Break	14 (Nov 23 – Nov 29)
Final Paper	15 (Nov 30 – Dec 6)
	16 (Dec 7 – Dec 13)
	17 (Dec 14 – Dec 17)

