

MMG 833, Fall 2020

Class Meetings:

Synchronous lectures via Zoom on Mondays and Wednesdays from 10:20 to 11:40 AM.

Instructors:

Dr. Gemma Reguera (lectures 1-20; *course coordinator*)
Email: reguera@msu.edu

Dr. Lee Kroos (lectures 20-26)
Email: kroos@msu.edu

Textbook and Lectures:

- **Mandatory readings** (research papers) are listed on the syllabus and will be uploaded to D2L.
- The syllabus includes **recommended readings** from the 4th edition of *Molecular Genetics of Bacteria* by Larry Snyder *et al.* (ASM Press).
***MSU registered users can access electronic copies of the 3rd (2007) and 4th (2013) editions of the textbook through the library's website. Both are adequate as reference materials.*
 - *3rd edition (2007):* Call # QH434 .S59 2007
 - <http://catalog.lib.msu.edu/record=b12777467~S39a>
 - *4th edition (2013):* Call # QH434 .S59 2013
 - <http://catalog.lib.msu.edu/record=b10633019~S39a>

Objectives:

This course is intended to be an **advanced treatise of prokaryotic genetics**, with special emphasis on bacterial genetics but links to archaeal systems. It builds on basic knowledge acquired in other genetics courses such as MMG431. For this reason, **previous background in Microbial Genetics is a prerequisite**. We will reinforce basic genetic concepts and study current advances in the field.

Pre-class materials:

Pre-class materials will be made available at D2L prior to the lecture. The pre-class assignments are intended to help the students remember basic concepts and set the foundation for the material to be covered during the lecture. Papers will also be assigned as additional reading material or to discuss in the class, as needed, to increase the depth of knowledge on a particular topic covered in the classroom.

Lectures 1-20 (by Dr. Reguera) typically include:

- A 10-15 minute pre-class online video that the students need to see before the lecture.
- An opening problem with questions that the students can hand in prior to the lecture for extra credit.

The lecture will expand on the pre-class videos and opening problems to stimulate discussion.

General Information:

The course has 3 main sections, each one being evaluated with separate exams:

1. Sections 1 and 2: The first two sections cover the core course curriculum (lectures 1 to 20) and are instructed by Dr. Reguera.
2. Section 3: The last section applies the learned concepts to case studies (lectures 21 to 26) and is instructed by Dr. Kroos.

Each instructor will provide specific goals and requirements for his/her part.

- See Dr. Reguera's instructional goals at the end of the document (also provided as a separate document in D2L).
- For lecture description and examination dates see the syllabus.
***Please, keep in mind that exam dates are approximately.*

Exams:

1. Exams often consist of a few short essay questions or problems. They can be take-home or in-class, as indicated.
***Please, keep in mind that additional exams or assignments may be imparted during the semester at the discretion of the instructor.*
2. The **approximate** contribution of exams and assignments to the final grade will be as follows:

Course material	Points (out of 100)	Instructor
Lectures 1-11 (exam 1)	40	REGUERA
Lectures 12-20 (exam 2)	40	REGUERA
Opening problems	~10 (bonus)	REGUERA
Lectures 21-26 (exam 3)	20	KROOS

3. The only acceptable reasons for missing an assignment or exam deadline will be illness or a personal emergency. In such an event, the instructor should be contacted as soon as possible, preferentially before the due date. Illness must be documented with a doctor's certificate. Other appropriate documentation should be provided in the case of a personal emergency. ***It is the responsibility of the student to contact the instructor for the scheduling and administration of an appropriate make-up exam.***
4. Assignments are designed to encourage students to keep abreast with the lectures and further develop concepts covered in the lectures and reading/paper assignments. ***Each instructor reserves the right to have in-class quizzes without any previous announcement.***

Zoom checklist & etiquette:

We will follow the specific guidelines provided by Michigan State for Zoom meetings:

Zoom software: Make sure you have the latest Zoom version (currently Version 5).

- Some good intro videos can be found here:
<https://spartanslearn.msu.edu/tech-training/zoom/index.html>
- Other Zoom how-tos:
https://www.youtube.com/playlist?list=PLKL6KBeCnI3UQTL_YQBJ6xwjSnLjKMq5K

Log-in: Go to msu.zoom.us and log in with your MSU NetID and password.

- *Only authenticated users can join meetings – MSU signin is the default*

Access: The instructor will send you a link to register for the class. This will allow you to get the meeting ID and password to join the Zoom lectures.

- You only need to register the first time. The ID and password will remain the same throughout the semester.
- The easiest way to connect is with a computer connected to the internet and capable of running Zoom.
- You can also use your phone to log in to Zoom. The instructor will block your telephone number in the participant list to protect your privacy.
***Make sure your instructor knows who you are to get credit for attendance.*
***Let the instructor know, if you experience any challenges accessing the course.*

In-class basics:

- **Privacy:** The instructor will ask the students to *mute selves* and *turn off video* during the lecture.
 - *The instructor has the option to ‘mute all’ and provide access to the students when needed.*
 - *You are welcome to keep the video off when answering questions to protect your privacy.*
 - *It is always a great idea to create a profile picture to show when the video is off – you can personalize it but keep it professional.*

***the course is discussion-based. Thus, it is important to remember that you build interactions through communication; sharing video/audio can be an easy way to do this. BUT, your privacy is our priority. Feel free to communicate with the instructor of any issues you experience.*
- **Attendance:** We encourage students to log in the virtual lectures a few minutes before the start and not to log out before it is over to get full credit for attendance.
 - *Late arrivals and early departures are distracting and disrupt the flow of virtual lectures, thus should be avoided if possible.*
 - *If you know ahead of time that you will be late for a lecture or that you must leave early, please inform your instructor.*
- **Chat:** The chat function will be used to communicate with the instructors.
 - *Private chats will be disabled.*
- **Polling:** We will be using the polling feature in Zoom to help discuss specific topics. We will have two types of questions:
 - *Single choice question (one correct answer out of choices A to E)*
 - *Multiple choice (multiple correct answers out of choices A to E)*

- Screen sharing: In general, it will be disabled for the students so the instructor uses it to share the lecture slides/videos.
 - *For some exercises, we may enable screen sharing for the students to show their work. The instructor will grant you access.*
- Non-verbal feedback: Enabled for use when indicated by the instructor.
 - *For example, the instructor may ask the students if they have questions. Students can click on 'participants' and select 'raised hands'.*
- Breakout rooms: The instructor will use this feature to move students in and out of breakout rooms for group discussions. A few things to remember:
 - *This is a great opportunity to get to know your peers. So, don't forget to introduce yourself.*
 - *The instructor will set a timer for the breakout session so you manage your discussion time effectively.*
 - *You are welcome to share your screen to help instructional team members with the assigned tasks and/or present the summary of the discussions to the class after the break.*
 - *The instructor will be circulating through the breakout rooms to check on your progress.*
 - *If you have questions, click on 'ask for help'.*
***only the instructor gets messages to ask for help.*
 - *Alternatively, you can also rejoin the main session to ask for help.*
- Technical difficulties: If you have technical difficulties
 - *try to leave and rejoin Zoom*
 - *try to reinstall Zoom on your device*
 - *try to connect to Zoom on a different device*
 - *let your instructor know*
 - *contact MSU IT for help*

You can always start your own meeting to test your video and audio capabilities

Post-class:

- The instructor will record the lecture and make it available to the students in D2L.
- The recording will be paused when students go into breakout rooms to allow them to unmute and share video.

LECTURES 1 to 20

Instructor: Dr. Gemma Reguera

1. **Topics:** see topics covered in each lecture in the syllabus.
2. **Pre-class assignments** for each lecture typically include:
 - Pre-class online video to review/reinforce basic concepts or supplement the lecture's content.
 - Opening problem that will guide the lecture and stimulate discussion.
***Each opening problem includes questions, which you can answer and give to Dr. Reguera before the lecture for grading and extra credit (usually 0.5 points each).*
3. **Lecture slides:** PowerPoint slides of lectures are posted on D2L (under *Content*) the day before the lecture or earlier.
4. **Communication:** You will receive an e-mail as soon as the class materials (pre-class assignments and slides) are posted to D2L.
5. **Mandatory reading:** When indicated *overviews and/or papers* of particular topics will be uploaded in the corresponding lecture folder on D2L. The overviews summarize basic concepts for a particular topic and are intended to help the student review basic concepts before or after the lecture. The papers are intended to further develop concepts covered in the lectures and keep up to date with the latest discoveries in the field.
6. **Evaluation:** The Reguera portion of the course will evaluate students' knowledge in two take-home exams. See syllabus for approximate *exam due dates*.
7. **Office hours** are *upon request*. You may schedule a virtual appointment by e-mail (reguera@msu.edu).

Important:

Michigan State University is a **diverse, inclusive, and equitable** workplace. As such, we will work together in this course to ensure that every classmate feels *valued and respected* regardless of their gender, race, ethnicity, national origin, age, sexual orientation or identity, education or disability.

We are facing extraordinary **challenges during the COVID-19 pandemic**. Now, more than ever, we must ensure that our classroom is a place of shelter and support for all. Don't hesitate to contact me with any issues you experience.