

**Microbiology 310 Winter 2018**  
**Bacterial Molecular Genetics (3 credits)**  
**MWF 10:00-10:50 AM**  
**WNGR 153**

Enforced Prereq: MB302, BB450 (or BB490), BI 314

Enforced Coreq: BB451 (or BB491): in progress

INSTRUCTORS

CONTACT INFO

OFFICE HOURS

**Rebecca Vega-Thurber**

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REQUIRED LEARNING RESOURCES:

*Molecular Genetics of Bacteria 4th Edition* by Snyder, Peters, Henkin, and Champness

can be accessed online at OSU:

<http://site.ebrary.com/lib/oregonstate/detail.action?docID=10883090>

RECOMMENDED LEARNING RESOURCES:

*Prescott's Microbiology*

**COURSE SCHEDULE**

<u>Date</u>	<u>Month</u>	<u>Day</u>	<u>Lecture</u>	<u>Subject</u>	<u>Reading Assignment Pages</u>
8	Jan	M	1	Intro. Bacterial DNA Structure	Snyder 1-19; Prescott 287-293
10	Jan	W	2	DNA Structure & Replication	Snyder 19-34; Prescott 287-293
			<b>(Quiz 1 Syllabus; Snyder pages 1-11)</b>		

12	Jan	F	3	DNA Structure & Replication	Snyder 19-34; Prescott 287-293
15	Jan	M		<b>NO CLASS: Martin Luther King, Jr. Day</b>	
17	Jan	W	4	DNA Replication II	Snyder 38-39; 47-53 Prescott 287-293
				<b>(Quiz 2 Steps of Replication)</b>	
19	Jan	F	5	Gene Structure & Transcription	Snyder 67-80; Prescott 301-310
22	Jan	M	6	Bacterial Transcription II	Snyder 67-84; Prescott 301-310
24	Jan	W	7	Bacterial Translation I	
				<b>(Quiz 3 Steps of Transcription)</b>	
26	Jan	F	8	Bacterial Translation II/ Review	Snyder 85-101 Prescott 310-318
29	Jan	M		<b>1st Exam (Lectures 1-8)</b>	Snyder 85-101; Prescott 310-318
31	Jan	W	9	Cellular Regulation I	Guest Lecturer/Becky Gone

2	Feb	F	10	Cellular Regulation II	Snyder 471-480; Prescott Ch14
5	Feb	M	11	Cellular Regulation III	Snyder 484-486,497-506; Prescott14
7	Feb	W	10	Mutation/DNA Damage 1	Snyder 525-534;551-554
				<b>(Quiz 4; Regulation)</b>	
9	Feb	F	11	Mutation/DNA Damage II	Snyder 137-152; Prescott 372-380
12	Feb	M	12	DNA Repair	Snyder 433-449; 452-53; Prescott 380-385
14	Feb	W	13	DNA Repair II/Recombination	
				<b>(Quiz 5; DNA repair)</b>	
16	Feb	F	14	Recombination II	Snyder 403-409; 452-460
19	Feb	M		<b>Exam # 2 (Lectures 9-14)</b>	
21	Feb	W	15	Transposons & Transposition	Snyder 361-373; Prescott 385-387

23	Feb	F	16	Transposons & Transposition	Snyder 361-373; Prescott 385-387
26	Feb	M	17	Plasmids/Conjugation	Snyder 183-192; 219-226; Prescott 387-393
28	Feb	W	18	Plasmids/Conjugation	Snyder 219-226;173-175; Prescott 387-393
				<b>(Quiz 6 Transposition)</b>	
2	Mar	F	19	Transformation	Snyder 248-252; Prescott 393-395
5	Mar	M	20	Bacteriophages	Snyder 273;323-329 Prescott 396-401
7	Mar	W	21	Transduction	Snyder 314-316; 331-340; Prescott 396-401
				<b>(Quiz 7 Transformation)</b>	
9	Mar	F	22	Transduction	Snyder314-316; 340-351; Prescott 396-401
11	Mar	M	23	Genetic Analysis I	Snyder 53-58; 153-167; Prescott Ch14

14	Mar	W	24	Genetic Analysis II	Snyder 167-179; 382-388; Prescott Ch14
				<b>(Quiz 8 Transduction)</b>	
16	Mar	F	25	No class.	
20	Mar	T		<b>Tuesday 5pm Final Exam (Lect 15-24)</b>	

### Course Policies

Please note the date and time of the 3 exams and 8 quizzes. Make up exams will NOT be an option unless you give me **prior** notice (minimum of 2 weeks) that you will be unable to attend and a sufficient reason for doing so.

Attendance of lectures is STRONGLY encouraged as the questions on the exams will be drawn from the lecture material.

Reading and studying the assigned material BEFORE the lecture date is very STRONGLY encouraged as the quizzes will cover topics from the assigned reading. Much of the material covered in lecture is not found in assigned reading. Some of the assigned reading will not be covered in lectures. However, while exams will mostly the material from the lectures, the reading will help clarify and solidify your knowledge. Late work will not be accepted. No extra credit will be given. All grades are assigned relative to the highest score for that particular test, in other words, the grades will be on a moving scale.

### Learner Outcomes:

The intention of the course is for you to demonstrate your ability to:

1. Acquire specialized language relevant to bacterial molecular genetics.
2. Analyze and integrate information on concepts relevant to bacterial molecular genetics.
3. Retain key concepts relevant to bacterial molecular genetics.
4. Communicate (through writing) your understanding of key concepts relevant to bacterial molecular genetics.
5. Analyze and solve problems presented on tests and in class exercises.

## Learner Expectations:

1. Attend class (on time) and stay the entire class period.
2. Read assignments before they are to be discussed in class.
3. Bring to class a copy of the figures to be discussed (so you can write notes on them while their content is being explained to you).
4. Prepare for the course's content as you would prepare for the acquisition of a new language (i.e. practice).
5. Come already prepared to take the exams (i.e. do not wait until the night before to cram for these exams). Remember: make up exams or extra credit will not be an option.
6. Participate in learning activities and complete tasks on time.
7. Cell phone use is absolutely prohibited during class.

## University and Departmental Policies:

*Accommodation for disabilities* (excerpted from <http://ds.oregonstate.edu/current/rights.php>)

Students with disabilities that require accommodations must identify themselves in a timely fashion to the Disability Access Services department (DAS). In addition to registering with the DAS office, students with disabilities must register the CRN numbers of their classes online, early enough for the DAS office to arrange accommodations. Students are responsible for meeting with their professors to discuss accommodations. Information about the disability is confidential. Anonymity is not guaranteed.

Students have the right to an equal opportunity to learn. If the location, delivery system, or instructional methodology limits access, participation, or ability to benefit, students have a right to reasonable alterations in those aspects of the course (or program) to accommodate the disability, as long as it does not fundamentally alter the nature of the program or activity, lower academic standards, present an undue financial or administrative burden on the university, or pose a threat to personal or public safety.

### *Student conduct*

The Department of Microbiology follows the university rules on civility and honesty. These can be found at <http://oregonstate.edu/studentconduct/code/index.php#acdis>.

Cheating or plagiarism by students is subject to the disciplinary process outlined in the Student Conduct Regulations. Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:

- \* Cheating- use or attempted use of unauthorized materials, information or study aids
- \* Fabrication- falsification or invention of any information
- \* Assisting- helping another commit an act of academic dishonesty
- \* Tampering- altering or interfering with evaluation instruments or documents
- \* Plagiarism- representing the words or ideas of another person as one's own

Behaviors disruptive to the learning environment will not be tolerated and will be referred to the Office of Student Conduct for disciplinary action.

The primary purpose of the Student Conduct Code is to establish community standards and procedures necessary to maintain and protect an environment conducive to learning, in keeping with the educational objectives of Oregon State University. This code is based on the assumption that all persons must treat one another with dignity and respect in order for scholarship to thrive.