

**Micro 5: General Microbiology**  
Spring 2017 Syllabus, Santa Rosa Junior College  
Lecture: TTh 12:00-1:20 pm, 1809 Baker Hall  
Lab: TTh 2:00 pm-5:00 pm, 1885 Baker Hall

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**Dr. Katy Jamshidi**

**Office:** 1882 Baker Hall

**Office Hours:** MW 2:00-3:00 pm, TTh 11-11:50 am, or by appointment

**Phone:** 707-521-6987 (but e-mail is a much better way to reach me!)

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**Course webpage:** <https://santarosajc.instructure.com/courses/19729>

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*This syllabus is intended to give the student guidance in what may be covered during the semester and will be followed as closely as possible. However, the instructor reserves the right to modify, supplement and make changes as needs arise.*

**Required Materials:**

- **Textbook:** Tortora et al. 2016. Microbiology: An Introduction 12<sup>th</sup> edition (ISBN: 0-321-92915-2)
  - Note: This is a new edition of the textbook and may be expensive. Feel free to use an earlier edition (e.g. the 10<sup>th</sup> or 11<sup>th</sup> editions), but be aware that the page numbers and some images/diagrams will not be the same.
  - Two copies are on reserve at the Santa Rosa campus library. Please see the Canvas page for call numbers. You will need to bring your student ID in order to access reserve materials.
- **Lab Manual:** Arbor Crest, Fall 2016. Micro 5 Laboratory Manual.  
(In SRJC Bookstore: ISBN: 2818120147219 **OR** on amazon.com: 978-1535548052)
- i>clicker Student Response System (any model will work)  
**OR**  
Reef Polling by i>clicker (iOS app or use in a browser) on laptop, tablet, smartphone or other mobile device (*see information on page 3 of syllabus*)
- Scan-trons for lecture exams

**Optional Materials:**

- Leboffe and Pierce. A Photographic Atlas for the Microbiology Laboratory, 3<sup>rd</sup> or 4<sup>th</sup> edition
  - A few copies are available for student use in the laboratory room.
  - A different photographic atlas of microbiology (by Alexander and Strete, 2000) is available on reserve in the Santa Rosa campus library. Call number: QR54 .M53 2001. You will need to bring your student ID in order to access reserve materials.
- Black Sharpie Ultra-Fine permanent marker (for lab)
- Colored pencils

**Course Description:** This course covers the morphology, growth, metabolism, genetics and control of microorganisms, with emphasis on bacteria and viruses. In addition, principles of microbial pathogenicity and the human immune response are included. There is an emphasis on laboratory techniques.

- Official Course Outline:  
[https://portal.santarosa.edu/SRweb/SR\\_CourseOutlines.aspx?CVID=23976&Semester=20127](https://portal.santarosa.edu/SRweb/SR_CourseOutlines.aspx?CVID=23976&Semester=20127)

**Grading:**

Lecture Exams	475
Lab Exams and Quizzes	360
In-Class Clicker Questions	30
Lab Attendance/Participation	30
Disease Report and Presentation	70
Gram stain practical	10
<i>Total</i>	<i>approx. 975 points</i>

**Grade Distribution**

90 – 100%	A
80 – 89%	B
70 – 79%	C
60 – 69%	D
<59%	F

**Anyone who misses the final exam will receive an "F" in the course regardless of their previous grade (SRJC policy).**

## Course Policies and Information

**Academic Integrity:** All written work is to be original; plagiarism of any kind will result in a failing grade on that assignment. Students who plagiarize or cheat may be suspended (for one or two class meetings by the instructor) and referred to the Vice President of Student Services for discipline sanction, in cases of egregious violation. Please read the college policy / procedure on academic integrity at: <http://www.santarosa.edu/polman/3acadpro/3.11P.pdf>

**Attendance and Participation:** Students are expected to be present, prepared and on time for each class meeting and to participate in discussions and group activities. Please contact me in advance if you cannot attend class due to illness or emergency. Attendance will be monitored in both lab and lecture. Each unexcused lab absence results in a deduction of 3 points from your lab attendance grade; each time you are more than 5-10 minutes late to lab OR leave lab before lab activities are finished, results in a deduction of 1 point. You may be dropped if your absences exceed 10% of the total hours of class time (10.5 hours).

**Cell phones:** Cell phones are to be turned to silent mode during class. Their inappropriate use (including texting) distracts both you and the instructor. It is, however, acceptable to record lecture audio, use the REEF Polling i>clicker system, and/or view the PowerPoint slides using your cell phones, tablets, or laptops. Cell phones must remain in your bag during exams. Any cell phone use during an exam will be considered cheating.

**Classroom Etiquette and Respect:** The best way to learn is through active participation; therefore, we respect others when talking by listening actively and by being polite even when we disagree with another's viewpoint. The following behaviors interfere with student learning and are inappropriate during class: arriving late or leaving early, off-topic use of cell phones or other electronic devices, packing up before the end of class, chatting with neighbors, and any offensive or demeaning behavior.

**Course Website:** The Canvas website is going to be very important for this course. You can find it here: <https://santarosajc.instructure.com/courses/19729>. Materials that you will need to access on the Canvas page include: lecture slides, practice questions, review sheets, important announcements, supplementary articles to read, helpful links for websites and animations, lab data and information, and your grades. It is important that you put the email address that you check most frequently into your Canvas settings.

**Disability-Related Accommodations:** If you need disability-related accommodations for this class, such as a note taker, test taking services, special furniture, etc., please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to the instructor in the first week of class. You may also speak with the instructor privately during office hours about your accommodations. If you have not received authorization from DRD, it is recommended that you contact them directly. Their office is located in Room 4844 (3<sup>rd</sup> floor), Bertolini Student Center – (707) 527-4278.

**Emergency Evacuation Plan:** In case of emergency, dial 527-1000 from a cell phone or 1000 from any campus phone. In the event of an emergency during class that requires evacuation of the building, please leave the class immediately, but calmly. Our class will meet at the parking lot between Baker Hall and Bailey Hall to make sure everyone got out of the building safely and to receive further instructions. If you are a student with a disability who may need assistance in an evacuation, please see me during my office hours as soon as possible so we can discuss an evacuation plan.

**Exam Return Policy:** It is the policy of the Life Sciences Department to not return exams to students. Once graded, your exams will be filed in my office and available for review during the semester. After each exam is graded **you have one week** to hand in any rebuttals, **in writing**, concerning the grading of that exam. After that week, your grade will remain as given. Once final course grades are posted in the student cubby, students have two months to request an appointment to review any exam from the previous semester and request a re-evaluation of their grade. After that time exams will be shredded.

**Lab and Lecture Content:** Lab periods have some extra time built in and will be used to catch up on lecture material as needed. Any leftover time after lab activities are finished should be used as "open lab" time to get caught up on lab manual questions and get help from the instructor.

**Make-up Exams:** Lecture exams may be made up only with **prior approval** and at the instructor's discretion. Extenuating circumstances must be supported by official documents (signed doctor's note, etc.). Lecture exams must be made up before the next lecture period. Lab exams require special setup of the lab room and cannot be made up if missed.

**Practice Questions:** About once a week, a list of practice questions will be posted on Canvas. These questions will be mainly short answer, multiple choice, or true/false (they will be easier than exam questions). These questions are not going to be graded, but they should help you check up on your understanding of the material between exams.

**Special Considerations:** If you have any special needs or concerns, please be sure to let me know. We will be working in a hands-on environment; therefore challenges may arise that do not generally come up in a lecture classroom. In addition, health issues (physical and mental) can interfere with your academic success. Student Health Services is here to support you. Details are at [shs.santarosa.edu](http://shs.santarosa.edu).

### **i>clicker Information**

In-class exercises will include i>clicker questions that will help you **think actively** about the material you are learning. This way, you will avoid leaving class not understanding what we talked about that day. i>clickers will also be used to monitor **attendance**: you will get points each day for being in class and participating (answering at least 75% of the clicker questions). Clicker points will be evenly distributed among the lecture periods that use clicker questions. Points will be given for completion, not correctness, as some questions will be speculative or address preconceptions. Clicker points will be divided so that you will be able to **miss up to 3 classes** without losing any points.

You may purchase an **i>clicker** (any version will work) at the SRJC bookstore (\$30-\$45) or online (there are various websites that sell used i>clickers at lower prices than the bookstore). I also have four clickers to loan out to students for free, so send me an email if you would like to be considered for one of these.

Alternatively, you may use the **REEF Polling** system by i>clicker. (<https://app.reef-education.com/#/login/>) It is economical (\$10 for a 6-month subscription) and may be convenient for those of you who have mobile access to the Internet during class time. It may be used in any browser (laptop, tablet, smartphone) and there are mobile apps for Android and Apple devices. However, the wireless internet service in the lecture hall is not always good, so you may have to communicate with the instructor on days when you notice that your answers are not going through.

To **register your i>clicker**, go to <https://www1.iclicker.com/register-clicker/> and fill out the form. In the Student ID field, please enter the **last 4 digits** of your student ID. If you can't find your i>clicker's **remote ID**, check the diagrams on the website or come see me. Clicker points will begin on the date shown on the course schedule, so be sure to have your clicker set up and registered to your name by then.

## Micro 5 General Microbiology Spring 2017 Tentative Class and Exam Schedule

Week	Date	Lecture topic	Textbook Chapters	Lab topic
1	1/17	Intro to Microbiology	Ch. 1	Intro; Safety and Sanitation; Aseptic Technique; Ubiquity 1
	1/19	History of Microbiology	Ch. 1 Ch. 14 Koch's Post.	<b>Quiz: Aseptic Techniques and Sanitation (15 pts)</b> Ubiquity 2; Care and Use of Microscope (Microscope 1)
2	1/24	Unity and Diversity of Life	Ch. 1 Misc. short readings posted on Canvas	<b>Quiz: Microscopes (15 pts)</b> Microscope 2: Eukaryotes
	1/26	Chemistry of Life	Ch. 2	Microscope 2, continued Open lab
3	1/31	Microscopy and Stains	Ch. 3	Microscope 3: Bacteria and Simple Staining
	2/2	Prokaryotic Cells <b>*Clicker points begin*</b>	Ch. 4 <i>Ch. 14 Koch's Post →</i>	Microscope 4: Gram Stain; Streak Plate Technique 1; Koch's Postulates 1
4	2/7	Prokaryotic Cells	Ch. 4	Koch's Postulates 2; Media and Sterilization 1; Streak Plate Technique 2; Review/Open Lab for Lab Exam 1
	2/9	Eukaryotic Cells	Ch. 4	<b>Lab Exam 1 (100 pts)</b>
5	2/14	Microbial Growth	Ch. 6	Koch's Postulates 3; Media and Sterilization 2; Isolation from Soil 1
	2/16	<b>No class, no lab</b>		
6	2/21	<b>Lecture Exam 1 (100 pts)</b>		Koch's Postulates 4; Media and Sterilization 3 (look at plates); Disinfectant Effectiveness 1
	2/23	DNA Structure & Replication	*Given out in class	Isolation from Soil 2; Disinfectant Effectiveness 2; Colony Morphology 1
7	2/28	Gene expression: Transcription & Translation	*Given out in class	Using a Micropipettor; Intro to PCR 1
	3/2	Bacterial Gene Regulation	Ch. 8	Isolation from Soil 3; Colony Morphology 2; Intro to PCR 2
8	3/7	Mutations	*Given out in class	<b>Quiz: Micropipettor Use (10 pts)</b> Indigenous Microflora 1; Evaluating Antibiotics 1; Library introduction
	3/9	Antimicrobial Drugs	Ch. 20	Isolation from Soil 4; Indigenous Microflora 2; Evaluating Antibiotics 2
9	3/14	Antimicrobial Drugs	Ch. 20	<b>Gram stain practical (10 pts);</b> Isolation from Soil 5; Ames Test 1; Review/Open Lab for Lab Exam 2
	3/16	Gene Transfer	*Given out in class	<b>Lab Exam 2 (100 pts)</b> , includes Aseptic technique/Streak plate practical
<b>Spring Break!</b>				

10	3/28	<b>Lecture Exam 2 (100 pts)</b>		Ames Test 2; Transformation 1; Coliform pre-lab assignment
	3/30	Gene Transfer & Antimicrobial Resistance	*Given out in class, Ch. 20	Transformation 2; Catalase 1; Coliform 1; CA-MRSA pre-lab assignment
11	4/4	Metabolism	*Given out in class	Catalase 2; Coliform 2; Coagulase 1; Mannitol Salt Agar 1
	4/6	Metabolism	*Given out in class	CA-MRSA 1; Coagulase 2; Mannitol Salt Agar 2; Triple Sugar Iron test 1; Enterotube 1
12	4/11	Metabolism, Wastewater Treatment	*Given out in class Ch. 27	Coliform 3; Triple Sugar Iron 2; Enterotube 2
	4/13	Principles of Disease, Bacterial Pathogenesis	Ch. 14 Ch. 15	CA-MRSA 2; Coliform 4; WWTP instructions and directions; Review/Open Lab for Lab Exam 3
13	4/18	Bacterial Pathogenesis	Ch. 15	Field Trip: Wastewater Treatment Plant
	4/20	Viruses	Ch. 13	<b>Lab Exam 3 (100 pts)</b>
14	4/25	<b>Lecture Exam 3 (100 pts)</b>		Assign order of presentations; CA-MRSA 3; Influenza lecture and video/discussion
	4/27	Viruses	Ch. 13	CA-MRSA 4; HIV lecture and video/discussion
15	5/2	Viruses	Ch. 13	Vaccine lecture and video/discussion; Presentation Preparation
	5/4	Innate Immunity	Ch. 16	CA-MRSA 5; Presentation Preparation
16	5/9	Innate Immunity	Ch. 16	<b>Microorganism Report due (50 pts)</b> Oral Presentations
	5/11	Adaptive Immunity	Ch. 17	Oral Presentations
17	5/16	Adaptive Immunity	Ch. 17	Oral Presentations
	5/18	Movie: <i>Contagion</i>		<b>Quiz: Disease Reports (20 pts)</b> ELISA
Finals Week	5/25 10:00-12:45	<b>Combined: Lecture Exam 4 (100 pts) and Cumulative Final Exam (75 pts)</b>		

#### Drop Dates:

- Last day to drop and get a refund: 1/29
- Last day to drop without a "W": 2/5
- Last day to drop with a "W": 4/23