

## CHM 6306, Section 23845, Special Topics in Chemical Biology: Antibiotics Spring 2020

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<b>Professor</b>	Jeffrey D. Rudolf Office: 302G Joseph Hernandez Hall Phone: 352.294.7221 E-mail: jrudolf@chem.ufl.edu
<b>Class Periods</b>	Tuesday 6 <sup>th</sup> –7 <sup>th</sup> period (12:50 pm – 2:45 pm) Thursday 6 <sup>th</sup> period (12:50 pm – 1:40 pm) 323 Joseph Hernandez Hall
<b>Office hours</b>	Hours are flexible; email for appointment
<b>Course Objectives</b>	This class focuses on the chemical and biochemical aspects of antibiotics, their mechanisms of action and methods of (self-)resistance, and current challenges and opportunities in antibiotic research. After completing this course, the student will be able to: (i) identify and describe the major classes of antibiotics and their targets, (ii) recognize the common mechanisms of antibiotic resistance, (iii) discuss traditional and state-of-the-art (bio)chemical methods for antibiotics research, and (iv) analyze and interpret key concepts from primary literature on current antibiotics research. Students will also gain experience in oral and written scientific communication.
<b>Optional Textbooks</b>	<i>There is no required textbook for this course.</i> Primary instructional resources will be papers and reviews from the current literature. These materials will be provided online on the Canvas course site. Some lecture material will be based on:  <i>Antibiotics: Challenges, Mechanisms, Opportunities</i> , Walsh, C. and Wencewicz, T.
<b>Class Schedule</b>	A course schedule is available online on the Canvas course site. Topics will include:  <ol style="list-style-type: none"><li>1. Peptidoglycan biosynthesis in bacteria</li><li>2. Inhibitors of cell wall synthesis, membrane integrity, protein synthesis, DNA/RNA effectors, thymidine synthesis</li><li>3. Mechanisms of resistance including antibiotic modification or destruction, efflux pumps, target modification, biofilms</li><li>4. How to find new antibiotics and address the antibiotic resistance problem including underexploited pathways and targets and prospects for identifying and using new molecules and targets</li></ol>
<b>Grading</b>	The course grade will be based on:  <ol style="list-style-type: none"><li>1. Participation in class discussions! (10%)</li><li>2. Submission of <i>Weekly Topic Questions</i> (30%)</li><li>3. Answers for the <i>Weekly Topic Questions</i> (30%)</li><li>4. <i>Research Paper</i> presentation (30%)</li></ol>

For more information on the weekly assignments and research paper presentation, see the information available online on the Canvas course site. Current UF grading policies can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

**Class Attendance**

Attendance will not be recorded, but 100% attendance and class participation are expected. Requirements for excused absences, make-up assignments, and other work in this course are consistent with university policies and can be found at <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

**Make-Up Work**

Make-up exams will only be allowed under extremely rare circumstances. Any make-up exams will need to be planned far in advance of the exam.

**Course Evaluation**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <http://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>. One anonymous informal mid-semester evaluation will give me an opportunity to improve during the semester and you a chance to benefit from your own evaluations.

**Class Demeanor**

Students are expected to arrive to class on time and behave in a manner that is respectful to the instructor and to fellow students. Please avoid the use of cell phones and restrict eating of loud, distracting foods. Opinions, questions, and answers given by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

**Academic Honesty**

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

**Students with Disabilities**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**Additional Information**

Your well-being is important to the University of Florida. The *U Matter, We Care* initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) so that the *U Matter, We Care* Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352.392.1575. The *U Matter, We Care* Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.