

**Microbes in Human Diseases (KINE 311)**  
**Wednesday, 11:00-12:50m, ISC 3229**

**Instructor:** Ashleigh Everhardt Queen, MS

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**Office:** Adair 111

**Phone:** 757-221-2777

**Office Hours:** I will be available by appointment (Zoom of Office) – a link to my calendar is under the About the Course section in Blackboard.

**Communication:** Email is the best way to reach me. Monday through Friday, I will reply to all emails within 24 hours. On weekends and holidays please allow 48 hours for a response. When writing emails, please use the appropriate method of addressing your emails with a “Subject” and signing your name to complete the email. Any emails you send me should not resemble text messages to your friends – if they do, you will not receive a response. I will not be responding to emails between the hours of 7pm and 7am, but will get back to you the following day.

**Course Description:** This laboratory is designed to introduce students to the concepts of Microbiology. In this lab, topics will include aseptic technique, microbiological transfer and unknown identification.

NO CELL PHONES are to be used during the lab – we work with infectious agents that you do not want to travel with you on a phone!

**Lab Safety Guidelines:** Most of the organisms we use are “non-pathogenic”, but ALL should be treated with respect - all of these organisms, given the opportunity, have the ability to cause infection. If you observe the safety requirements, there is virtually no risk of you or your classmates being infected.

1. No EATING, DRINKING OR APPLICATION OF COSMETICS in the lab.
2. Please do not put objects in the lab (including your own pens and pencils) near or in your mouth. Be aware of touching your face in the lab as this can introduce bacteria and chemicals into your eyes/mouth/etc.
3. Report any spills to the instructor immediately. Also, inform anyone in close proximity of the spill to proceed with caution.
4. Lab coats, gloves and protective eyewear must be worn in the lab.
5. No open toed shoes.
6. **Remember to wash your hands at the beginning and end of every lab and after handling any specimens!**
7. **All materials with living organisms will be disposed of in the RED BAGS (solid) or BLEACH BUCKET (liquid). These will then be sterilized.**

**\*\*This semester you are required to have your own safety glasses. These can be purchased from online or at a local hardware store. No safety glasses = no participation.**

**Textbook:** Techniques in Microbiology: A Student Handbook by John M. Lammert

**Website:** Blackboard – all class documents and communications will be available here. Please check Blackboard at least once every day as I do post important course announcements on the page. You are responsible for any information that is on the site.

**Student Accessibility Services:** It is the policy of The College of William and Mary to accommodate students with disabilities and qualifying diagnosed conditions in accordance with federal and state laws. Any student who feels s/he may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact me privately to discuss your specific needs. Students will also need to contact Student Accessibility Services staff at 757-221-2509 or at [sas@wm.edu](mailto:sas@wm.edu) to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see [www.wm.edu/sas](http://www.wm.edu/sas).

**Academic Honesty:** The College of William & Mary has had an honor code since at least 1779. Academic integrity is at the heart of the university, and we all are responsible for upholding the ideals of honor and integrity. The student-led honor system is responsible for resolving any suspected violations of the Honor Code, and I will report all suspected instances of academic dishonesty to the honor system. The Student Handbook ([www.wm.edu/studenthandbook](http://www.wm.edu/studenthandbook)) includes your responsibilities as a student and the full Code. Your full participation and observance of the Honor Code is expected. To read the Honor Code, see [www.wm.edu/honor](http://www.wm.edu/honor)

Your full participation and observance of the Honor Code is expected **ON ALL ASSIGNMENTS**. While you may discuss the concepts covered in the course with fellow students, **any work that you submit should be completed by you alone.** *Failure*

to follow his policy will result in the students involved being reported to the Office of Community Values and Restorative Practices for review by the William & Mary Honor Council.

### **Observance of Religious Holidays**

If you plan to miss class for the observance of a Religious Holiday, please inform the instructor as soon as possible so that alternate arrangements for material instruction and assignments can be made. This may be communicated via email.

#### **Evaluation:** Class Participation: 10%

- Attendance – You must attend all labs and you must remain the entire lab. If you are sick and unable to attend, please contact me so that we can make other arrangements for the material on that day.
- Completion of labs – participation with your group will be expected in this lab.

#### Quizzes: 10%

- Daily quizzes on material covered in previous labs.

#### Lab Assignments: 20%

- Assignments to be completed after each lab exercise and turned in the following week.

#### Unknown Report: 30%

- Report detailing the identification of an unknown bacterial species and reasoning used in identification.

#### Final Exam: 30%

- Comprehensive exam covering all lab topics.

**Grading Scale** – The grades in this course will be given based on the following scale. In the event of a curve, I will post on Blackboard the change to the scale. All grades are rounded to the nearest whole number (0.49 rounds down 0.50 rounds up).

|    |          |
|----|----------|
| A  | 93-100   |
| A- | 90-92    |
| B+ | 87-89    |
| B  | 83-86    |
| B- | 80-82    |
| C+ | 77-79    |
| C  | 73-76    |
| C- | 70-72    |
| D+ | 67-69    |
| D  | 63-66    |
| D- | 60-62    |
| F  | Below 60 |

**Lab Schedule**  
**SUBJECT TO CHANGE**

I will let you know, via Blackboard, of any changes throughout the semester.

| <b>Class</b> | <b>Date</b> | <b>Topic</b>                                                                                                                                                                                                                                          | <b>Textbook</b>                               |
|--------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 1            | 9/7         | Safety, Aseptic Technique, Handling Cultures<br><br>Handwashing                                                                                                                                                                                       | Unit 1<br>Handwashing Supplement              |
| 2            | 9/14        | Differential Tests I<br><ul style="list-style-type: none"> <li>• Starch Hydrolysis</li> <li>• DNase test</li> <li>• Nitrate Reduction</li> </ul>                                                                                                      | p. 121<br>p. 129<br>p. 154                    |
| 3            | 9/21        | Differential Staining<br><ul style="list-style-type: none"> <li>• Simple Stain</li> <li>• Gram Stain</li> <li>• Negative Stain</li> </ul>                                                                                                             | p. 92<br>p. 94<br>p. 105                      |
| 4            | 9/28        | Differential Staining &<br>Differential Tests II<br><ul style="list-style-type: none"> <li>• Acid Fast Stain</li> <li>• Endospore Stain</li> <li>• Triple Sugar Iron (TSI) Agar</li> <li>• Urease Test</li> <li>• Methyl Red &amp; Citrate</li> </ul> | p. 99<br>p. 112<br>p. 157<br>p. 159<br>p. 133 |
| 5            | 10/5        | Differential Tests III<br><ul style="list-style-type: none"> <li>• Catalase</li> <li>• Oxidase</li> </ul>                                                                                                                                             | p. 150<br>p. 152                              |
|              | 10/12       | No Lab                                                                                                                                                                                                                                                |                                               |
| 6            | 10/19       | Unknowns Given Out<br>Differential Tests IV<br><ul style="list-style-type: none"> <li>• Eosin Methylene Blue Agar</li> <li>• Mannitol Salt Agar</li> <li>• MacConkey Agar</li> </ul>                                                                  | p. 170<br>p. 172<br>p. 174                    |
| 7            | 10/26       | Quantification                                                                                                                                                                                                                                        | Handout                                       |
| 8            | 11/2        | Kirby-Bauer: Antimicrobials and Antibiotics                                                                                                                                                                                                           | p. 206                                        |
| 9            | 11/9        | Enteropluri                                                                                                                                                                                                                                           | Handout                                       |
| 10           | 11/16       | Pathogenic Species – Slides and Online<br>Enteropluri Results                                                                                                                                                                                         | In Class                                      |

| <b>Class</b> | <b>Date</b> | <b>Topic</b>                                    | <b>Textbook</b> |
|--------------|-------------|-------------------------------------------------|-----------------|
| 11           | 11/30       | Unknowns Continued - Finish up, Paper Questions |                 |
| 13           | 12/7        | Final Exam                                      |                 |

**Important Dates:**

- **Last day to Add/Drop: 9/12/22**
- **Last day to Withdraw: 10/31/22**