COURSE SYLLABUS

# BIOL 695/BIOS 704

# Tularemia an Ongoing Biothreat

BIOL 695-001 (75377) /BIOS 704-002 (76021)

# Fall 2022

##### Online via Blackboard

##### Wednesdays, 4:30 pm - 5:45 pm

**George Mason University**

**College Of Science**

**School Of Systems Biology**

**PROFESSOR: Dr. Monique van Hoek.** Office location: Discovery Hall, Room 156

Office hours: Online preferred. By appointment only, 10 a.m. to 6 p.m.

Email address: [mvanhoek@gmu.edu](mailto:mvanhoek@gmu.edu) **Important:** Use “BIOL 695 or BIOS 704” in subject line.

**SPECIAL NOTES:  
Duration:** Aug 24, 2022 – Nov 30, 2022 (No Class Nov 23d)

**Thanksgiving Recess**: Wed, Nov 23 - Sun, Nov 27

**Examination Period:** Dec 7 – Dec 14, 2022

**Student Evaluations of Teaching/Course**: Will be done online via Blackboard. Please complete by Nov 30th.

**COURSE DESCRIPTION**

1. **Prerequisites:** An undergraduate lecture/lab course in microbiology.
2. **Course description:** An up-to-datestudy of the ongoing Tularemia outbreaks world-wide, and the epidemiology and ongoing threat presented by Tularemia. Methods of diagnostics, detection and sequencing will also be covered. This course is Distance Learning and will be provided via Blackboard.
3. **Course objectives:** To introduce the student to more advanced concepts of the biothreat bacteria, with a focus on Tularemia. Current research and historical lessons of Tularemia outbreaks will be discussed. Lectures will cover a topic to give students an understanding of the particular topic. Assigned readings and summaries are a requirement for this class. A timely, pertinent paper will be presented following each lecture topic, emphasizing to the student current research in that particular area. Additional activities for grades may include a class blog and other projects.
4. **Schedule:** We will meet **“Synchronously”** **on Blackboard** during our Class meeting time, **Special Drop-In office hour sessions** and **a final review session** at the end. Student presentations will be delivered **via Blackboard**.

**REQUIRED ASSIGNEMNTS:**1. **Class Presentations:** Presentations will be made of assigned papers. Each paper will be presented by a student with a time limit of 30 minutes long. (30% of grade)

2. **Other Homework**: Blog posts (10% of grade)

3. **MidTerm Paper (online, take home)**: See assignment on Blackboard. (20% of grade)

4. **Participation/Peer Feedback**: Students must submit a comment on at least 5 of the other student’s paper presentations (not your own) online. The comments should be thoughtful and constructive and let me know that you watched the video and/or read the paper. It can be a comment, a question or a related fact or story. (10% of grade)

5. **Final Paper** (online, take home) in Lieu of Final Exam. (30% of grade)

**EXAMS:**

**Final Paper** in Lieu of Final Exam

**GRADING:**

**OVERALL GRADE:**

**Class Presentation 30%**

**Homework-Blog Posts 10%**

**Participation/Peer Feedback 10%**

**MidTerm Paper 20%**

**Final Term Paper 30%**

**TOTAL POINTS= 100%**

**A+ ≥95%, A = 94-90%, A- = 89-85%, B+ = 84-80%, B = 79-75%, B- = 74-70%, C = 69-65, F = <65%**

**REQUIRED TEXTS:** None. Required reading of papers and reading of as much background material as needed for student’s level of knowledge.

**SUGGESTED TEXTS**

**Francisella Tularensis: Biology, Pathogenicity, Epidemiology, and Biodefense**. Annals of the New York Academy of Sciences. Volume 1105, Issue 1, Pages: ix-x, 1-419; June 2007. <https://www.nyas.org/annals/francisella-tularensis/> (Available via GMU Library).

<https://nyaspubs-onlinelibrary-wiley-com.mutex.gmu.edu/toc/17496632/2007/1105/1>

**Required readings: All required readings are available free online or via GMU Library. See Class on Blackboard for required reading for each week.**

**TENTATIVE CLASS LECTURE AND PRESENTATION SCHEDULE:** The number of presentations and homework assignments will be adjusted according to the class size.

**GMU Honor Code:** *The integrity of the University community is affected by the individual choices made by each of us. Mason has an Honor Code with clear guidelines regarding academic integrity. Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment, ask for clarification. No grade is important enough to justify academic misconduct. Plagiarism means using the exact words, opinions, or factual information from another person without giving the person credit. Writers give credit through accepted documentation styles, such as parenthetical citation, footnotes, or endnotes. Paraphrased material must also be cited. A simple listing of books or articles is not sufficient. Plagiarism is the equivalent of intellectual theft and cannot be tolerated in the academic setting. If you have any doubts about what constitutes plagiarism, please see me.*

***Tentative schedule:***

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Date** | **Topic** | **Presenter** |
| Week 1 | Aug 24th, 2022 | **Lecture 0: Syllabus** | Van Hoek |
| **Lecture 1: Introduction to Tularemia**  Assignment of papers | Van Hoek |
| Week 2 | Aug 31st, 2022 | **Lecture 2: History of Tularemia as a BW** | Van Hoek |
| Week 3 | Sep 7th, 2022 | **Lecture 3: Diagnosis of Tularemia** | Van Hoek |
| Paper 1 |  |
| Paper 2 |  |
| Week 4 | Sep 14th, 2022 | **Lecture 4: Detection of Tularemia** | Van Hoek |
| Paper 3 |  |
| Paper 4 |  |
| Week 5 | Sep 21st, 2022 | **Lecture 5**: **A Tularemia Biothreat Event** | Van Hoek |
| Paper 5 |  |
| Paper 6 |  |
| **Mid-Term Paper Opened for online submission. Due** | | | |
| Week 6 | Sep 28th, 2022 | **Lecture 6**: **Aerosolized Tularemia**. | Van Hoek |
| Paper 7 |  |
| Paper 8 |  |
| Week 7 | Oct 5th, 2022 | **Lecture 7:** **Outbreak on Martha’s Vineyard** | Van Hoek |
| **Paper 9** |  |
| **Paper 10** |  |
| Week 8 | Oct 12th, 2022 | **Lecture 8: Video about Martha’s Vineyard.** | Online video |
| Paper 11 |  |
| Paper 12 |  |
| Week 9 | Oct 19th, 2022 | **Lecture 9: Animal models of Tularemia.**  **\* Review for Final Assignment.** | Van Hoek |
| Paper 13 |  |
| Paper 14 |  |
| **Final Exam Assignment released for online completion. Due Nov 16th 2022** | | | |