I. **TITLE:**

Veterinary Microbiology

II. **CATALOG DESCRIPTION:**

Orientation to veterinary diagnostic laboratory environment, including familiarization with basic techniques in veterinary bacteriology and mycology, veterinary virology and clinical serology and immunology. Lecture 2 hours; laboratory 6 hours. Prerequisites: AGR 329, BIO 101 or 221, CHE 105 and 106 or 201 and 202. (Fall and Spring)

III. **PURPOSE:**

To prepare students to perform tasks in a veterinary diagnostic laboratory.

IV. **COURSE OBJECTIVES:**

A. Bacteriology/Mycology
   1. Students will learn how to recognize gross forms and arrangements
   2. Students will obtain pure cultures and classify bacteria
   3. Students will understand basic conditions for bacteria growth and learn how to gram stain.

B. Virology
   1. Students will learn cell culture techniques
   2. Students will learn virus isolation
   3. Students will learn various viral tests

C. Serology/Immunology
   1. Students will be introduced to various serological techniques
   2. Students will be introduced to tests run in laboratories

V. **CONTENT OUTLINE:**

A. Bacteriology/Mycology – 50%
B. Virology – 25%
C. Serology/Immunology – 25%
VI. INSTRUCTIONAL ACTIVITIES:
(Print off lecture and lab outlines from Blackboard under Course Documents)
A. Bacteriology/Mycology
B. Virology
C. Serology/Immunology

VII. FIELD AND CLINICAL EXPERIENCES:

Laboratory

VIII. RESOURCES:

*Laboratory notes and exercises will be found on Blackboard under Labs. Students will be responsible for obtaining the correct laboratory sections online before class starts.* Bacteriology lecture and lab, as well as Virology and Serology lab study guides can be found on Blackboard under Assignments.

IX. GRADING PROCEDURES:

90 – 100 = A
80 – 89 = B
70 – 79 = C
60 – 69 = D
Below 60 = E

A. Bacteriology/Mycology
   1. Midterm – 20%
   2. Term Paper – 5%
   3. Lab Exercises – 5%
   4. Final – 20%
B. Virology
   1. Final – 25%
C. Serology
   1. Final – 25%

Bacteriology and Virology exams will include material from both lecture and laboratory. A term paper, approximately 8-10 typed pages, is required to be submitted by every student on a microbiology topic approved by Dr. Singh.

*Cell phone use is not permitted during class time.
*Professional attitudes are expected when working in the laboratory.
   Laboratory grades will reflect your professionalism in class.
X. **ATTENDANCE POLICY:**

Please refer to the most current copy of the *Murray State University's Undergraduate Bulletin and Graduate Bulletin.*

Any student missing more than 3 classes total, whether excused or unexcused, during the whole semester of the Microbiology course (including Bacteriology, Virology, and Serology) will lose one letter grade from their overall cumulative grade. A student missing more than 4 and 5 classes will lose 2 and 3 letter grades respectively from their final grade. Whereas, anyone missing more than 6 classes in the semester will automatically be awarded an E or Failure grade.

* There will be absolutely no make-ups for exams and laboratory reports missed during absences without a physician’s statement. If an absence is known in advance, students may be able to make arrangements to complete the work ahead of time. Attendance is expected for each laboratory period and a schedule of exams is provided on the laboratory outlines located on Blackboard. The student is solely responsible for obtaining any information they missed for exam purposes.

XI. **ACADEMIC HONESTY POLICY:**

(Adopted by the MSU Board of Regents)

Cheating, plagiarism (submitting another person’s material as one’s own), or doing work for another person which will receive academic credit are all impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure or give help during an examination, the unauthorized copying of examinations, assignments, reports, term papers, or the presentation on unacknowledged material as if it were the student’s own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

NOTE: The School of Agriculture Faculty have adopted and implemented an Academic Honesty Policy (that can be found on-line at [http://www.murraystate.edu/agr/](http://www.murraystate.edu/agr/)) in addition to the University Honesty Policy, which can be found in the current *Undergraduate Bulletin and Graduate Bulletin.* The policy sets guidelines regarding acts of dishonesty and the procedure to follow should an event occur. It is each Agriculture student’s responsibility to obtain and read a copy of this document. The School’s Academic Honesty Policy can be obtained by asking for a copy from any Agriculture Faculty member or the Secretary.
XII. TEXT AND REFERENCES:

A. Bacteriology/Mycology/Virology/Serology Texts – 
   *Veterinary Microbiology and Microbial Diseases*, 2002, P.J. Quinn, B.K. Markey, M.E. Carter, W.J. Donnelly, and F.C. Leonard

B. References
   *Diagnostic Procedures in Veterinary Bacteriology and Mycology*, G.R. Carter, John R. Cole, Jr.
   *Bailey and Scott’s Diagnostic Microbiology*, E.J. Baron, S.M. Finegold
   *Manual of Clinical Microbiology*, American Society of Microbiology
   *Medically Important Fungi*, D.H. Larone
   *Laboratory Procedures for Veterinary Technicians*, 2nd edition, Paul W. Pratt

   *Found in Bacteriology Department

XIII. PREREQUISITES:

   AGR 329
   BIO 101 or 221
   CHE 105 and 106 or CHE 201 and 202

XIV. STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY:

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities. For more information, contact Sabrina Y. Dial, Director of Equal Opportunity, Murray State University, 103 Wells Hall, Murray, KY 42071-3318. Telephone: 270-809-3155 (voice), 270-809-3361 (TDD).

XV. MSU SCHOOL OF AGRICULTURE CELL PHONE POLICY
The School of Agriculture recognizes that in today’s world cell phones are a familiar and often necessary form of communication for students.

It shall be the policy of the School that no cell phone usage shall be allowed in class and/or labs without the prior consent of the course instructor. This shall include verbal calling, incoming calls, email, text messaging, and use of cell phone calculators on tests and quizzes.

Cell phones must be kept off and out of sight (i.e. secured to a person’s belt or kept in a bag or purse away from desks and lab counters).

Should a student’s cell phone be visible, ring, or other form of unauthorized usage that is interruptive to the class or lab, the student may be asked to leave class and not return for that class/lab period.

Upon prior consent of the instructor, a student may obtain permission to have their phone on in case of an emergency or in critical family situations.

This policy also includes pagers and other electronic equipment such as blackberries and/or computers/laptops.