

## Program Requirements

### M.S. in Veterinary Microbiology (Thesis and Non-Thesis)

### Ph.D. in Veterinary Microbiology

**Required** courses for all MS and PhD students:

GR ST 5650 Responsible Conduct of Research Cr. 1

STAT 5870 Statistical Methods for Research Workers Cr.4

VMPM 6040 Seminar VMPM 6040 **OR** Micro 6040 **OR** Imbio 6040  
(1 for MS students and 3 for Ph.D students over the course of their program)

Additionally, MS students are required to take 1 course in 2/4 areas and PhD students are required to take 1 course in 3/4 areas.

#### **Required Areas:**

##### **Bacteriology:**

VMPM 5860 Medical Bacteriology Cr. 4

VMPM 6250 Mechanisms of Bacterial Pathogenesis Cr. 3

Micro 5520 & 5530 & 5550 Combined:

5520: Bacterial molecular genetics and physiology Cr. 1

5530: Pathogenic microorganisms Cr. 1

5550: Fungal biology Cr. 1

##### **Virology:**

VMPM 5870 Animal Virology Cr. 3

VMPM 6080 Molecular Virology Cr. 3

##### **Immunology:**

VMPM 5200 Medical Immunology Cr. 3

**OR**

VMPM 5750 Immunology Cr. 3

##### **Epidemiology:**

VMPM 5280 Introduction to Epidemiology and Pop Health. Cr. 3

VMPM 5270 Applications to Statistics to Pop Studies Cr. 3

VMPM 5290 Epidemiological Methods for Population Research Cr. 3

## **Ph.D. in Veterinary Microbiology (Preventive Medicine Emphasis)**

### **Required Coursework:**

VMPM 5280	Introduction to Epidemiology and Prev. Med. Cr. 3
VMPM 5270	Applications to Statistics to Pop Studies Cr. 3
VMPM 5290	Epidemiological Methods for Population Research Cr. 3

### **A list of additional courses relevant to the VMPM major:**

Micro 5510	Microbial diversity and phylogeny Cr. 1
Micro 5560	Microbial ecology and environmental monitoring Cr. 1
Micro 5540	Virology
VMPM 5250	Intestinal Microbiology, Cr. 3
PIP 5090	Plant Virology Cr. 4
BMS 5750	Cell Biology Cr. 3
V Pth 6550	Cellular and Molecular Pathology I Cr. 3
BBMB 6450	Molecular Endocrinology; Hormones and Growth Factors Cr. 2
STAT 4020	Statistical Design and the Analysis of Experiments Cr. 3
STAT 4030	Nonparametric Statistical Methods Cr. 2
STAT 4070	Methods of Multivariate Analysis Cr. 3
STAT 4150	Advanced Statistical Methods for Research Workers Cr. 3
STAT 4210	Survey Sampling Techniques Cr. 3

## **Interdepartmental Programs**

**The Course requirements for the Interdepartmental Majors can be found at their respective web sites:**

[Bioinformatics and Computational Biology \(BCB\)](#)

[Genetics](#)

[Immunobiology](#)

[Microbiology](#)

[Molecular, Cellular and Developmental Biology \(MCDB\)](#)

[Toxicology](#)