

# Veterinary Medical Science

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## Graduate Coordinator: Dr. Larry Hanson

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## Admission Criteria

To be admitted to the Veterinary Medical Sciences Graduate Program the applicant must either hold a D.V.M. degree from a recognized college of veterinary medicine or have at least a bachelor's degree from a fully recognized four-year institution of higher learning. The scholastic record for all undergraduate, graduate, and professional school coursework will be reviewed and should exceed a minimum GPA of 3.00 for undergraduate work; GPA of 3.00 for graduate work; GPA of 2.75 for the four years of the veterinary curriculum or 2.75 for the last two years of the veterinary curriculum. Also required are three reference letters, a minimum TOEFL score of 550 PBT (79 iBT) or IELTS score of 6.5 for international students from countries whose primary language is not English, and if a Graduate Record Examination (GRE) score is available, those scores will be considered.

## Provisional Admission

In special circumstances a student who does not meet admission criteria may be admitted provisionally if approved by the Graduate Program Advisory Committee. See Provisional Admission under Admission in this publication for provisional requirements.

## Academic Performance

If a student does not show satisfactory progress toward meeting academic, research, and/or thesis requirements, his/her performance will be reviewed in a meeting with the student's graduate committee. This committee may recommend a change in the student's program or recommend that the student be dismissed from the degree program in the College of Veterinary Medical Science program. Students must follow all guidelines outlined in the *Graduate Catalog*.

## Master of Science in Veterinary and Biomedical Medical Sciences (VMS) - Population Medicine Non-Thesis Concentration (PMNT)

Graduate-level coursework credits (at least 15 hours of all coursework credits must be 8000-level or above) <sup>1</sup>	31
Statistics course <sup>1,2</sup>	3
CVM 8011 Seminar <sup>1</sup>	1
or CVM 8091 Current Topics in Production Animal Medicine	
<b>Total Hours</b>	<b>35</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee. Transfer of credit for any previously taken courses is subject to the policy found in the *Graduate Catalog*.

A final examination (oral and/or written) which covers both the major and supportive fields and includes defense of the thesis is required. Students must present an open seminar of the thesis research just prior to oral final examinations. The student must adhere to the University and College regulations regarding his/her graduate program.

## Master of Science in Veterinary and Biomedical Sciences (VMS) - Veterinary Medical Research Concentration (VMRC)

Graduate-level coursework (at least 12 hours of all coursework credits must be 8000-level or above) <sup>1</sup>	20
One statistics course <sup>1,2</sup>	3
One seminar course (CVM 8011 or equivalent) <sup>1</sup>	1
CVM 9000 Research in Veterinary Medicine	1-13
<b>Total Hours</b>	<b>25-37</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

A final examination (oral and/or written) which covers both the major and supportive fields and includes defense of the thesis is required. Students must present an open seminar of the thesis research just prior to oral final examinations. The student must adhere to the University and College regulations regarding his/her graduate program.

## Master of Science in Veterinary and Biomedical Sciences (VMS) - Computational Biology Concentration (VCBC)

Graduate-level courses (at least 12 hours of all coursework credits must be 8000-level or higher) <sup>1</sup>		11
BCH 8653 or PSS 8653	Genomes and Genomics	3
CSE 6613	Bio-computing	3
CSE 6623	Computational Biology	3
One statistics course <sup>1,2</sup>		3
One seminar course (CVM 8011 or equivalent) <sup>1</sup>		1
CVM 9000	Research in Veterinary Medicine	1-13
<b>Total Hours</b>		<b>25-37</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

A final examination (oral and/or written) which covers both the major and supportive fields and includes defense of the thesis is required. Students must present an open seminar of the thesis research just prior to oral final examinations. The student must adhere to the University and College regulations regarding his/her graduate program.

## Master of Science in Veterinary and Biomedical Sciences (VMS) - Infectious Diseases Concentration (VIDC)

CVM 8303	Advanced Immunology	3
BCH 6013 or BCH 6713	Principles of Biochemistry Molecular Biology	3
One statistics course <sup>1,2</sup>		3
One seminar course (CVM 8011 or equivalent) <sup>1</sup>		1
Graduate-level courses (at least 12 hours of all coursework must be at 8000 level or higher) <sup>1</sup>		14
CVM 9000	Research in Veterinary Medicine	1-13
<b>Total Hours</b>		<b>25-37</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

A final examination (oral and/or written) which covers both the major and supportive fields and includes defense of the thesis is required. Students must present an open seminar of the thesis research just prior to oral final examinations. The student must adhere to the University and College regulations regarding his/her graduate program.

## Master of Science in Veterinary and Biomedical Sciences (VMS) - Toxicology Concentration (TOXI)

CVM 8543 or CVM 8523 or CVM 8533	Mechanisms of Toxic Action Organ Systems Toxicology I Organ Systems Toxicology II	3
CVM 6513	Environmental Toxicology	3
One statistics course <sup>1,2</sup>		3
On seminar course (CVM 8011, 8091, or equivalent) <sup>1</sup>		1
Graduate-level courses (at least 12 credits of all coursework must be 8000-level or higher)		14
CVM 9000	Research in Veterinary Medicine	1-13
<b>Total Hours</b>		<b>25-37</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

A final examination (oral and/or written) which covers both the major and supportive fields and includes defense of the thesis is required. Students must present an open seminar of the thesis research just prior to oral final examinations. The student must adhere to the University and College regulations regarding his/her graduate program.

## Master of Science in Veterinary and Biomedical Sciences (VMS) - Population Medicine Thesis concentration (POPM)

CVM 8333	Food Safety and Security in Public Health	3
CVM 8513	Applied Veterinary Epidemiology	3
CVM 8503	Epidemiology/Biostatistics	3
ST 8114	Statistical Methods <sup>1,2</sup>	4
One seminar course (CVM 8011, CVM 8091 or equivalent) <sup>1</sup>		1
Additional graduate-level courses (at least 12 hours of all coursework credits must be 8000-level or higher) <sup>1</sup>		10
Total Hours		30
CVM 9000	Research in Veterinary Medicine	1-13

<sup>1</sup>Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup>Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

A final examination (oral and/or written) which covers both the major and supportive fields and includes defense of the thesis is required. Students must present an open seminar of the thesis research just prior to oral final examinations. The student must adhere to the University and College regulations regarding his/her graduate program.

## Doctor of Philosophy in Veterinary and Biomedical Sciences (VMS) - Veterinary Medical Research Concentration (VMRC) (for students with a master's degree)

Two statistics courses <sup>1,2</sup>		6
Three seminar courses (CVM 8011 or equivalent)		3
Graduate-level courses (at least 12 hours of all coursework at 8000-level or higher) or additional CVM 9000 credits <sup>1</sup>		31
CVM 9000	Research in Veterinary Medicine	20
<b>Total Hours</b>		<b>60</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee. Transfer of credit for any previously taken courses is subject to the policy found in the *Graduate Catalog*.

## Doctor of Philosophy in Veterinary and Biomedical Sciences (VMS) - Veterinary Medical Research Concentration (VMRC) (for students with a bachelor's but no master's degree)

Two statistics courses <sup>1,2</sup>		6
Three seminar courses (CVM 8011 or equivalent) <sup>1</sup>		3
Graduate-level courses (at least 12 hours of all coursework at 8000 level or higher)		15
CVM 9000	Research in Veterinary Medicine	20
Additional graduate-level coursework and/or CVM 9000 credits <sup>3</sup>		46
<b>Total Hours</b>		<b>90</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

<sup>3</sup> Students must have 24 hours of graduate coursework to graduate with a Ph.D. in VMS.

## Doctor of Philosophy in Veterinary and Biomedical Sciences (VMS) - Computational Biology Concentration (VCBC) (for students with a master's degree)

BCH 8653	Genomes and Genomics	3
or PSS 8653	Genomes and Genomics	
CSE 6613	Bio-computing	3
CSE 6623	Computational Biology	3
Three seminar courses (CVM 8011 or equivalent) <sup>1</sup>		3
Two graduate-level statistics courses		6
Graduate-level courses (at least 12 hours of all coursework at 8000-level) or additional CVM 9000 credits		22
CVM 9000		20
<b>Total Hours</b>		<b>60</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

## Doctor of Philosophy in Veterinary and Biomedical Sciences (VMS) - Computational Biology Concentration (VCBC) (for students with a bachelor's but no master's degree)

BCH 8653	Genomes and Genomics	3
or PSS 8653	Genomes and Genomics	
CSE 6613	Bio-computing	3
CSE 6623	Computational Biology	3
Three seminar courses (CVM 8011 or equivalent) <sup>1</sup>		3
Two graduate-level statistics courses		6
Graduate level courses (at least 12 hours of all coursework at 8000 level or higher)		6
CVM 9000	Research in Veterinary Medicine	20
Graduate-level coursework and/or additional CVM 9000 credits <sup>3</sup>		46
<b>Total Hours</b>		<b>90</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

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## Doctor of Philosophy in Veterinary and Biomedical Sciences (VMS) - Infectious Diseases Concentration (VIDC) (for students with a master's degree)

CVM 8303	Advanced Immunology	3
BCH 6013	Principles of Biochemistry	3
or BCH 6713	Molecular Biology	
Two statistics courses <sup>1, 2</sup>		6
Three seminar courses (CVM 8011 or equivalent)		3
Graduate-level courses (at least 12 hours of all coursework at 8000-level or higher) <sup>3</sup>		25
CVM 9000	Research in Veterinary Medicine	20
<b>Total Hours</b>		<b>60</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

<sup>3</sup> Students must have 24 hours of graduate coursework to graduate with a Ph.D. in VMS.

## Doctor of Philosophy in Veterinary and Biomedical Sciences (VMS) - Infectious Diseases Concentration (VIDC) (for students with a bachelor's but no master's degree)

CVM 8303	Advanced Immunology	3
BCH 6013 or BCH 6713	Principles of Biochemistry Molecular Biology	3
Two statistics courses <sup>1, 2</sup>		6
Three seminar courses (CVM 8011 or equivalent) <sup>1</sup>		3
Graduate-level courses (at least 12 hours of all coursework must be at 8000 level or higher)		9
CVM 9000	Research in Veterinary Medicine	20
Additional graduate-level coursework and/or CVM 9000 credits		46
<b>Total Hours</b>		<b>90</b>

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee.

## Doctor of Philosophy in Veterinary and Biomedical Sciences (VMS) - Population Medicine concentration (POPM) (for students with a master's degree)

CVM 8333	Food Safety and Security in Public Health	3
CVM 8513	Applied Veterinary Epidemiology	3
CVM 8503	Epidemiology/Biostatistics	3
ST 8114	Statistical Methods <sup>1,2</sup>	4
Three seminar courses (CVM 8011, CVM 8091, or equivalent) <sup>1</sup>		
Additional graduate-level courses (at least 12 hours of all coursework must be at 8000-level or higher) or additional 9000-level credit		24
CVM 9000	Research in Veterinary Medicine	20
Total Hours		60

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee. Graduate-level statistics that have counted toward a previous degree can satisfy this policy, but will not be calculated toward the Ph.D. coursework hours.

An examination (oral and/or written) which covers both the major and supportive fields and includes defense of the dissertation is required. Students must present an open seminar of the dissertation research just prior to examinations. The student must adhere to the University and College regulations regarding his/her graduate program.

## Doctor of Philosophy in Veterinary and Biomedical Sciences (VMS) - Population Medicine concentration (POPM) (for students with a bachelor's but no master's degree)

CVM 8333	Food Safety and Security in Public Health	3
CVM 8513	Applied Veterinary Epidemiology	3
CVM 8503	Epidemiology/Biostatistics	3
ST 8114	Statistical Methods <sup>1,2</sup>	4
Three seminar courses (CVM 8011, CVM 8091, or equivalent) <sup>1</sup>		
Additional graduate-level courses (at least 12 hours of all coursework must be at 8000-level or higher) or additional 9000-level credit <sup>3</sup>		54
CVM 9000	Research in Veterinary Medicine	20
Total Hours		90

<sup>1</sup> Equivalency of seminars and coursework is determined by the student's graduate committee.

<sup>2</sup> Previous graduate-level statistics courses can satisfy this requirement with approval of the student's graduate committee. Graduate-level statistics that have counted toward a previous degree can satisfy this policy, but will not be calculated toward the Ph.D. coursework hours.

<sup>3</sup> Students must have 24 hours of graduate-level coursework to graduate with a PhD in VMS.

An examination (oral and/or written) which covers both the major and supportive fields and includes defense of the dissertation is required. Students must present an open seminar of the dissertation research just prior to examinations. The student must adhere to the University and College regulations regarding his/her graduate program.