

## Faculty of Agricultural and Food Sciences Department of Entomology

Course Title & Number:	Veterinary and Wildlife Entomology (ENTM3160)		
Number of Credit Hours:	3 credit hours		
Classroom Location:	<b>Webex through UM Learn course page</b> Monday, Wednesday, Friday. 8:30am – 9:20am		
Pre-requisites:	There are no pre-requisites, but the course is recommended for students in years 2-4.		
Course Webpage:	Accessible through UM Learn <u>www.umanitoba.ca/umlearn</u>		
Instructor(s) Name:	Dr. Kateryn Rochon		
Office Location:	Online (Webex or MS Teams)		
Office Hours or Availability:	The best way to make sure you catch me is to schedule an appointment. To do this, you can email me (address below), or talk to me before/after class. <i>I will NOT be available on Tu/Th 10:00am-1:30pm</i> .		
Email:	kateryn.rochon@umanitoba.ca		
	According to University policy, electronic communication for instructional purposes must come from your university email account.		
Contact:	The best way to get in touch with me outside of class is by email. I strongly recommend you add "ENTM3160" in the subject heading. I will do my best to return emails within 48h.		

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## **Course Description**

(From the University of Manitoba Undergraduate Calendar) An introduction to the insects and their relatives that affect domestic animals, pets and wildlife. Special consideration is given to life histories, insect/host interaction, evolutionary relationships, impact on host vertebrates and pest management.

## **Course Objectives**

- Recognize all major groups of veterinary pests and identify specific pests of veterinary importance.
- Understand the biology, host relationships and impacts of arthropods affecting domestic animals and wildlife.
- Compare and contrast the life histories and strategies used by vector and pest species of veterinary importance.
- Discuss the principles of epizootiology of vector-borne diseases and explain the reasons underlying arthropod-borne disease outbreaks.

## **General Information**

This course syllabus is your Course Roadmap: it will help you plan for this course throughout the semester and describes what is expected from you. You can find a PDF copy of this syllabus on the course webpage in UM Learn (go to <u>http://umanitoba.ca/umlearn</u> and use your UMnetID to login). Any additional information will be posted on the course webpage on UM Learn.

### The Voluntary Withdrawal date for this course is: March 31, 2021.

## **Class Communication**

The University requires all students to activate an official University email account. Please note that all communication between myself and you as a student must comply with the electronic communication with student policy. You are required to obtain and use your U of M email account for all communication between yourself and the university. (<u>http://umanitoba.ca/admin/governance/governing\_documents/community/electronic\_communica-</u> ation\_with\_students\_policy.html).

## Textbook, Readings, Materials

Recommended Textbook: G. Mullen and L. Durden. 2019. Medical and Veterinary Entomology. Academic Press.

*The textbook is available as an ebook through UM Libraries.* You can <u>read</u> the book online anytime, from your computer or other compatible device, by visiting the UM Libraries website. You can <u>download the book for a 3-day loan period</u>, and <u>you can renew as many times as you like</u>. You can download any chapter of the book as a PDF, BUT you are restricted to downloading only up to 159 pages.

I have placed a link to the ebook on the course page on UM Learn. If you wish to access the book from an off-campus location, you will need to authenticate yourself using your UMnetID and password. You will need third-party software (Adobe Digital Editions and an Adobe ID) to read the book once you download it. Instructions are provided when you download the book.

### Supplementary readings will be supplied in class or posted on the course page on UM Learn.

## **Course Technology**

### **UM Learn**

To access UM Learn, go to <u>http://umanitoba.ca/umlearn</u> and login using your UMnetID.

All course materials and announcements will be available through the course UM Learn page.

### **Respondus Lockdown Browser and Monitor**

Exams may be administered with online monitoring using Respondus Lockdown Browser + Monitor to maintain the highest level of academic integrity for all students in the course. *Note: Respondus LockDown Browser will not work on a Chromebook OS.* 

See UM Learn course page for instructions and details.

### Policies on Use of Recording Devices in the Classroom (including online)

The instructor(s) and/or the University hold copyright over the course materials, presentations and lectures that form part of this course. *No audio or video recording of lectures or presentations is allowed, openly or surreptitiously, in whole or in part, without permission of Dr. Kateryn Rochon.* Course materials (both paper and digital) are for the student's private study and research, and are not to be reproduced, distributed, or posted online, or uploaded anywhere without permission. If you have a disability and require audio or video recordings, or materials in alternative formats, please make arrangements through Student Accessibility Services (see page 9).

Sharing of notes and other materials, such as assignment and exam questions that were provided by the instructor is prohibited, unless otherwise stated. This means that you are not allowed to upload the instructor's intellectual property to a note-sharing or tutoring website without explicit permission.

## **Course Outline**

- Course introduction: policies, UM Learn, etc.; effects of arthropods on animal health.
- What are we talking about, exactly? Insect morphology, physiology, growth and development.
- Insect classification: orders and key groups of veterinary importance.
- They aren't just pests! Importance of insects for animals, roles in the ecosystem (food, decomposers, etc.)
- Insects as parasites: adaptations to the parasitic lifestyle, host-parasite interactions, host location, mouthparts and nutrition.
- Bloodfeeding: detoxification, water regulation, insect saliva and host immune response.
- Epizootiology and vector ecology: pathogen transmission, vector capacity
- Insects as vectors: parasitic diseases, infectious diseases, and evolution of virulence hypotheses.
- Arthropods of veterinary importance:
  - Minor groups: Lepidoptera, Coleoptera, Hemiptera
  - Psocodea (Phthiraptera): classification and biology, lice of domestic animals and control, lice of wildlife.
  - Diptera: classification and biology, myiasis, surveillance and control.
    - Nematocera Culicomorpha: Simuliidae, Ceratopogonidae, Culicidae.
      Psychodomorpha: Psychodidae.
    - Brachycera Tabanomorpha: Tabanidae, Rhagionidae.
      - Stratiomyomorpha: Stratiomyidae.

Muscomorpha: Muscidae, Faniidae, Oestridae, Sarcophagidae,

Calliphoridae, Glossinidae, Hippoboscidae.

- Siphonaptera: biology and control.
- Ixodida: ticks (Argasidae and Ixodidae)

## **Course Schedule**

Tentative schedule provided as a guideline. I try to stick to it, but I've never succeeded so far...

Lecture	Date	Day	Торіс		
1	18-Jan	Mon	Syllabus and course overview		
2	20-Jan	Wed	Morphology and development		
3	22-Jan	Fri	Morphology and development		
4	25-Jan	Mon	Orders overview		
5	27-Jan	Wed	Roles in the ecosystem		
6	29-Jan	Fri	Adaptations		
7	01-Feb	Mon	Mouthparts [Academic integrity quiz due]		
8	03-Feb	Wed	Blood feeding		
9	05-Feb	Fri	Blood feeding		
10	08-Feb	Mon	Epidemiology of vector-borne pathogens		
11	10-Feb	Wed	Vector competence [Poster topic due]		
12	12-Feb	Fri	Term Exam #1 (15%) lectures 2-11		
	15-19 Feb		Midterm Break (no lectures)		
13	22-Feb	Mon	Minor orders		
14	24-Feb	Wed	Coleoptera		
15	26-Feb	Fri	Psocodea (Phthiraptera)		
16	01-Mar	Mon	Psocodea (Phthiraptera)		
17	03-Mar	Wed	Diptera overview		
18	05-Mar	Fri	Psychodidae		
19	08-Mar	Mon	Ceratopogonidae		
20	10-Mar	Wed	Simuliidae		
21	12-Mar	Fri	Culicidae		
22	15-Mar	Mon	Culicidae		
23	17-Mar	Wed	Culicidae		
24	19-Mar	Wed	Term Exam #2 (20%) lectures 13-23		
25	22-Mar	Mon	Tabanidae		
26	19-Mar	Fri	Tabanidae		
27	26-Mar	Fri	Muscidae [Poster assignment due]		
28	29-Mar	Mon	Muscidae		
29	31-Mar	Wed	Glossinidae		
	02-Apr	Fri	Good Friday (no lecture)		
30	05-Apr	Mon	Calliphoridae		
31	07-Apr	Wed	Sarcophagidae		
32	09-Apr	Fri	Oestridae		
33	12-Apr	Mon	Hippoboscidae		
34	14-Apr	Wed	Siphonaptera		
35	16-Apr	Fri	Ixodida [PeerWise assignment due]		

Examination Schedule	Date	Percentage of Final Grade
Lecture Exams (65%):		Of Final Grade
Term Exam #1:	Friday, February 12, 2021	15%
Term Exam #2:	Friday, March 19, 2021	20%
Final Exam:	TBA (April 19–May 1)	30%
Assignments (35%):		
Poster	Friday, March 26, 2021	20%
PeerWise	Friday, April 16, 2021	15%
Total		100%

## **Course Evaluation Methods**

### \*\*\* You must complete the "Academic integrity quiz" on UM Learn to access your first exam \*\*\*

My goal is to hand exams back to you one week(ish) after the examination. Written assignments will take me longer to grade, probably about two to three weeks.

### Any plagiarized assignments will receive a grade of zero.

Letter Grade	Percentage out of 100	Grade Point Range	Final Grade Point
A+	≥92	4.25-4.5	4.5
А	85-91	3.75-4.24	4.0
B+	78-84	3.25-3.74	3.5
В	72-77	2.75-3.24	3.0
C+	66-71	2.25-2.74	2.5
С	60-65	2.0-2.24	2.0
D	50-59	<2.0	1.0
F	<50	0	0.0

### Grading

### **Missed Exam Policy**

**There are no "make-up" exams.** If you miss a term exam, the weight of the exam (how much it is worth toward your final grade) will be added to your final exam. For example, if you miss the second lecture midterm (worth 20%), then your final exam will be worth 50% instead of 30%. It is your responsibility to be present during scheduled examinations. If you are absent (i.e., you miss your exam), you will need to provide justification.

The exam schedule is provided to you so you can plan ahead. This includes checking for scheduling conflicts. If you know ahead of time that you will not be able to write an exam at the scheduled time, let me know right away. If you come to me early on, I will try to accommodate your needs.

## Assignment Extension and Late Submission Policy

You must complete and submit all items for which a mark is allocated, including assignments, to get a final grade in the course. Late assignments will incur a penalty of one mark per day late (i.e., if you achieve a mark of 17/20 and the essay was submitted 2 days late, the grade will be 15/20). If unforeseen catastrophic events occur and you require an extension, please contact me with documentation to support the extenuating circumstances under which you are/were not able to meet the deadline. It's likely assignment due dates and exam dates for all your courses will all fall in the same week, so you should plan accordingly. Unexcused missed assignments will be given a grade of zero if they are not handed in by the end of classes (April 16, 2021).

A missed *and excused* assignment can either: 1) be completed and receive the late assignment penalty described above, or 2) a new due date can be established with the instructor.

## **Policies Related to Student Discipline**

### Your Rights and Responsibilities

As a student at the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

# The Academic Calendar (<u>http://umanitoba.ca/student/records/academiccalendar.html</u>) is one important source of information. View the sections **University Policies and Procedures** and **General Academic Regulations**.

While all of the information contained in these two sections is important, the following information is highlighted.

<u>If you have questions about your grades</u>, talk to your instructor. There is a process for term work and final grade appeals. Note that you have the right to access your final examination scripts. See the Registrar's Office website for more information including appeal deadline dates and the appeal form <u>http://umanitoba.ca/registrar</u>.

### Academic Dishonesty: Plagiarism, Cheating and Examination Impersonation

Each student in this course is expected to compete their coursework and programs of study with integrity by making a commitment to the six fundamental values of honesty, trust, fairness, respect, responsibility, and courage. <u>http://umanitoba.ca/student-supports/academic-supports/academic-supports/academic-integrity</u>

Academic integrity looks like referencing the work of others that you have used and completing your assignments independently unless otherwise specified. Plagiarism, duplicate submission, cheating on quizzes, tests, and exams, inappropriate collaboration, academic fraud, and personation are in violation of the Student Discipline Bylaw and will lead to the serious <u>disciplinary action</u>. Visit the <u>Academic Calendar</u>, <u>Student Advocacy</u>, and <u>Academic Integrity</u> web pages for more information and support.

## Note: cell phones, smart watches, MP3 units or electronic translators are explicitly listed as unauthorized materials, and must not be present during tests or examinations.

Penalties that may apply range from a grade of zero for the assignment or examination, failure in the course, to expulsion from the University. The Student Discipline By-Law may be accessed at: <a href="http://umanitoba.ca/admin/governance/governing\_documents/students/student\_s

### Policy on Respectful Work and Learning Environment

http://umanitoba.ca/admin/governance/governing\_documents/community/230.html

### **Violent or Threatening Behaviour**

http://umanitoba.ca/admin/governance/governing\_documents/community/669.html

If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Assault** policy may be found at: <a href="http://umanitoba.ca/admin/governance/governing\_documents/community/230.html">http://umanitoba.ca/admin/governance/governing\_documents/community/230.html</a> More information and resources can be found by reviewing the Sexual Assault site <a href="http://umanitoba.ca/student/sexual-assault/">http://umanitoba.ca/student/sexual-assault/</a>

### **Policy on Intellectual Property**

https://umanitoba.ca/admin/governance/governing\_documents/community/235.html

For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective faculty/college/school web site <a href="http://www.http://wwww.http://www.http://www.http://www.http://www.http://www.http://www.http://www.http://www.http://www.http://wwww.http://wwww.http://www.http://www.http://wwww.http://wwww.http://wwww.http://www.http://wwwww

Contact an **Academic Advisor** within our faculty/college or school for questions about your academic program and regulations <u>http://umanitoba.ca/academic-advisors/</u>

## **Student Services**

The following information compiled from the Academic Learning Centre may be helpful for your students who are struggling with content or writing papers in your course.

### Writing and Learning Support

The Academic Learning Centre (ALC) offers writing and learning supports to help you throughout your academic program. These supports are offered online during the Covid-19 pandemic.

Make an appointment with an ALC writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. The ALC also has an English as an Additional Language (EAL) specialist available to work with students on improving their English-language academic writing skills.

Consult an ALC learning specialist or attend an academic skills workshop to improve your time management, learning strategies and test-taking strategies. Get support in select courses by making an appointment with an ALC content tutor.

In addition to one-to-one and group sessions, you can also find writing and study tip sheets and videos on the ALC website.

<u>Academic Learning Centre services are free for U of M students.</u> For more information, please visit the Academic Learning Centre website at: <u>http://umanitoba.ca/student/academiclearning/</u>

Contact the Academic Learning Centre by calling 204-480-1481 or emailing <u>academic learning@umanitoba.ca</u>.

### **University of Manitoba Libraries (UML)**

Research begins at <u>UM Libraries</u>. <u>Learn at the Libraries</u> is a great place to start, with information for students on academic writing, how to search the library, evaluating resources, and writing citations. As the primary contact for all research needs, your <u>liaison librarian</u> can play a vital role when completing academic papers and assignments. Liaisons can answer questions about locating appropriate resources or managing citations, and will address any other concerns you may have regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you online. When working remotely, students can also receive help online through <u>Ask Us!</u> chat. For further detail about the libraries' services and collections, <u>visit the Libraries' web site</u>. Regularly check our <u>COVID-19 Update</u> page for available library services and access to resources for Winter 2021.

### **Student Accessibility Services**

If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation. Students with temporary disabilities such as sprains and breaks are also eligible to use our services. More information here: <a href="http://umanitoba.ca/student/saa/accessibility/sea

### **Student Advocacy**

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.

http://umanitoba.ca/student/advocacy/

520 University Centre 204 474 7423 student\_advocacy@umanitoba.ca

### **Student Mental Health and Wellness**

### For 24/7 mental health support, contact the Mobile Crisis Service at 204-940-1781.

### **Student Counselling Centre**

Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling. Student Counselling Centre:

http://umanitoba.ca/student/counselling/index.html

474 University Centre or S207 Medical Services 204-474-8592

### **Student Support Case Management**

Contact the Student Support Case Management team if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team.

http://umanitoba.ca/student/case-manager/index.html

520 University Centre 204-474-7423 (Student Support Intake Assistant)

### Sexual Violence Resource Centre

Contact SVRC if you have experienced sexual violence or are seeking information about how to help somebody else. SVRC provides inclusive, survivor-centred, trauma-informed services, such as consultation, referrals, safety planning, and a range of on-site supports, including counselling by Klinic.

Sexual Violence Resource Centre https://umanitoba.ca/student-supports/sexual-violence-support-and-education svrc@umanitoba.ca 537 UMSU University Centre

(204) 474-6562 (Sexual Violence Intake and Triage Specialist)

### **University Health Service**

Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation.

University Health Service <a href="http://umanitoba.ca/student/health/">http://umanitoba.ca/student/health/</a>

104 University Centre, Fort Garry Campus

204-474-8411 (Business hours or after hours/urgent calls)

### **Health and Wellness**

Contact our Health and Wellness Educator if you are seeking information on health topics, including physical and mental health concerns, alcohol and substance use harms, or sexual violence. You can also access peer support from a *Healthy U* peer health educator.

Health and Wellness Educator

https://umanitoba.ca/student/health-wellness/welcome-about.html

469 UMSU University Centre

britt.harvey@umanitoba.ca (204) 295-9032

### Live Well @ UofM

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site:

http://umanitoba.ca/student/livewell/index.html