



# UM | Faculty of Agricultural and Food Sciences

## Department of Entomology

### Course Title: World of Bugs

### Course Number: ENTM 1000

Academic Session: Winter 2024

Credit Hours: 3

#### Location, Meeting Days and Class Hours:

Room 130, Agriculture Building

Monday/Wednesday/Friday 9:30 – 10:20 AM

#### Calendar Description:

A survey of insect biology and life styles with emphasis on insect diversity and human-insect interactions.

#### Instructor Information:

**\*Mr. Jordan Bannerman**, 206 Animal Science/Entomology Building (Phone 204 480-1021)

E-mail: [Jordan.Bannerman@umanitoba.ca](mailto:Jordan.Bannerman@umanitoba.ca)

Office hours: 10:30-12:30 Monday and Wednesday, or email for appointment

**\*Contact Jordan for general course inquiries. Please include "ENTM 1000" in email subject.**

**Dr. Kateryn Rochon**, 215A Animal Science/Entomology Building (Phone 204 474-8640)

E-mail: [Kateryn.Rochon@umanitoba.ca](mailto:Kateryn.Rochon@umanitoba.ca)

Office hours: Email for appointment

**Dr. Kyle Bobiwash**, 212A Animal Science/Entomology Building (Phone 204 474-6423)

E-mail: [Kyle.Bobiwash@umanitoba.ca](mailto:Kyle.Bobiwash@umanitoba.ca)

Office hours: Email for appointment

**Dr. Alejandro Costamagna**, 217A Animal Science/Entomology Building (Phone 204 474-9007)

E-mail: [Ale.Costamagna@umanitoba.ca](mailto:Ale.Costamagna@umanitoba.ca)

Office hours: Email for appointment

**Dr. Jason Gibbs**, 213A Animal Science/Entomology Building (Phone 204 474-7485)

E-mail: [Jason.Gibbs@umanitoba.ca](mailto:Jason.Gibbs@umanitoba.ca)

Office hours: Email for appointment

**Dr. Rob Currie**, 218A Animal Science/Entomology Building (Phone 204 474-6022)

E-mail: [Rob.Currie@umanitoba.ca](mailto:Rob.Currie@umanitoba.ca)

Office hours: Email for appointment

**Dr. Neil Holiday**, 216A Animal Science/Entomology Building (Phone 204 474-8365)

Email: [Neil.Holliday@umanitoba.ca](mailto:Neil.Holliday@umanitoba.ca)

Office hours: Email for appointment

**Dr. Terry Galloway**, 209 Animal Science/Entomology Building

E-mail: [Terry.Galloway@umanitoba.ca](mailto:Terry.Galloway@umanitoba.ca)

Office hours: Email for appointment

**Dr. Pat MacKay**, 209 Animal Science/Entomology Building

E-mail: [Patricia.Mackay@umanitoba.ca](mailto:Patricia.Mackay@umanitoba.ca)

Office hours: Email for appointment

**Optional course texts:**

Gullen, P.J. and Cranston, P.S. 2014. *The Insects: An Outline in Entomology*. 5th ed. Blackwell Science. Oxford. 595 pp.

Whitfield, J.B. and Purcell, A.H. 2013. *Daly and Doyen's Introduction to Insect Biology and Biodiversity* 3<sup>rd</sup> ed. Oxford University Press. New York. 734 pp.

Berenbaum, M.R. 1995. *Bugs in the System: Insects and their Impact on Human Affairs*. Addison Wesley. Reading (MA).

Marshall, S.A. 2017. *Insects: Their Natural History and Diversity*. Firefly Books. Richmond Hill, ON. 736 pp.

**Examinations and Grades:**

Your grade in this course is determined by the following three non-cumulative tests.

<b>Examination</b>	<b>Date</b>	<b>Percentage</b>
Test 1	Monday, 5 Feb, 2024	33%
Test 2	Monday, 11 March, 2024	33%
Test 3*	Scheduled by University during exam period, treated as a final exam	33%

Students are required to write all tests on dates as scheduled. If one of the first two tests is missed due to an extenuating circumstance (See: [temporary student absence form](#) and [policy](#)), or with prior written approval from the course instructor, the marks allocated to it will re-allocated to subsequent tests. All University policies associated with course final exams will apply to test 3.

**Important Dates:**

First day of course ..... January 8, 2024  
Voluntary withdrawal date ..... March 20, 2024  
Final day of course ..... April 10, 2024  
Exam period ..... April 12 – April 26, 2024

**Letter Grade Equivalency:**

A+ = >90%; A=80-89%; B+ =75-79%; B=70-74%; C+=65-69%; C=60-64%; D=50-59%; F=<50%.

**Academic Integrity**

All forms of cheating in examinations are subject to serious [academic discipline](#). Cheating on examinations or tests may take the form of copying from another student or using unauthorized materials during an exam. Academic misconduct on exams can also include impersonation, duplicate submission, and inappropriate collaboration. A student found guilty of contributing to cheating in examinations is also subject to serious academic discipline. False declarations on the temporary student absence form are also considered a breach of academic integrity and may result in discipline. Students should acquaint themselves with the University's academic integrity policies at <http://umanitoba.ca/student-supports/academic-supports/academic-integrity>

Winter 2024 schedule:

Lecture	Week	Date	Day	Lecturer	Topic
1	1	Jan 8	Mon	JB / All	Outline, introductions, overview
2	1	Jan 10	Wed	KR	What makes an insect an insect (external anatomy)
3	1	Jan 12	Fri	KR	What's in a bug? (internal anatomy)
4	2	Jan 15	Mon	JB	Why insects drive the world - part I
5	2	Jan 17	Wed	JB	Why insects drive the world - part II
6	2	Jan 19	Fri	JG	Fantastic bugs and where to find them
7	3	Jan 22	Mon	AC	They really get around
8	3	Jan 24	Wed	AC	Mimicry
9	3	Jan 26	Fri	JG	Impacts of molecular data
10	4	Jan 29	Mon	KR	Six-legged sex
11	4	Jan 31	Wed	KR	The Middlemen: vector ecology
12	4	Feb 2	Fri	KR	Tick... tick... ticks!
	5	Feb 5	Mon	All	<b>Midterm Exam 1</b>
13	5	Feb 7	Wed	TDG	For the love of lice
14	5	Feb 9	Fri	JG	World of pollination
15	6	Feb 12	Mon	RWC	Bees gone bad: Killer bees in the Americas
16	6	Feb 14	Wed	JG	Fact and fiction of social wasps
17	6	Feb 16	Fri	JG	Dark side of slavery and social parasitism in insects
	7	Feb 19	Mon	No Lecture	Mid Term Break - Louis Riel Day
	7	Feb 21	Wed	No Lecture	Mid Term Break
	7	Feb 23	Fri	No Lecture	Mid Term Break
18	8	Feb 26	Mon	JB	Aliens on Earth (Parasitoids)
19	8	Feb 28	Wed	JB	What's in the water?
20	8	Mar 1	Fri	KB	Insect plant interactions/Insect herbivore co-evolution
21	9	Mar 4	Mon	NJH	Insect threats to our shady city
22	9	Mar 6	Wed	NJH	A year in the life of a ground beetle
23	9	Mar 8	Fri	NJH	Chemical weaponry in beetles
	10	Mar 11	Mon	All	<b>Midterm Exam 2</b>
24	10	Mar 13	Wed	AC	Ants as farmers
25	10	Mar 15	Fri	AC	The name's Beetle. Lady Beetle
26	11	Mar 18	Mon	AC	Insects that threaten our food supply
27	11	Mar 20	Wed	AC	Where are they coming from? (landscape ecology)
28	11	Mar 22	Fri	KB	Insect Invaders
29	12	Mar 25	Mon	KB	Chinks in the chitin: Preserving insects and the web of life
30	12	Mar 27	Wed	KB	Is it getting hot in here? (Insects and Climate Change)
	12	Mar 29	Fri	No Lecture	Good Friday
31	13	Apr 1	Mon	PAM	Aphid life histories: complicated, short, brutal
32	13	Apr 3	Wed	TDG	Insects in the courtroom
33	13	Apr 5	Fri	KR	Insects in art and culture
34	14	Apr 8	Mon	KR	Exoskeletons in your closet
35	14	Apr 10	Wed	JB	Insects for fun and profit; overview of program