

**An Introduction to Forensic Entomology (ENT1020)  
Spring 2019, 3 credits**

**LECTURE:**

M/W/F 1:30-2:20PM — Kaufert Laboratory 302, St. Paul Campus

Active discussion will be directly integrated into each lecture. Discussions will involve both class-level participation and small group work and will make use of a variety of activities and discussion styles.

**INSTRUCTOR:**

Dr. Robin Thomson

Office: Hodson Hall 304, St. Paul Campus

Mailbox: Hodson Hall 219

Office phone: (612) 625-2548

E-mail: [thom1514@umn.edu](mailto:thom1514@umn.edu)

Office hours: by arrangement

**CO-INSTRUCTOR:**

Correy Hildebrand

Office: Hodson Hall 311, St. Paul Campus

Mailbox: Hodson Hall 219

Office phone: (612) 625-2548

E-mail: [dukes021@umn.edu](mailto:dukes021@umn.edu)

Office hours: by arrangement

**COURSE PREREQUISITE:**

None

**COURSE DESCRIPTION:**

What can maggots and beetles collected at a crime scene tell investigators about the body? Often, insect evidence collected at the scene of a crime can help experts make a variety of conclusions, such as time of death and whether or not the body has been moved from the original crime scene. In this seminar, students will explore how insect evidence can be used in various ways in the field of forensic science. This class will discuss the scientific approaches and techniques involved in forensic entomological analysis. Topics will include, but are not limited to, the different insects found in decomposing bodies, how insect development time can be affected by factors like the weather or body placement, and how insect evidence can be useful to both crime scene investigators and medical examiners.

This course is designed to provide students with a basic understanding of the interaction between the discipline of entomology and forensic science (the application of science during criminal investigation). Students will be taught the basic entomology concepts necessary to understand forensic entomology, using a blend of lecture, discussion, and active classroom work in small groups. Guest speakers will include local forensic experts and medical examiners.

**COURSE GOALS:**

Students will learn to identify and discuss aspects of a decomposing body and the surrounding environment that are relevant to forensic entomology and draw conclusions about preceding actions that led to the situation. They will also learn to communicate effectively at a college level by working in small groups throughout the semester and for a final Mock Crime Scene Assessment.

**An Introduction to Forensic Entomology (ENT1020)  
Spring 2019, 3 credits**

**STUDENT WORKLOAD EXPECTATIONS:**

In accordance with the U of MN Administrative Policy on Expected Student Academic Work per Credit (<https://policy.umn.edu/education/studentwork>), “one credit represents, for the average University undergraduate student, three hours of academic work per week.”

This is a three credit course that will meet for 15 weeks, therefore each semester credit carries an expectation of 45 hours of instructor-interaction and an additional 90 hours of study and work outside class throughout the semester. We will meet face to face for three, 50-minute sessions per week during the semester. Each person is expected to invest an average of six hours per week outside of class studying the material and preparing written materials for submission.

**GRADES:**

Grading scale: A-F only. Grades will be assigned in terms of a percentage of possible points according to the following standards:

	B+ 87-89.99%	C+ 77-79.99%	D+ 67-69.99%
A 93% and above	B 83-86.99%	C 73-76.99%	D 63-66.99%
A- 90-92.99%	B- 80-82.99%	C- 70-72.99%	F < 63%

As mandated by University Policy, the instructor will issue formal mid-term alerts to all students earning a D or lower (< 67%) by the end of week 7.

Incomplete ('I') coursework is a major inconvenience for students and instructors. It is expected that you do everything in your power to avoid this situation. Legitimate excuses include verified illnesses and family emergencies (see Absences and Late Work section below). No incompletes will be given unless you have a prior written and signed agreement with the instructor. If the conditions of the agreement are not met on time, the final grade will be based on the actual points obtained when final grades are due. An 'I' grade will only be given when the vast majority of the course has been completed.

***Grade Components***

Grades will be given for individual assignments, quizzes, exams, and activities as follows:

*Weekly Assignments* will be used to help prepare, structure, and feed directly into classroom discussion. Assignments will involve a mixture of individual work and small group work. Due dates and detailed instructions for each assignment will be posted on the Canvas site.

*15 assignments x 10 points = 150 points*

*Quizzes*, presented at random intervals, will act as checks to ensure students understand key concepts introduced in required reading assignments and in class.

*6 quizzes x 5 points - lowest quiz score = 25 points*

*Mock crime scenes* will take place at the end of the semester. Small groups will each be assigned a different crime scene to assess; students will be asked to identify different components of the crime scene and explain how they relate to different aspects of forensic entomology. Each group will then make a classroom presentation discussing their assessment. Further details and a grading rubrik will be provided later in the semester.

**An Introduction to Forensic Entomology (ENT1020)**  
**Spring 2019, 3 credits**

*50 points*

Exams will be administered during class time. There will be 1 midterm and 1 final exam.

*2 exams x 100 points = 200 points*

*Total: 425 points*

**Extra Credit**

There will be no extra credit in this course. Extra work submitted in order to raise a grade will not be accepted.

**COURSE SCHEDULE:**

<b>Date</b>	<b>Topic</b>
WEEK 1	Course Expectations, Intro to Forensic Entomology
WEEK 2	Urban/Stored Product Forensic Entomology Medicolegal Forensic Entomology
WEEK 3	General Entomology (Biology & Taxonomy), Insects of Forensic Importance
WEEK 4	Collection of Entomological Evidence, Laboratory Rearing of Forensic Insects
WEEK 5	The Role of Aquatic Insects in Forensic Investigations
WEEK 6	Chemical Attraction, Biology of the Maggot Mass, Temperature Tolerances
WEEK 7	Postmortem Decomposition, Insect Succession in a Natural Environment
WEEK 8	Factor that Influence Insect Succession on Carrion
WEEK 9	Estimating Postmortem Interval
WEEK 10	Insect Development and Forensic Entomology
WEEK 11	Soil Environment
WEEK 12	Entomotoxicology, Medical Entomology, Entomological Alteration of Bloodstain Evidence
WEEK 13	Molecular Methods for Forensic Entomology
WEEK 14	The Forensic Entomologist as Expert Witness
WEEK 15	Case studies, guest speaker ABFE Certified Forensic Entomologist Val Cervenka
WEEK 16	Mock Crime Scene Investigations
FINALS WEEK - Final Exam Administered	

**An Introduction to Forensic Entomology (ENT1020)**  
**Spring 2019, 3 credits**

***Grade Disputes***

If you wish to dispute the grade given for any assignment or exam, you must do so **IN WRITING to the instructor within 48 hours** after the grade has been posted or the assignment returned. You must include a specific rationale for why you think your answer is correct, or why the paper deserves a higher grade. The statement “I think I deserve a better grade” does not constitute a rationale. E-mail is the preferred contact method for submitting a dispute; after sending your rationale, please make an appointment with the instructor to discuss the disputed grade.

***Absences and Late Work***

You must be present to do well in this course and you are expected to attend all class meetings. If you need to miss class for a legitimate reason, contact the instructor prior to missing class or as soon as possible. You are responsible for documenting the legitimacy of any absences.

Legitimate absences include:

- illnesses certified by Boynton Health Service or your family physician
- emergencies caused by a death or serious illness in your immediate family
- participation in intercollegiate athletic events or other official University activities
- subpoenas, jury duty, military service, and religious observances

It is the responsibility of the student to notify the course instructor of such circumstances as far in advance as possible. It is the responsibility of the faculty member to provide reasonable accommodations or opportunities to make up course assignments that have an impact on the course grade. To submit a late assignment without penalty, you must provide documentation of your absence.

***Missed Exams***

Students with a verified illness or family emergency will be allowed to make up missed exams. Students should contact the course instructor before, or as soon as possible after, the exam to make arrangements. Students with conflicts due to a religious observance or a University-sponsored event will be allowed to make up a missed exam provided they make arrangements with the instructor at least 48 hours before the exam.

***Standard University Policies Concerning Exams***

- Students may not leave the exam room during the exam
- Store everything, except exam and pencil, under your seat
- Turn off all cell phones
- No electronic devices (including calculators) or earphones allowed
- Do not sit directly next to another student and do not look at other students' exams

**CLASS EXPECTATIONS:**

***Expectations of students***

- Be an active learner by getting involved with the subject material, talking about it, questioning it. Be curious. Challenge others, in addition to yourself. Your active participation benefits everyone. You are expected to raise questions and initiate discussion where you have difficulties.
- Interact with your instructors and classmates with respect and courtesy. Students who disrupt the educational process because of discourteous, threatening, harassing, or other aggressive behavior will be asked to leave the classroom. To ensure a respectful learning environment, please . . .

**An Introduction to Forensic Entomology (ENT1020)**  
**Spring 2019, 3 credits**

- . . . arrive on time and stay the entire class period; if you must arrive late or leave early, please sit near the door and try to enter or exit quietly.
- . . . minimize extraneous noise in class, e.g. from side conversations or cell phones; please turn off your cell phone, pager, and/or watch alarm before class begins.
- . . . avoid eating meals during class (drinks or light snacks are OK).
- You will be held responsible for all material that is presented in class, whether or not you are present or paying attention. Assessments are based on lecture and discussion content, which will sometimes include materials handed out in class or only shown in class (e.g., video) to supplement the text.
- Read the assigned materials. You will find it much easier to follow lectures and discussions if you come to class prepared.
- Attend and participate actively in discussion sessions. These discussions provide a great opportunity for hands-on learning that augments and extends material presented in lecture.
- I invite your feedback at any time in the course. I would appreciate receiving feedback from you on what is enjoyable and valuable to you, as well as what is challenging or unclear, or what is just plain not working for you.

***You can expect that the instructor will***

- . . . bring a high level of enthusiasm for the subject matter and will try to make the material as relevant to you as possible; bring expertise from research and study to the classroom.
- . . . plan the course, and to update or alter the plan, when necessary, e.g., based on appropriate student feedback, consensus.
- . . . solicit feedback on the course throughout the term and make every reasonable effort to accommodate suggestions into the course and curriculum.
- . . . treat you as adult learners, with all the respect and expectation for initiative that entails.
- . . . deal patiently with students' questions, problems, and need for clarification.
- . . . be available to talk with students. I encourage you to seek me out, not only about class matters, but also about research and advanced study opportunities, related events on campus such as seminars, and anything to do with your academic success.
- . . . complete grading as promptly as possible; it is high priority for me to provide timely grading and feedback, and I appreciate your understanding of the time required to grade and process assignments and exams.
- . . . address any problems that arise in a timely fashion.
- . . . answer student emails within 48 hours, but not between Friday 5PM and Monday 9AM.

**UNIVERSITY POLICIES:**

***Student Conduct Code***

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected to adhere to the Board of Regents Policy: Student Conduct Code. To review the Student Conduct Code, please see: [http://regents.umn.edu/sites/default/files/policies/Student\\_Conduct\\_Code.pdf](http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf).

**An Introduction to Forensic Entomology (ENT1020)  
Spring 2019, 3 credits**

Note that the conduct code specifically addresses **disruptive classroom conduct**, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

***Student Mental Health***

As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating, and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website at <http://www.mentalhealth.umn.edu> or contact Student Counseling Services at 612-624-3323.

***Use of Personal Electronic Devices in the Classroom***

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference: <http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

***Scholastic Dishonesty***

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means **plagiarizing**; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code: [http://regents.umn.edu/sites/default/files/policies/Student\\_Conduct\\_Code.pdf](http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf)) If it is determined that a student has cheated, he or she may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see: <http://policy.umn.edu/Policies/Education/Education/INSTRUCTORRESP.html>.

The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: <http://www1.umn.edu/oscai/integrity/student/index.html>. If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

***Appropriate Student Use of Class Notes and Course Materials***

Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond

**An Introduction to Forensic Entomology (ENT1020)  
Spring 2019, 3 credits**

the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see: <http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

***Grading and Transcripts***

The University utilizes plus and minus grading on a 4.000 cumulative grade point scale. For additional information, please refer to: <http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html>.

***Sexual Harassment***

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: <http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf>.

***Equity, Diversity, Equal Opportunity, and Affirmative Action***

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: [http://regents.umn.edu/sites/default/files/policies/Equity Diversity EO AA.pdf](http://regents.umn.edu/sites/default/files/policies/Equity_Diversity_EO_AA.pdf)

***Disability Accommodations***

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DRC at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations. If you are registered with the DRC and have a current letter requesting reasonable accommodations, please contact your instructor as early in the semester as possible to discuss how the accommodations will be applied in the course. For more information, please see the DRC website: <https://diversity.umn.edu/disability/>.

***Mental Health and Stress Management***

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

**An Introduction to Forensic Entomology (ENT1020)**  
**Spring 2019, 3 credits**

***Academic Freedom and Responsibility***

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.\* Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

\* *Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".*