

Entomology: Course Policies and Syllabus

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- Lecture: T and R, 10:00am – 11:15am John Barry, Room 204
Lab: R 1:00pm – 3:50pm Mendel Hall, Room G14
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Mendel G54; 519-8160; office hours by appointment
- Required texts: (1) Gullan, P.J. and Cranston, P.S. 2010. *The Insects: An Outline of Entomology*, Fourth Edition. Blackwell Publishing, Inc. ISBN#1-4443-3036-6
(2) Milne, L. and Milne, M. 1980. *National Audubon Society Field Guide to North American Insects and Spiders*. Alfred A. Knopf, Inc. ISBN#0-394-50763-0
*Note: Additional readings may be assigned for specific lectures. Hard copies will be handed out in lecture and posted on Blackboard.

Course Description

Welcome to Entomology! An English cleric once asked the noted evolutionary biologist J.B.S. Haldane what could be inferred about the Creator from the works of nature. Haldane is reported to have responded that God has “an inordinate fondness for beetles.”

Insects are indeed the most abundant and diverse group in the animal kingdom. Their remarkable evolutionary success can be attributed to a unique combination of characters that have allowed them to colonize both aquatic and terrestrial habitats. Insects are woven into the fabric of our lives, as they interact with us in both positive and negative ways. For example, they are responsible for pollinating most of the world plants, including crops that are responsible for over 30% of our diet. The dead plant material and dung of the world would pile up if it were not for the work of insects and other invertebrates. However, in addition to ruining a few picnics, insects have large scale negative impacts as vectors for diseases including West Nile Virus and malaria. We will discuss many of these topics this semester as we explore the fascinating world of insects.

Lecture time will primarily cover readings from the textbook, although we will also incorporate critical evaluation of papers from peer-reviewed journals, film clips, and discussions regarding current topics in entomology. The laboratory portion of the course will involve investigating the internal and external anatomy of preserved specimens to learn about functional morphology, ecology and taxonomy. Additionally, you will put together an insect collection that will allow you to learn collection and specimen preparation techniques as well as become familiar with the most commonly encountered local invertebrates. Although we will spend the first few weeks going on field trips in search of insects for your collection, you will be expected to collect insects on your own time as well. Just remember to think small. Keep in mind that most arthropods are little and you should always keep a vial or two in your pocket or daypack for the odd insect you encounter in your Writing Seminar, or on dates, etc. Finally, we will also have lab practicals that will include questions regarding classification, external and internal anatomy, and structure and function.

Students completing the course should: (1) be able to identify locally-found insects using anatomical features; (2) exhibit comprehension of concepts and factual knowledge regarding the ecology of insects; (3) show the ability to synthesize and evaluate primary literature in entomology; and (4) display familiarity with techniques for capturing and preserving insects.

Lecture Attendance and Policies

Attendance in the lecture is *strongly* encouraged; indeed, it is expected. Attendance and participation will be part of the criterion used in the calculation of your overall grade, and I expect everyone to **contribute** to the course by asking questions, participating in discussions, and filling out end-of-class feedback forms. Furthermore, I cannot imagine that you will find it possible to master this material without regular class attendance, especially since lecture coverage will material from other sources. As I am sure you will notice, the lecture powerpoints – which will be posted on Blackboard – will not tell the whole story, and they should not be considered a substitute for lecture attendance. Since you will have access to the lectures, you should not merely copy the words on the slide; I expect you to focus more on writing down things I say that help to synthesize information into coherent ideas. Regardless of whether you are in class or not, however, *you* are responsible for everything that is discussed in lecture, announced changes in the syllabus, and any handouts distributed in class.

All assignments will be due at the times announced in class or in the syllabus. Late assignments will be penalized 10% of the points available for each 24-hour interval that they are late. Assignments > 1 week late will not be accepted unless you have medical or other valid documented reasons for the delay. The only valid reasons for missing an assignment deadline or an examination are those accepted by the University and published in the Student Handbook (Blue Book). If you know in advance that you will be missing an exam, it is your responsibility to contact the instructor **PRIOR** to the exam to make arrangements for a make-up exam.

I am here to help you not only learn the material covered in class, but also develop skills that will assist you in learning throughout your academic and professional careers. To that end, please feel free to ask us questions inside or outside of class if there is something you don't understand – one of my primary objectives is to provide a supportive community for learning. To facilitate learning, please be respectful of your classmates by adhering to the list below:

- Be prepared for class (at the very least, skim reading before class)
- Do not be late to class (classes will start and end on time)
- Avoid conversations with others during class
- Limit food and beverages to those that can be consumed quietly
- Turn off pagers and cell phones (cell phones going off in class will result in a quiz!)

Laboratory Attendance and Policies

Laboratory attendance is mandatory. It will not be possible to recreate the lab on an individual basis, and the lab component is an integral and essential part of your experience. If there is an unexcused absence from the lab, it will be reflect in your participation grade. Furthermore, you will still be required to turn in all lab exercises. Exceptions will be made only for compelling circumstances, which must be approved by me **PRIOR** to your absence (see above). Although I am here to help, you are adults now and will be treated as such – with freedom comes responsibility, and ultimately you must be responsible for your own education.

The Biology Department policy regarding the use of animals is posted on the Biology Department web site (www.biology.villanova.edu), and is included below. It clearly states that humane treatment and use of live and preserved animals is an integral part of courses in the Biology Department, and this course is no exception. Read the policy below and sign the sheet on the last page indicating that you have done so. If you have a problem with this official Department policy for moral or ethical reasons, you **MUST** see the instructor by the end of the first week of classes so that the instructor may inform you of your options.

Statement on Animal Use in Biology Teaching

(General policy statement of the Department of Biology, Villanova University)

Many people, including students and professional biologists, share a concern for the use to which animals are put in the context of teaching. In this course it will be necessary to carry out one or more exercises that make use of preserved or live animals. Such use of animals in teaching is an integral part of the biology experience and as such has been designed to fit in with the overall aims and goals of the course. For this reason, students generally will not be excused from participating in those laboratories involving the student in the study of living or preserved animals. If you object to these types of exercises, please see the Chair of the Department of Biology immediately to discuss your concerns and be prepared to consider other course options.

You may be required to perform dissections or observations on preserved specimens. These animals have been obtained from reputable supply houses that follow regulated guidelines for the humane sacrifice and preparation of the animals. In some other cases the lab exercise may involve the use of freshly euthanized animals. You need not participate in euthanizing the animals yourself; all such animals have been euthanized in accordance with regulations designed to minimize their suffering. Although some may regard certain animals (such as mammals) as being more “important” or more worthy of protection than others, all animals have intrinsic value and they should be treated accordingly. In this lab we recognize and respect the value of all living things.

Lecture Exams, Lab Practical, and “The Collection”

The lecture portion of your grade will be based primarily on 2 writing assignments (the second based, in part, on revisions of the first paper), 2 in-class lecture exams, and a final (comprised of a third exam and a cumulative portion). Exams will emphasize comprehension of terminology, concepts, and factual material in entomology, as covered in lecture and assigned readings. A variety of question formats may be used – including multiple choice, matching, true/false, and short answer – to test your ability to synthesize and apply this information to novel situations (in other words, situations we have not specifically covered in the class or in the text). I usually hold a Jeopardy-style review session the week of the exam to give you an idea of the types of questions to expect on the exam.

The laboratory portion of your grade will consist primarily of one lab practical and the insect collection. The lab practical will focus on your ability to identify and classify insects based on internal and external anatomical features. The insect collection, which you will start at the beginning of the semester, will be due in its final form just before Thanksgiving. There will also be lab exercises that may include worksheets, and these assignments will be incorporated into your participation. We are also planning a fun trip to the Philadelphia Academy of Natural Sciences at the end of the semester. Details will be forthcoming.

Writing Assignments

This course is “writing enriched”: helping you develop your skills for writing about biology is a major objective. Most of the writing instruction will be associated with three major graded assignments. Goals and expectations for each of these are explained below. **Save this handout!** Your grades will depend to a considerable degree on whether you carefully follow these instructions.

All writing assignments will be due at the times announced in class or in the syllabus. Late assignments will be penalized 10% of the points available for each 24-hour interval that they are late. Assignments > 1 week late will not be accepted unless you have medical or other valid documented reasons for the delay. The only valid reasons for missing an assignment deadline or an examination are those accepted by the University and published in the Student Handbook (Blue Book). If you know in advance that you will be missing an exam, it is your responsibility to contact the instructor PRIOR to the exam to make arrangements for a make-up exam. **All written assignments should be typed/word-processed, 12 pt. font, 1” margins, and double-spaced, with each page numbered.** All papers in the course must be submitted electronically as an email attachment in Microsoft Word (LastNameAssignment.doc). *Note:* I expect you to have run spell -check and carefully proof-read all submitted written material, as you will be evaluated on your ability to communicate clearly (including proper grammar, spelling and punctuation).

There are 3 main objectives to the writing assignments in the course: to help you learn (1) to locate, read, and understand sources from the primary literature in entomology; (2) to construct an essay that **builds an argument** in which you *summarize* and *critically evaluate* the paper(s) you read; and (3) to use effective organization, clear style, and correct spelling, grammar, and citation format. Revising your writing is an essential component of the course and will help you improve in all three areas.

You will have two main writing assignments:

SUMMARY – Each student will write a paper (about 2.5 pages of text, or \approx 750 words) that summarizes a very recent 1^o (primary) research article (published *within the last 6 months*) on any aspect of entomology. The articles should present results of original entomological research; you should be able to look directly at the data on which new conclusions are drawn. I *strongly* recommend that you choose an article that is **empirical** (presents experimental or observational **data**) as opposed to theory or modeling (usually much harder to comprehend). Major articles of this sort (but *not* short communications, notes, or commentaries) from the following journals are ‘automatically’ eligible: *Animal Behaviour*, *Ecology*, *Journal of Animal Ecology*, *Oikos*, *Journal of Insect Behavior*, *Journal of Insect Physiology*, *Tropical Ecology*, *Behavioral Ecology and Sociobiology*, *Biotropica*, *Canadian Journal of Zoology*. Falvey Library receives all of these. **All students are required to email me a PDF of the article you intend to summarize by class time on Tuesday, September 3 so I can sign off on its appropriateness.**

Note that your Summary should **NOT** be about an article from *Behavioral Ecology* (which is **not** the same journal as *BES!*) because that journal provides its **own** synopsis of most articles (“Lay Summary” in online content). Have a look at some of these short summaries for guidance about how to write about other people’s research, both for the **Summary** assignment and for the **Review Essay** (below)...but note that for both assignments, you will need to include longer and more detailed coverage of the patterns in the results than those found in the Lay Summary for *Behavioral Ecology*.

The paper you summarize should present new empirical data, analysis, and conclusions. Your job is to explain the context of the study; the goals authors set out to achieve; the methodological approach they used (in *general*; include only those details that are essential for *our* understanding of the

research); the results the investigators obtained (describe patterns and trends thoroughly enough to give a good sense of **what their data “looked like”**); and the conclusions the authors reached.

Your essay should include your own informative **title** (not just repetition of the source article’s title) and a terminal section with the heading **Literature Cited** where you list the bibliographic information for each source that you cited in your text (and only those).

Regardless of which journal provides the paper you summarize, you must write *your* paper using the general style and *exact* citation format of the journal *Animal Behaviour*.

REVIEW ESSAY – You will research and write a relatively brief review essay, comparable in scope and presentation to a “News & Comment” paper in *Trends in Ecology & Evolution* that summarizes and synthesizes recent primary literature dealing with some topic in **entomology**. The topic for your review should be the **similar** to that of your Summary – since your Review essay will include citation and analysis of **two** closely related *primary* references (articles containing **new data and analysis**) published after 2005 (i.e., from 2006-present). Most importantly, one of your two sources must be the *same* paper you used for your Summary, and the second must be a paper by *different* author(s). An **essential** component of the Review Essay will be how you respond to my editorial feedback from the Summary and incorporate the changes. Much pedagogical literature emphasizes the critical importance of revision in the process of learning how to write, which is why this aspect is central to both the WE and Research course requirements.

Your paper must present a clearly organized, logically sound, and carefully written *argument* that addresses a specific question or problem *using* the information from the literature references; the review may (probably should) contain additional *secondary* references, including Gullan and Cranston (2010) and perhaps also review papers from journals like *Trends in Ecology & Evolution*, *BioScience*, or *American Scientist* to help establish the **context** and **scope** of your argument. You should also include a section that explains *your* critical assessment of the ‘core’ articles you covered. You should briefly address most if not all of the following questions: Was the problem in common to the two papers interesting and worthwhile? Were the methodological approaches appropriate? Was one “better” than the other? How? Why? Were the results in each case conclusive? Are you convinced that the authors’ conclusions are supported by their data? Are these conclusions **important**, in the sense of helping to resolve some **general** problem or issue in entomology? In sum, *were these articles that others working on entomology are likely to cite frequently...or to ignore? Why?* I strongly encourage you to **find the corresponding section in the textbook and cite that as your frame of reference, along with any pertinent review articles you may find, for trying to answer the questions I just listed.**

Overall, your Review Essay should contain the following components: (1) an opening paragraph on general concepts (from Gullan & Cranston) and the overarching themes that unite your two papers; (2) the “meat” of your essay, including a thorough summary of each of your two papers (similar to your Summary assignment); (3) 2-3 paragraphs that compare and contrast the research contained in the two papers; and (4) a concluding paragraph that places the research in the “big picture”, based on the concepts you mentioned in your opening paragraph.

The text of your completed Review Essay should be about 8 pages, or \approx 2400 words, not counting your “Literature Cited” section. Please use the stylistic conventions and citation format of the journal *Animal Behaviour*.

Notes about grading standards for written assignments

I will follow the grading philosophy explained at the end of this handout. **Poorly presented science is poor science.** Some of you have had courses previously that involved major written assignments. You'll know what I'm looking for—but don't hesitate to run ideas or drafts by me (do *not*, however, wait until the day before a paper's due to seek input).

I especially advise those of you who have *not* had courses from me and who may not have had to write critical argumentative essays for other upper-level biology courses to **seek guidance for these written assignments.** Besides me, sources for help about organization, style, and grammar include Pechenik (2007) and the university's Writing Center: don't hesitate to take a complete but rough draft over there for input about overall structure and organization, as well as 'mechanics.' I am available often to give advice about your paper's topic, sources, goals, organization, and format.

Notes about using the Internet for help with papers

The Internet *can* be a valuable source of information and help for writing assignments ... *but it can also provide you with useless trash.* You have an obligation to try to assess whether information from the Web or another electronic source is any good. **In general, I advise you AGAINST relying on Web sites for information to cite in your papers** (except for sites that provide electronic versions of scholarly journal articles). However, you may want to use the Internet to find information that helps you get *started* toward a topic (e.g., by participating in an on-line bulletin board, or by asking questions of a practicing scientist via email).

Grading Breakdown

Lecture (66%):

PDF of article(s) (Tuesday, September 3)	
Summary Paper (Tuesday, September 17):	6 %
Exam #1 (Tuesday, September 24):	15 %
Exam #2 (Tuesday, November 5):	15 %
Review Essay (Tuesday, December 5):	10 %
Final Exam (Exam 3 + cumulative, Thurs, Dec 19):	20 %

Lab and Participation (34%):

Lab Practical (Thursday, October 10):	10 %
Insect Collection (Tuesday, November 26):	16 %
Attendance, participation, lab exercises:	8 %

Final grades will be assigned based on a standard plus/minus scale:

A	(93 - 100 %)	C+	(77 - 79.99 %)
A-	(90 - 92.99 %)	C	(73 - 76.99 %)
B+	(87 - 89.99 %)	C-	(70 - 72.99 %)
B	(83 - 86.99 %)	D	(60 - 69.99 %)
B-	(80 - 82.99 %)	F	(< 60 %)

Academic Integrity

The College of Liberal Arts and Sciences has adopted a standard policy for matters of academic integrity. All students in this course should carefully read the policy and associated explanatory statements. You will find these statements in the *Enchiridion* of the College of Liberal Arts and Sciences and the University *Blue Book*, both of which can be accessed through the web. I expect all students to adhere *strictly* to the College's principles of academic honesty throughout this course, and any student who has knowledge of any violation of the code is expected to bring that violation to the attention of the instructors. I regret to say that I have had to enforce these policies and fail students in courses for violation of these principles of academic (and scientific) integrity. Be sure that you know all of the relevant definitions and policies. This includes taking exams and all aspects of submitting written assignments: **take careful notes** as you review literature sources (including *complete* bibliographic information), **save records** of your work (don't submit a final draft of a paper without keeping some evidence of your early drafts or outlines), acknowledge *all* sources, and use the computers appropriately. Also, the work you do for this course should be only for this course; submitting the same work for multiple classes (without the *explicit* agreement of instructors from **all** courses involved) is a violation of College policies. I will strictly apply College's policies pertaining to all Academic Integrity issues and assess the appropriate penalty at my discretion. **Violation of any element of the Code on any assignment or activity will result in an F for the entire course and initiation of formal disciplinary procedures.** Be sure that you know all of the relevant definitions and policies. If you have any questions regarding these issues, please ask me to clarify my instructions.

Be sure that you understand what constitutes plagiarism, and be careful that the work you do is yours alone. I can only give you all the credit you deserve if I can tell how much of the work is uniquely yours. Obviously, do not attempt to copy—or even to paraphrase nearly verbatim—material directly from any other source. Even if you were to give a reference for a source you cited this way, you still would be falling short of my expectations for the assignment, because the words would not be your own. *Read* your sources, work towards an *understanding* of their content, and then *restate* the essentials **in your own words** ... with appropriate acknowledgment of the source. Try to write so that the reader can reasonably infer where *every* piece of information and *every* idea came from. If an idea is yours, say so using *active* voice and *first* person: "I think that the analysis of Jones (1992) is flawed because..." Where the material instead comes from somewhere else (i.e., something you didn't know before you started researching your topic), you **must** make it clear where you got the information through the use of text citations. Pechenik (2007) provides additional helpful advice about writing so that your sources are acknowledged fully, and so that your writing is clear, simple, and concise. I highly recommend his book!

Academic Accommodations

It is the policy and practice of Villanova University to make reasonable accommodations for students with properly documented disabilities (written notification from the Learning Support Services). If you are eligible to receive an accommodation and would like to request it for this course please discuss it with me and allow a one-week notice before the accommodation would be needed. Otherwise, it is not guaranteed that the accommodation can be arranged on a timely basis.

There is also support on campus for writing through the Writing Center. I will be happy to discuss your papers anytime, but I do not read rough drafts. The Writing Center is a wonderful campus resource, and I suggest you use it if you would like help in how to write effective papers.

The Evaluation of Assignments

Below is an outline of the factors I will take into consideration in assigning your final grade on papers and lab exercises, with a comparable grading scale applied to other assignments. [Adapted from materials distributed in Writing Across the Curriculum seminar, Villanova University, April 1994, directed by D. Anselmi, B. Wall, and D. Zannoni, Trinity College.]

Grade: C

Paper satisfactorily (but minimally) meets expectations of the assignment. It directly addresses a question or issue relevant to the scope of the course, with adequate reliance on appropriate biological literature sources. It presents a logical argument with a clear statement of your central objectives; develops an argument that incorporates accurately reported information from primary literature sources; and reaches a clearly explained conclusion that follows logically from that argument. The argument is developed by an organized sequence of main points and supported by specific details and examples. The text is readable and relatively free of errors in syntax, grammar, spelling, usage, punctuation, and requested format.

Grade: B

Paper fulfills all of the requirements of a “C” paper and, in addition, presents a central argument that is well thought out and shows careful analysis of hypotheses and evidence in the biological literature. The argument demonstrates original and critical thought in synthesis and analysis. Points of interpretation are soundly and thoroughly argued. Supporting evidence is strong and extensive. Text contains few errors.

Grade: A

Paper fulfills all of the requirements of a “B” paper and, in addition, presents an argument that is outstanding in its clarity, logic, rhetorical skillfulness, and originality. It demonstrates that you have a thorough understanding of the paper’s topic and an ability to apply and communicate that understanding through excellent writing.

Grade: D

Paper makes an attempt to address the issue or question posed, but has one or more serious problems: it lacks a central thesis; it fails to develop a consistent, logical, well-organized argument; details are inaccurate or few; the text is difficult to read because of multiple errors.

Grade: F

Paper contains no central question or problem, or it makes no attempt (or a fake attempt) to address a stated question. The paper fails to develop an argument of any sort. The text is filled with errors. The paper shows little or no indication that the author attempted to meet the expectations of the assignment, or to follow directions.

*A paper that contains **any** plagiarized material, that fails to incorporate adequate acknowledgment of all sources, or that otherwise violates the standards of academic integrity established by the University, Department, and instructor **will receive a grade of “F”** — and trigger disciplinary procedures that can result in failure (F) for the **entire** course ... and even expulsion from the University.*

Tentative Course Syllabus (important due dates are highlighted)

Date	Lecture Topic	Reading	Lab Exercise
August 27	Introduction to Entomology	Chapter 1	
August 29	Insect Classification and Systematics	Chapter 7	Equipment; Expectations Field trip: Insects on Land (West Campus)
September 3	Common Families in the Northeastern US PDF for Summary (and Review Essay) due	Appendix	
September 5	Insect Biogeography and Evolution ...plus The Cuticle	Chapter 8; Start of Ch. 2	Field trip: Riverbend Environmental Center
September 10	External Anatomy: Head, Thorax & Abdomen	Chapter 2	
September 12	Ground-dwelling and Aquatic Insects	Chapters 9 & 10	Lab = External Anatomy Possible field trip?: West, Crum, or Ithan Park
September 17	Internal Systems I: Muscles and Respiration Summary due	Chapter 3	
September 19	Internal Systems II: Digestion and Excretion	Chapter 3	* Review Session *
September 24	Exam 1		
September 26	Sensory Systems I	Chapter 4	Field trip: Tyler Arboretum (Media), West or Ithan
October 1	Sensory Systems II Development & Metamorphosis	Chapter 6	
October 3	Hormones...plus Migration & Polymorphisms	Chapter 6	Lab = Internal Anatomy; Review of External Features
October 8	Dr. Vik's Research		
October 10	Lab Practical		<i>Free time to collect</i>
October 14-18	<i>No Class – FALL BREAK</i>		NO LAB
October 22	Sexual Selection	Chapter 5	
October 24	Reproductive Biology	Chapter 5 (3 too)	Insects in water (Ridley Creek State Park)
October 29	Insect Societies: Subsociality and Eusociality	Chapter 12	
October 31	Insect Societies: Evolution of Eusociality	Chapter 12	* Review Session *
November 5	Exam 2		
November 7	***Trip To National Academy of Sciences: Backstage Tour of Entomology Collections***		
November 12	Insects & Plants: Herbivory and Coevolution	Chapter 11	
November 14	Predation	Chapter 13	Work on collections
November 19	Insect Defenses	Chapter 14	
November 21	Parasitism	Chapter 13	Work on collections
November 26	<i>No Class – turn in collections by 2:00pm</i> Collection Due		
November 28	<i>No Class – THANKSGIVING</i>		<i>No Lab – Holiday</i>
December 3	Medical and Forensic Entomology	Chapter 15	
December 5	Pest Management & Extermination Review Essay due	Chapter 16	
December 10	<i>No Class – Friday schedule</i>		
December 12	Course Summary and Evaluation		* Review Session *
December 19	Final (Exam 3 + cumulative)	8:30-11:00am	

VILLANOVA UNIVERSITY
Department of Biology

Animal Use and Integrity Policy Acknowledgments for Entomology (Bio 3525)

Acknowledgment of Animal Use Policy

Please read and sign this form after you have examined the syllabus for Bio 3012. Detach the signed form and return it to your instructors.

I have read the course outline and syllabus for Bio 3012 and understand the Department of Biology **Statement on Animal Use in Biology Teaching**.

Name (printed)

Signature

Date

Acknowledgment of Course Policy on Academic Integrity

I have read the course outline and syllabus for Bio 3012 and understand the instructors' policy regarding **academic integrity** in the context of this course.

Signature

Date

VILLANOVA UNIVERSITY
Department of Biology
Assumption of Risk and Release
Field Trips and Off-Campus Activities

This Release is executed by _____ to Villanova University, Villanova, PA.

As a Villanova student voluntarily enrolled in Entomology (Biology 3525), I understand that I may participate
course name and number
in various field trips in connection with the course throughout the semester (the "Activity").

Knowing the dangers, hazards, and risks of the Activity, and in consideration of being permitted to participate in the Activity, on behalf of myself, my family, heirs, and personal representative(s), I, the undersigned, agree to assume all the risks and responsibilities surrounding my participation in the Activity, the transportation, and in any independent research or activities undertaken as an adjunct thereto, and in advance release, waive, forever discharge, and covenant not to sue Villanova University (including the Department of Biology), its governing board, officers, agents, employees, and any students acting as employees (hereafter called the "Releasees"), from and against any and all liability for any harm, injury, damage, claims, demands, actions, causes of action, costs, and expenses of any nature that I may have or that may hereafter accrue to me, arising out of or related to any loss, damage, or injury, including but not limited to suffering and death, that may be sustained by me or by any property belonging to me, whether caused by the negligence or carelessness of the Releasees, or otherwise, while in, on, upon, or in transit to or from the premises where the Activity, or any adjunct to the Activity, occurs or is being conducted.

I understand and agree that Releasees do not have medical personnel available at the location of the Activity or on the campus. I understand and agree that Releasees are granted permission to authorize emergency medical treatment, if necessary, and that such action by Releasees shall be subject to the terms of this Agreement. I understand and agree that Releasees assume no responsibility for any injury or damage which might arise out of or in connection with such authorized emergency medical treatment.

It is my express intent that this release and hold harmless agreement shall bind the members of my family and spouse, if I am alive, and my estate, family, heirs, administrators, personal representatives, or assigns, if I am deceased, and shall be deemed as a "Release, Waiver, Discharge and Covenant" not to sue the above-named Releasees. I further agree to save and hold harmless, indemnify, and defend Releasees from any claim by me or my family, arising out of my participation in the Activity.

In signing this Release, I acknowledge and represent that I have fully informed myself of the content of the foregoing waiver of liability and hold harmless agreement by reading it before I sign it, and I understand that I sign this document as my own free act and deed; no oral representations, statements, or inducements, apart from the foregoing written statement, have been made. I understand that Villanova University does not require me to participate in the Activity, but I want to do so, despite the possible dangers and risks and despite this Release. I further state that I am at least eighteen (18) years of age and fully competent to sign this Agreement; and that I execute this release for full, adequate, and complete consideration fully intending to be bound by the same. I further state that there are no health-related reasons or problems which preclude or restrict my participation in the Activity, and that I have adequate health insurance necessary to provide for and pay any medical costs that may be attendant as a result of injury to me.

THIS IS A RELEASE OF LEGAL RIGHTS. READ AND BE CERTAIN YOU UNDERSTAND IT BEFORE SIGNING.

IN WITNESS WHEREOF, I have executed this release this _____ day of _____ .

Signature

Witness