



# Bugs and People

## ENY 1001



Summer B 2020

**Instructor:** Dr. Rebecca Baldwin

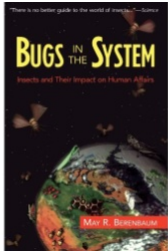
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**Zoom ( Live Discussion 12:30-1:45 MW)**  
**(Remote Learning TR)**

**Zoom Office Hours:** Monday &  
Wednesday 3:00-4:00



**Required Text :**



Berenbaum, May R. 1995. Bugs in the System: insects and their impact on human affairs. Helix Books. ISBN Number 0-201-40824-4 (paperback – cost ~\$16.00, ~\$10 ebook.) *Be sure you have access to the text so you may complete your ungraded study guides.*

**TAs and Peer Leaders –**

- Remy Powell - [remy.powell@ufl.edu](mailto:remy.powell@ufl.edu)
- Jordyn Ranfone - [jordyn.ranfone@ufl.edu](mailto:jordyn.ranfone@ufl.edu)
- Brett LaBella - [brettlabella@ufl.edu](mailto:brettlabella@ufl.edu)
- Decyo (DJ) McDuffie - [mcduffie.decyo@ufl.edu](mailto:mcduffie.decyo@ufl.edu)

**General Education Statements**

**International Scholars Program (ISP)**- This course fulfills one of the curriculum requirements of the *International Scholars Program*. Learn more about how you can obtain a graduation medallion and diploma <https://internationalcenter.ufl.edu/student-opportunities/international-scholars-program> . During this course, we will discuss how insects have impacted human culture from ancient civilizations to modern times. We will also have the opportunity to sample insect cuisine.

**Biology (B) General Education (GE) credits**

Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically-testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

*Note: A grade of C or better is required to receive GE credit.*

**Course Description**

Introduction for lower-division students who want to learn popular information about insects and associated organisms. (B, N, ISP)

**Course Objectives**

1. To categorize a “bug” using taxonomy approved by the International Code of Zoological Nomenclature.
2. To recognize the components in the process of science and formulate a hypothesis.

3. To communicate the impacts both pest and beneficial insects play in human history and culture including examples from current news events, government policies, art, music, folklore, film and literature.
4. To evaluate how “bugs” impact society and global quality of life by competing with people for food, shelter, clothing, and health.
5. To discuss global neglected diseases transmitted by arthropods.
6. To comprehend the beneficial nature and how, due to their biology, “bugs” are important research models.
7. To recognize biological processes, especially the unique growth and reproduction strategies of arthropods.
8. To compile global uses of humans use of insects for nutrition and evaluate how humans use insect products in everyday items.
9. To observe “bug” diversity in various ecosystems and identify trophic interactions.

## Graded Projects and Exams

### Exams and Online Quizzes:

- There will be **three exams** scheduled during class time. Exams will utilize Honorlock.
- Each exam will consist of 50 multiple-choice questions.
- All exams are closed book and must be taken during the scheduled exam time.
- *Exam Make-Up Policy:* If you are ill or have extenuating circumstances, you must contact Dr. Baldwin **prior to** the scheduled exam and must provide appropriate written documentation to schedule a make-up examination.
- There will be several online quizzes based on modules in Canvas. These quizzes are worth 10-20 points each.

### Creative Project: Bugge Faire:

During the semester, each student will collaborate with a group to research a “bug.” Each group will design a model of that organism, create a poster of biological facts, and give a 5 minute presentataion during the Bugge Faire as the final project. The creative model, must closely resemble the organism, and the poster must contain a photo of the organism that is modeled, as well as biological facts about the organism. The information should be in bulleted lists of talking points. Presentations will be made to a group of student and faculty judges. Each presentation should be 5 minutes in length and should include the taxonomy of the “bug”, where it is found geographically and ecologically, unique characteristics, and other biological facts (pest or beneficial, predator or prey, etc.). You may share your screen, and you should view this as a commercial for your “bug.” You only have five minutes, so wow the judges with your knowledge. Each member of your group must present, and groups are encouraged to be creative with their dress, background music, lightening, etc. Group members that do not participate in the preparation or presentation will receive a 0 on the project. Each member of the collaborative team will be peer evaluated. This is a chance for you to show your creativity, communication skills, and teamwork, as well as your knowledge about “bugs”.

### Bugge Faire Creative Project Grading Rubric

Criteria	Ratings			Points
Presentation length is appropriate (~5 minutes). Group worked well together and project flowed well.	Presentation was rehearsed and flowed well.	10	Too short or long Presentation disjointed and not rehearsed..	5
Poster is accurate and professional in appearance. Information is accurate and complete. References are included and photos include source.	Information is complete and is accurate. Poster includes bulleted talking points, information about the model (recipe) in luded	10	Not all information is presented and some information is inaccurate. Poster is lacking in detail.	5
Questions are answered accurately.	All questions are answered appropriately.	10	Some questions not answered, or misinformation is given.	5

Model is included and is biologically accurate.	Model accurately represents the organism.	10	Model is missing important features or misrepresents the organism.	5	
Overall appeal of presentation.	Excellent - Good	10	Fair -Poor	5	
Team Responsibilities Posted by Due Date	Yes	5	No	0	

**Extra Credit Assignments (2-5 points each):** There are various optional activities to enhance your experience with “bugs” offered each semester. These experiences will give you a chance to have some hands-on and up-close interactions with bugs and the damage they cause.

**Noteworthy Class Information:**

- Abbreviated notes from the lecture material will be posted to Canvas.
- You are expected to attend all class meetings. If you choose to miss class, it is your responsibility to discover missed information from classmates. Several class periods will be set aside for group work on the Bugge Faire project or for online modules with quizzes.
- You will be responsible for assigned readings from Bugs in the System and materials presented during lecture. Your exams will be composed from all these sources; thus, you will need to read and comprehend text information as well as take notes during slides, videos and presentations.



**Grading:** There are a total of 300 possible points (excluding extra credit). Grades will be posted in Canvas. Please visit <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/> for the UF policy on grading.

If you have a disability, please register it with the DRC <https://disability.ufl.edu> and schedule a meeting with me to discuss accommodations within the first two weeks of class to ensure the appropriate accommodations.


Your grade in *Bugs and People* will be computed as follows:


Graded Assignment	Points
Exam 1	50
Exam 2	50
Exam 3	50
Zoom participation	20
Group Project - Bugge Faire	55
Online Activities	85
• Buggy Phrases	(5)
• Russian Film Review	(5)
• International Nomenclature (ICZN)	(10)
• iNat photos	(10)
• Insects in Music and Mythology	(10)
• Research Paper Review Mexican	(20)
• Jumping Bean Locomotion	
• Virtual Escape Room (Group)	(10)
Extra Credit	--




FINAL GRADING	
Scale: Percentage	
<i>(0.5 and above will round up)</i>	
90-100	A
80-89	B
70-79	C
60-69	D
0-59	E

If you must miss a Monday or Wednesday class meeting time, you will need to communicate with your group to get notes from what you may have missed. Participation points will be added for each Monday and Wednesday meeting.

## ENY 1001 Class Schedule

Date	Day	Lecture Topic and Activities <i>(Discussions take place during Zoom clas times.)</i>	Reading/ Quiz
July 6	Monday	<p><b>ZOOM Link</b> - Please register at - <a href="https://ufl.zoom.us/meeting/register/tJld-qsrigvH9OXcyJyMr22WYJq_D5JVsf">https://ufl.zoom.us/meeting/register/tJld-qsrigvH9OXcyJyMr22WYJq_D5JVsf</a></p> <ul style="list-style-type: none"> <li>• Meeting ID: 968 0340 3557</li> <li>• Password: BUGS</li> </ul> <p><b>Course Introduction: How do “bugs” fit into human culture?</b></p> <ul style="list-style-type: none"> <li>• TA Introductions</li> <li>• Syllabus Overview</li> </ul> <p><b>Discussion Questions</b></p> <ul style="list-style-type: none"> <li>• What global issues are there involving insects?</li> <li>• Have you heard of any insects in the recent news?</li> <li>• What would you like to learn in this class? <ul style="list-style-type: none"> <li>○ Meet others in class</li> <li>○ Discuss Bugge Faire Group Project and Group Names</li> </ul> </li> </ul>	Syllabus (Canvas)
July 7	Tuesday	<p>Watch on your own, then join the discussion on Wednesday.</p> <ol style="list-style-type: none"> <li>1. Video:Life in the Undergrowth – A Miniature World (3:02) <a href="https://www.youtube.com/watch?v=kIO4W8el7Fk">https://www.youtube.com/watch?v=kIO4W8el7Fk</a></li> <li>2. Video:Life in the Undergrowth – A Miniature World Invasion of Land (26 min = total ~13:20 each) <ul style="list-style-type: none"> <li>• Part 1 - <a href="https://www.youtube.com/watch?v=bR5IUVTfQbl">https://www.youtube.com/watch?v=bR5IUVTfQbl</a></li> <li>• Part 2 - <a href="https://www.youtube.com/watch?v=6A08M3GI7M8">https://www.youtube.com/watch?v=6A08M3GI7M8</a></li> </ul> </li> </ol> <p><b>Discussion Questions</b></p> <ol style="list-style-type: none"> <li>1. What adaptations did arthropods need to survive on land? Make a list of at least three adaptations and their function.</li> <li>2. What is an arthropod? Make a list of three arthropods, by common name, featured in the BBC Video Life in the Undergrowth.</li> </ol>	<p><b>Assignment</b> - Canvas - What common insect phrases do you use?</p> <ul style="list-style-type: none"> <li>• Post to Jam Board</li> </ul>
July 8	Wednesday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Global influence of insects</b></p> <ul style="list-style-type: none"> <li>• <b>What is a “Bug” and How Bugs Grow</b> <ul style="list-style-type: none"> <li>○ <b>Read Preface</b> – influence in art, literature, war, film, technology, agriculture, and human and animal health.</li> </ul> </li> <li>• Slides - Learn fundamental classification (Taxonomy and the International Code of Zoological Nomenclature) – <ul style="list-style-type: none"> <li>○ Phyla – (Video Leopard Slug: Life in the Undergrowth 2:07) <ul style="list-style-type: none"> <li>▪ <a href="https://www.youtube.com/watch?v=wG9qpZ89qzc">https://www.youtube.com/watch?v=wG9qpZ89qzc</a></li> </ul> </li> <li>○ Class Arachnida – Demodex video - <a href="https://www.youtube.com/watch?v=YW2eGaUzq7E">https://www.youtube.com/watch?v=YW2eGaUzq7E</a> (3:27)</li> </ul> </li> <li>• Influence of Aristotle (Greek), Pliny the Elder (Italian), Bartholomaeus Anglicus (French), and Linnaeus (Swedish)</li> </ul> <p><b>Activity - Group Formation for Bugge Faire Project</b></p> <ul style="list-style-type: none"> <li>• Four individuals in a group</li> </ul> <p><b>Please Do NOT miss this class! It is important that you are in a group for projects</b></p>	<p>Preface</p> <p>Be sure to join the Zoom meeting today to join your group and make a group name.</p> <div style="text-align: center;">  </div> <p>Work with your TA to add group to Canvas, and select group leader.</p>
July 9	Thursday	<p><b>Online Module – International Taxonomic Code</b></p> <p>How are insects named and classified?</p>	<p><b>Online Taxonomy Quiz</b></p>

		<p><b>Activity –Russian Stop Action Animation 1912</b> -Video by by Vladislav Starevich – Russian videographer - The Cameraman’s Revenge –(13 min)  <a href="https://www.youtube.com/watch?v=U424m8utJnA">https://www.youtube.com/watch?v=U424m8utJnA</a></p> <p><b>Discussion Questions</b></p> <ul style="list-style-type: none"> <li>• How was humor portrayed in this film?</li> <li>• What was happening in the world when these films were made?</li> </ul> <p>Why were these films so valued by the Russian people and people worldwide?</p>	<p>Chapters 1 and 2 Answer study guide questions.</p> <p>Post video responses to Canvas.</p>
July 13	Monday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Global Diversity of Arthropoda</b></p> <ul style="list-style-type: none"> <li>• <b>Live Arthropods – Can you handle it? (Observation)</b> <ul style="list-style-type: none"> <li>• <b>View the differences between arthroods of the world</b></li> <li>• <b>Have the opportunity to view live specimens :</b> <ul style="list-style-type: none"> <li>○ Cockroaches from Madascar</li> <li>○ Tartulantas from Central and South America</li> <li>○ Scorpions from Asia</li> <li>○ Native beetle and arachnid species</li> </ul> </li> </ul> </li> </ul> <p><b>(Slides Continued) What is a “Bug” and How Bugs Grow</b></p> <ul style="list-style-type: none"> <li>• Ideas of Darwin, Wallace and Malthus</li> <li>• What is the place of insects in our world? <ul style="list-style-type: none"> <li>○ Insect metamorphosis and reproduction</li> <li>○ Define the habitats and ecosystems of arthropods</li> <li>○ List general facts and life history of insects</li> </ul> </li> <li>• Determine where these arthropods can be found (global and locally)</li> </ul>	<p>Live arthropod show and tell – Invite your family and friends.</p> 
July 14	Tuesday	<p><b>Online Module – Insects in Mythology</b></p> <ul style="list-style-type: none"> <li>• Insects in Greek culture</li> <li>• Insects in Egyptian culture</li> <li>• Insects in Italian culture</li> <li>• Insects in Native American culture</li> </ul> <p><b>Other thoughts from your readings.</b></p> <ul style="list-style-type: none"> <li>• <b>Explore ancient worship of insects (Egypt, Greece, China, Native Americans)</b></li> <li>• <b>List and discuss insects mentioned in ancient texts</b></li> <li>• <b>Argue kosher or not for ancient Jews– divided into clean and fit for food (Leviticus 11:21-22) and unclean and abominable (Leviticus 11:23-24)</b></li> </ul> <p><b>Discuss creation story of insects (Genesis 1:2-25)</b></p>	<p><b>Online Quiz</b></p> <p>Upload title for your Bugge Faire project and responsibilities of each member.</p>
July 15	Wednesday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Discussion on Insect Orders</b> - International Code of Zoological Nomenclature (ICZN)  Overview of Taxonomy and Common Insect Orders  Ametabola, Hemimetabola , Holometabola - Greek meaning of the names</p> <ul style="list-style-type: none"> <li>• Define common insect orders and their characteristics</li> <li>• Explain mouth, leg, and wing adaptations.</li> </ul> <p><b>Looking Good and Sounding Sweet –Bizarre Bugs ( Insect Adaptations)</b></p> <ul style="list-style-type: none"> <li>• View examples of extreme adaptations found in insects</li> <li>• Observe unique morphologies found among the insects from around the world.</li> </ul> <p>Discuss insect behavior including, learning, and other biological concepts relating to insects</p>	<p><b>Appendix - Answer study guide questions</b></p> <p>Chapter 3</p>
July 16	Thursday	<p><b>EXAM1 - (Chapters 1,2,3 and the Appendix)</b></p>	<p><b>EXAM 1</b></p>
July 20	Monday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Insect Sociality</b>  <b>Discussion</b></p> <ul style="list-style-type: none"> <li>• Define social structure in insects</li> <li>• Insects that make food: Beekeeping (honey and pollination services)</li> <li>• Ancient use of bees as biological warfare (Persia) (mad bees), cosmetics (Italy), medicine - (Italy and Greece), and religious uses (Greece and Rome)</li> <li>• African Bees via Brazil</li> </ul>	<p>Chapter 4  <b>Have your book handy for the breakout rooms.</b></p>

		<b>Activity – Ant Foraging Observation and Pre-Baiting</b>	
July 21	Tuesday	 <p><b>Video –</b>  <b>The Language of the Bee</b> – Hypothesis testing to discover the meaning of the waggle dance – German scientist, Karl von Frisch (Noble Prize in Medicine 1973)</p> <p><b>Video</b> – Global Insects – BBC Life – Termites in Australia, Red Bugs in Japan, Honey Bees in North America, Monarch Migration to Mexico</p> <ul style="list-style-type: none"> <li>- Discuss three characteristics of eusociality</li> </ul> <p><b>Activity</b> - –Upload 4 photos you have taken of insects (different orders) to iNaturalist ENY 1001 project. The insect may be held to steady the image, and the insect should take up most of the field of view and be in focus. You may need to take several photos to have one in focus. When using the app, click “capture” then add the order. Please visit <a href="https://www.inaturalist.org/pages/getting+started">https://www.inaturalist.org/pages/getting+started</a> for instructions. The project group is ENY 1001.</p>	Upload iNat ENY 1001 Observations of insect orders.
July 22	Wednesday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Bugs that Give you Pleasure - Insects and Economics</b></p> <ul style="list-style-type: none"> <li>• Determine how insects impact world economics</li> </ul> <p>Explore Insect Products used by people globally (cochineal, lac, gall ink, silk) (Philippines, Sri Lanka, India, Mexico, Ancient Israel, China, French wine industry)</p> <p><b>Bugs that Give you Pleasure Discussion– Apitherapy and Sericulture</b></p> <ul style="list-style-type: none"> <li>• Bee products and their global uses (Orthodox religion, health) <ul style="list-style-type: none"> <li>○ Bee Venom LD<sub>50</sub> = (2.8 mg/kg) 1140 for Adult of 132lbs</li> </ul> </li> </ul> <p>Silk production in China – Domesticated Lepidopteran larvae</p>	Chapter 5
July 23	Thursday	 <p>Videos – Entomophagy, Sericulture, Mexican Jumping Beans</p> <p><b>The Process of Science – Mexican Jumping Beans</b></p> <ul style="list-style-type: none"> <li>• Definitions, case studies</li> <li>• Hypothesis testing</li> </ul> <p>Scientific paper review - Read research article –Locomotion of The Mexican Jumping Bean, complete Canvas Quiz, and create hypothesis based on observations</p>	Online Quiz
July 27	Monday	 <p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Entomophagy – Let’s eat some insects!</b>  Entomophagy worldwide</p> <ul style="list-style-type: none"> <li>• China, Cambodia, Australia, Peru, Mexico, Africa, US</li> <li>• Sample some insect cuisine</li> </ul> <p>Insects as Food and Medicine (Ancients, Asia, Americas)  Assess the potential of micro-livestock as a protein source for a growing population (calculate the efficiency of conversion of ingested food (ECI))</p> <p><b>Discussion of Chapter 6 - Bug Dynasty</b></p> <ul style="list-style-type: none"> <li>• Predation, Parasitoids, Biological Control, Defenses, Plagues (Egypt)</li> <li>• Insect Communication</li> <li>• Insect Defenses</li> <li>• A Fly in the Ointment: Global insights on Insects as medicine</li> <li>• Review of ECI and Insects as food</li> <li>• FDA regulations</li> </ul>	Chapter 6
July 28	Tuesday	<b>EXAM 2</b>	<b>EXAM 2 – Ch 4,5,6</b>
July 29	Wednesday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Virtual Exchange</b> – The most dangerous animals in the world including the lesser known arthropod vectors of disease. (Dr. Phil Koehler – Navy Entomologist, UF Endowed Professor)</p>	Chapter 7 GUEST Dr. Koehler <b>Caution: Graphic video and lecture on diseases</b>
July 30	Thursday	<p><b>Worldwide Neglected Diseases (CDC and WHO Video)</b></p> <ul style="list-style-type: none"> <li>• <i>Caution: Graphic video and lecture on arthropod vectored diseases from around the world</i></li> </ul> <p>Insects as Medicine – Historical</p> <ul style="list-style-type: none"> <li>• Medicine of Egypt – The Ebers Papyrus</li> <li>• Medicine of Rome and Europe – The Doctrine of Signatures (Middle Ages)</li> <li>• Insects for Health in Germany - 1699 Insect</li> </ul>	Worksheet



		<ul style="list-style-type: none"> <li>• France 1772 – Marquis de Sade – Cantharidin</li> <li>• US Civil War to Modern day medical and vet practices – <ul style="list-style-type: none"> <li>○ Cantharidin and maggot therapy</li> <li>○ Video – TLC – Maggot Therapy in Europe</li> </ul> </li> </ul> <p>Identify Lice, Mosquitoes, Ticks, Fleas, Mites, Kissing Bugs</p> <p><b>International Travel: Monsters Inside Me</b>  Malaria - Africa to US: <a href="https://www.youtube.com/watch?v=mfzObhMrsA4">https://www.youtube.com/watch?v=mfzObhMrsA4</a> (7:42)  Malaria Eradication Research - <a href="https://www.youtube.com/watch?v=y5JoC1OQ4pU">https://www.youtube.com/watch?v=y5JoC1OQ4pU</a> (7:42)  Zika - Brazil, Carribean, South America, Asia, Puerto Rico toto US - <a href="https://www.youtube.com/watch?v=IZIMHplJDoc">https://www.youtube.com/watch?v=IZIMHplJDoc</a> (3:02)  Leishmaniasis - <a href="http://www.animalplanet.com/tv-shows/monsters-inside-me/videos/monsters-inside-me-case-studies-leishmaniasis/">http://www.animalplanet.com/tv-shows/monsters-inside-me/videos/monsters-inside-me-case-studies-leishmaniasis/</a> (7:29)  Tsetse Fly - <a href="https://www.youtube.com/watch?v=4aVUrGO97Zg">https://www.youtube.com/watch?v=4aVUrGO97Zg</a> (2:23)  Loa Loa - <a href="https://www.youtube.com/watch?v=EevqmzkGJaE">https://www.youtube.com/watch?v=EevqmzkGJaE</a> (2:52)  Epic Wildlife – Guinea Worm - <a href="https://www.youtube.com/watch?v=yEhujLgu7wM">https://www.youtube.com/watch?v=yEhujLgu7wM</a> (1:30)  Carter Canter – Guinea Worm - <a href="https://www.youtube.com/watch?v=u4kQWvUv_Ns">https://www.youtube.com/watch?v=u4kQWvUv_Ns</a> (4:11)  River Blindness - <a href="https://www.youtube.com/watch?v=1M4gVmEO5SQ">https://www.youtube.com/watch?v=1M4gVmEO5SQ</a> (3:07)</p> <p><b>Domestic Travel: Monsters Inside Me</b>  US Dengue: <a href="https://www.youtube.com/watch?v=QSugXDyl2hA">https://www.youtube.com/watch?v=QSugXDyl2hA</a> (2:04)  Lyme Disease and Babesia- <a href="https://www.youtube.com/watch?v=6u8bdWUwB3o">https://www.youtube.com/watch?v=6u8bdWUwB3o</a> (2:02)  Infestations:  Botfly - <a href="https://www.youtube.com/watch?v=90exkFR2iSM">https://www.youtube.com/watch?v=90exkFR2iSM</a> (2:43)  Botfly Bikini - <a href="https://www.youtube.com/watch?v=CYq9gmjmHqM">https://www.youtube.com/watch?v=CYq9gmjmHqM</a> (2:28)  Scabies - <a href="http://www.animalplanet.com/tv-shows/monsters-inside-me/videos/eaten-alive-by-bugs/">http://www.animalplanet.com/tv-shows/monsters-inside-me/videos/eaten-alive-by-bugs/</a> (2:23)</p>	
August 3	Monday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Virtual Exchange</b> - What can you do to make a difference in the world?</p>	Chapter 7
August 4	Tuesday	<p>Mosquito Control in the US</p> <ul style="list-style-type: none"> <li>• Historical WWII - The Winged Scourge – 1940s (9:46)</li> <li>• Modern 2018 - Mozzie the Mosquito – #MalariaMustDie (1:55) <ul style="list-style-type: none"> <li>⊖ Compare tactics: management strategies, and public education</li> </ul> </li> </ul> <p><b>Arthropod Vected Human Diseases</b></p> <ul style="list-style-type: none"> <li>• Discuss malaria <ul style="list-style-type: none"> <li>▪ Explore the role of the willow tree family in malaria prevention</li> <li>▪ Describe the malaria cycle</li> <li>▪ Discuss the occurrence of malaria worldwide</li> <li>▪ Explain what DDT has to do with malaria</li> </ul> </li> <li>• Discuss Trypanosomiasis, RMSF, Encephalitis, WNV, Onchocerciasis</li> </ul> <p><b>Bug Phobias and Delusions: Psychological Impact of Insects and Spiders</b></p> <ul style="list-style-type: none"> <li>○ Discuss symptoms of entomophobia and true insect infestations: hives, rashes, pain, and “the willies”</li> <li>○ Compare symptoms to those of chemical sensitivities</li> <li>○ Contrast illusion and delusion</li> </ul> <ul style="list-style-type: none"> <li>• Provide examples of dangerous arthropods: wheel bug, black widow, brown recluse, ticks, mosquitoes</li> </ul>	<b>Journal Assignment - Mosquito Management Analysis Report</b>
August 5	Wednesday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>Arthropod Impacts on Humans : Parasites and Hosts – What’s Eating You?</b></p> <ul style="list-style-type: none"> <li>• Give Examples of direct Injury (allergy, asthma, exsanguination, dermatitis, injury, infestations, envenomization).</li> </ul> <p>Detail Infestations: cantharidiasis, myiasis</p> <p><b>Arthropod Vected Human Diseases</b>  <i>Insects in the News – Begin class with discussion of current insect events worldwide</i></p>	

		<p><b>Bugs that Eat Blood and Spread Disease</b></p> <ul style="list-style-type: none"> <li>View historical monuments dedicated to insects (Florida)</li> <li>Detail the importance of insects in war (Russia and France)</li> </ul> <p>Discuss how insects have impacted US history (Panama canal, Philadelphia, Modern sanitation, and the Louisiana Purchase)</p>	
August 6	Thursday	<p><b>Fighting Back against Bugs – Pesticides and Health</b></p> <ul style="list-style-type: none"> <li>Discuss invasive species from the Caribbean, and Central and South America</li> <li>Review Chapter 8 terms (answer study guide on your own)</li> <li>Review the history of Pest Control <ul style="list-style-type: none"> <li>Egyptian Book of the Dead</li> <li>Roman Geoponika <ul style="list-style-type: none"> <li>Discuss religion, superstition, and science</li> </ul> </li> </ul> </li> <li>Examine pesticide resistance and types of pesticides, IPM, Biological Controls, and Agriculture. <ul style="list-style-type: none"> <li>Visualize how we shop for food – Which foods are imported and which are native?</li> </ul> </li> </ul>	Chapter 8 Chapter 9
August 10	Monday	<p><b>ZOOM: Meeting ID: 968 0340 3557. Password: BUGS</b></p> <p><b>The Insect Perspective</b> <b>Forensic Science and Entomology</b></p> <ul style="list-style-type: none"> <li>Define forensic entomology and the types.</li> <li>Discuss stages of decay and the associated insects</li> <li>Discuss the history of the science</li> </ul> <p><b>Insects and the Law (Scotland, England and America)</b></p> <p><b>Complete class evaluations online.</b> <i>If 75% of the class completes the evaluation before exam 3, group extra credit awards will be offered at the Bugge Faire. Evaluations are in Canvas.</i></p>	Chapter 10 Chapter 11
August 11	Tuesday	<b>Exam 3</b>	
August 12	Wednesday	<b>BUGGE FAIRE</b>	<b>Group Presentations</b>
August 13	Thursday	<b>BUGGE FAIRE</b>	<b>Group Presentations</b>



*If you do not sign up for, do not participate, or miss the Bugge Faire, you will receive a 0 on the project*

**REMINDER:** Check Canvas on a regular basis for changes to the schedule, important announcements and posted grades.

**E-mail Protocol:**

- Please check the syllabus for an answer to your question before sending an e-mail. This is much appreciated.
- E-Mail Format:** (Gatorlink e-mail must be used.)  
This is a large class, so please follow this format for e-mails to Dr. Baldwin. If this format isn't followed, your message may not receive a reply.
- Subject line:** "1001 - Last name, First name: Subject." Example: 1001 - Mantid, Ima: Grade not posted
- Body of the Message:** Please write in standard plain-text. Always include your name and your UF-ID. This helps to keep the messages organized so they can be answered in a timely manner. If you have not received a response in 48 hours, please re-send your message.
- Please copy your TA on the email.

**International (N) General Education (GE) credits – (Beginning Fall 2020)**



International courses promote the development of students' global and intercultural awareness. Students examine the cultural, economic, geographic, historical, political, and/or social experiences and processes that characterize the contemporary world, and thereby comprehend the trends, challenges, and opportunities that affect communities around the world. Students analyze and reflect on the ways in which cultural, economic, political, and/or social systems and beliefs mediate their own and other people's understanding of an increasingly connected world.

### GE Student Learning Outcomes (SLOs)

- Identify, describe, and explain the historical, cultural, economic, political, and/or social experiences and processes that characterize the contemporary world.
- Analyze and reflect on the ways in which cultural, economic, political, and/or social systems and beliefs mediate understandings of an increasingly connected contemporary world.
- Identify, describe, and explain the basic concepts, theories and terminology of natural science and the scientific method; the major scientific discoveries and the impacts on society and the environment; and the relevant processes that govern biological and physical systems.
- Formulate empirically-testable hypotheses derived from the study of physical processes or living things; apply logical reasoning skills effectively through scientific criticism and argument; and apply techniques of discovery and critical thinking effectively to solve scientific problems and to evaluate outcomes
- Communicate scientific knowledge, thoughts, and reasoning clearly and effectively.

GE SLO assessment:

- SLOs will be measured through, a creative group project (Bugge Faire) that includes an oral presentation to communicate science, quizzes and exams that will require reflection of course topics on the global impact of insects in arts, culture, and public health.
- Students will learn components of the process of science, observe behavior of caterpillars, and will evaluate a research paper, "Locomotion of the Mexican Jumping Bean". Students will then be asked to identify research variables (independent, dependent, and control) and formulate their own hypothesis based on their observations.

### Global Learning Institute Goals for Bugs and People

#### Knowledge

1. Analyze how arthropod names are designated by the ICZN (International Code Zoological Nomenclature)
  - a. Evaluate examples related to mythological names and historical naming techniques
  - b. Assessments: Online Quizzes
    - i. Global Mythologies (Egyptian, Greek, South American, and Native American) and Music Influence (Tarantella – Italy, Music in movies and video games)
    - ii. Taxonomy and Classification from the Ancients to Modern Cultural References
2. Feature experiential learning
  - a. **Outdoor adventure** with invasive ant species. Student research invasive species and how they entered the US from other countries. They observe how ants have a food preference (protein, oil, sugar) by observing foraging behavior.
  - b. Visit the **Florida Museum of Natural History** to research global efforts to use Agritourism and Ecotourism to discourage habitat destruction. Correlate knowledge from taxonomy and mythology lectures with names and specimens on display at the museum.

#### Skills

1. Compare global public health pest control efforts from ancient times, to the industrial revolution/WWI/WWII to modern society.
  - a. Assessment through qualitative discussion of how malaria mosquitoes were managed in 1943 to today. (Worldwide Neglected Diseases- videos and worksheet)
2. Reflect on how our culture has been shaped by both beneficial and pest insects.

- a. Metacognition exercise - How has our language been influenced and how is it being influenced?
- b. Compare global cultures to US culture in regards to perceptions of insects (positive and negative).
  - i. Assessment – jumping bean quiz - (See SLOs)
  - ii. Bugge Faire Project – Consciously see what they are learning through discussion, feedback from peers, Bugge Faire judges, and teacher comments. (See SLOs)
3. Predict how future humans will be impacted by arthropods.
  - a. Correlation with knowledge about invasive species (outdoor exercise), ecotourism (museum visit), case study interviews from students and faculty who have been impacted by arthropod vectored diseases, sampling of insect cuisine, interaction with arthropods of the world.

#### **Attitude**

1. Justify the need for global entomology education from the standpoint of agriculture, invasive species/climate change, and public health.
2. Guest lecture or virtual exchange to highlight global research in urban and medical entomology and to challenge students to make a difference globally.
3. Class discussion and follow-up with research opportunities for undergraduates.

**UF POLICIES** - If you are having difficulties in class, please make an appointment to see me, or if appropriate, call one of the counseling services below. Please do not wait until the end of the semester!

#### **Grades and Grade Points**

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

#### **Attendance and Make-Up Work**

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

#### **Online Course Evaluation Process**

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals in Canvas. Guidance on how to give feedback in a professional and respectful manner is available at: <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at: <https://gatorevals.aa.ufl.edu/public-results/>.

#### **Academic Honesty**

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

#### **Software Use:**

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

### **Services for Students with Disabilities**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, <https://disability.ufl.edu/>

### **Campus Helping Resources**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu](http://www.counseling.ufl.edu)*  
Counseling Services Groups and Workshops Outreach and Consultation Self-Help Library Wellness Coaching
- U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)
- *Career Connections Center, First Floor JWRU, 392-1601, <https://career.ufl.edu/>. Student Complaints:*
  - Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.
  - Online Course: <http://www.distance.ufl.edu/student-complaint-process>Additional information  
Instructors may choose to clarify in their syllabus their teaching philosophy, expectations for classroom behavior, utilization of e-learning, and other information that will help students succeed in the course.