

This syllabus is for a biology seminar I taught Spring 2015

Insects in Science Fiction and Popular Culture

2123 Comstock Hall • Thursdays, 2:30 pm to 4:25 pm, beginning January 30th • Grading: S/U, 1 cr.

Instructor: Dr. Susan Villarreal, 3144 Comstock Hall, smv32@cornell.edu

Office Hours: By chance or by appointment

Website: https://blackboard.cornell.edu/courses/17965_2015SP

Course Description

This course brings together entomology and the media arts to investigate the facts and fallacies of insect use in science fiction and popular culture. From the creature features of the 1950's to modern day insect monsters, society has been enamored and fearful of 6-legged creatures. Throughout the course students will learn how accurate insect behavior and biology is represented in science fiction movies and TV episodes, and in what conditions might the fallacies depicted become a reality. The course will highlight specific examples of insect biology as well as general themes of how insects are portrayed. We will also explore why insects are so commonly depicted in science fiction and how their portrayal reflects on us as a culture. Course activities include viewing and discussing select movies/television series, lectures and short readings on insect biology, hands-on demonstrations of insect biology, and written reflections. The goal of the course is for students to learn some basics of insect biology and behavior, as well as critically reflect on insect's portrayal in the media.

Course Goals

My goal is to introduce you to the field of Entomology through some captivating examples of insect behavior and biology hidden (or at least not actively explored with any depth) throughout science fiction movies and television. I hope that through an immersive experience into the role of insect in science fiction you will be able to:

1. Develop or improve upon your basic entomological knowledge
2. Develop critical thinking skills through analysis of insect portrayals in popular media
3. Improve your scientific literacy through analysis of primary literature papers
4. Enrich your passive media-ingestion experience
5. Reflect on the role insects play in the media and for your own internal biases toward insects

Course Format

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The class meets once a week for two hours. I expect everyone to be engaged actively for the entirety of the class period. There are only a few out-of-class activities that I require of you so your full focus and attention during class time will allow for the most productive and entertaining class sessions. To help keep your attention I'll include a mixture of lectures, discussions, activities, workshops, and videos. Each class builds upon the last and therefore it is essential that you attend every session.

Assignments and Grading

This course is graded on a Satisfactory/Unsatisfactory basis. Students must perform to a level equivalent to a C- grade or better to receive an S. The breakdown of your grade is as follows:

Attendance/participation (4 pts. each session, 28% total)

Most activities will be done in class and therefore your attendance is essential. Show up, look alert, and these points are yours. Participation is assumed by your attendance and will only be counted against you if I notice you are actively trying to not participate (i.e. sleeping, not joining in group activities, staring only at the walls etc.). If you are thwarting your own participation you will only receive half the points for that day.

Presentation/Project (16%)

I would like you to present your own example of an insect in some form of popular media (TV, movie, book, etc.). Your presentation will highlight how the insect was portrayed, how that portrayal compares to some scientific evidence (backed by a citation of appropriate scientific merit), some analysis of why you think they chose to portray the insect in that way, and how this reflects on your understanding of the work, or your own biases toward insects, or your general appreciation of insects or science. My goal is for you to demonstrate a value added in your in-depth exploration of popular media through insects. I want to keep this assignment open to your own interpretation. Therefore the presentation/project can take many forms: 5 minute presentation, 1 ½ page paper, poster, infographic, short play, diorama, sculpture, etc. Whatever appeals to you and can demonstrate your adherence to the goals I have outlined for this course.

Weekly Written Assignments (8 pts each, 56% total)

Beyond the final presentation/project, there will be weekly in-class writing assignments. The topic of the written assignment will vary from week to week and don't have set length requirements. Some write-ups will require you to be reflective, some will be more forward-thinking and have you apply some principle we discussed in class. Most will include some form of assessment of your learning and I will broadly go over these assessments during later classes. The final write-up is special, in that it will be an open-note, free-computer-use "quiz" covering the topics we have visited throughout the course. I am also posting an example of this write-up on the blackboard site. If you feel more comfortable doing the weekly write-ups outside of class time, I will accept any write up in person or electronically delivered to me by the Tuesday before the next Thursday session.

Course Policies

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Attendance & Late Work

Students who miss a class will receive a 0 for attendance/participation and write-up. Late work will be accepted without penalty if it is delivered to me by the Tuesday before the next Thursday session. Any work submitted after that Tuesday deadline will be accepted for half credit.

Academic Honesty

Each student in this course is expected to abide by the *Cornell University Code of Academic Integrity*, found online at <http://cuinfo.cornell.edu/aic.cfm>. Work found not to be your own will be thrown out.

Accommodations for students with documented disabilities

Cornell provides accommodations to students who have documented disability that may affect their ability to participate. You are encouraged to contact Student Disability Services (<http://sds.cornell.edu/>) if you feel you need academic accommodations. Feel free to meet with me privately to discuss your required specific accommodations for this course.

Schedule

Week 1 (1/29): You, me, and the nature of the course; *“Into every generation a Slayer is born...”*

There are two goals for this first class: 1. Get ourselves introduced and on the same page as far as what the purpose of the course is, what you expect to get out of it, and where you might like the emphasis of the course to go. 2. Start our foray into the world of insects in science fiction by watching Season 1, Episode 4 of *Buffy the Vampire Slayer*, **“Teacher’s Pet.”** *Teaching Goals: 2, 3*

Homework: Read one of two articles (as decided by the class): EITHER “Sound strategies: the 65-million-year-old battle between bats and insects” OR “Female praying mantids use sexual cannibalism as a foraging strategy to increase fecundity”

Week 2 (2/5): *Buffy*: facts, fictions, and fixes; Intro. to scientific literacy; *“Welcome to Fringe Division...”*

Because we ended with *Buffy* last week we will pick up with the role of insects in **“Teacher’s Pet”** and use the reading I assigned as a means of introducing you to scientific literacy and implementing the CRAP Test to make sure the sources you find have scientific merit. Finally, we will screen Season 3, Episode 13 of *Fringe*, **“Immortality.”** *Teaching Goals: 1, 2, 3*

Homework: Subjecting insect-focused websites (URLs found on Blackboard) to the CRAP Test.

Schedule (Cont.)

Week 3 (2/12): *Fringe*: facts, fictions, and fixes; Insect IDs and endoparasitoids; Insect biotechnology

We'll start by reviewing the use of insects in *Fringe* then segue into you identifying some insects for yourself. Then we'll get into the world of parasitology. *Teaching Goals: 1, 2, 3*

Homework: None

Week 4 (2/19): *"Be afraid, be very afraid..."*; **The Fly**: facts, fictions, and fixes; Insect genetics

Here we switch things up and start by watching **The Fly** (due to time restrictions, we will not watch the movie in its entirety). We'll then discuss the science of **The Fly** and the current state of bioengineering/insect genetics. *Teaching Goals: 1, 4, 5*

Homework: None, work on project/presentation

Week 5 (2/26): *"Burn it! Burn EVERYTHING!"*; **Them!**: facts, fictions, and fixes; Insects as villains

We are traveling back to the start of insects receiving attention as villains in science fiction movies with the classic **Them!** We'll then discuss why Americans were so fixated with gigantic bugs and why ants found themselves being a villain. *Teaching Goals: 1, 4, 5*

Homework: None, work on project/presentation

Week 6 (3/5): Insect ESP; Human ESP: applying insect science to human fiction

Here we get into some examples of insects displaying senses we are just now beginning to comprehend (and come surprisingly close to in our science fiction) I'll highlight some examples from: **Starship Troopers**, **The Edge of Tomorrow**, **Ender's Game**. We'll then take what we know from insects and extrapolate to create some science fiction of our own, by applying known insect biology to the human species. *Teaching Goals: 1, 4*

Homework: None, work on project/presentation

Week 7 (3/12): Student presentations/projects; Insect cartoons; Evaluations

Most of the class time is dedicated to student presentations and projects. There will also be a summative final write-up "quiz" that is open-note, open-computer. The remaining time will be for evaluations and some of my favorite examples of insect biology in cartoons and around the web. *Teaching Goals: 1-5*

Weekly Written Assignments Rubric (8 pts total):

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| | | Excellent (2) | Competent (1) | Needs Work (0) |
|-----------|---------------------|---|---|--|
| Either/or | Scientific Accuracy | Fully accurate | With errors | Missing |
| | Self-Reflection | Present and substantial | Superficial, but present | Missing |
| | Logic | Fully logical | Confusing | Utterly unintelligible |
| | Appropriateness | Fully reflects current topic | Unfocused but broadly covers topic | unfocused |
| | Level of Analysis | Employs analysis / evaluation / synthesis of material | Shows comprehension but no higher level of analysis | Mostly information or knowledge-only based |

Presentation/Project Rubric (16 pts total):

| | Excellent (2) | Competent (1) | Needs Work (0) |
|---------------------|--|---|---|
| Length | Appropriate to convey purpose/thesis | Too short or too long to best convey purpose | Exceptionally too short or long |
| Scientific Content | Scientific content accurate and appropriate to media | Scientific content with errors or unrelated to media | Inaccurate and unrelated scientific content |
| Scientific Citation | Appropriately cited with scientific merit | Either inappropriately cited or without merit | No citation |
| Logic | Fully logical and centered around thesis | Structured, but not fully developed | Confused and without structure |
| Clarity | Easily understandable, complete, and effective | Incomplete, confused or ineffective | Utterly unintelligible |
| Self-Reflection | Demonstrates the value added in performing the analysis | Briefly or not fully mentions value of presentation | No reflection, just presentation of data |
| Critical Thinking | Interprets and evaluates insect portrayal | Some minor or incomplete critical thinking present | Absent |
| Aesthetic | Well-formed and appropriate for type of project/presentation | Distracting or inappropriate for project/presentation | Absent |