

Term Information

Effective Term Spring 2013

General Information

Course Bulletin Listing/Subject Area Biology
Fiscal Unit/Academic Org Introductory Biology - D0326
College/Academic Group Arts and Sciences
Level/Career Undergraduate
Course Number/Catalog 1105
Course Title Human Biology in Cinema
Transcript Abbreviation Hmn Bio in Cinema
Course Description Human Biology in Cinema will show that mainstream films with a core biological theme can be entertaining AND educational and that having some basic biological insights will enhance your comprehension and appreciation of these films. Lectures and discussions will cover basic principles in biology that will help elucidate the content of each film.
Semester Credit Hours/Units Fixed: 3

Offering Information

Length Of Course 14 Week, 7 Week
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? No
Grading Basis Letter Grade
Repeatable No
Course Components Lecture, Recitation
Grade Roster Component Lecture
Credit Available by Exam No
Admission Condition Course No
Off Campus Never
Campus of Offering Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites
Exclusions Not open to students with credit for Bio 1102 (102).

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code 26.0101
Subsidy Level General Studies Course
Intended Rank Freshman, Sophomore, Junior, Senior

Quarters to Semesters

Quarters to Semesters

Modified or re-envisioned course that includes substantial parts of the content and learning goals of one or more quarter courses

List the current courses by number and title that are to be subsumed into proposed course

Biology 102

Requirement/Elective Designation

General Education course:

Biological Science

Course Details

Course goals or learning objectives/outcomes

- Students will describe the mechanism of evolution by natural selection.
- Students will be able to solve basic Mendelian genetic problems specific to human reproduction.
- Students will recall the sources of human infectious and noninfectious diseases and describe society's historical and current response to them.
- Students will apply the requirements of human nutrition and energy to recognize healthy eating and activity.
- Students will distinguish sex, gender, and sexual orientation and describe society's understanding of each.
- Students will evaluate the effects of human population growth on the environment and on humans themselves.
- Students will evaluate the interplay of science with current technology and the capability of each to both create and solve problems in the contemporary world.
- Students will synthesize information from lecture, films, and articles from the popular press regarding current social issues.

Content Topic List

- Natural selection
- Basic physiology
- Genetics, genetic disease, and cancer
- Pathogens and pathogenic disease
- Addiction and neurobiology
- Human nutrition
- Sex, gender, and orientation
- Human population growth

Attachments

- Taylor SP13 1105 Syllabus.docx: Course Syllabus
(Syllabus. Owner: Andrews, Adam Lee)
- Biology 1105 Assessment Plan and Rationale.docx: GE Assessment Plan and GE Rationale
(GEC Course Assessment Plan. Owner: Andrews, Adam Lee)

Comments

- Since this is a re-envisioned course requesting GE status, please attach a GE rationale and GE assessment plan. Please contact me if you should need instructions re: those 2 documents. *(by Vankeerbergen, Bernadette Chantal on 05/21/2012 02:53 PM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Andrews,Adam Lee	05/11/2012 03:47 PM	Submitted for Approval
Approved	Stetson,David Leete	05/14/2012 10:57 AM	Unit Approval
Approved	Hadad,Christopher Martin	05/14/2012 01:03 PM	College Approval
Revision Requested	Vankeerbergen,Bernadette Chantal	05/21/2012 02:55 PM	ASCCAO Approval
Submitted	Andrews,Adam Lee	05/24/2012 01:15 PM	Submitted for Approval
Approved	Misicka,Matthew Alan	05/24/2012 01:21 PM	Unit Approval
Approved	Hadad,Christopher Martin	05/25/2012 01:33 PM	College Approval
Pending Approval	Hanlin,Deborah Kay Hogle,Danielle Nicole Vankeerbergen,Bernadette Chantal Meyers,Catherine Anne Jenkins,Mary Ellen Bigler Nolen,Dawn	05/25/2012 01:33 PM	ASCCAO Approval

Biology 1105: Human Biology in Cinema
Spring 2013
3 credit hours

Lecturer: Dr. Robin Taylor
Center for Life Sciences Education
255A Jennings Hall
1735 Neil Avenue
Email: taylor.69@osu.edu
office hours: Thurs 3:00-5:00 p.m.

Course Coordinator : Mr. Adam Andrews
Center for Life Sciences Education
255B Jennings Hall
1735 Neil Avenue
Phone: 247-6345
Email: andrews.171@osu.edu

Assistant Course Coordinator: Jonathan Horn, email – horn.179@osu.edu
phone – 247-0029, office – 255D Jennings Hall

Teaching Associate:

Student Safety Services Service available from 7:30 p. m.-2:40 a.m. 292-3322

Class Meeting Schedule

Lecture: ?? **W, 6:00 p.m. – 7:50 p.m.**
 R, 6:00 p.m. – 8:50 p.m.

Class Format

Biology 1105, Human Biology in Cinema will show that mainstream films with a core biological theme can be entertaining AND educational and that having some basic biological insights will enhance your comprehension and appreciation of these films. (A bonus element is that information in a narrative structure is more memorable.) Lectures and discussions will cover basic principles in biology that will help elucidate the content of each film, for each of which you will produce a graded writing assignment. Even if you have seen a film before, seeing it in class provides a new experience. There will be three multiple-choice quizzes, one multiple-choice exam (a final), and eleven concise writing assignments.

Prerequisites

None. Not open to students with credit for Biology 102 or 1102.

Text

Recommended: *Essential Biology with Physiology* (4th Edition) by Simon, Reece, and Dickey; 2012; ISBN: 978-0321772602.

Required:

The New York Times (access information given out in class)

Internet Access: Your access to Carmen is an integral and necessary part of this course. You must activate your OSU email account to have access to Carmen. The Carmen URL is <http://carmen.osu.edu> and Biology 101 should be listed under My Courses on your Carmen homepage. The username to log on is your OSU name.# and the password is the one you use with all OSU email and registration systems. If you have a problem logging in or using Carmen, contact 688-HELP or carmen@osu.edu. IMPORTANT: The CLSE and its course staff will send email ONLY to your official OSU email account.

Goals and Objectives for the GEC Natural Science Category

Courses in natural sciences foster an understanding of the principles, theories and methods of modern science, the relationship between science and technology, and the effects of science and technology on the environment.

Learning Objectives:

1. Students understand the basic facts, principles, theories and methods of modern science.
2. Students learn key events in the history of science.

3. Students provide examples of the inter-dependence of scientific and technological developments.
4. Students discuss social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.

Students who successfully complete Biology 1105 will meet the GEC learning outcomes through a combination of lecture and movies that will illustrate basic biological principles. These include evolution by natural selection, the causes of infectious and noninfectious diseases and their medical investigations, DNA, genetics, nutrition, sex, gender, and sexual orientation, and the ramifications of population growth. Both lecture and movies will integrate modern and historical understandings of science and integrate science and technology. The movies focus on the nexus between science and society from the level of the individual (e.g., gender identity) to the level of the population (e.g., epidemics). Throughout the course, students will be assigned related current readings from *The New York Times* that will reflect current discoveries and problems of the contemporary world.

Biology 1105 Learning Outcomes

Students completing the course will achieve the following course outcomes:

- Students will describe the mechanism of evolution by natural selection.
- Students will be able to solve basic Mendelian genetic problems specific to human reproduction.
- Students will recall the sources of human infectious and noninfectious diseases and describe society's historical and current response to them.
- Students will apply the requirements of human nutrition and energy to recognize healthy eating and activity.
- Students will distinguish sex, gender, and sexual orientation and describe society's understanding of each.
- Students will evaluate the effects of human population growth on the environment and on humans themselves.
- Students will evaluate the interplay of science with current technology and the capability of each to both create and solve problems in the contemporary world.
- Students will synthesize information from lecture, films, and articles from the popular press regarding current social issues.

Grading and Evaluation

There will be three in-class quizzes (total 150 points) and a final exam (240 points). The final will be comprehensive by recalling broad important concepts from earlier lectures. The Final Examination will be held during Finals Week, on Thursday evening, December 6th. Please note this date and time NOW to avoid end-of-semester scheduling and travel conflicts. NO EARLY FINAL EXAMS will be offered. The format will be multiple-choice. Exams will contain questions concerning the films, *New York Times* articles, and **any other information/examples planned or extemporaneously discussed in lecture.** Lecture exams will cover only topics covered in lecture for which the textbook will provide depth and clarification. If you don't understand a topic thoroughly in lecture, read the book.

Writing assignments (220 pts) There are 12 writing assignments (220 pts), each of which must be typed and submitted on Carmen. The scoring rubric is below. Specifics will be posted on Carmen. Carmen gives us the **precise** time of your submission, and gives you an **immediate** receipt by e-mail. **KEEP THIS RECEIPT FOR THE DURATION OF THE SEMESTER. IT IS THE ONLY PROOF OF YOUR SUBMISSION.**

Due dates and times are adhered to strictly. Writing assignments turned in after the deadline will be accepted for the next 24 hours, but with a 50% penalty.

Scoring Writing Assignments

By completing the writing assignments students will learn to recognize the complex ideas of others without bias and to clearly articulate those ideas in their own words.

Unless described otherwise, each assignment is worth 20 points, 15 pts for summarization and 5 points for a guided response:

SUMMARY: Score 5 pts	The student writes a clear, coherent* summary but misses the point
Score 10 pts	The student writes a clear, coherent summary, gets the point but misses key elements
Score 11 -15 pts	The student writes a clear, coherent summary, gets the point and includes key elements

*** Note that clarity and coherence are required**

❖ Writing within a prescribed word limit is part of the exercise. Any assignment exceeding the word limit is penalized 5 points.

SALG (10 points) Students will be asked to complete a survey of the course at the end of the semester.

Total Possible Course Points: 620

Grades will be calculated on the basis of the above sum using the following formula guidelines. Carmen does not round averages up to the next nearest percentage point, so 92.11% and 92.99% totals both earn the grade of A-.

% Grade	% Grade	% Grade
93-100 A	80-82 B-	67-69 D+
90-92 A-	77-79 C+	60-66 D
87-89 B+	73-76 C	59 and below E
83-86 B	70-72 C-	

Posting Of Grades

All grades will be posted on Carmen. After grades are posted you have 10 working days to challenge any grade or inquire regarding an unposted or missing grade. **After that time, grades are final.** To challenge or inquire about an in-class activity, contact your TA. To challenge or inquire about exam grades, contact Jonathon Horn at horn.179@osu.edu to set up an appointment to find your scantron. **IMPORTANT:** Make sure that all of your grades are properly posted on Carmen as you receive them. Challenges about grades, particularly after the end of the semester, cannot be entertained after the 10-day grace period.

Absences

If you are unable to take the exam at the regularly scheduled time, you must contact Adam Andrews (andrews.171@osu.edu) within 24 hours to schedule a makeup. If your absence is excused for a university-sanctioned event, if you are ill and have been seen by a medical practitioner on the day of the exam, or have other documentable reasons for missing, you may be offered a makeup exam without penalty. If you have no documentation to support your absence, or your absence from the exam is not for an excused reason, you will be still offered the opportunity for a makeup exam, with a 25% overall deduction on your exam score. Lack of transportation, loss of electricity, travel plans, etc. will not be considered as valid excuses. Arrivals to the exam after the first student has turned in an exam will be considered an unexcused absence, and the policy above will apply. The format for makeup assignments is at the discretion of Dr. Taylor.

Check the date and time of the final examination on the schedule below now and make sure that this time does not conflict with your future plans. No early final exams will be given.

Academic Misconduct: OSU has a strict code of academic misconduct that requires us to report any and all cases of suspected misconduct (e.g., cheating on an exam, plagiarism in written assignments, using an exam proxy, etc.) to the OSU Committee on Academic Misconduct for adjudication. We will adhere to this policy.

Accommodation Of Special Needs: Any students registered with the Office of Disability Students needing accommodation should make an appointment with the course coordinator, Adam Andrews, to discuss those needs. Please do this within the first two weeks of the semester. Only the course coordinator is authorized to sign ODS forms. Please fill out those parts of the proctor sheet forms that are to be completed by the student before bringing the form for signature. This will help us ensure that your individual needs will be met appropriately and fairly.

Sexual Harassment: OSU and the Center for Life Sciences Education consider sexual harassment offenses to be unacceptable behaviors that disrupt opportunities for learning. While all members of the staff involved in this course have been trained in the OSU sexual harassment policies and procedures, this is not true for all OSU students. Please report any concerns about questionable or unwanted behavior to Dr. Taylor or Mr. Andrews.

Please, do not talk during lecture. Rules of civility dictate that two people not talk at the same time. If Dr. Taylor or a student has the floor, then civility dictates that you should not be talking. We encourage any and all students bothered by student chatter (or other annoyances) to please report it promptly to Mr. Andrews or Dr. Taylor.

This class is for serious audiences only

Serious movie watchers are quiet and attentive and can sit still for over two hours. They do not engage in whispering, texting, or clicking laptop keys during the show. If you cannot refrain from the aforementioned, reconsider taking this class. We hold this class audience to a level of manners found in a (Drexel) movie theater.

Issue Resolution: The CLSE believes that student concerns are usually most effectively addressed by the staff closest to the situation. Therefore, students are ordinarily expected to address issues or concerns first with their TAs. If the issue cannot be resolved by your TA, or for some reason you feel that you absolutely cannot address your concern with your TA, please feel free to contact the Course Coordinator or Assistant Director Matt Misicka.

Biology 1105: Film and Lecture Schedule Spring 2013

Schedule: Lecture (and supplemental films and radio spots) precedes each film on Wednesday. Discussion follows each film on Thursday. Relevant articles will be posted on Carmen and may be incorporated into discussion. All of the material (lecture, films, radio spots, articles, and discussion) will be fodder for quizzes and exams. Check Carmen daily for postings.

Week/ Date (Monday)	In- class Quiz	Writing Assignments are assigned on Fri. and are due <u>by Wednesday 5:59</u> PM	Lecture date Film date	Lecture Topic (Wednesday, 6:00 – 7:50 PM) Film (Thursday, 6:00 to 8:50 PM)
1 7 January			W-9 Jan R-10 Jan	Natural Selection <i>NOVA: Judgment Day (2008)</i>
2 14 January		First writing assignment assigned	W-16 Jan R-17 Jan	Introduction: when the body malfunctions: (1) <i>Frontline: “Sick Around the World” (2008)</i> <i>Sicko (2007)</i>
3 21 January		Writing assignment 1 due	W – 23 Jan R – 24 Jan	Discovery of pathogens (2) <i>The Story of Louis Pasteur (1935)</i>

4 28 January	Quiz 1	Writing assignment 2 due	W – 30 Jan R – 31 Jan	Disease: Infectious (pathogenic) (3) <i>And the Band Played On</i> (1993)
5 4 February		Writing assignment 3 due	W – 6 Feb R – 7 Feb	Structure and Function of DNA (4) <i>Double Helix</i> (1987)
6 11 February		Writing assignment 4 due	W – 13 Feb R – 14 Feb	Disease: Genetic (metabolic) (5) <i>Lorenzo's Oil</i> (1992)
7 18 February		Writing assignment 5 due	W – 20 Feb R – 21 Feb	Disease: Genetic (cancer) (6) <i>Wit</i> (2001)
8 25 February	Quiz 2	Writing assignment 6 due	W – 27 Feb R – 28 Feb	Disease: Addiction (7A) <i>Requiem for a Dream</i> (2000)
9 4 March			W – 6 Mar R – 7 Mar	Disease: Addiction and Neurobiology (7B) <i>Clean and Sober</i> (1998)
11 March	Spring Break			
10 18 March		Writing assignment 7 due	W – 13 Mar R – 14 Mar	Human nutrition (8) <i>Super Size Me</i> (2004)
11 25 March		Writing assignment 8 due	W – 20 Mar R – 21 Mar	Sex and gender: NOVA: “Sex: Unknown” (2007) (9a) Sex and gender: “20/20” with Barbara Walters (2007)
12 1 April	Quiz 3		W – 3 Apr R – 4 Apr	<i>Transgeneration</i> (2006) (9b) <i>Transgeneration</i> (2006)
13 8 April		Writing assignment 9 due	W – 10 Apr R – 11 Apr	Sexual orientation: a classic “Star Trek” (1987) (10) <i>The Crying Game</i> (1992)
14 15 April		Writing assignment 10 due	W – 17 Apr R – 18 Apr	Human population growth (and pathogenic disease) (11) <i>Contagion</i> (2011)
15 22 April		Writing assignment 11 due	Final Exam	Final Exam TIME: DAY:

THIS IS A WORKING DOCUMENT: Information in this syllabus is subject to change with as much notice to students as possible.

BIOLOGY 1105

RATIONALE AS A GEC NATURAL SCIENCE COURSE

Students who successfully complete Biology 1105 will meet the GEC learning outcomes through a combination of lecture and movies that will illustrate basic biological principles. These include evolution by natural selection, the causes of infectious and noninfectious diseases and their medical investigations, DNA, genetics, nutrition, sex, gender, and sexual orientation, and the ramifications of population growth. Both lecture and movies will integrate modern and historical understandings of science and integrate science and technology. The movies focus on the nexus between science and society from the level of the individual (e.g., gender identity) to the level of the population (e.g., epidemics). Throughout the course, students will be assigned related current readings from *The New York Times* that will reflect current discoveries and problems of the contemporary world.

Biology 1105 Learning Outcomes

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- Students will evaluate the interplay of science with current technology and the capability of each to both create and solve problems in the contemporary world.
- Students will synthesize information from lecture, films, and articles from the popular press regarding current social issues.

LEARNING OUTCOMES ASSESSMENT PLAN

GEC Category: Natural Science

Goals/Rationale: □ Courses in natural sciences foster an understanding of the principles, theories, and methods of modern science, the relationship between science and technology, and the effects of science and technology on the environment.

GEC Learning Objective	Indirect Methods	Direct Methods
Students understand the basic facts, principles, theories and methods of modern science.	SALG□ Syllabus Review	Embedded Questions from Lecture Quizzes and Final Exam Synthetic writing assignments
Students learn key events in the history of science.	SALG□ Syllabus Review	Embedded Questions from Lecture Quizzes and Final Exam Synthetic writing assignments
Students provide examples of the inter-dependence of scientific and technological developments.	SALG Syllabus Review	Synthetic writing assignments (i.e. Assignments 2, 3, & 4)
Students discuss social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.	SALG□ Syllabus Review	Synthetic writing assignments (i.e. Assignments 1, 2, 3, 7, 9, & 11)

Table 1. GEC Learning Objectives and the methods used to assess them.

Assessment of Biology 1105 (formerly a version of Biology 102) has been conducted using triangulated methods to increase the validity and clarity of the analysis. The variety of assessment methods are selected so that they can best measure student performance regarding the GEC learning objectives. (See Table 1.) Excluding the syllabus review, the entire student population is involved in all of the following methods, which are used to collect data every quarter / semester.

- A science education expert (the Assistant Director for Educational Research and Development) analyzes each syllabus to determine if it describes opportunities for student gains in the GEC LOs. The criterion is that the expert determines that the syllabus describes a learning environment that offers ample opportunities for achievement of the learning objectives.
- The Student Assessment of Learning Gains (SALG) Instrument is designed by Elaine Seymour to allow students to evaluate their gains in different aspects of the course. Validity and reliability information as well as information about the development of the SALG can be found at <http://www.wcer.wisc.edu/salgains/ftp/SALGPaperPresentationAtACS.pdf>. This

instrument is used to ask 1105 students about their perceptions of gains regarding the GEC LOs. The range of responses and their relative scores include the following: NA (no score), Not at all or Nothing (1 point), A little (2 points), Somewhat (3 points), A lot (4 points), and A great deal (5 points). The criterion for determining if the objectives have been met is a minimum mean class score of 3.00, which corresponds to a “somewhat” increase in understanding or skill.

- Student performance on items embedded in lecture exams and quizzes are analyzed regarding all of the GEC LOs. The criterion for determining if the learning objectives have been met is for at least 75% of the students to correctly answer the items.
- Each of the eleven writing assignments tasks the students with synthesizing information gathered from lecture, films, class discussion, and assigned readings from the current popular press. Based within these course elements are discussions of that fall within the scope of all four GEC LOs, for which the students must then expand upon in their writing. The criterion for success is at least 75% of the students scoring 75% or better on the assignments.

Since 2006, the CLSE has been using this assessment methodology to great success in all of our courses. The assessment data have been used as feedback to improve student learning in several ways. The faculty member and course coordinator use the SALG to identify areas of strengths and weakness to help plan for the next time the faculty member teaches the course and the next time the course is offered. The item analysis on the exams provides information that the course coordinators use to help the TAs know what to review in recitation. The instructors use the feedback on the test items to plan for future semesters.