

Term Information

Effective Term Summer 2016

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 1131
Course Title Peer Led Team Learning for Biology 1113 Students
Transcript Abbreviation PLTL for Bio 1113
Course Description Peer-led team learning (PLTL) provides a structure within which students will actively work together in groups to complete a series of activities and deepen their understanding of concepts associated with Biology 1113. A peer leader will work with the group on challenging and relevant activities to prepare biology students to apply scientific reasoning to authentic problems.
Semester Credit Hours/Units Fixed: 1

Offering Information

Length Of Course 14 Week, 12 Week, 8 Week, 7 Week, 6 Week, 4 Week
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? Yes
Is any section of the course offered 100% at a distance
Grading Basis Satisfactory/Unsatisfactory
Repeatable No
Course Components Workshop
Grade Roster Component Workshop
Credit Available by Exam No
Admission Condition Course No
Off Campus Never
Campus of Offering Columbus, Lima, Mansfield, Marion, Newark, Wooster

Prerequisites and Exclusions

Prerequisites/Corequisites Concur: Biology 1113
Exclusions

Cross-Listings

Cross-Listings

Subject/CIP Code

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

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- To help biology students actively work as groups to deepen each individual's understanding of Biology 1113 concepts and content, prepare biology students to apply scientific reasoning to authentic problems, and develop active learning & study habits.

Content Topic List

- Active Learning
- Reading Scientific Literature
- Thermodynamics
- Cellular Respiration
- Photosynthesis
- Cell Signaling
- Meiosis
- Gene Regulation
- Protein Synthesis
- Concept Mapping

Attachments

- SP16 Biology 1131 PLTL Syllabus.docx: Sample syllabus used for 2194
(Syllabus. Owner: Misicka, Matthew Alan)
- Biology 1131 cPLTL Review Checklist.pdf: ASC Tech review of cPLTL
(Other Supporting Documentation. Owner: Misicka, Matthew Alan)
- SP16 Biology 1131 Cyber PLTL Syllabus.docx: Bio 1131 Online syllabus
(Syllabus. Owner: Misicka, Matthew Alan)

Comments

- We would like to be able to offer these as early as Su16 if possible...

Per request, I've attached the online version of the syllabus. *(by Misicka, Matthew Alan on 03/15/2016 11:02 AM)*

- In order to review and approve the course for distance learning, the Panel will also need to see the on-line syllabus.

(by Vankeerbergen, Bernadette Chantal on 03/15/2016 09:28 AM)

COURSE REQUEST
1131 - Status: PENDING

Last Updated: Fink, Steven Scott
03/15/2016

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Misicka, Matthew Alan	03/08/2016 08:21 AM	Submitted for Approval
Approved	Misicka, Matthew Alan	03/08/2016 10:35 AM	Unit Approval
Approved	Fink, Steven Scott	03/08/2016 11:28 AM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	03/15/2016 09:29 AM	ASCCAO Approval
Submitted	Misicka, Matthew Alan	03/15/2016 11:03 AM	Submitted for Approval
Approved	Misicka, Matthew Alan	03/15/2016 11:04 AM	Unit Approval
Approved	Fink, Steven Scott	03/15/2016 12:57 PM	College Approval
Pending Approval	Nolen, Dawn Vankeerbergen, Bernadette Chantal Hanlin, Deborah Kay Jenkins, Mary Ellen Bigler Hogle, Danielle Nicole	03/15/2016 12:57 PM	ASCCAO Approval

Course Syllabus

Biology 1131

Peer-Led Team Learning of Biological Energy Transformation & Development (1 credit hour)
Spring Semester 2016

Biology 1113 Instructor: Dr. Jennifer Larson Email: larson.315@osu.edu Office: JE 240B
Office Hours: TBA

Course Coordinator: Sara Faust Email: faust.60@osu.edu Office: JE 240C
Office Hours: By appointment

Peer Leader: As assigned. Please see your Carmen home page.

Workshop meetings: 1.5 hrs per week (arranged) in Jennings Hall (JE) Room 336

Course Description:

The Biology 1131 peer-led team learning (PLTL) course provides a structure within which students will actively work together in groups of 6-8 to complete a series of activities and deepen their understanding of concepts associated with Biology 1113. A peer leader, who has previously taken Biology 1113 and has been trained to facilitate discussion, will work with the group. The workshop activities are challenging, relevant, and often have no single correct answer. In fact, the answer to the problem is less important than the exploration of the concepts and the analysis of the thought processes involved.

For each of the 10-12 workshops, students are required to complete a pre-workshop homework activity that will help them prepare for the group work. They will then meet with their group and peer leader to complete the workshop activities. Finally, students will complete a post-workshop activity designed to further assess their understanding of the workshop material through reflection and application.

Course Materials:

All materials will be provided through *Carmen* and during the workshop meetings. The Biology 1113 textbook is strongly recommended but not required.

Goals of the Course:

- a. To help biology students actively work as groups to deepen each individual's understanding of Biology 1113 concepts and course content.
- b. To prepare biology students to apply scientific reasoning to authentic problems.
- c. To help students develop as successful active learners and cultivate college-appropriate study habits.

Learning Outcomes:

Successful students will be able to:

- *Work with groups to solve problems.*
- *Solve problems through appropriate application of course concepts.*
- *Understand and apply metacognitive strategies when learning new material.*
- *Critically evaluate scientific writing in both primary literature and popular media.*
- *Interpret, evaluate, and create graphical representations of data*
- *Identify examples and list characteristics and general functions of the major classes of biological macromolecules (carbohydrates, lipids, proteins, nucleic acids).*
- *Explain the activities in the cell by relating cellular structure and cellular function.*
- *Explain the mechanisms and structures involved in mitotic and meiotic cell division, and explain the different roles for and consequences of each.*
- *Explain the forms of energy utilized in biological systems and the laws of thermodynamics that govern them.*

- Explain the energy transformations involved in fermentation, cellular respiration, and photosynthesis (including orderly chemical transformations, the relevance of redox reactions, and electron/proton transport).
- Describe the nature and function of enzymes and describe major mechanisms used to control their activity.
- Describe the cellular response to its environment (e.g. membrane transport, signal transduction).
- Describe how the loss/failure of cellular control mechanisms can cause cancer.
- Explain the transfer and modification of heritable traits from parents to offspring.
- Describe the nature and expression of heritable information at the molecular level, including DNA replication, DNA repair, transcription, protein synthesis.
- Apply Mendelian genetics to solve monohybrid and dihybrid crosses.
- Identify examples of non-Mendelian patterns of inheritance.
- Explain how genetic expression is controlled in prokaryotes and eukaryotes.
- Explain cellular reproduction, growth, and differentiation in the context of organismal development.
- Describe characteristics of viruses and bacteria (e.g., life history genome type and content, exchange of genetic material).
- Describe the experimental basis and select applications of recombinant DNA technology.
- Describe the development and evaluation of scientific explanations of natural phenomena.
- Apply biological concepts in the assessment of contemporary issues.
- Explain how evolution accounts for the unity and diversity of life.

Distribution of Homework and Class Work:

Students will spend the workshop time discussing readings and solving problems. That means that each student needs to prepare for class by thoughtfully completing all pre-workshop activities. This approach encourages active learning and makes the most out of our instructional time. **Completion of the pre-workshop activity is required for attendance.**

Post-workshop activities are essential for completing the learning experience and being successful both in Biology 1131 and Biology 1113. Each pre- and post-workshop activity is a valuable opportunity to practice applying course material and to develop your ability to self-evaluate your level of understanding.

Students should anticipate spending **at least 30 minutes** on each pre-workshop and post-workshop activity.

Completion of both the pre-workshop and post-workshop activities is required to earn credit for each workshop week. Failure to complete the post-workshop activity will result in a 0/30 for the entire week.

Assignment Descriptions:

- Pre-workshop activities** – These will be available on Carmen and must be submitted to the dropbox at least 24 hours prior to the workshop meeting. Pre-workshop assignments will include reading or reviewing research papers, secondary sources, or other posted materials and answering a series of questions intended to prepare students for the workshop. Student responses to pre-workshop activities are what allow the peer leader to tailor workshop pace and depth of discussion to best suit the group's current level of understanding.
- Workshop activities** – These will be completed and turned in during the workshop with the group. Workshop activity books and other supplies will be provided by the department. Students may occasionally be asked to bring resources to the workshop, such as a laptop or calculator.
- Post-workshop activities** – These will be completed following the workshop and should be submitted to a Carmen Dropbox within 48 hours. The activity will vary from a reflection of the knowledge gained in the workshop and the knowledge still desired to an extension of the material and its application to novel situations.

Assignment Grades:

The primary goal of this course is to promote thoughtful discussion and develop lifelong active learning. Pre-workshop activities, workshop attendance and participation, and post-workshop activities will be graded based on quality and effort rather than quantity or accuracy. Students will receive either full, half, or no credit. Late assignments must be submitted within 24 hours of the original deadline and can receive a maximum of half credit. Scores for the entire week's activities will be posted once the post-workshop has been graded. Students will have ten (10) business days to challenge any grade/score presented on Carmen they feel may be incorrect, or to inquire about any grade not posted. The posted grade stands as permanent if left unchallenged past the ten class-day period.

Course Points:

11 Workshops (30 points once all three items are complete)	330 points
Concept Map Foundation	10 points
3 Concept Map Checks (20 points each)	60 points
<u>Student Assessment of Learning Gains survey (SALG)</u>	<u>5 points</u>
Course total:	405 points

Course Grade:

This course will be graded Satisfactory/Unsatisfactory (S/U). Students must attend at least 70% of the workshops, complete all of the activities associated with those workshops, **and** earn a minimum of 70% of the total course points in order to pass the course.

How to Benefit From PLTL:

Unlike a traditional lecture or recitation where information is passively received from instructors, **students will benefit from PLTL's discussion-based workshops by taking a serious, active role in the discussions** each week. Biology 1131 is not "just a 1-credit S/U course"; by removing the fear of a "bad grade" harming a student's course grade or their GPA, Biology 1131 frees students to explore and evaluate their understanding without academic consequence. Active learning is new to many students, and like any new skill, requires effortful practice in order to become effective and reap benefits.

Absences:

Class attendance is essential for students to participate in class activities and have their achievement of learning outcomes assessed. Maintaining group cohesion and a motivated atmosphere is critical to deriving a benefit from each workshop. When even one member of a small group is absent, the cohesion and productivity of the group suffers. Please contact the course coordinator if you have a circumstances that will interfere with your class attendance.

Academic Misconduct:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. The instructor will report all instances of alleged academic misconduct to the Committee on Academic Misconduct for adjudication (Faculty Rule 335-5-487). For additional information, see the University's Code of Student Conduct, http://studentlife.osu.edu/pdfs/csc_12-31-07.pdf .

Sexual Harassment:

OSU and the Center for Life Sciences Education consider sexual harassment offenses to be unacceptable behaviors that destroy 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 the Assistant Director, Dr. Judy Ridgway. If you are uncomfortable speaking with CLSE staff, please feel free to contact Natalie Spiert of the Student Advocacy Center. E-mail: spiert.7@osu.edu, Phone: 292-1111. <http://hr.osu.edu/cst/sexualharassment.htm>.

Disability Services:

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform Dr. Ridgway of their needs within the first two weeks of the quarter. The Office for Disability Services is located in room 150 Pomerene Hall, 1760 Neil Avenue; telephone 614-292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/> .

Course Schedule

Please note: Workshop weeks start on Tuesday and end on Thursday. Thursday is the last day of the workshop week.

Week	Workshop #	Workshop Activity	Lecture Schedule
1	1	PLTL Workshop Introduction: Active Learning	Macromolecules
2	2	Biology and Society: Scientific Literature	Chemistry of Life
3	3	Energy and Metabolism: Thermodynamics	Cell Structure
4	4	Energy and Metabolism: Cellular Respiration	Membranes, Metabolism
5		No workshops – MT1 Cmap Check due in dropbox	Cell respiration
6	5	Energy and Metabolism: Photosynthesis	PSN, Cell communication
7	6	Structure and Function: Cell Signaling	Cell cycle
8		No workshops – Autumn Break	Meiosis
9	7	Workshop Review Week (1-6)	Mendel
10		No workshops – MT2 Cmap Check due in dropbox	Chromosome/inheritance
11	8	Genetics: Meiosis and Mendel	DNA/inheritance
12	9	Genetics: Gene Regulation *	Gene to Protein
13	10	Flow of Information: Protein Synthesis	Regulating gene expression
14		No workshops – Thanksgiving Break	Viruses
15	11	Workshop Review Week (7-10)	Biotech, Genome Evolution
16		No workshops – Final Cmap Check	

To preserve compatibility with the Biology 1113 lecture and lab schedule, the order in which workshop topics are covered may be adjusted in order to accommodate changes in lecture. Notice will be given as far in advance as possible, both on Carmen and through your peer leader. Please keep this in mind when completing your pre-workshop activity.

Course Syllabus

Biology 1131 Cyber PLTL

Cyber Peer-Led Team Learning of Form, Function, Diversity, & Ecology (1 credit hour)
Spring Semester 2016

Biology 1113 Instructor: Dr. Larson
Office: JE 240B

Email: larson.315@osu.edu
Office Hours: TBA

Course Coordinator: Sara Faust
Office: JE 240C

Email: faust.60@osu.edu
Office Hours: By appointment

Workshop meetings: 1.5 hours per week (arranged) via Carmen Connect (online)

Course Description:

The Biology 1131 cyber (online) peer-led team learning (cPLTL) course provides a structure within which students will actively work together in groups of 4-5 to complete a series of activities and deepen their understanding of concepts associated with Biology 1113. **Students will meet online using CarmenConnect.** A peer leader, who has previously taken Biology 1113 and has been trained to host the CarmenConnect meetings and facilitate discussion, will work with the group. The workshop activities are challenging, relevant, and often have no single correct answer. In fact, the answer to the problem is less important than the exploration of the concepts and the analysis of the thought processes involved.

For each workshop, students are required to complete a pre-workshop homework activity that will help them prepare for the group work. They will then log in to Carmen Connect to meet with their group and complete the workshop activities. Finally, students will complete a post-workshop activity designed to further assess their understanding of the workshop material through reflection and application. All coursework will be submitted online via a Carmen Dropbox.

Course Materials:

All materials will be provided through *Carmen* and during the workshop meetings. The Biology 1113 textbook is strongly recommended but not required.

Course Skills and Technology:

- Required Skills
 - Basic computer and web-browsing skills
 - Navigation of and communication via Carmen and CarmenConnect
 - Creating, editing, and sharing documents using Microsoft Word, Microsoft Excel, Adobe Acrobat, Google Docs, and CmapTools
- Required Technology
 - Computer: Mac (OS X or more current) or PC (Windows 7 or more current)
 - High-speed Internet connection
 - Webcam (built-in or external)*
 - Headset with microphone*
 - Document camera*
 - A Google/Gmail account (to access Google Docs) – sign up for free at: <https://accounts.google.com/signup>
 - Google Accounts Privacy Policy: <https://www.google.com/intl/en/policies/privacy/>

* Webcam, document camera and headset will be provided on loan to students. Must be returned by the end of final exams (May 3rd) or charges for equipment may be applied.

- Required Software
 - CmapTools - free software download available at: <http://cmap.ihmc.us/cmaptools/cmaptools-download/>

- CmapTools Privacy Policy: <http://www.ihmc.us/privacypolicy>
- Technical Support
 - Carmen: <https://odee.osu.edu/resourcecenter/carmen>
 - Carmen Connect: <http://resourcecenter.odee.osu.edu/carmenconnect>
 - Google Docs: <https://support.google.com/docs>
 - CmapTools: <http://cmap.ihmc.us/documentation-support/>
 - Technical support: Call OSU's 8-HELP (614-688-4357), available 24/7
 - Contact your peer leader for questions concerning Carmen, submission of coursework, and policies
 - Contact Sara Faust (faust.60@osu.edu) to request a replacement for defective headsets or document cameras

Goals of the Course:

- a. To help biology students actively work as groups to deepen each individual's understanding of Biology 1113 concepts and course content.
- b. To prepare biology students to apply scientific reasoning to authentic problems.
- c. To help students develop as successful active learners and cultivate college-appropriate study habits.

Learning Outcomes:

Successful students will be able to:

- *Work with groups to solve problems.*
- *Solve problems through appropriate application of course concepts.*
- *Understand and apply metacognitive strategies when learning new material.*
- *Critically evaluate scientific writing in both primary literature and popular media.*
- *Interpret, evaluate, and create graphical representations of data*
- *Identify examples and list characteristics and general functions of the major classes of biological macromolecules (carbohydrates, lipids, proteins, nucleic acids).*
- *Explain the activities in the cell by relating cellular structure and cellular function.*
- *Explain the mechanisms and structures involved in mitotic and meiotic cell division, and explain the different roles for and consequences of each.*
- *Explain the forms of energy utilized in biological systems and the laws of thermodynamics that govern them.*
- *Explain the energy transformations involved in fermentation, cellular respiration, and photosynthesis (including orderly chemical transformations, the relevance of redox reactions, and electron/proton transport).*
- *Describe the nature and function of enzymes and describe major mechanisms used to control their activity.*
- *Describe the cellular response to its environment (e.g. membrane transport, signal transduction).*
- *Describe how the loss/failure of cellular control mechanisms can cause cancer.*
- *Explain the transfer and modification of heritable traits from parents to offspring.*
- *Describe the nature and expression of heritable information at the molecular level, including DNA replication, DNA repair, transcription, protein synthesis.*
- *Apply Mendelian genetics to solve monohybrid and dihybrid crosses.*
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- *Explain how evolution accounts for the unity and diversity of life.*

Distribution of Homework and Class Work:

Students will spend the workshop time discussing readings and solving problems. That means that each student needs to prepare for class by thoughtfully completing all pre-workshop activities. This approach encourages active learning and makes the most out of our instructional time. **Completion of the pre-workshop activity is required for attendance.**

Post-workshop activities are essential for completing the learning experience and being successful both in Biology 1131 and Biology 1113. Each pre- and post-workshop activity is a valuable opportunity to practice applying course material and to develop your ability to self-evaluate your level of understanding.

Students should anticipate spending **at least 30 minutes** on each pre-workshop and post-workshop activity.

Completion of both the pre-workshop and post-workshop activities is required to earn credit for each workshop week. Failure to complete the post-workshop activity will result in a 0/30 for the entire week.

Assignment Descriptions:

- a. **Pre-workshop activities** – These will be available on Carmen and must be submitted to the dropbox at least 24 hours prior to the workshop meeting. Pre-workshop assignments will include reading or reviewing research papers, secondary sources, or other posted materials and answering a series of questions intended to prepare students for the workshop. Student responses to pre-workshop activities are what allow the peer leader to tailor workshop pace and depth of discussion to best suit the group’s current level of understanding.
- b. **Workshop activities** – These will be completed and turned in during the workshop with the group. Workshop activity documents and other digital supplies will be provided by the department. Students may occasionally be asked to use additional resources during the workshop, such as a calculator, CmapTools, or Google Docs.
- c. **Post-workshop activities** – These will be completed following the workshop and should be submitted to a Carmen Dropbox within 48 hours. The activity will vary from a reflection of the knowledge gained in the workshop and the knowledge still desired to an extension of the material and its application to novel situations.

Assignment Grades:

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Course total:	405 points

Course Grade:

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How to Benefit From PLTL:

Unlike a traditional lecture or recitation where information is passively received from instructors, **students will benefit from PLTL’s discussion-based workshops by taking a serious, active role in the discussions** each week. Biology 1131 is not “just a 1-credit S/U course”; by removing the fear of a “bad grade” harming a student’s course grade or their GPA, Biology 1131 frees students to explore and evaluate their understanding without academic consequence. Active learning is new to many students, and like any new skill, requires effortful practice in order to become effective and reap benefits.

Absences:

CarmenConnect workshop attendance is essential for students to participate in class activities and have their achievement of learning outcomes assessed. Maintaining group cohesion and a motivated atmosphere is critical to deriving a benefit from each workshop. When even one member of a small group is absent, the cohesion and productivity of the group suffers. Please contact the course coordinator if you have a circumstances that will interfere with your class attendance. **Missing more than three workshops will result in an automatic U grade for the course.**

Academic Integrity:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. The instructor will report all instances of alleged academic misconduct to the Committee on Academic Misconduct for adjudication (Faculty Rule 335-5-487). For additional information, see the University's Code of Student Conduct, http://studentlife.osu.edu/pdfs/csc_12-31-07.pdf .

Academic Resources:

Students have a number of university-provided resources including but not limited to: achieving academic success, discovering both scholastic and extracurricular opportunities, getting and staying healthy, and addressing personal issues. More information is available at the College of Arts and Sciences Student Resources website: <http://artsandsciences.osu.edu/academics/current-students/resources>

Students can seek help with registering for courses, paying tuition and fees, viewing grades, and other academic issues at the Student Service Center: <http://ssc.osu.edu>

Sexual Harassment:

OSU and the Center for Life Sciences Education consider sexual harassment offenses to be unacceptable behaviors that destroy 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 the Assistant Director, Dr. Judy Ridgway. If you are uncomfortable speaking with CLSE staff, please feel free to contact Natalie Spiert of the Student Advocacy Center. E-mail: spiert.7@osu.edu, Phone: 292-1111. <http://hr.osu.edu/cst/sexualharassment.htm>.

Diversity and Inclusion

The Center for Life Sciences Education promotes a welcoming and inclusive environment for all students and staff, regardless of race, age, religion, gender, ethnicity, national origin, disability, or sexual orientation. There is no tolerance for hateful speech or actions. All violations of this policy should be reported to the OSU Bias Assessment and Response Team (BART, www.studentaffairs.osu.edu/bias).

Disability Services:

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform Dr. Ridgway of their needs within the first two weeks of the quarter. The Office for Disability Services is located in room 150 Pomerene Hall, 1760 Neil Avenue; telephone 614-292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.

Participation in this online course requires the ability to participate in audiovisual-based discussions without closed captions. Face-to-face

sessions meeting in person are offered as an alternative version of the course.

Course Schedule:

Please note: Workshop weeks start on Monday and end on Thursday. Thursday is the last day of the workshop week.

Date	Lecture Topic	Lecture Activity	PLTL Activity	
	Week 1		Workshop 1	
Jan. 12	Lec 1 – Introduction/Course Policies/ Basic Chemistry of Life (1)	BioCards/Energy demo	Introduction	
Jan. 14	Lec 2 – Basic Chemistry of Life (2)	Carbon molecule models/thalidomide case study/organic compounds worksheet		
	Week 2		Workshop 2	
Jan. 19	Lec 3 – Macromolecules	Dehydration/hydrolysis demo, twizzler protein structure	Scientific Literature	Concept Map due Jan 17th 11:59 pm
Jan. 21	Lec 4 – A Tour of the Cell (1)	Cell Components Worksheet		
	Week 3		Workshop 3	
Jan. 26	Lec 5 – A Tour of the Cell (2)	Cancer Model	Thermodynamics	
Jan. 28	Lec 6 – Membrane Structure and Function	Model cell diffusion/osmosis		
	Week 4		Workshop 4	
Feb. 2	Lec 7 – Metabolism	Exam preparation activity	Cellular Respiration	
Feb. 4	Lec 8 – Cellular Respiration and Fermentation	Electron transport chain football		
	Week 5		Midterm	
Feb. 9	Midterm 1 (Covers Lectures 1-8; Chapters 1-9)		No workshop	Concept Map
Feb. 11	Lec 9 – Photosynthesis	Ex. 4 Part III/Electron excitation/cellular respiration and photosynthesis worksheet		Due Feb 7th 11:59 pm
	Week 6		Workshop 5	
Feb. 16	Lec 10 – Cell Communication (1)	Life in Bloom Part I	Photosynthesis	
Feb. 18	Lec 11 – Cell Communication (2)	Signal Transduction Pathway		
	Week 7		Review Week	
Feb. 23	Lec 12 – The Cell Cycle	Cell Cycle Worksheet	Review 1-5	
Feb. 25	Lec 13 – Meiosis and Sexual Life Cycle	Ex. 5 Part II/Exam preparation activity		
	Week 8		Workshop 6	
Mar. 1	Lec 14 – Mendel and the Gene Idea (1)	Punnett Square Bingo	Cell Signaling	
Mar. 3	Lec 15 – Mendel and the Gene Idea (2)	Genetics Worksheet		
	Week 9		Workshop 7	
Mar. 8	Lec 16 – The Chromosomal Basis of Inheritance	Pedigree Practice	Meiosis & Mendel	Concept Map
Mar. 10	Midterm 2 (Covers Lectures 9 – 16; Chapters 10-15)			Due March 6th 11:59 pm
	Week 10		Spring Break	

Mar. 15	Spring Break! No Class			No workshop	
Mar. 17	Spring Break! No Class				
	Week 11			Review Week	
Mar. 22	Lec 17 – The Molecular Basis of Inheritance (1)	Draw the replication fork		Review 6-7	
Mar. 24	Lec 18 – The Molecular Basis of Inheritance (2)	DNA Replication Worksheet			
	Week 12			Workshop 8	
Mar. 29	Lec 19 – From Gene to Protein (1)	Ex. 9 Part I (lab manual)/Beadle and Tatum activity		Gene Regulation	
Mar. 31	Lec 20 – From Gene to Protein (2)	Ex. 9 Part II (lab manual)			
	Week 13			Workshop 9	
Apr. 5	Lec 21 – Regulation of Gene Expression (1)	What makes a liver cell?		Gene to Protein	
Apr. 7	Lec 22 – Regulation of Gene Expression (2)	Life in Bloom Part II/Gene Regulation Worksheet			
	Week 14			Lab Practical	
Apr. 12	Lec 23 – Viruses	Interrupted case study		No workshop	
Apr. 14	Lec 24 – Genomes and Their Evolution	Subcloning/Genomes and Their Evolution Worksheet			
	Week 15			Review Week	
Apr. 19	Lec 25 – DNA Tools and Biotechnology	GMOs		Cumulative	
Apr. 21	Final Exam Review			(Emphasis 8-9)	
	Week 16			Final Exams	
Apr. 27	Final Exam: 2:00 pm – 3:45 pm (comprehensive, with 67% based on Lectures 17 – 25 and 33% on all previous Lectures)			No workshop	Concept Map Due April 24th 11:59 pm

Arts and Sciences Distance Learning Online Course Component Technical Review Checklist

Course: Biology 1131 Cyber PLTL

Instructor: Dr. Larson

Summary: Online Cyber Peer-Led Team Learning

Standard - Course Technology	Yes	Yes with Revisions	No	Feedback/recommendations
6.1 The tools used in the course support the learning objectives and competencies.	X			All tools and media that will be used in this course align to support the course learning objectives. This course will be delivered online with synchronous Carmen Connect online “workshop” sessions. These “workshop” sessions will be used to facilitate discussion and exploration of concepts amongst student groups in an online forum.
6.2 Course tools promote learner engagement and active learning.	X			Course tools included in the syllabus promote learner engagement and active learning in the following ways: <ul style="list-style-type: none"> • Pre-workshop activities focused on readings or reviewing research papers, secondary sources, or other posted materials within Carmen. Pre-workshop activities will also be used for attendance purposes. • Workshop activities centered around collaborative tools such as Google Docs and CmapTools will be used to reinforce concepts reviewed in the pre-workshop activities. These activities must be completed and turned in during each “live” online workshop session. • Post-workshop activities focused on reflection and the knowledge gained in the “live” online workshop sessions.
6.3 Technologies required in the course are readily obtainable.	X			The technologies used in this course are core common tools provided by the university (Carmen, Carmen Connect). Additional

				third party applications are also required for this course (CmapTools and Google Docs); these applications are available for free but require a user account to be made.
6.4 The course technologies are current.	X			The technologies used in this course are core common tools provided by the university (Carmen, Carmen Connect). Additional third party applications are also required for this course (CmapTools and Google Docs); Applications are current and supported by up-to-date operating systems.
6.5 Links are provided to privacy policies for all external tools required in the course.	X			A link should be included in the syllabus to the privacy policies for both Google Docs and CmapTools. Since the students are required to make an account to use these tools they should be informed of privacy policies protecting their data.
Standard - Learner Support				
7.1 The course instructions articulate or link to a clear description of the technical support offered and how to access it.	X			Recommend that these links be included in the "Course Technology" section of the syllabus to address all technical support needs of students. The faculty member should add an overview and instructions for students to access technical support for Carmen and CarmenConnect. https://odee.osu.edu/resourcecenter/carmen http://resourcecenter.odee.osu.edu/carmenconnect
7.2 Course instructions articulate or link to the institution's accessibility policies and services.	X			The below link should be included in the syllabus. The text for the accessibility statement should be in BOLD 18pt font. http://ods.ohio-state.edu

7.3 Course instructions articulate or link to an explanation of how the institution's academic support services and resources can help learners succeed in the course and how learners can obtain them.	X			The faculty member should add to the syllabus an overview and contact information for the student academic services offered on the OSU main campus. http://artsandsciences.osu.edu/current-students/university-resources
7.4 Course instructions articulate or link to an explanation of how the institution's student services and resources can help learners succeed and how learners can obtain them.	X			The faculty member should add to the syllabus an overview and contact information for student services offered on the OSU main campus. http://ssc.osu.edu
Standard – Accessibility and Usability				
8.1 Course navigation facilitates ease of use.	X			Recommend using the Carmen Distance Learning course shell to provide a consistent student-user experience in terms of navigation and access to content. Please see comments for further notes.
8.2 Information is provided about the accessibility of all technologies required in the course.	X			The OSU core common tool set used in this course meets the universities policies for accessibility. <i>This might be a relevant place for the statement we discussed around accessibility issues and taking the course in the face-to-face section vs. the cPLTL section of the course.</i>
8.3 The course provides alternative means of access to course materials in formats that meet the needs of diverse learners.	X			Recommend that resources be developed to address any requests for alternative means of access to course materials. These resources should be in formats that meet the needs of diverse learners.

8.4 The course design facilitates readability	X			Recommend using the Carmen Distance Learning course shell to provide a consistent student-user experience in terms of navigation and access to content.
8.5 Course multimedia facilitate ease of use.	X			All assignments and activities that use the core common tool set at Ohio State facilitate ease of use with embedded multimedia.

Reviewer Information

- Date Reviewed: March, 1 2016
- Reviewed By: Mike Kaylor
- Notes: Please note, access to the ODEE Carmen Distance Learning course shell can be setup for this course at any time upon request.