

BIO 130 - Biology

Winter 2017

Section 001: W140 BNSN on T Th from 1:00 pm - 2:15 pm, 2021
LSB on T from 3:00 pm - 5:50 pm

Section 002: W140 BNSN on T Th from 1:00 pm - 2:15 pm, 2021
LSB on T from 6:00 pm - 8:50 pm

Section 003: W140 BNSN on T Th from 1:00 pm - 2:15 pm, 2021
LSB on W from 8:00 am - 10:50 am

Section 004: W140 BNSN on T Th from 1:00 pm - 2:15 pm, 2021
LSB on W from 11:00 am - 1:50 pm

Course Information

Description

Bio 130: Biology is the freshman-level 'entry' course in the life science core curriculum and serves as a gateway to all of your subsequent learning in biology at BYU. This 'entry' status reflects what we deem the minimum exposure to what is the breadth of the discipline – the minimum a student in the life sciences should experience. Two key elements will unify your introductory study of biology, both of which were first published in the year 1859. The first is the discovery that all living things are made of cells (which of course seems very obvious to us today, but has deep implications for modern biological discovery)—we call this The Cell Theory. The second is the great discovery that all living things share common ancestry—The Theory of Evolution. Without an understanding of evolution, the biological sciences would exist as a set of isolated, specialized fields. Indeed, Theodosius Dobzhansky was right when he said, "nothing in biology makes sense except in the light of evolution." More recently, the National Academy of Sciences has stated that evolution is "the most important concept in modern biology, a concept essential to understanding key aspects of living things" (1998). Why focus on these two

ideas as an introduction to biology, and in what ways are these theories unifying concepts in biology? The purpose of this class is to help you answer these questions, and in so doing provide you with an intellectual foundation upon which you can build your own set of advanced skills and knowledge in the biological sciences. In addition, it is our purpose to help students develop character traits, intellectual abilities, and basic literacy in the biological sciences to “think clearly, communicate effectively, and act wisely” (The Value of a General Education, BYU) as stewards and citizens in their homes, communities, and the world.

Materials

Item	Price (new)	Price (used)
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	YOUR INNER FISH <i>Required</i> by SHUBIN, N	16.00	12.00
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Choose 1 of the following options:

Option 1: 1 Item

	BIOLOGICAL SCIENCE HB W/MASTERINGBIOLOGY PKG 6E <i>Required</i> by FREEMAN, S	274.27	
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OR Option 2: 1 Item

	Biological Science, Books a la Carte Edition, 6th Edition <i>Required</i> by FREEMAN, S		
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OR Option 3: 1 Item



EBOOK Biological Science (Subscription), 6th
Edition *Required*
by FREEMAN, S



PACKET BIOLOGY 130 LAB PACKET *Required* 8.50
by JENSEN, J

Learning Outcomes

Scientific Literacy

Students will demonstrate basic literacy in the language of science and an understanding of the foundational theories of biology (i.e., be able to formulate appropriate hypotheses and predictions to test specific biological phenomena and use appropriate vocabulary to do so)

- o Atomic Molecular Theory
- o Cell Theory
- o Theories of Photosynthesis, Fermentation, and Cellular Respiration
- o Cell Division and Meiotic Theories
- o Chromosomal and Mendelian Theories of Inheritance
- o Watson and Crick's Theory of DNA Structure and Replication
- o Protein Synthesis Theory
- o Darwin's Theory of Natural Selection
- o Hardy-Weinberg Theory
- o Ecosystem Theory
- o Population Growth Theory
- o Competitive Exclusion and Behavioral Theory

Scientific Process Skills

Students will demonstrate an understanding of the basic scientific principles which undergird the scientific process, including the strengths and weaknesses of this process.

Scientific Discovery

Students will appreciate the excitement of discovery that has accompanied important scientific developments.

Scientific Applicability

Students will demonstrate how scientific methodology can be used to analyze real-world science-related problems.

Data Evaluation

Students will be able to evaluate scientific data and claims in order to make rational decisions on public-policy science issues that affect their community.

Scientific Expression

Students will be able to express their thoughts (in oral, graphical, and written formats) on scientific topics clearly, including appropriate use of basic scientific vocabulary and effective interpretation of quantitative data.

Science and Religion

Students will be able to reflect rationally upon the interface between science and religion.

Scientific Reasoning

Students will demonstrate sound scientific reasoning ability.

After completing this course, students will be able to:

- demonstrate basic literacy in the language of science and an understanding of the foundational theories of biology (i.e., be able to formulate appropriate hypotheses and predictions to test specific biological phenomena and use appropriate vocabulary to do so)
 - o Atomic Molecular Theory
 - o Cell Theory
 - o Theories of Photosynthesis, Fermentation, and Cellular Respiration
 - o Cell Division and Meiotic Theories
 - o Chromosomal and Mendelian Theories of Inheritance
 - o Watson and Crick's Theory of DNA Structure and Replication
 - o Protein Synthesis Theory
 - o Darwin's Theory of Natural Selection
 - o Hardy-Weinberg Theory
 - o Ecosystem Theory
 - o Population Growth Theory
 - o Competitive Exclusion and Behavioral Theory

- demonstrate an understanding of the basic scientific principles which undergird the scientific process, including the strengths and weaknesses of this process.

- appreciate the excitement of discovery that has accompanied important scientific developments.

- demonstrate how scientific methodology can be used to analyze real-world science-related problems.
- evaluate scientific data and claims in order to make rational decisions on public-policy science issues that affect their community.
- express their thoughts (in oral, graphical, and written formats) on scientific topics clearly, including appropriate use of basic scientific vocabulary and effective interpretation of quantitative data.
- reflect rationally upon the interface between science and religion.
- Demonstrate sound scientific reasoning ability.

Grading Scale

Grades	Percent
A	95%
A-	90%
B+	87%
B	85%
B-	80%
C+	77%
C	75%
C-	70%
D+	67%
D	65%
D-	60%
E	0%

Classroom Procedures

This course is scheduled to meet for lecture on Tuesdays and Thursdays. During lecture time, the instructor will be following up on laboratory activities with more details and application activities for the information learned in lab. In addition, new information will be presented with accompanying class explorations. Homework will often be assigned. In addition, you will meet once a week, sometime preceding Wednesday's lectures, for a 3-hour lab conducted by TA's. **A lab syllabus will be provided to you during your first lab period.** The labs are designed as an exploration of new phenomena and will begin each new instructional unit. Your attendance in both lecture and lab are mandatory and essential as new materials will be presented in both and each is highly intertwined with the other.

A Pattern for Success in this Course

Biology is a complex subject to master. Biology 130 is meant to be an introduction to the wonders of this discipline. Although you should not expect to master the subject, you should strive for a sound conceptual understanding of the material. I believe there are key steps that can be taken to achieve this goal:

1. Commit to attend *every* lecture and lab period.
2. Commit to completing *every* homework assignment.
3. Print out any available materials *before* class so that you can take notes during the lectures. If you have trouble doing this, please ask me and I can help you!
4. Actively *participate* and take notes during class and PLEASE ask questions if things are unclear!
5. Come up with *at least* two questions that you have about the material covered each class. Email or talk to me (or a TA) in person about these questions *before* the next class.
6. Set aside *at least* 4 hours each weekend to review the material covered during that week: this would include reading the chapter, going through powerpoints, reviewing class activities, working on homework assignments.
7. Explain the activities done in class to another person—mom, dad, boy/girlfriend, friend, etc.
8. Do the chapter review at the end of each chapter and visit mybiology.com for more study review
9. Make sure all homework assignments are completed and that you understand them; work with a friend on them!
10. On the week before an exam:
 - Meet with a study group!
 - Review all materials
 - Explain all class activities AND all vocabulary/concepts on the "What should I know" sheets to the other members of your study group
 - Quiz each other on the materials
 - Make sure that you meet and study early enough that you can email me (or a TA) any questions that you might come up with! (i.e., don't wait until the last day of the exam, at 4:55pm.)

If you are still struggling with material, please visit <https://centerforservice.byu.edu/content/tutoring-services>

Special Thanks

Dr. Jamie Jensen designed many of the labs, activities and assignments used in this course and many of these materials are her intellectual property.

Class Participation

This course is taught using the principles of Inquiry. It is a pedagogical style that you may not have ever experienced, and that may be somewhat unfamiliar and perhaps cognitively uncomfortable for you at first. However, scientific research has shown that teaching by inquiry leads to better understanding of biology, greater intellectual development, higher awareness of the nature of science, and more positive attitudes toward science. Thus, we have adopted this methodology on firm scientific grounds for your direct benefit. There are a few rules that will help you (and your classmates) better succeed in this environment:

- Be a participant! If you are asked to come up with a hypothesis or analyze data, do not sit back and do nothing! These activities are designed to prompt thinking and encourage concept development. If you don't participate, you will not learn!
- Don't be afraid to be wrong. We are not expecting you to be a biologist coming into this class. We want your thoughts, no matter how silly they might be.
- Talk to your neighbors! You will often be asked to share your ideas with others. Do not be shy! The old adage that "two heads are better than one" applies perfectly to inquiry learning.
- Keep an open mind. What you believe to be true and what is actually true may be two very different things. Be open to alternative viewpoints. You must recognize a conflict in order to learn!
- Do not consistently be the first to shout out answers for two reasons: 1) without adequate thought, you will usually be wrong (not that there is anything wrong with that) and, more importantly, 2) you are robbing others of their opportunity to learn.

Hopes and Expectations

He which soweth sparingly shall reap also sparingly; and he which soweth bountifully shall reap also bountifully (2 Corinthians 9:6)

Biology is a vast discipline. It is impossible in a single semester to cover this field in its entirety. Hence, the selection of topics covered in class—although broad—must be extremely limited. I have selected for you material that I believe will provide you with a strong knowledge base to excel in subsequent courses in a range of biology majors. In addition, this course will not focus solely on content. I have no desire for you to obtain an encyclopedic knowledge of the field by spending all of your time on memorization (although you do need to become fluent in the language of biology). Instead, I am most concerned that you acquire and improve your skills in critical thinking and problem solving. In short, I want you to come away from this class better able to think like a scientist.

For some, thinking like a scientist will be a new task. The undergraduate experience is filled with opportunities to sit passively in your seat without engaging your professor or your fellow students. Initially, some people feel uneasy and inadequate in voicing their ideas, especially when called upon to comment in front of other members of the class. I know of no magic remedy to remove this discomfort, except to practice. It is critical that when you leave BYU that you have mastered the skill of critical evaluation and that you have the tools to test competing ideas. This is what it means to “study it out in your mind.

Instructor/TA Info

Instructor Information

Name: Keoni Kauwe

Office Location: 4146 LSB

Office Phone: 801-422-2993

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Name: Jamie Jensen

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Email: Jamie.Jensen@BYU.edu

Name: Kandace Hugentobler

Email: kandace.hugentobler@gmail.com

TA Information

Name: Austen Deal

Office Location: 2058 LSB

Office Hours: Mon 2:00pm-4:00pm

Tue 4:00pm-6:00pm

Wed 2:00pm-3:00pm

Or By Appointment

Email: whattadeal@gmail.com

Lab Section: 2

Name: Amy Read

Office Location: 2058 LSB

Office Hours: Mon, Wed 12:00pm-12:50pm

Tue 2:30pm-4:30pm

Email: amy.rebecca.read@gmail.com

Name: Bryn St Clair

Office Location: 2058

Office Hours: Thu 11:00am-1:00pm

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Name: Edward Maisey

Office Location: 2058 LSB

Office Phone: 701-580-1473

Office Hours: Mon 11:00am-1:30pm

Tue 3:00pm-4:00pm

Thu 3:00pm-4:00pm

Fri 11:00am-2:00pm

Or By Appointment

Email: maiseyedward@gmail.com

Lab Section: 4

Name: Andrea Johnson

Office Location: 2058 LSB

Office Hours: Tue 11:00am-1:00pm

Tue 2:00pm-4:00pm

Thu 11:00am-1:00pm

Fri 12:00pm-2:00pm

Or By Appointment

Email: andjrea45@gmail.com

Name: Momo Athay

Office Location: 2058 LSB

Office Phone: 8587053592

Office Hours: Mon, Wed 10:00am-10:50am

Tue 10:00am-10:50am

Thu 10:00am-12:50am

Fri 12:00pm-4:00pm

Fri 10:00am-10:50am

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Lab Section: 1

Name: Aaron Esplin

Office Location: 2058 LSB

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Office Hours: Mon, Wed 11:00am-12:00pm

Thu 10:00am-12:00pm

Fri 11:00am-1:00pm

Email: esplinaaron@gmail.com

Name: Claire LeBlanc

Email: clairealexisleblanc@gmail.com

Assignments

Assignment Description

Food Calorimetry HW

Due: Thursday, Jan 12 at 11:59 pm

Personal Introduction

Due: Tuesday, Jan 17 at 11:59 pm

Please write a half page 12 pt font single spaced paragraph about yourself. Include why you are taking the class. Submit this document through Learning Suite here.

Food Calorimetry Quiz

Due: Tuesday, Jan 17 at 11:59 pm

Diffusion HW

Due: Thursday, Jan 19 at 11:59 pm

Diffusion Quiz

Due: Tuesday, Jan 24 at 11:59 pm

Your Inner Fish Blog Post #1 Ch. 1-3

Due: Tuesday, Jan 24 at 11:59 pm

Using the digital dialogue feature of learning suite, write a 1-2 paragraph response to the topics and ideas presented in chapters 1-3 of the book *Your Inner Fish* in the conversation thread labeled "Your Inner Fish Ch. 1-3." Do not just summarize the chapters. Think critically about the ideas presented by the authors. You may choose to write about a topic or reoccurring theme found throughout the assigned chapters, or an idea the authors mentioned once but that caught your eye and you found interesting. You may also use outside research or quotes from the book to strengthen any arguments, observations, or points made in your post.

You must also write 2 comments on two different students' blog posts. In your comments, you can respond/react to what the student has written (agree/disagree), offer an opposing opinion or new information for consideration, or ask relevant questions, among other types of comments. These comments should be well-thought out, and at least a paragraph in length.

See the **Content** section of Learning Suite for Blog post/comment examples

Photosynthesis HW

Due: Thursday, Jan 26 at 11:59 pm

Photosynthesis Quiz

Due: Tuesday, Jan 31 at 11:59 pm

Your Inner Fish Blog Post #2 Ch. 4-5

Due: Tuesday, Jan 31 at 11:59 pm

Using the digital dialogue feature of learning suite, write a 1-2 **paragraph response** to the topics and ideas presented in chapters 4-5 of the book *Your Inner Fish* in the conversatoin thread labeled "Your Inner Fish 4-5". Do not just summarize the chapters. **Think critically** about the ideas presented by the authors. You may choose to write about a topic or reoccurring theme found throughout the assigned chapters, or an idea the authors mentioned once but that caught your eye and you found interesting. You may also use outside research or quotes from the book to strengthen any arguements, observations, or points made in your post.

You **must** also write **2 comments** on two different students' blog posts. In your comments, you can respond/react to what the student has written (agree/disagree), offer an opposing opinion or new information for consideration, or ask relevant questions, among other types of comments. These comments should be well-thought out, and at least a **paragraph in length**.

See the **Content** section of Learning Suite for Blog post/comment examples
Fruit Fly Fun HW

Due: Thursday, Feb 02 at 11:59 pm

Exam 1

Due: Friday, Feb 03 at 9:00 pm

Exam 1 February 1-3. Late fee starts February 3 at 2:00PM. Please read Testing Center hours and policies at testing.byu.edu as part of your planning to take the exam.

Photosynthesis/Cellular Respiration Poster (20 pts)

Due: Tuesday, Feb 07 at 10:00 am

THIS ASSIGNMENT IS DUE AT THE BEGINNING OF CLASS

Diagram respiration and photosynthesis on a posterboard. Discuss these processes with seven different people (outside of class) and have them initial your poster. You may work in pairs to do the poster, but you must each present it seven times. In your discussions of these processes please cover the following topics:

Respiration

- What overall reaction occurs? What is oxidized, what is reduced?
- Describe the three components of glucose processing

- Where does each component occur?
- What goes in, what goes out?
- Where do the electrons come from? Where do they end up?
- How are these processes regulated?
- How is glucose processing accomplished in the absence of an electron acceptor?

Photosynthesis

- What overall reaction occurs? What is oxidized, reduced?
- Where do the light dependent reactions occur? The light independent reactions?
- Where do the electrons for Photosystem II come from?
- Where do the electrons for photosystem I come from?
- What are the phases of the Calvin cycle?
- What goes in and what comes out of each phase?
- Why is rubisco and the reaction it catalyzes so important?

Finally, compare and contrast respiration and photosynthesis and discuss how they complement each other.

Genetics Quiz

Due: Tuesday, Feb 07 at 11:59 pm

Your Inner Fish Blog Post #3 Ch. 6-10

Due: Tuesday, Feb 07 at 11:59 pm

Using the digital dialogue feature of learning suite, write a 1-2 paragraph response to the topics and ideas presented in chapters 6-10 of the book *Your Inner Fish* in the conversatoin thread labeled "Your Inner Fish 6-10". Do not just summarize the chapters. Think critically about the ideas presented by the authors. You may choose to write about a topic or reoccurring theme found throughout the assigned chapters, or an idea the authors mentioned once but that caught your eye and you found interesting. You may also use outside research or quotes from the book to strengthen any arguements, observations, or points made in your post.

You must also write 2 comments on two different students' blog posts. In your comments, you can respond/react to what the student has written (agree/disagree), offer an opposing opinion or new information for consideration, or ask relevant questions, among other types of comments. These comments should be well-thought out, and at least a paragraph in length.

See the **Content** section of Learning Suite for Blog post/comment examples
Gene Expression HW

Due: Thursday, Feb 09 at 11:59 pm

Gene Expression Quiz

Due: Tuesday, Feb 14 at 11:59 pm

Genetics Homework (30 pts)

Due: Thursday, Feb 16 at 3:00 pm

THIS ASSIGNMENT IS DUE AT THE BEGINNING OF CLASS

This is a worksheet with practice test problems on genetics. It will take some time so please download the file from Blackboard and start early!

Biotechnology HW

Due: Thursday, Feb 16 at 11:59 pm

Midcourse Evaluation

Due: Friday, Feb 17 at 11:59 pm

5 points for completing the midcourse evaluation.

Biotechnology Quiz

Due: Tuesday, Feb 21 at 11:59 pm

Transcription/Translation Poster (20 pts)

Due: Thursday, Feb 23 at 10:00 am

THIS ASSIGNMENT IS DUE AT THE BEGINNING OF CLASS

Diagram Transcription and Translation on a posterboard. Discuss these processes with five different people and have them initial your poster. In your discussions of these processes please cover the following topics:

Transcription:

- Where does transcription occur in Prokaryotes? in Eukaryotes?
- Describe the three phases of transcription and the proteins and DNA features that are involved in each phase.
- Discuss the directional nature of the process.
- What is the product of transcription? What was used to create that product?
- Describe RNA processing and the difference between pre-mRNA and mRNA.

Translation:

- Where does translation occur?
- Describe the three phases of transcription and the proteins and DNA features that are involved in each phase.
- What is the relationship between the codon in DNA, the codon in RNA and the tRNA anticodon?
- Describe the ribosomal structure and the purpose of the "E", "P", and "A" sites.
- What is the product of translation? What was used to create that product?

Challenge Exam

Due: Tuesday, Feb 28 at 9:00 pm

Challenge Exam for students scoring over 93% on the first exam. THIS DOES NOT COUNT AGAINST YOUR GRADE.

Library Lab

Due: Tuesday, Feb 28 at 11:59 pm

Hardy-Weinberg HW

Due: Thursday, Mar 02 at 11:59 pm

Hardy-Weinberg Quiz

Due: Tuesday, Mar 07 at 11:59 pm

Evolution Microtheme Essay

Due: Tuesday, Mar 07 at 11:59 pm

In no more than two pages (double spaced), respond to the commonly asked question, "What do you think about the theory of evolution?"

Some hints to help focus your ideas:

1. Use your resources and knowledge about this topic. Consider the evidence and patterns in the natural world, as well as the idea of consilience.
2. If you choose to offer an LDS perspective, remember the contents of the BYU evolution packet.
3. What's the difference between 'belief' (typically a religious term) and 'accept' (more often used in a scientific context; e.g. I 'accept' evolution)?

In terms of writing, remember that any good piece of writing has an introduction, a main body, and a conclusion. A thesis statement should be evident and is usually best found at the end of the introductory paragraph. The main body

should contain paragraphs that support the thesis, and each of these paragraphs should be governed by a topic sentence. A concluding paragraph usually synthesizes the ideas that precede it and bring the reader to a clear understanding of the overall message of the essay.

Natural Selection HW

Due: Thursday, Mar 09 at 11:59 pm

Exam 2

Due: Friday, Mar 10 at 9:00 pm

Exam 2. Testing Center April 12-14. Late fee starts April 14 at 2:00PM. Please read Testing Center hours and policies at testing.byu.edu as part of your planning to take the exam.

Natural Selection Quiz

Due: Tuesday, Mar 14 at 11:59 pm

Rough Draft: Your Inner Fish Book Review

Due: Thursday, Mar 16 at 11:00 am

DUE AT THE BEGINNING OF CLASS

YIF_Guidelines&Rubric_Winter_2016.pdf Download

In a four-page, double-spaced paper, you will write a critical book review of *Your Inner Fish*. This includes highlighting its strengths and weaknesses backed by primary literature, and providing an opinion and recommendation of the book. Your review should be patterned after the book reviews in *Science Magazine*, published by AAAS. Sample book reviews are posted on Learning Suite. Your audience is the general readership of *Science Magazine*—the well-educated public (but not necessarily biologists).

Bring three hard copies of your rough draft to turn in at the beginning of class: one to turn in to the TAs to receive credit, and two to put into separate piles in the front of the classroom to switch with your fellow classmates. After class, pick up one paper from each pile (make sure you don't get your own). Peer review the two student papers you pick up using the rubric sheets provided in class. These peer reviews are due next class period.

The peer-reviewed rough drafts will be collected during the next class period and then organized at the back of the classroom for students to pick up after class.

Skulls HW

Due: Thursday, Mar 16 at 11:59 pm

Peer Review: Your Inner Fish

Due: Tuesday, Mar 21 at 11:59 pm

In order to receive a grade for your peer review you must submit online (using the link for this assignment) a document composed as follows: Your grade for this assignment will be based on your participation in the online submission. (While your online submission is how you receive a grade, if it is evident that you did not conduct a well thought-out review of the paper you may lose points.)

Skulls Quiz

Due: Tuesday, Mar 21 at 11:59 pm

Isotopes HW

Due: Thursday, Mar 23 at 11:59 pm

Isotopes Quiz

Due: Tuesday, Mar 28 at 11:59 pm

Population Growth HW

Due: Thursday, Mar 30 at 11:59 pm

FINAL DRAFT: Your Inner Fish Book Review

Due: Tuesday, Apr 04 at 10:59 am

[YIF_Guidlines&Rubric_Winter_2016.pdf](#) Download

Your Inner Fish Book Review Guidelines

A hard copy (MUST BE STAPLED) is due at the beginning of class

Learning Outcomes

- 1) To critically evaluate the scientific material presented in *Your Inner Fish*
- 2) To communicate effectively with your audience
- 3) To demonstrate proper writing skills (organization, grammar, punctuation, citation style, etc.)

Description

In a four-page, double-spaced paper, you will write a critical book review of *Your Inner Fish*. This includes highlighting its strengths and weaknesses backed by primary literature, and providing an opinion and recommendation of the book. Your review should be patterned after the book reviews in *Science Magazine*, published by AAAS. Sample book reviews are posted on Learning Suite. Your audience is the general readership of *Science Magazine*—the well-educated public (but not necessarily biologists).

As you can see from the posted sample reviews, your review should include:

- 1) A brief, but thorough, review of the book, *Your Inner Fish* (This should be sufficient enough that I would know exactly what the book was about without having to read it myself) (approximately 1 page)

2) Commentary on the book's strengths (this is where you will likely cite primary sources found from the supporting document you chose) (approximately 1 page)

3) Commentary on the book's weaknesses (again, use the primary literature to support your claims) (approximately 1 page)

4) A concluding section: Your opinion of the book should clearly shine through; it often takes the tone of a recommendation to readers.

5) A references section in APA format (on a separate page)

Population Growth Quiz

Due: Tuesday, Apr 04 at 11:59 pm

Conservation Ecology & Biogeography

Due: Thursday, Apr 06 at 11:59 pm

Nature Experience

Due: Thursday, Apr 13 at 5:00 pm

Extra Credit 2

Due: Wednesday, Apr 19 at 11:59 pm

Extra Credit 1

Due: Wednesday, Apr 19 at 11:59 pm

FINAL EXAM

Due: Monday, Apr 24 at 9:00 pm

Final Exam: To be taken in the Testing Center 4/21-4/24. NO EXCEPTIONS.
student rating credit

Due: Tuesday, Apr 25 at 11:59 pm

Schedule

Date	Topic	Due	Relevant Reading
T Jan 10 Tuesday	No class meeting. LABS WILL BE HELD AS SCHEDULED. Pleas e use the time to read through the		

	schedule and all of the assignments and content on learning suite. Dr. Kauwe will answer your questions on Jan 12.		
	LAB: Food Calorimetry		
W Jan 11 Wednesday	LAB: Food Calorimetry		
Th Jan 12 Thursday	The Nature of Science		WSIK #1 (all WSIK sheets are found under "content" tab on Learning Suite) Chapter 1
M Jan 16 Monday	Martin Luther King Jr Day		
T Jan 17 Tuesday	Hypothesis testing, Central themes in Biology	Personal Introduction	WSIK #1 & #2 Chapter 2
	LAB: Diffusion		
	Food Calorimetry Quiz		
W Jan 18 Wednesday	LAB: Diffusion		
Th Jan 19 Thursday	Chemistry, Macromolecules of Life		WSIK #2 Chapters 3 – 6

	Guest Lecture by Ciarah Cook		
T Jan 24 Tuesday	Membranes, Cells	Your Inner Fish Blog Post #1 Ch. 1-3	WSIK #3 Chapters 7 – 8
	Guest Lecture by Ciarah Cook		
	LAB: Photosynthesis		
	Diffusion Quiz		
W Jan 25 Wednesday	LAB: Photosynthesis		
Th Jan 26 Thursday	Eukaryotes, Prokaryotes, Viruses		More from WSIK #3 Chapters 26, 33
T Jan 31 Tuesday	Cellular Respiration and Photosynthesis	Your Inner Fish Blog Post #2 Ch. 4-5	WSIK #4 Chapters 9 – 10
	LAB: Genetics		
	Photosynthesis Quiz		
W Feb 01 Wednesday	LAB: Genetics	Exam 1 Opens	
Th Feb 02 Thursday	Cell Cycle, Cell Division		WSIK #5 Chapters 12 – 13
F Feb 03 Friday		Exam 1 Closes	
T Feb 07 Tuesday	Genes and Inheritance	Your Inner Fish Blog Post #3 Ch. 6-10 Photosynthesis/Cellular	WSIK #5 Chapter 14

		Respiration Poster (20 pts)	
	LAB: Gene Expression		
	Genetics Quiz		
W Feb 08 Wednesday	LAB: Gene Expression		
Th Feb 09 Thursday	Genes and Inheritance		WSIK #5 Chapter 14
T Feb 14 Tuesday	DNA Structure and Replication		WSIK #6 Chapter 15
	LAB: Biotechnology		
	Gene Expression Quiz		
W Feb 15 Wednesday	LAB: Biotechnology		
Th Feb 16 Thursday	The Central Dogma, Origins of Genetic Variation	Genetics Homework (30 pts)	WSIK #6 Chapters 16 - 17
F Feb 17 Friday	Midcourse Evaluation		
M Feb 20 Monday	Presidents Day		
T Feb 21 Tuesday	Monday Instruction Biotechnology Quiz		
W Feb 22 Wednesday	LAB: Library Lab Attend one of the following sessions: 2234 HBLL Wed., Feb. 22 nd , 2		

	pm Thurs., Feb. 23 rd , 12		
	pm Thurs., Feb. 23 rd , 3		
	pm Fri., Feb. 24 th , 9 am		
Th Feb 23 Thursday	Genetic Regulation	Transcription/Translation Poster (20 pts)	WSIK #6 Chapters 18 – 19
F Feb 24 Friday		Challenge Exam Opens	
T Feb 28 Tuesday	Biotechnology, Genomics, Bioinformatics	Challenge Exam Closes	
	LAB: Hardy- Weinberg Equilibrium		
W Mar 01 Wednesday	LAB: Hardy- Weinberg Equilibrium		
Th Mar 02 Thursday	Evidence of Evolution		WSIK #7 Chapter 22
T Mar 07 Tuesday	LDS views on Science and Evolution	Evolution Microtheme Essay	Evolution Packet
	LAB: Natural Selection		
	Hardy-Weinberg Quiz		
W Mar 08 Wednesday	LAB: Natural Selection	Exam 2 Opens	
Th Mar 09 Thursday	Mechanisms of Evolutionary Change		WSIK #7 Chapter

F Mar 10 Friday	Exam 2 Closes		
T Mar 14 Tuesday	Microevolution: Sexual Selection		
	LAB: Clade Race		
	Natural Selection Quiz		
W Mar 15 Wednesday	LAB: Clade Race		
Th Mar 16 Thursday	Human Evolution Guest Lecture by Dr. Byron Adams	Rough Draft: Your Inner Fish Book Review Peer Review: Your Inner Fish Opens	
T Mar 21 Tuesday	Speciation	Peer Review: Your Inner Fish Closes	
	LAB: Isotopes		
	Skulls Quiz		
W Mar 22 Wednesday	LAB: Isotopes		
Th Mar 23 Thursday	Phylogeny cont. / Behavior		
T Mar 28 Tuesday	Behavior, Genetics and Evolution		WSIK #7 Chapters 24, 25
	LAB: Population Growth		
	Isotopes Quiz		

W Mar 29 Wednesda y	LAB: Population Growth		
Th Mar 30 Thursday	Population Ecology		WSIK #8 Chapters 49, 51
T Apr 04 Tuesday	Conservation Biology LAB: Conservation Ecology and Biogeography Population Growth Quiz Guest Lecture: Dr. Richard Gill	FINAL DRAFT: Your Inner Fish Book Review	WSIK #8 Chapters 52
W Apr 05 Wednesda y	LAB: Conservation Ecology and Biogeography		
Th Apr 06 Thursday	Community Ecology		WSIK #8 Chapter 53
T Apr 11 Tuesday	Ecosystem Ecology LAB: Nature Experience		WSIK #8 Chapter 54
W Apr 12 Wednesda y	LAB: Nature Experience		
Th Apr 13 Thursday	Securing your future as a Biologist or Biomedical Professional Important to attend!		

T Apr 18 Tuesday	Final Exam Review Session	
W Apr 19 Wednesday	Extra Credit 1 Extra Credit 2	
Th Apr 20 Thursday	Winter Exam Preparation (04/20/2017 - 04/20/2017)	Final Exam: Testing Center April 21-24. NO EXCEPTIONS.
F Apr 21 Friday	First Day of Winter Final Exams (04/21/2017 - 04/26/2017)	FINAL EXAM Opens
M Apr 24 Monday		FINAL EXAM Closes
T Apr 25 Tuesday	student rating credit	

University Policies

Honor Code

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and every instructor's expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Sexual Misconduct

As required by Title IX of the Education Amendments of 1972, the university prohibits sex discrimination against any participant in its education programs or activities. Title IX also prohibits sexual harassment-including sexual violence-committed by or against students, university employees, and visitors to campus. As outlined in university policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of "Sexual

Misconduct" prohibited by the university.

University policy requires any university employee in a teaching, managerial, or supervisory role to report incidents of sexual misconduct that come to their attention through various forms including face-to-face conversation, a written class assignment or paper, class discussion, email, text, or social media post. If you encounter Sexual Misconduct, please contact the Title IX Coordinator at t9coordinator@byu.edu or 801-422-2130 or Ethics Point at <https://titleix.byu.edu/report> or 1-888-238-1062 (24-hours). Additional information about Title IX and resources available to you can be found at <http://titleix.byu.edu>.

Student Disability

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 422-2767. Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. The UAC can also assess students for learning, attention, and emotional concerns. Services are coordinated with the student and instructor by the UAC. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

Academic Honesty

The first injunction of the Honor Code is the call to "be honest." Students come to the university not only to improve their minds, gain knowledge, and develop skills that will assist them in their life's work, but also to build character. "President David O. McKay taught that character is the highest aim of education" (The Aims of a BYU Education, p.6). It is the purpose of the BYU Academic Honesty Policy to assist in fulfilling that aim. BYU students should seek to be totally honest in their dealings with others. They should complete their own work and be evaluated based upon that work. They should avoid academic dishonesty and misconduct in all its forms, including but not limited to plagiarism, fabrication or falsification, cheating, and other academic misconduct.

Plagiarism

Intentional plagiarism is a form of intellectual theft that violates widely recognized principles of academic integrity as well as the Honor Code. Such plagiarism may subject the student to appropriate disciplinary action administered through the university Honor Code Office, in addition to academic sanctions that may be applied by an instructor. Inadvertent plagiarism, which

may not be a violation of the Honor Code, is nevertheless a form of intellectual carelessness that is unacceptable in the academic community. Plagiarism of any kind is completely contrary to the established practices of higher education where all members of the university are expected to acknowledge the original intellectual work of others that is included in their own work. In some cases, plagiarism may also involve violations of copyright law. Intentional Plagiarism-Intentional plagiarism is the deliberate act of representing the words, ideas, or data of another as one's own without providing proper attribution to the author through quotation, reference, or footnote. Inadvertent Plagiarism-Inadvertent plagiarism involves the inappropriate, but non-deliberate, use of another's words, ideas, or data without proper attribution. Inadvertent plagiarism usually results from an ignorant failure to follow established rules for documenting sources or from simply not being sufficiently careful in research and writing. Although not a violation of the Honor Code, inadvertent plagiarism is a form of academic misconduct for which an instructor can impose appropriate academic sanctions. Students who are in doubt as to whether they are providing proper attribution have the responsibility to consult with their instructor and obtain guidance. Examples of plagiarism include: Direct Plagiarism-The verbatim copying of an original source without acknowledging the source. Paraphrased Plagiarism-The paraphrasing, without acknowledgement, of ideas from another that the reader might mistake for the author's own. Plagiarism Mosaic-The borrowing of words, ideas, or data from an original source and blending this original material with one's own without acknowledging the source. Insufficient Acknowledgement-The partial or incomplete attribution of words, ideas, or data from an original source. Plagiarism may occur with respect to unpublished as well as published material. Copying another student's work and submitting it as one's own individual work without proper attribution is a serious form of plagiarism.

Respectful Environment

"Sadly, from time to time, we do hear reports of those who are at best insensitive and at worst insulting in their comments to and about others... We hear derogatory and sometimes even defamatory comments about those with different political, athletic, or ethnic views or experiences. Such behavior is completely out of place at BYU, and I enlist the aid of all to monitor carefully and, if necessary, correct any such that might occur here, however inadvertent or unintentional. "I worry particularly about demeaning comments made about the career or major choices of women or men either directly or about members of the BYU community generally. We must remember that personal agency is a fundamental principle and that none of us has the right or option to criticize the lawful choices of another." President Cecil O. Samuelson, Annual University Conference, August 24, 2010 "Occasionally, we ... hear reports that our female faculty feel disrespected, especially by students, for choosing to work at BYU,

even though each one has been approved by the BYU Board of Trustees.
Brothers and sisters, these things ought not to be. Not here. Not at a university
that shares a constitution with the School of the Prophets." Vice President John
S. Tanner, Annual University Conference, August 24, 2010