

COURSE: Introductory Cell Biology, BIOL 2440.07, Spring 2018 - online

INSTRUCTOR: Dr. Joan Hudson

Office: Rm 129 - Lee Drain Building, jhudson@shsu.edu, (936) - 294-1541

Office Hours: TTh 9:00 -10:30, by appointment or anytime I am online.

TEXT: **Essential Cell Biology** by Bruce Alberts, D. Bray, K. Hopkins, A. Johnson, J. Lewis, M. Raff, K. Roberts and P. Walter. 2010- 3rd ed or 2014- 4th ed. Garland Science. Lecture videos are from the 3rd edition. It will be to your advantage to have the figures during the online lecture, either with the book or copies – paper copies work best for most students.

COURSE OBJECTIVES: The objective of this course is to provide a broad overview of cell biology for biology and other science majors. The student will develop a better understanding of how biological organisms function.

Topics will include:

- 1) four groups of macromolecules present in all life forms,
- 2) protein structure, function, and synthesis,
- 3) nucleic acid chemistry, DNA replication and inheritance,
- 4) cell structure and reproduction,
- 5) organelle structure and function,
- 6) membrane structure, function, and transport, and
- 7) energy transformations in cells.

After taking this course, the student should have a better understanding of cell structure, chemistry and function and be able to critically evaluate scientific studies in cell biology. This course will prepare students for advanced level biology classes such as Microbiology and Genetics.

GRADING: Four HOURLY exams (100 points each). The fourth exam is the final exam. Lab is 100 points. Total points in this class = 500 points. **There are no extra credit points or activities for extra credit.**

Final grade determination:

A = 90% - 100% (450-500 points)

B = 80% - 89% (400-449 points)

C = 70% - 79% (350-399 points)

D = 60% - 69% (300-349 points)

F = 0% - 59% (0-299 points)

EXAMS: The exams will have 50 multiple choice questions (using Scantron 882). Questions will come from lecture notes, lab, and your book. Revising your lecture notes is highly recommended.

There are no extra credit points.

Exams will be given on the designated dates in Rm 130C in the Lee Drain Building or other Rm in LDB. Exams can be taken on Monday from 3:30-5:00 or Tuesday from 8:00-11:00.

MAKE-UP POLICY:

An alternative time must be approved by Dr.Hudson ahead of time. If the exam is not taken on Monday or Tuesday and no arrangements were made, a completely essay exam will be given as a make-up exam. There are no exceptions

ACADEMIC DISHONESTY:

The Student Code and Faculty Handbook will be followed in the event of academic dishonesty. Any form of cheating will not be tolerated.

LAB: Lab exercises will be completed and submitted for a total of 100 points.

No labs will be dropped.

Failure to turn in even one lab, may seriously impact your final grade in this class.

Labs must be submitted on or before the closing date.

Lab materials will not be accepted after the closing date.

You will need a device to make videos for some of the labs.

Lab exercises will not be accepted after the closing date – no exception.

STUDENTS WITH DISABILITIES: Students with any type of disability that may prevent them from fully demonstrating their abilities in this class should contact me as soon as possible. We can work together to come up with a plan to assist you with this course. *Any student with a disability that affects his/her academic performance should contact the Office of Services for Students with Disabilities in the SHSU Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786) to request accommodations.*

SUPPLEMENTAL INSTRUCTION: Supplemental Instruction (SI) is a free and anonymous peer-facilitated academic support program. SI pairs weekly study sessions with traditionally difficult courses such as BIOL 2440. Attendance is strongly encouraged. Monica Anderson is the SI Leader for this course and you will receive an e-mail from her with more information about SI.

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WEEK	Topic	READING	
1	17 January	Introduction to Cells	Chapter 1
2	22 January	Chem. Components of Cells	Chapter 2
3	29 January	Chemical Components of Cells cont.	Chapter 2
4	5 February	Energy, Catalysis, and Biosynthesis	Chapter 3
5	EXAM 1 - Monday or Tuesday, 12 or 13 February 2018, LDB Rm 130C 14 February	Protein Structure and Function	Chapter 4
6	19 February	Membrane Structure	Chapter 11
7	26 February	Membrane Transport	Chapter 12
8	EXAM 2 - Monday or Tuesday, 5 or 6 March 2018, LDB Rm 130C 7 March	How Cells Obtain Energy from Food	Chapter 13
9	19 March	Energy Generation in Mitochondria and Chloroplasts	Chapter 14
10	26 March	Energy Generation in Mitochondria and Chloroplasts cont.	
11	2 April	DNA and Chromosomes	Chapter 5
12	EXAM 3 - Monday or Tuesday, 9 or 10 April 2018, LDB Rm 130C 11 April	DNA Replication, Repair and Recombination	Chapter 6
13	16 April	From DNA to Protein: How Cells Read the Genome	Chapters 7, 8
14	23 April	The Cell Division Cycle	Chapter 18
15	30 April	Sex and Genetics	Chapter 19

FINAL EXAM - EXAM 4 – Monday or Tuesday 7 or 8 May, 2018

**Recommendation: Study, Study, Study!!
Read, Read, Read !!!**