General Biology I – Attributes of Living Systems
BIOL 1306 - 3 credits
Texas A&M University San Antonio
Department of Natural Sciences
Fall 2024 Syllabus

Dr. Megan Wise de Valdez (Dr. Wise)

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e-mail: megan.wisedevaldez@tamusa.edu & through Blackboard Messenger (preferred)

Walk-in Office hours: Will be updated week 2!

We can also schedule an online meeting or in-person meeting as needed.

Class Meeting Times and Location(s):

Lecture: Tue/Thurs 2:00-3:15(005); SciTech 145

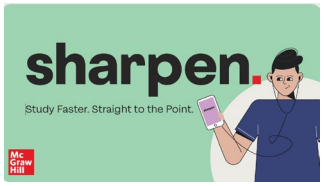
Textbook for Lecture ***REQUIRED*:**

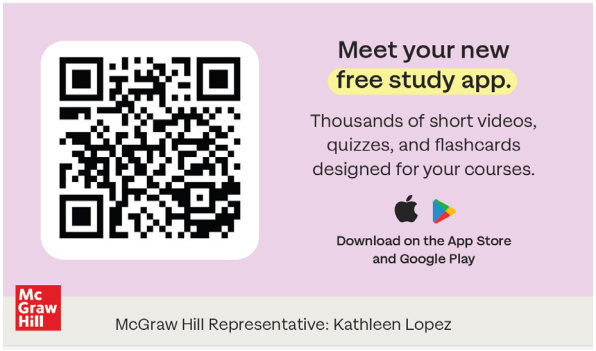
Biology – Raven et al. – 13th edition McGraw Hill – **BOOK FEE ASSESSED-SHOULD HAVE ACCESS ON FIRST DAY OF CLASS**

**You may also purchase a loose copy at a special rate from the publisher. This is a great option if you know you will need a physical copy of the text.

Other Required Materials:

- **Lab**: **MUST BE ENROLLED IN BIOL 1106 LAB CONCURRENTLY (unless already taken)**
- **Blackboard**
  - this is where you will go for lectures, grades, and weekly assignments on "McGraw Hill Connect"
  - Power-point versions of lectures will be posted on Blackboard
  - Announcements regarding lectures or labs may be posted on Blackboard
  - Grades for individual assignments/labs etc… will be posted on Blackboard as we go along.
- **On-Line Learning System Components**
  - We will be using "McGraw Hill Connect" which is an on-line tool for learning and studying modules. You will have access to this via blackboard. It will require a one-time set-up.





- **iClicker Remotes - We will be using iClicker Remotes to take attendance, quizzes, and to participate throughout the class.**
  - You will be assigned an iClicker remote on the first day of class and you will register it to your name. A free student account will need to be created.
  - You will use this same remote for each class period: you will pick it up immediately upon entering the classroom and return it to the proper bin upon leaving the classroom.

Recommended Materials:

- I would **highly suggest** taking notes directly on the power point lectures. Wo have a way to do that in class, whether you print them out or if you have a smart tablet.

Catalog Description and Prerequisites:

Course Description: This course examines the fundamental molecular, cellular, and genetic principles characterizing living organisms including the role of the scientific method in the discovery of these principles. Specific concepts include the chemical basis for life, energy transformations, cell structure and function, the metabolic processes of respiration and photosynthesis, cell reproduction, and basic concepts of heredity and genetics. This course is designed for students majoring in science fields. This course meets the standards for the life and physical Sciences category of courses under the core curriculum.

Learning Outcomes:

1. Students will develop critical thinking skills, communication skills, and empirical and quantitative skills.
2. Students will understand and apply the scientific method to novel questions in order to develop a strategy to answer those questions.
3. Students will understand the role of the scientific method in scientific discovery.
4. Students will summarize the laws of matter and energy as they apply to living organisms
5. Students will classify the organic and inorganic components that make up living organisms
6. Students will explain the role of water in the fitness of the environment
7. Students will demonstrate an understanding of the differences between eukaryotic and prokaryotic cells.
8. Students will identify components of plant and animal cells, including the structure and function of cell organelles.
9. Students will understand cellular membranes as they relate to transportation of molecules into and out of cells.
10. Students will understand the energy transforming principles of photosynthesis and cellular respiration.
11. Students will understand the cellular cycles of mitosis and meiosis
12. Students will understand the basic principles of gene to protein
13. Students will apply the principles of Mendelian genetics to solution of basic genetics problems to better understand inheritance patterns and be able to discuss how they can contribute to the solution of medical and social dilemmas.
14. Students will be able to discuss recent advances in modern genetics considering the medical, social, and economic impacts of the new findings.

Course Content

4 Regular Exams – (100 points each)

- Each exam will have 35-50 questions ranging from multiple choice, short answer, true/false, drawing, matching, fill-in-the-blank, etc. Not all types of questions will be on every exam.
- Exams **will not be scaled**, however you will be informed of the class average on that exam and thus it will give you an idea of your standing in the class (see scaling policy on FINAL GRADES below).
- If you feel that your exam was graded incorrectly, I would be happy to discuss it with you **within 1 week of taking the exam**.

1 Project – (100 points)

- This project will encompass the last unit of the semester – including concepts on DNA replication, transcription and translation. Due date TBD – near end of semester.

1 Cumulative Final Exam – (125 points)

- 50 multiple choice questions and several short answer questions.

7 Quizzes – (20 points total for each: 10 for the individual attempt, 10 for the group attempt)

- These quizzes are likely the type you have not seen in the past.
- You will be assigned to a group of 4 other students at the beginning of the semester that you will work with for the entire year on all weekly quizzes.
- Quizzes will cover the material covered in the previous lecture.
- First - You will take the quiz individually (Closed Book) using iClicker remotes.
- Then - You will get with your assigned group and take that same quiz as a group (Closed Book) using your iclickers.
- A CLASS discussion will follow the quizzes and will serve to solidify concepts with which the class had difficulty on the quiz.
- QUIZZES START at EXATLY 2:00 – If you are late, you will only be allowed to take the individual portion and it will count twice.

13 Online Homework Assignments – 100 points total (10 each. Your 3 lowest grades will be dropped).

- On-line homework assignments using McGraw Hill Connect are a way to guide you through sections of your book and help you to assess whether or not you are understanding the material.

In-Class Participation & Attendance – Points variable

- There will be hands-on activities or participation questions using iClickers throughout the semester that will help demonstrate concepts, practice word problems, and reinforce concepts that you will be responsible for completing in class.
- These in-class activities or polls etc…should help assess where you are in terms of the concepts being taught. If you struggle with these activities, this should help identify where you need to focus your studying or where you need to ask for more help.
- These cannot be made up because they require your presence in the classroom itself.

Smart – Book Readings – No points

- These are guided reading guides through the book. You can choose to do these, or you can read your book in the traditional way.

POLICIES

In college, it is expected that for every credit hour you spend in class, you spend 3 hours working on that material at home. Thus, in the class, it is expected that in addition to coming to class every Tuesday and Thursday, you also spend 9 hours a week on outside school pertaining to this class. This of course takes time-management skills. Please take this into consideration when planning your semester activities.

ATTENDANCE:

Lecture Attendance Attendance will be taken daily using iClickers. If you must miss a class, you are responsible for obtaining what you missed (announcements, class notes, handouts, etc...) from a fellow classmate, not me. In which case make a buddy:_____

MAKE UP POLICIES:

Homework Assignments: Because these are on-line and because they will be open and available for more than one day, there is no make-up. There is a **5-day grace period** for turning in these assignments but you will lose points per each day late. If there is an university-excused emergency that prevents you from taking a quiz you must contact me **within one day of the due date**. If I do not hear from you within that time period, you have forfeited the right to make up the assignment or quiz.

Quizzes & Exams:

- You may make up an exam only if
  - you contact me within **one** day of the scheduled exam
  - your absence is one approved by TAMUSA policies (illness, death in the family, other immediate-family emergencies). Documentation will be required.
  - Again – if I do not hear from you within 24 hours of the scheduled exam, you have forfeited the right to make up the exam.
  - For make-up quizzes, you may take only the individual portion and it will count twice.

In-class activities – as mentioned above, any hands-on activities we conduct in class **cannot be made up** as they require your presence and will usually be conducted as a group. However, if you miss for an excused reason, we can discuss the reason why and then you will be exempt from the points given in class.

Grading

EXAMS/PROJECT/FINAL EXAM = 60% of your grade (take total points earned / total points available X 0.60) = W
HOMEWORK =15% of your grade (take total points earned / total points available X 0.15) = X
QUIZZES = 20% of your grade (take total points earned / total points available X 0.20) = Y
ATTENDANCE/PARTICIPATION = 5% of your grade (take total points earned / total points available X 0.05) = Z

(W + X + Y + Z) x 100 = FINAL COURSE PERCENTAGE

Final Grade:

A = 90-100%.....I will *consider* scaling up if you earn an 89.7%, but I will **NOT** scale up for an 89.49% or less
B = 80-89%..... I will *consider* scaling up if you earn an 79.7%, but I will **NOT** scale up for an 79.49% or less
C = 70-79%..... I will *consider* scaling up if you earn an 69.7%, but I will **NOT** scale up for an 69.49% or less
D = 60-69%..... I will *consider* scaling up if you earn an 59.7%, but I will **NOT** scale up for an 59.49% or less
F = below 60%

Dos & Don'ts to be successful

- Do come to class regularly and on time – it affects your grade, not because of points assessed, but because of understanding the material.
- Do take notes on the print outs of my lectures
- Do ask questions in class
- Do seek out help from me and your peers
- Do NOT have your cell phone out during class unless asked to do so.
- Do NOT check social media sites on your laptop during my lecture feigning that you are taking notes
- Do NOT come in late or miss class and ask me to be caught up
- Do NOT leave early without talking to me prior to class beginning

Email Etiquette

Professional email etiquette is a requirement when communicating with me (or anyone) online. A proper greeting with a coherent message and the name of the course in the subject line.

Please allow 24 hours for a response during the regular week and 72 hours for a response over the weekend. I will not regularly be answering e-mails sent after 5:00 p.m. so please plan accordingly.

August						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
25	26	27 Go over syllabus/expectations	28	29 Ch. 1 – Scientific Method	30	31
September						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 LABOR DAY – NO CLASSES	3 Chapter 2 - Atoms Molecules & Water	4	5 Chapter 2 - Atoms Molecules & Water **QUIZ 1**	6	7
8	9	10 Chapter 3 – Organic Molecules	11 Census Date	12 Chapter 3 – Organic Molecules **QUIZ 2**	13	14
15	16	17 **EXAM I** – Chapters 1-3	18	19 Chapter 4 – General Features of Cells	20	21
22	23	24 Chapter 4 – General Features of Cells	25	26 Chapter 5 – Membrane Structure, Synthesis & Support **QUIZ 3**	27	28
October						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
29	30	1 Chapter 5 – Membrane Structure, Synthesis & Support	2	3 Chapter 26 – Non-living Particles **QUIZ 4**	4	5
6	7	8 **EXAM II -**Chapters 4, 5, 9, 26	9	10 Chapter 6 – Energy & Metabolism	11	12
13	14	15 Chapter 6 – Energy & Metabolism	16	17 Chapter 7 – How Cells Harvest Energy **QUIZ 3**	18	19

20	21	22 Chapter 8 – Photosynthesis **ON LINE LECTURE**	23	24 Chapter 8 – Photosynthesis **QUIZ 4**	25	26
November						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28	29 **Exam III – Chapters 6-8**	30	31 Chapter 10 – How Cells Divide	1	2
3	4	5 Chapter 11 Sexual Reproduction & Meiosis	6	7 Chapter 12 – Patterns of Inheritance **QUIZ 5**	8	9
10	11 Last day to drop with a "W"	12 Chapter 13 – The Chromosomal Basis of Inheritance	13	14 Chapter 14 – DNA: The Genetic Material **QUIZ 6**	15	16
17	18	19 **EXAM IV– Chpts 16-17**	20	21 Chapter 14 – DNA: The Genetic Material/Chapter 15 – Genes and How They Work	22	23
24	25	26 Chapter 15 – Genes and How They Work	27 **NO CLASSES – STUDY DAY**	28 **THANKSGIVING BREAK**	29 **THANKSGIVING BREAK**	30
DECEMBER						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3 Chapter 15 – Genes and How They Work/Chapter 16 – Control of Gene Expression **QUIZ 7**	4	5 Chapter 16 – Control of Gene Expression ***Last Day of Regular Classes***	6 **NO CLASSES – STUDY DAY**	7
8	9	10 **FINAL EXAM 2:00-3:50**	11	12	13	14