

# BSC 1010C: General Biology I

## Valencia College

### Summer 2023

**Instructor:** Dr Graeme Lindbeck

**Office:** AHS-323

**Office Hours:**

Monday – Thursday: 12:00 – 2:00pm, AHS-323

Friday: 10:00am – 12:00pm, AHS-323 and Zoom (Meeting ID: 4075821256)

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**Class Web Page:** see “My Courses” in Atlas

**Course Description:**

Welcome to the Fundamentals of Biology I (BSC1010C) course. This course, and the accompanying laboratory, provides a foundation for future advanced biology courses and is primarily intended for those students who plan to major in Biology or for those students who plan to pursue a career in the allied health sciences.

The course focuses on the cellular and molecular portion of biology. It emphasizes the basic principles and unifying concepts of modern biology. These include, but are not limited to, the chemical structure of living matter, the structure and function of living cells, the major metabolic functions of cells, reproduction, genetics and evolution.

**Course Objectives:**

By the end of the course, you will be able to:

1. Demonstrate competency in the application of critical thinking and scientific reasoning.
2. Differentiate between living and non-living entities.
3. model and categorize the fundamentals of molecular structure and functions associated with living organisms.
4. Compare and contrast the structure and function of prokaryotic and eukaryotic cells.
5. Demonstrate an understanding of the structure and functions of cell membranes and the implications for cellular processes.
6. Explain the processes of energy transformation as they relate to cellular metabolism.
7. Evaluate asexual and sexual reproduction as they relate to genetic variation.
8. Model the processes and patterns of inheritance in eukaryotic organisms.
9. Describe or model the regulation and expression of genetic information.

**Textbooks:**

You will need to purchase the following two packages for the online course for Summer:

1. Campbell’s Biology, Custom Edition for Valencia College, 4th edition, Volume 1 with MasteringBiology. (2021) Taken from Campbell’s Biology, 12th Pearson Learning Solutions. (Includes MasteringBiology Access Code in package). ISBN: 9780137351916

**OR** (Choose One)

Campbell’s Biology, Custom Edition for Valencia College, 4th edition, MasteringBiology code only with e-text. (2021) Taken from Campbell’s Biology, 12th Pearson Learning Solutions. ISBN: 9780137352135

2. BSC 1010C General Biology I Laboratory Manual, 6th edition (2021). Lindbeck, Saad and Matthews. Hayden-McNeil. ISBN: 9781533939302

You will also need a PDF scanner app for your cell phone to convert written documents into a form you can submit for grading via Canvas. The two most commonly used are CamScanner and Adobe Scan, but you can use any app that you wish so long as you can create PDF documents for submission.

### **Valencia College Core Competencies:**

The faculty of Valencia College has identified four core competencies that define the learning outcomes for a successful Valencia graduate. These competencies are at the heart of the Valencia experience and provide the context for learning and assessment at Valencia College. You will be given opportunities to develop and practice these competencies in this class. The four competencies are:

1. **Think** – think clearly, and creatively, analyze, synthesize, integrate and evaluate in the many domains of human inquiry
2. **Value** – make reasoned judgments and responsible commitments
3. **Act** – act purposefully, effectively and responsibly
4. **Communicate** – communicate with different audiences using varied means

### **Assessment Method and Evaluation Scale:**

1. **First Day Orientation Module:** Every student is required to complete the Orientation module on the first day of class. The activities in this module are designed to help you start the semester right by registering for, and setting up, Canvas and MasteringBiology, and providing some information for your instructor that will be invaluable in guiding class activities and discussions. Completion of this module is mandatory as you will only get access to the first course module (for Week One) by completing this module. Completion will also add the first set of points to your Escrow account (see below).
2. **Laboratories:** The labs are an integral part of the course, and you are required to attend all laboratory sessions. The labs will be held in AHS-316. Laboratory sessions cannot be made up. If you have a valid, documentable reason for missing a lab, you must contact the instructor within 24 hours of the lab; you must also present your documentation to the instructor as soon as possible.

The laboratory environment will often involve the use of and/or exposure to chemicals or other hazardous substances/equipment. If you are pregnant or plan on becoming pregnant during this course and are concerned about your exposure to these chemicals or hazardous substances/equipment, please see your instructor to discuss possible alternative arrangements. Students are also invited to contact Trisha Whitmire, Title IX Coordinator/Equal Opportunity Officer, 407-582-3867, [twhitmire2@valenciacollege.edu](mailto:twhitmire2@valenciacollege.edu), regarding requests for alternative arrangements relating to pregnancy.

3. **MasteringBiology:** Assignments have been created using the custom version of Pearson's online adaptive learning software known as MasteringBiology. If you have purchased the printed textbook, you will find an access code for MasteringBiology bundled with the book. If you have purchased a used book or have a version other than the Valencia custom edition, you will need to purchase a subscription to MasteringBiology through the portal found in the Canvas page for this class.

Every student must complete the pre-knowledge assessment as this is a required assignment and is worth 29 points. There is also a reading and a quiz for each of the sixteen chapters we will cover this semester. Each primary assignment also has an adaptive follow-up assignment attached to it. You can test out of the follow-up assignment, and automatically receive any points associated with it, by achieving a minimum score of 95% on the primary assignment. At the end of the semester the percentage of the total points you have earned on these assignments will be calculated and included in your semester final score as a value out of 100 (see the paragraph on grading).

- 4. Class Discussion Board:** One of the issues we will have this semester is creating a learning community that helps everyone learn and master the course material. One way we can work on this is to use the Discussion Board feature in Canvas. For every chapter we cover this semester, you will need to post to do the following:
- Carefully review the chapter learning objectives for this week.
  - Choose two learning objectives from the chapters, answer the question, or write a paragraph description of a topic. Each topic requires a minimum of one paragraph with ~250 words. (Try to choose the topics that are not already covered by your peers)
  - Your submissions should preferably be written in your own words, not cut and pasted from the internet. This will be good practice as you will be writing answers to some of the questions in the exams. However, if you choose to use other resources, you must provide the reference/s you used.
  - Click "Reply" to post your discussion and submit your work.
  - Review your peers' posts and respond to 2 of them with additional clarification, support, or resources to better understand the topics.

Each of these discussion postings will contribute 10 points to your semester grade.

- 5. Infographics and Group Assignment:** This semester you will be doing two individual infographic assignments plus other assignments in small groups. These assignments will give you an opportunity to teach both yourself and your classmates, both of which are known ways to master things you want to learn (“You cannot really say you know something until you can teach it to someone else”). You will present the infographic assignments to your classmates in the classroom, and you will be required to write four reviews of your classmates’ work. Descriptions of each assignment will be posted on Canvas, along with the grading rubrics that will be used to grade the assignments. Each of the infographic assignments are worth 25 points towards your final grade.
- 6. The Study Tools Project:** One of the great challenges students face in transitioning from high school to college is learning the best study strategies to be successful. Unfortunately, many of the techniques you may have used in high school will not be effective at college. The aim of this project is to help you find those strategies, supported by research as being effective, that will work for you. Every student is required to participate in this project - it is worth 20 points towards your grade - but the bigger payoff will be in a better understanding of the course material, better results on the examinations, and a better grade at the end of the semester. The first part of the project requires you to complete the following survey which will help you identify, and reflect on, your current study strategies. You will then have an opportunity to investigate study strategies that research has demonstrated are effective and successful. You will be asked to select one of these to commit to using during the first unit of the course. After the first examination, and following each subsequent examination during the semester, a follow-up survey will be released. This will be an opportunity for you to reflect on how successful your chosen strategy has been, to consider how you might improve how you implement your strategy, and to consider other strategies you could use.
- 7. Escrow Points (Extra Credit):** A maximum of five percent extra credit can be earned per semester. Up to five percent may be obtained by completing the exercises for which escrow points are awarded. Just as in the financial world, these points are "banked" during the semester. At the end of the semester, up to 5% will be added to your semester final percentage, based on the number of escrow points in your account. You may increase the value of your account by donating, or attempting to donate, a pint of blood during the semester. You will need to complete the blood center interview process to qualify for this extra credit. This is a onetime deal and available throughout the semester. The total value of your escrow account, however, cannot exceed the equivalent of 5% extra credit for the semester.

- 8. Exams:** There will be four module exams during the semester plus a comprehensive final exam at the end of the semester. All exams will be based on both the lecture material and assigned reading. The module exams will consist of 25 multiple choice questions (2 points/question; 50 points), three short answer questions (minimum of one paragraph answer per question – 10 points/question; 30 points) and one longer answer question (two or more paragraphs; 20 points) for a total of 100 points per exam. The comprehensive final exam will consist of 60 multiple choice questions (2 points/question; 120 points), four short answer questions (minimum of one paragraph answer per question – 10 points/question; 40 points) and two longer answer questions (two or more paragraphs – 20 points/question; 40 points) for a total of 200 points.

The examinations are closed book - your textbook, study guides and any other notes may not be used during the examination. ALL personal effects, including smartwatches, must be placed in backpacks or book bags. These must be placed under your desk during the exam. All cell phones must be turned off and placed upside down on the desk in front of you and visible to the instructor.

The multiple-choice sections of each exam will use machine-scored answer sheets. You are responsible for making sure you have a Scantron sheet of the correct type for each exam. **The required scantrons are the Scantron Form 882-E type and are available from Amazon.** You need to bring a #2 pencil for marking the form as the scanner will only read pencil – do not use pen. Ruled paper will be provided for the written section of each exam. Your name must be printed on the Scantron sheet and all used ruled pages - this will be checked as you leave the exam room. Scantrons and written answers will not be returned to students; however, they may be examined in the instructor's office during office hours the week following the exam.

If you miss an exam, you must contact the instructor, in person, by phone or by email, within 24 hours of the exam date and present an excuse from an appropriate authority (doctor, police, judge, etc) to account for your absence upon your return to campus. Missed exams may be made up at the discretion of the instructor, based on your excuse. If you are not able to make up the missed examination, the lowest score obtained on the remaining exams will be substituted for any missed exam except for the final examination. Failure to take the comprehensive final exam at the end of the semester will automatically result in an "F" grade.

Grades will not be given out over the phone, or by email, by the instructor or the Department office staff. Grades will be made available to students as soon as possible after the exam in a manner that preserves student privacy.

- 9. Grading:** All the graded components of the course will contribute to your final grade. These will be allocated as follows:

- a. In-class exams – 40%
- b. Final exam – 18%
- c. Laboratories – 18%
- d. Discussion boards – 12%
- e. MasteringBiology – 5%
- f. Infographic assignments – 5%
- g. Study tools project – 2%

At the end of the semester grades for the semester will be awarded using the following scale:

- A: 100%-86%
- B: 85%-71%
- C: 70%-56%
- D: 55%-46%
- F: 45%-0%

There will be no additional curving.

## Class Policies:

1. **Technology Requirements:** The college uses the Canvas learning management system (LMS). The following link provides answers to common questions students may have about Canvas:

<https://valenciacollege.edu/faculty/canvas-resources/student-faqs.php>

The following link lists the minimum computer requirements to successfully run Canvas:

<https://community.canvaslms.com/docs/DOC-10721-67952720328>

If you have any concern about whether your computer system is sufficient to support Canvas, please read this document. **Please note – while Safari can be used for Canvas, Pearson has announced that Safari is not compatible with MasteringBiology.** If you own an Apple-based system and use Safari, you will need to install a second browser to use to complete the required MasteringBiology assignments. The recommended browsers are Chrome and Firefox. In addition to the minimum requirements, you are also required to have a webcam, either integral to your system or as an addition to your system.

You will need to download, and install, a PDF app for your smartphone, such as CamScanner or Adobe Scan, and install it on your smartphone. This app turns your smartphone into a document scanner and saves your document into a single pdf document you can upload to Canvas.

2. **Netiquette:** The term "netiquette" refers to the awareness of the need for a certain code of behavior (etiquette) in electronic environments (the net) ... Net + Etiquette = netiquette. Netiquette, while a general term, is complex at specific levels because there are so many different kinds of electronic environments, and so many different situations in which we may find ourselves in those environments.

Classes focusing on areas where electronic communication play a key, if as yet undefined, role in technical and professional communication, and it is our responsibility to be aware of our textual presence as it reflects upon our professional responsibilities, to ourselves and to our parents and students.

In order to maintain a positive online environment, we all need to follow the netiquette guidelines summarized below.

*All students are expected to:*

- show respect for the instructor and for other students in the class
- respect the privacy of other students
- express differences of opinion in a polite and rational way
- maintain an environment of constructive criticism when commenting on the work of other students
- avoid bringing up irrelevant topics when involved in group discussions or other collaborative activities

The following list summarizes the kind of behavior that is not acceptable. Each item listed below is grounds for removal from the class.

*Students should not:*

- Show disrespect for the instructor or for other students in the class
- Send messages or comments that are threatening, harassing, or offensive

- Use inappropriate or offensive language
  - Convey a hostile or confrontational tone when communicating or working collaboratively with other students
  - USE ALL UPPERCASE IN THEIR MESSAGES -- THIS IS THE EQUIVALENT OF SHOUTING!!!
3. **E-mail:** You should use email to ask questions about course content and policies, and as a tool to set up a one-on-one meeting with me if the online office hours conflict with your schedule. Please identify which class you are in (I teach multiple classes) and use the subject line “Meeting request” if requesting a meeting. Your message should include at least two times when you would like to meet and a brief (one-two sentence) description of the reason for the meeting. You can reserve time during Office Hours through Canvas Calendar if you so wish (not required). I strongly encourage you to ask questions about the syllabus and assignments by email. For more in-depth discussions (such as guidance on assignments) please plan to meet during my online office hours. Our conversations should take place in person in an online conference rather than via email, thus allowing us to get to know each other better and fostering a more collegial learning atmosphere.
4. **Attendance:** The College believes that regular attendance and class participation are significant factors which promote success in college. Students are expected to attend all lectures unless unavoidable emergencies prevent attendance. **To comply with the new regulations from the Department of Education dealing with financial aid and program integrity, faculty must be able to document that you attended class during the first week of semester. The instructor will withdraw students for whom there is no record of class attendance during the first week of the semester. If you are withdrawn as a “no show,” you will still be financially responsible for the class, and a final grade of “W” will appear on your transcript for the course.**

Roll will be taken at the beginning of class during the first week to obtain this record and will continue to be taken for the remainder of the semester to document your continued attendance. If you arrive to class late, make sure to check with the instructor after class to make sure your attendance is recorded.

5. **Withdrawal:** You are responsible for initiating a voluntary withdrawal from the class prior to the published withdrawal date. You must withdraw prior to the withdrawal date in order to avoid being given an “F” grade. After the official withdrawal date, you cannot withdraw from the course and your grade will be what you have earned. Any student who withdraws from a class during a third or subsequent attempt in the same course will be assigned a grade of “F”. For a complete policy and procedure overview on Valencia policy 4-07 (Academic Progress, Course Attendance and Grades, and Withdrawals) please go to:

<https://catalog.valenciacollege.edu/academicpoliciesprocedures/courseattempts/coursewithdrawal/>

6. **College Student Conduct Policy:** Valencia is dedicated not only to the advancement of knowledge and learning but also to the development of responsible personal and social conduct. As a registered student, you assume the responsibility for conducting yourself in a manner that contributes positively to Valencia’s learning community and that does not impair, interfere with, or obstruct the orderly conduct, processes, and functions of the college as described in the [Student Code of Conduct](#).
7. **Academic Dishonesty:** All forms of academic dishonesty are prohibited at Valencia College. Academic dishonesty includes, but is not limited to, plagiarism, cheating, furnishing false information, forgery, alteration or misuse of documents, misconduct during a test situation, and misuse of identification with intent to defraud or deceive. All work submitted by students is expected to be the result of the student’s individual thoughts, research, and self-expression.

Whenever a student uses ideas, wording or organization from another source, the source shall be appropriately acknowledged.

Students shall take special notice that the assignment of course grades is the responsibility of the student's individual professor. When the professor has reason to believe that an act of academic dishonesty has occurred, and before sanctions are imposed, the student shall be given informal notice and an opportunity to be heard by the professor. Any student determined by the professor to have been guilty of engaging in an act of academic dishonesty shall be liable to a range of academic penalties as determined by the professor which will include, but not be limited to, one or more of the following: loss of credit for an assignment, examination or project; a reduction in the course grade; or a grade of "F" in the course. At the option of the professor, the campus president may be furnished with written notification of the occurrence and the action taken. If such written notice is given, a copy shall be provided to the student.

Students guilty of engaging in a gross or flagrant act of academic dishonesty or repeated instances of academic dishonesty shall also be subject to administrative and/or disciplinary penalties which may include warning, probation, suspension and/or expulsion from the college.

8. **Students with Disabilities:** Valencia is committed to ensuring that all of its programs and services are accessible to students with disabilities. [The Office for Students with Disabilities \(OSD\)](#) determines reasonable and appropriate accommodations for qualified students with documented disabilities based upon the need and impact of the specific disability. Any student requiring course accommodations due to physical, emotional or learning disability must contact the instructor and provide a Notification to Instructor form by the end of the second week of class. To obtain a letter of accommodation, contact OSD at 407-582-2229.
9. **Asking for help:** Ask for help if you need it! Do not wait until the end of the semester to ask for help. The sooner you ask, the more beneficial it will be. Valencia tutoring is available online through Canvas Conferences. For more information, click on the following link:  
  
<https://libguides.valenciacollege.edu/distancetutoring>
10. **Brainfuse Online Tutoring:** Brainfuse is a free online tutoring service, where you can receive live, online tutoring as well as submit your essays for comments. To access this resource, log into Canvas and click on the "Brainfuse" link in the Navigation panel.
11. **BayCare Services:** BayCare is a private and confidential counseling service contracted by Valencia College that provides short-term assistance to credit students who need to resolve problems that are affecting their college performance. Examples might include stress, relationship/family issues, alcohol/drug problems, eating disorders, depression, and gender issues. If you are experiencing any of these issues, call 1-800-878-5470 to speak to a professional counselor. For more information, log into Atlas, click on the "Students" tab, and click on "BayCare Health System," located under "Health and Wellness."
12. **Copyright:** Material obtained during this course can only be circulated within the class only. Students must refrain from using or displaying the pictures, drawings, and presentations outside this course.
13. **Consent:** By continuing in this course the student accepts the professor's policies and procedures to conduct class and lab, accepts the grading procedure, accepts all other things outlined in this syllabus, and accepts amendments/changes. Valencia College is committed to providing each student a quality educational experience. Faculty members have set high standards of instruction for themselves and for you. If you have a problem in a class, your first step is to talk to your instructor. If you are still dissatisfied, you may talk with the academic dean of the division for your class. We will work together to resolve any issues that arise.

**Tentative Course Schedule:**

(NOTE: This is a tentative schedule, and the instructor reserves the right to change this schedule without notice)

<b>Week Beginning</b>	<b>Lecture Schedule</b>	<b>Laboratory Exercise</b>
May 8	Chapters 1 and 2	Calculations and Measurements
May 15	Chapters 3 and 4	The Scientific Method and Atoms and Molecules
May 22	Chapters 5 and 6; <b>Exam 1 (ch. 1-4, May 22, 23)</b>	Use of the Microscope and The Cell
May 29	Chapter 7	Diffusion I
June 5	Chapter 8	Diffusion II
June 12	Chapter 9; <b>Exam 2 (ch. 5-7, June 12, 13)</b>	Lab Practical Exam I, Enzymes
June 19	Chapter 10	Respiration
June 26	Chapter 12	Photosynthesis
July 3	Chapter 13; <b>Exam 3 (ch. 8-10, July 3, 11)</b>	Mitosis and Meiosis
July 10	Chapter 14	Mendelian Genetics and Human Phenotypes
July 17	Chapter 15	Review
July 24	Chapters 16 and 17; <b>Exam 4 (ch. 12-14, July 24, 25)</b>	Lab Practical Exam II
July 31	<b>Final Exam – Last Day of Class</b>	

- **The final exam will be held during the last class meeting of the semester.**

**Vacations and other important dates:**

- May 15 – Drop/Refund Deadline
- May 29 – Memorial Day (No classes)
- June 30 – Withdrawal deadline
- July 4 – Independence Day (No Classes)
- August 1 – Classes end