INTRODUCTORY BIOLOGY 1 (BIOLOGY 101): COURSE SYLLABUS 008A

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Office hours: due to covid, I think it would be best to make an appointment to set up either a phone or zoom meeting. I am flexible and most available throughout the day on Monday and Wednesday but can accommodate other requests too.

Course description: Focuses on foundations in cellular structure, metabolism, and genetics in an evolutionary context. Explores the core concepts of evolution; structure and function; information storage and exchange; pathways and transformations of energy and matter; and systems biology. Emphasizes process of science, interdisciplinary approaches, and relevance of biology to society. Part I of a two-course sequence. Lecture: 3 hours. Recitation and laboratory: 3 hours. Total: 6 hours per week. Our class meets Tuesdays at 6:30.

General course purpose: This course provides students with an opportunity to acquire fundamental knowledge of the principles and living systems and their applications to everyday life. The course is designed for both science and non-science majors. It may serve as a prerequisite for advanced biology courses, a laboratory science graduation requirement, or as transfer credit for a four-year institution.

Course prerequisites/corequisites: Competency in Math Essentials Units MTT 1-3 as demonstrated through placement and diagnostic tests, or by completion through unit 3 in an MTT course. Competency in Math Essentials Units MTT 1-5 or equivalent is desirable. A student who provides official evidence of a minimum mathematics score of 520 on the SAT or a minimum score of 22 on the ACT taken within the last two years.

Textbooks: Really any of the major general biology textbooks will be fine so long as they are published by McGraw Hill or Pearson. We have used different texts from these publishers over the last few years. We've recently made a transition to *Biology in Focus*, from Biology: *Concepts and Investigations* so if you that textbook or one of the previous texts that we've used (like *Biology: Concepts and Connections*) that will work for our course. You'll just look up the course material in the book. Officially, we are using *the Campbell Biology in Focus 3rd edition* as the reference textbook for lecture. For lab, you'd normally need the *General Biology 1 (bio 101) lab manual* by Izanne Zorin and Corinna Rupert. This can be purchased at the NVCC Alexandria Campus bookstore. Click here for lab website and lab syllabus. However, due to covid, and our inability to conduct labs on campus, we will be providing supplemental lab materials.

Evaluation: The lecture component of this course (totaling 70% of your final grade) will be based on 4 in-class exams. Exams consist of multiple choice and short answer questions. Lecture attendance via zoom is mandatory, is logged in canvas, and counts toward your final grade. Your lecture grade = points received/points possible x 100. Your lab grade = points received/points possible x 100. Your overall course grade = (0.7 x Lecture %) + (0.3 x Lab %). There are no make-up exams, no exam grades are dropped, and you must be on time to class in order to receive full credit for attending. I will proctor all exams, so you will need access to a computer with a webcam, and you will need to download respondus lockdown browser and monitor. College policy says that students are required to have a webcam and a computer or laptop capable of supporting remote learning. There is much information on the college website. This page usually pops up first (https://www.nvcc.edu/academic-tools/index.html) and students can find computer information and how to apply for computer funds, or financial aid for computers (search for Remote Student Support Services/Student FAQ). Besides monetary grants, students can request to borrow a laptop; the contact person for student laptop loans is Derrick Doctor, at ddoctor@nvcc.edu.

In order to receive credit for attending lecture you must attend the entire lecture, and you must answer the poll questions that I employ. I can see how long you were signed into lecture and how engaged you were throughout the lecture. If I have a record of you signing in, the leaving and not signing back in, then you won't receive lecture credit. Additionally, if

you don't answer the poll questions that I deploy throughout the lecture, you won't receive credit. In other words, join us and have fun!

Students with special needs: Students with physical disabilities who may require accommodations are encouraged to contact the college center for students with disabilities. Students with learning disabilities should contact disability services. I cannot make accommodations unless I'm presented with the appropriate accommodations form.

Academic honesty and conduct: At Northern Virginia Community College, we expect the highest standards of academic honesty. Academic dishonesty is prohibited in accordance with the Student Conduct, Rights and Responsibilities described in the student handbook. NVCC's policies prohibits cheating on examinations, unauthorized access to examinations or course materials, plagiarism and other proscribed activities. Students that violate plagiarism and academic honesty codes will receive a failing grade and will be expelled from this course. If a student behaves in a hostile or disruptive manner, or presents any indication that he/she is a harm to themselves or others, a formal request for assistance to NOVACARES will be submitted, and the police may be contacted.

Cancellation dates: In the event of class/lab cancellation, we will resume where we left off during the next meeting. For example, if we were to have an exam scheduled on September 1, and there was a nationwide internet blackout, the exam would take place on our next scheduled meeting on September 7th.

Important dates, audit policy and incompletes (extensions): For critical dates regarding refunds, withdraw, holidays, etc. click here. Auditing this course requires instructor permission. Incompletes are only granted if the student's circumstances are dire (e.g. health issues, family issues, documented work conflict). Incompletes will only be granted if students have completed all lab assignments, 3 lecture exams, and all labs. Incompletes must be approved by the division dean and provost. Heath claims must be documented by medical professionals. Final exam times are different than your normal class meeting time. They are posted below.

Comments on submitting work: This is most applicable to lab, which will be covered elsewhere. Your work must (1) be free of common spelling errors and typos, and (2) contain one font only; please be consistent. If you cut and paste, clean it up before submitting. Use Times New Roman or similar font. Use only one color— black. When submitting work please label it as the following (as an attachment, use caps lock): LAST NAME_ASSIGNMENT_DATE. All written assignments must be proofed by the writing center staff before submission. They will provide you with verification of your meeting. For assistance with writing contact staff at academic center for reading and writing:

1. Bisdorf room AA 229; 703-845-6363
2. writinghelp@nvcc.edu
3. Writing Center Website

Emails and discussion board: Please use proper English when composing emails and posting discussions. Please keep writing somewhat formal, free of slang, and as grammatically correct as possible. Please address me in the emails as Dr. or Professor Tupper, not as 'hey." It's fine to call me by my first name after the semester has ended. I will reply to your emails within 24-48 business hours from its sent time. There are times when I miss an email, or it gets sent to my junkbox. If you do not hear from me within 48 business hours, please just email me again. That said, I may not reply to your emails unless you ask me a specific question. You don't have to email me if you are going to be late to class, or if you are going to miss a class, or if you have missed class. Please do not email me asking for any logistics/instructions that I have explained in a previous class that you did not attend (all zoom sessions are recorded). For those types of questions, please use the discussion board, or ask your classmates. Additionally, please do not email me asking for extensions on labs and other assignments. However, please email me if you have questions about the course content or if you want to set up a time to meet and discuss some of the course content. I am more than happy to help you learn the material. Also, please email me if there are serious circumstances that are beyond your control that may need my attention (i.e. health or job-related issues or conflicts that may result in a missed exam or prolonged absence from class). Smaller and less serious questions can be answered by emailing a classmate, or by using the discussion board.

Introductory letter, general comments on success in this course, and miscellaneous rules: Please write a brief statement and include something semi-personal about yourself, (e.g. a couple of hobbies/sports/major etc). Also, if you feel up for

it let us know where (if) you work and how many hours you work per week. I am sure your classmates (myself as well) are interested to know a little about you. Also include your name, and what you preferred to be called. Post this on the discussion board and submit as an assignment in canvas during the first week of the class. It's worth points.

Doing well in this course requires a substantial commitment. This course covers evolutionary biology, DNA structure and function, cell biology and genetics. By nature, these topics are challenging. You need to set aside quite a bit of time for reviewing lecture notes, reading, and studying after and before every lecture (probably around 9-12 hours per week in addition to class). A few last comments: please make use of the discussion board and become friendly with other students in the class. It helps calm anxieties about the course if you have some peer support. Be on time to class. If you are late to lecture, I may not admit you into the zoom session until I reach a natural pausing point in lecture.

Tentative Lecture Schedule: Our lectures will be a combination of prerecorded and live lectures. I will do my best to provide prerecorded information to you so that we can spend as much live zoom time as possible revisiting concepts. I will post links to zoom lecture on the canvas announcements page at least 15 minutes before class starts. Please note that the lecture and exam dates are not fixed (except the final). Sometimes we take longer to get through the material than other times. The exam dates may change, but the material covered on each exam will not. I will let you know one week before each exam. Please note that the final exam meeting time is often different from your normal class session. This schedule is hyperlinked below.

Unit 1 Topics

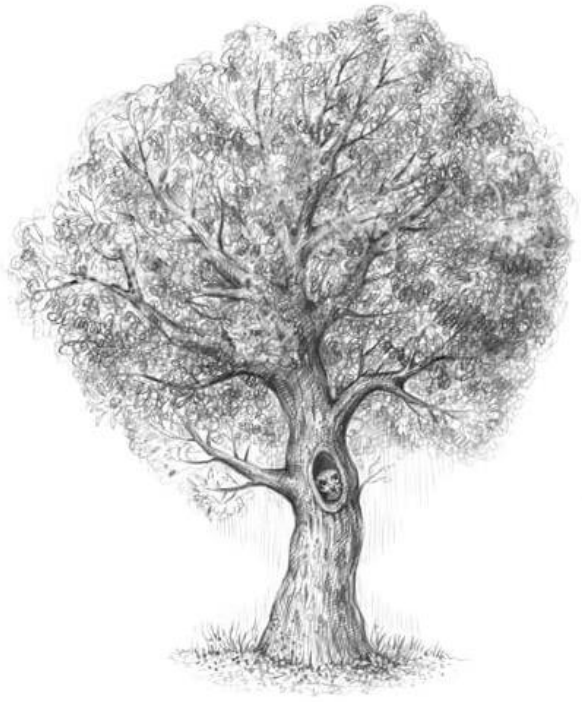
- Introduction to Biology, Science and the Scientific Method—weeks of 8/25
- Characteristics and Organization of Life—weeks of 8/25 & 9/1
- Life's Origins and Evolutionary Highlights—weeks of 9/1 & 9/8
- **Exam 1—9/15** (lecture follows exam)

Unit 2 Topics

- History and Evidence of Evolution—weeks of 9/15 & 9/22
- Evolution, Gene Frequencies and Speciation—weeks of 9/29 & 10/6
- **Exam 2—10/13** (lecture follows exam)

Unit 3 Topics

- Cell Structure and Function (includes transport, diffusion/osmosis)—weeks of 10/13 & 10/20
- Cellular Respiration and Photosynthesis—weeks of 10/ 20 and 10/27
- **Exam 3— week of 11/10** (lecture follows exam)



Unit 4 Topics

- Somatic Cell Division and Gamete Formation— weeks of 11/10 & 11/17
- Patterns of Inheritance—weeks of 11/17 & 11/24
- DNA Structure and Function—weeks of 11/24 & 12/1
- **Exam 4 (click the link)**