

**The Catholic University of America**

***Metropolitan School of Professional Studies***

**MID 210 Introduction to Biological Sciences**

**Summer 2021**

**Credit Hours:** 3

**Classroom:** Online: <https://blackboard.cua.edu/>

**Days and hours of class meetings:** Online course, May 10 to August 14

**Instructor Information**:

David Banks, PhD, MPH, RN

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301.496.9558

Zoom Office Hours by appointment

**Course Description:**

A one-semester survey of the animal and flower kingdoms.

**Required Text:**

SAMANTHA FOWLER, REBECCA ROUSH, JAMES WISE (eds). **Concepts of Biology**,

ISBN 1-938168-11-9 available free of charge for download or viewing online at: openstax.org/details/books/concepts-biology

**Course Goals:**

The purpose of this course is to increase science literacy by introducing contemporary biological issues that affect human communities. At the end of this course, the non-biologist will have more confidence in scientific knowledge and the ability to apply that knowledge to real-life situations. The course will cover fundamentals associated with scientific inquiry in the field of biology including but not limited to the areas of: cell structure and function; cellular reproduction; patterns of inheritance; DNA structure and replication; functions of animal systems; population and community ecology; ecosystems and the biosphere; and biodiversity.

**Goals for Student Learning:**

Through course materials, students should, by the end of this course, be able to:

1. Understand and discuss several biological concepts related to real world issues

2. Read and discuss articles on contemporary issues associated with biology

3. Identify key arguments associated with evolution

4. Understand the role of ethics in biological issues

5. Apply critical thinking to evaluate real-life cases related to biology

6. Demonstrate effective writing skills in a variety of formats

7. Summarize principles of Ecosystems and Biosphere; and Conservation and Biodiversity

**Course Requirements:**

**All assignments must be uploaded to the appropriate folder in BlackBoard. Under no circumstances will emailed assignments be accepted. There is a strict policy on late assignment acceptance. Prior written permission must be obtained for any late assignment. For the rare exception of a late assignment acceptance, a late penalty will be assigned at the discretion of the instructor. There is no extra credit in this course. Resubmission of coursework from other courses or other instances of this course, partial or entire assignments, is not permitted in this course.**

SYLLABUS SYNOPSIS, BIO, AND RESUME 200

CRITICAL THINKING QUESTION PAPERS 5 @ 100 PTS 500

SYNTHESIS PAPER 300

**Syllabus Synopsis (1pp) Biography (5pp) & Resume (200pts)**

Students should create a 1 page summary of what they understand as the course requirements for this course (i.e. assignments, projects) and upload it to the appropriate folder in BB. They should also write a 5 page autobiographical statement of their personal and/or professional goals, accomplishments and rationale for taking this course. Upload all three documents as one file or as separate files to the appropriate folder in BB. These assignments are graded and will not be accepted after May 20th.

**Critical Thinking Question Papers 5@100**

**Choose any of the critical thinking questions from any of the assigned readings in the text for each of the five critical thinking question papers. You may not use the same chapter’s critical thinking questions for all 5 papers. You must choose a different chapter for each paper. You may only choose critical thinking questions from chapters assigned in the syllabus, although you may choose from a previous or future chapter in the syllabus. Only one question should be answered in each paper. Papers must be a minimum of 3 pages long in order to receive full credit. You may not answer more than one question in a paper.**

**Additional thought reflections you may choose to include to meet minimum length could answer any of the following questions:**

To help you think more critically about your topic, consider responding to some of these questions: What is the meaning, truth or lesson communicated by this question in the biological or real world? How is this meaning, truth or lesson important to fundamentals of biology or in the world? How do your own or other’s experiences relate to and support this meaning, truth or lesson? In what ways does this meaning, truth, or lesson make logical sense to you ? In what ways does this meaning, truth, or lesson make sense to you from a feeling perspective? How might this meaning, truth, or lesson be relevant to your own or others’ life and behaviors? Why do some fail to live as if this truth or lesson were important or real? Why might some suggest this truth or lesson is not important? How would you defend the truth of this lesson from those who disagree and believe the lesson is not important? What can we do as students (at an individual or society level) to make this truth or lesson better understood?

You are encouraged to be creative in your paper.  Your Thinking paper may include, when relevant, links to media, pictures, or other supporting resources.

 **Critical Thinking Paper Rubric**

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| --- | --- |
| **Grade Range 0–100** | **Measurement Criteria** |
| 100-90 | Question is fully answered. Response is accurate. Meaning, truth and/or lesson of response is clear, easily understood. Grammar and mechanics are flawless. Paper is extremely well organized with subheadings, charts, and/or diagrams appropriately labeled. Citations are provided.  |
| 90-80 | Question is answered. Response is mostly accurate. Some key facts from text may be missing. Meaning, truth and/or lesson of response is mostly clear and understood. Grammar and mechanics are good. Paper is organized may have subheadings, charts, or diagrams with labels. Citations are provided. |
| 80-70 | Question is somewhat answered. Response has some accurate data. Several key facts from text are missing. Meaning, truth and/or lesson of response is not clear. Grammar and mechanics are poor. Paper is not well organized may have subheadings, charts, or diagrams with labels. Citations are provided. |
| <70 | Requirements are not met in several areas.  |

**Synthesis Paper**

**Write a 3 page evaluation of the key course components that reflects your learning of the various concepts presented, value of these concepts, and suggestions for additional course topics.**

**University grades:**

The University grading system is available at [v](http://policies.cua.edu/academicundergrad/gradesfull.cfm%22%20%5Cl%20%22II%22%20%5Co%20%22http%3A//policies.cua.edu/academicundergrad/gradesfull.cfm#II) for undergraduates.Reports of grades in courses are available at the end of each term on [http://cardinalstation.cua.edu](http://cardinalstudents.cua.edu).

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| --- | --- | --- | --- | --- |
| *Grade* | *Meaning* | *Numerical Equivalent* | *Scale* | *Points required* |
| A | Excellent | 4.00 | 93-100 | 296-320 |
| A- |  | 3.70 | 90-92 | 287-295 |
| B+ |  | 3.30 | 87-89 | 277-286 |
| B | Good | 3.00 | 83-86 | 264-276 |
| B- |  | 2.70 | 80-82 | 255-263 |
| C+ |  | 2.30 | 77-79 | 245-254 |
| C | Satisfactory | 2.00 | 73-76 | 232-244 |
| C- |  | 1.70 | 70-72 | 223-231 |
| D | Lowest passing | 1.00 | 60-69 | 191-222 |
| F | Failing – the student failed to demonstrate an adequate understanding of course concepts | 0.00 | < 60 | 0-190 |
| F\* 1 | Administrative Failure | 0.00 |  |  |
| I 2 | Incomplete |  |  |  |
| W | Withdrawal |  |  |  |

1 A grade of F\* should be awarded to students who did not officially withdraw from the course, but who failed to attend and participate in course activities through the end of the period. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. This allows the University to differentiate between an F grade awarded to students who complete the course but fail to achieve course objectives, and those students that receive an F grade because they have stopped attending or never attended a class The official definition of F\* to be used on transcripts and wherever else published would be “Administrative Failure,” awarded to a student who did not officially withdraw from the course, but who failed to participate in course activities through the end of the period.

2 A student may request the provisional grade of I (incomplete) in a course when the student is unable to complete the course requirements for grave reasons (e.g., family emergency, person illness or injury, death in family, etc.).  The student must make the request by submitting a signed MSPS Incomplete Grade Request Form to the Associate Dean after the last day to withdraw from class but before the last day of the class in which the student wishes to receive the incomplete.  The Dean’s office will only approve a grade of incomplete when all of the following conditions are met:

1. The student requests a grade of incomplete from the instructor by using the MSPS Incomplete Grade Request Form which can be obtained from the student’s advisor; and

2. The student provides specific evidence to verify that the reason for the request is legitimate; and

3. The student must be passing the course at the time of the request; and

4. The amount of work remaining in the course can be reasonably and sufficiently completed after the conclusion of the course session; and

5. Both the student and the instructor sign and submit the MSPS Incomplete Grade Request Form to the Associate Dean; and

6. The Associate Dean approves the request by signing the MSPS Incomplete Grade Request Form.

Students granted an incomplete for the fall semester must complete the outstanding work by January 15 of the following spring semester; students granted an incomplete for the spring semester must complete the outstanding work by June 15 of the following summer term; and students granted an incomplete for the summer term must complete the outstanding work by September 15 of the following fall semester.  In extraordinary circumstances, the student or the instructor may request an extension of the deadline for the outstanding work to be submitted.  Such a request must be approved in writing by the Associate Dean.  An incomplete grade not resolved by the deadline automatically becomes a failing (F) grade.

The student is responsible for completing all outstanding work and submitting it to the instructor on time.

**Expectations and policies:**

***Academic Integrity:*** Academic integrity is not merely avoiding plagiarism or cheating, but it certainly includes those things. More than anything, having academic integrity means taking responsibility for your work, your ideas, and your effort, and giving credit to others for their work, ideas and effort. If you submit work that is not your own – whether test answers, whole papers or something in-between – I have a responsibility to hold you accountable for that action. I also have a responsibility to treat you with respect and dignity while doing so.

The following sanctions are presented in the University procedures related to Student Academic Dishonesty:

“The presumed sanction for undergraduate students for academic dishonesty will be failure for the course. There may be circumstances, however, where, perhaps because of an undergraduate student’s past record, a more serious sanction, such as suspension or expulsion, would be appropriate. ...In the more unusual case, mitigating circumstances may exist that would warrant a lesser sanction than the presumed sanction.”

There is no group work in the class; therefore, you should not collaborate with classmates on work that is to be submitted for an individual grade.

For more information about what academic integrity means at CUA, including your responsibilities and rights, visit <http://integrity.cua.edu>.

***Accommodations for students with disabilities:*** Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Office of Disability Support Services. Please contact Disability Support Services by email at [dss.cua.edu](http://dss.cua.edu/), or call 202-319-5211 to make an appointment to discuss reasonable accommodations. DSS is located in PRYZ 127.

**Other Policies or Expectations**:

***Each student is responsible for completing all course requirements and for keeping up with all activities of the course.***

***Being a self-directed learner:*** Being a self-directed learner requires a high level of responsibility, dedication, and self-discipline on the part of the student. A web-based course requires more self-discipline than traditional classroom-based courses. In this course, you are responsible for your own work, your own progress, and your own grade. In order to succeed, you need to “attend class regularly” by logging into Blackboard regularly to check announcements, access course content, and submit all course work as instructed and on time. A recommended schedule for keeping up with the course work is posted in the Welcome to Class section.

***Due dates:*** All due dates are listed in this syllabus. You have been given these dates early in the course so that you can plan your work accordingly. These dates are intended to enhance and support your learning during this course. Therefore, these dates should be followed carefully. All assignments will be submitted via Blackboard.

***Working with academic support services on your assignments:*** A list of academic support services can be found below – these services are available to all CUA students and you are highly encouraged to take advantage of these services. For both writing assignments, you will be required to work with the Writing Center on your assignment, and you must show proof that you have done so. Failure to provide proof that you have utilized these resources in working on your writing assignments will result in an automatic loss of points. See writing assignment guidelines and rubric for further details.

***E-mail:*** All e-mail correspondence will be made to campus e-mail addresses only (@cua.edu). Please be sure check your CUA account regularly. Please send e-mails in a professional format with correct punctuation and grammar.

***Communication:*** If you have a question or if something is unclear, please do not hesitate to ask. E-mail is an effective way to discuss course logistics but is not an effective means to communicate concepts, major ideas, or discuss student performance. For these topics, please schedule an appointment.

**Academic Support Services:**

The university’s primary academic support resources are located on the 2nd floor of Mullen Library, McMahon Hall, and at the Pryzbyla Center. These affiliated offices and services include:

***The Undergraduate Advising Center (UAC)*** offers guidance to all undergraduates, especially first-year students, as they move toward their academic goals. The UAC is located in B 10 McMahon Hall. Office hours are Monday through Friday from 9:00am to 5:00pm.

**Phone:** (202) 319-5545 **Email:** cua-advising@cua.edu **Web:** [advising.cua.edu](http://advising.cua.edu/)

***The Center for Academic Success (CAS)*** provides academic support services for all students through a broad base of programs and services, including Tutoring Services, Workshops, Individual Skills Meetings, Peer Mentoring, and more. CAS is located at Mullen Library Second Floor.

**Phone:** (202) 319-5655 **Email:** cua-academicsuccess@cua.edu **Web:** [success.cua.edu](http://success.cua.edu/)

***The Writing Center*** is an excellent resource for any student. The Writing Center is committed to supporting the writing needs of students at all stages of the writing process. If, at any point in the semester, you feel that you are struggling to draft, revise, or properly reference sources in a writing assignment, make an appointment at <http://english.cua.edu/wc>; we also welcome walk-in appointments at the Writing Center, which is located in 219 Mullen Library.

**Phone:** (202) 319-4286 **Email:** cua-writingcenter@cua.edu **Web:** [english.cua.edu/wc/](http://english.cua.edu/wc/)

***The Math Center*** is staffed with Math Faculty and Tutors who are trained to assist students struggling in areas ranging from the basics to complex problems in calculus and statistics.  Any student who feels he or she may need assistance in this, or any other math class is welcome to visit the Math Center on Monday through Thursday between the hours of 4:00 and 10:00pm. No appointment is necessary, and services are absolutely free. The Math Center is located at Mullen Library Second Floor.

**Phone:** (202) 319-5655 Email**:** cua-academicsuccess@cua.edu

***The Office of Disability Support Services*** provides reasonable accommodations for the classroom and testing environment for students with documented disabilities. DSS is located in Pryz 127. Office hours are Monday, Wednesday, and Friday 8:00am-5:00pm, and Tuesday and Thursday 8:00am -6:30pm. **Phone:** (202) 319-5211 **Email:** cua-dss@cua.edu **Web:** [dss.cua.edu](http://dss.cua.edu/)

***The Counseling Center*** provides free individual and group counseling services, psychiatric consultation, alternative testing, and emergency services to CUA students.  In addition, we provide consultation services and outreach programs to the CUA community. Appointments can be scheduled in person in 127 O’Boyle Hall, or by phone.

**Phone**: (202) 319-5765. **Web**: [counseling.cua.edu](http://counseling.cua.edu/)

**Course Schedule:**

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| *Week* | *Due Dates* | *Topics* | *Assignments DUE* |
| 1 | May 17 | Introduction to Biology |  SYLLABUS SYNOPSIS, BIO, AND RESUMEpp.5-26 |
| 2 | May 24 | The Chemistry of Life | pp. 27-54 |
| 3 | May 31 | Cellular Structure and Function | pp. 55-90; Critical Thinking Paper #1 |
| 4 | June 7 | Cellular Energy | pp. 91-116 |
| 5 | June 14 | Cellular Reproduction pp. 135-152; Critical Thinking Paper #2 |
| 6 | June 21 | Patterns of Inheritance | pp. 173-198 |
| 7 | June 28 | Molecular Biology | pp. 199-224; Critical Thinking Paper #3 |
| 8 | July 5 | Immune System & Disease | pp. 449-476  |
| 9 | July 12 | Animal Reproduction and Development | pp. 477-498; Critical Thinking Paper #4 |
| 10 | July 19 | Population and Community Ecology pp. 499-528;  |
| 11 | July 26 | Ecosystems and Biosphere | pp. 529-566; Critical Thinking Paper #5 |
| 12 | Aug 2 | Conservation and Biodiversity | pp. 567-592 |
| 13 | Aug 9 | Class Evaluation | Synthesis Paper Due |