**BASIC BIOLOGICAL SCIENCE I LAB**

**BS2401**

**Summer 2023**

**Monday and Wednesday 1:00PM-4:30PM**

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| Instructor: Christos Noutsos, PhD e-mail: noutsosc@oldwestbury.edu Office*:* S203 (NSB) office phone*:* (516) 628-5612Office hours: by appointment.Course Material:1) *Basic Biology I Laboratory,*BS2401, McGraw Hill Create (SUNY OW edition for BASIC BIOLOGICAL SCIENCE I LAB). 2) EdPuzzle ***\*\*\*CHECK YOUR COLLEGE EMAIL AND BRIGHTSPACE DAILY\*\*\****  |

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**ONLINE GUIDELINES**

In order to ensure success in courses with online components, students must understand and comply with certain requirements. Appropriate use of technology is ethical, honest, and legal. It demonstrates respect for physical and intellectual property, system security protocols, and individuals’ rights to privacy. Read and sign the [**online student contract**](https://forms.office.com/r/wwkEcUdiF3) before the date specified by your instructor.

**Learning Objectives for BS2400/BS2401**

**Core Concepts**

1. **Evolution:**
	1. Understand the theory of evolution and the mechanisms involved in evolutionary processes and sources of genetic variability.
	2. Understand cell structure and function in an evolutionary context.
2. **Structure and Function:**
	1. Understand the hierarchical organization of life and the concept of emergent properties.
	2. Understand atomic bonding theory
	3. Understand molecular structure of living systems.
	4. Understand cell theory in an evolutionary context
3. **Information Flow, exchange and storage**:
	1. Understand signaling mechanisms, ie. hormones, neuropeptides and neurotransmitters, and regulatory processes, e.g. negative and positive feedback, inhibitory versus excitatory signals, leading to homeostasis in biological systems.
	2. Understand information flow in the context of reproduction and inheritance.
	3. Understand genome structure and function.
4. **Pathways and transformations of energy and matter:**
	1. Understand the principles of thermodynamics as they relate to molecular structure, energy conversion, and enzyme function.
	2. Understand energy transactions and energy flow at the biochemical level.
5. **Systems:**
	1. Understand dynamic interactions of components at one level of biological organization to the functional properties that emerge at higher organization levels.

**Competencies**

1. **Applying the process of science:** Students will understand and apply the process of science: through observation of a phenomenon, formulation of a hypothesis, testing by experimentation, data collection and analysis.
2. **Interpreting multiple representations**: Students will be able to analyze information presented in different forms, e.g. tables, figures, flow charts and diagrams.
3. **Ability to use quantitative reasoning:** Students will be able to apply quantitative reasoning through the application of mathematical algorithms and or models to the study of biological processes, e.g. metabolism, estimation of population size, estimation of population growth etc…,and to the analysis of data for the purpose of hypothesis testing.
4. **Ability to tap into the interdisciplinary nature of science:** Students will analyze concepts using an interdisciplinary approach, e.g. understanding structural features or processes from a molecular point of view using chemistry.
5. **Ability to communicate and collaborate with other disciplines**: Students will be able to communicate biologically relevant information both orally (communicating to their professor and their peers) and in written form (written essay exams, discussion boards and lab reports).
6. **Students will understand the connection between science and society**: e.g. understanding the impact of scientific advances on our ability to tackle societal

**ASSESSMENT \_\_\_\_\_\_\_\_\_**

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| --- | --- |
| **Course Requirements** | **%** |
| Examinations (2 exams)  | 40 |
| Pre-Lab Assignments  | 15 |
| Lab Participation and Notebook  | 15 |
| Lab Reports (2 reports) | 30 |
| **TOTAL** | **100** |

**You must achieve a passing grade (73%, C) in order to pass this course.**

**GRADING SCALE**:

**A = 94-100 You are doing excellent!**

**A- = 90-93**

**B+ = 87-89**

**B = 83-86 You are doing very good**

**B- = 80-82**

**C+ = 77-79**

**C = 73-76 You are passing**

**C- = 70-72**

**D+ = 67-69 Are you having trouble understanding the**

**D = 63-66 material? 🡪 Come to office hours!**

**F = Below 63**

**LABORATORY GRADE:**

**Examinations (40%)**

**There will be two exams during the semester**, each worth **20%** of your final grade.

**Pre-lab assignments (15%)**

**There will be a pre-lab assignments for each lab**, each worth 10 points. The assignments are due at the beginning of each class. You will be required to watch a video and answer the embedded pre-lab assignment questions using the platform EdPuzzle. The pre-lab assignment material will be posted in Brighspace, Course Resources section.

The content of each lab is specified in the schedule table below. Assignments cannot be made up.

Your professor does not enjoy giving your more work; however, the purpose of the assignments is to make sure that you understand the class content. Please come see me if you do not understand the class material.

**Lab Reports (30%)**

**You will be required to write two full lab reports**, each worth 15%, on a topic given by the professor. Each lab report must be uploaded onto brightspace to assess for plagiarism. Due dates can be found below in the tentative schedule section. Specific instruction will be given for each assignment as the due date approaches. ***See format in Brightspace: Course Resources*.**

**In the Lab report you are expected to use quantitative reasoning to interpret biological data, including interpreting and creating graphs and statistical analyses to analyze data, as well as how computational modeling and analyses can help us to understand biological systems.**

If you need additional help with writing, you may also visit the **Writing Center** located in the Library in Campus Center, room L-242. You can also make an appointment online at [https://oldwestbury.mywconline.com](http://oldwestbury.mywconline.com/).

**Lab Participation and Lab Notebook (15%) - Rubrics**

Though you will work in a group of two students, each member of the group MUST participate in all laboratory activities.

You will be given handouts for each laboratory. You will need to fill these documents as you perform your experiments. In order to get credit points for Participation and Lab Notebook, you MUST show your work to the instructor before leaving class.

***All graphs should be plotted on a PC, unless specified, and graphs should be pasted in your lab notebook.***

If you need additional help generating graphs in Excel, you may also visit the Math Learning Center located in the Library in Campus Center. You can also make an appointment online at <https://www.oldwestbury.edu/math-learning-center>.

**Attendance**

Attendance will be taken at the beginning of class, and at the end of class.

If you miss a lab, you will receive a zero on all associated materials (quizzes and assignments). . If you miss **more than 2 labs**, you will fail the course.

If you are late more than 15 minutes, that will be consider lateness. Two lateness is the equivalent of 1 absence. If you are late more than 20 minutes, that will be consider absent. Please be on time and do not miss any labs.

**THERE ARE NO MAKEUP LAB CLASSES, OR MAKEUP LAB EXAMS.**

**Student and Faculty Responsibilities**

According to the definition of a “semester hour” from the *Regulations of the Commissioner of Education* of NYS, a typical 3-credit course would require 45 hours in class and 90 hours of supplementary, outside assignments (<https://www.hesc.ny.gov/partner-access/financial-aid-professionals/tap-and-scholarship-resources/tap-coach/96-semester-hour.html>). Therefore, you should expect to spend a **minimum of 3 hours outside of class per class attended** keeping up with the course work. In addition you must review and study the material PRIOR to coming to class.

What you get out of the course depends in large part on you and what you put into the course. I am here to present the material and help you learn, but you are responsible for doing the assignments, reading and studying the material necessary to pass the course and obtain a satisfying grade.

**Course Policies**

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| --- | --- |
| **Contact Policy** | The best way of communication is during class time. I will respond e-mails from 9AM to 5PM, M-to-F. Please, use school email. |
| **Course Website** | Brightspace will be used to send announcements, quizzes and assignments. The link for Brighspace is: TO BE ANNOUNCED.  |
| **Changes** | The instructor reserves the right to make changes to the schedule and content. The instructor will notify students via email and/or Brightspace, and/or during class if any changes are made. Students are responsible for reading emails and checking Brighspace daily. |
| **Late Work** | Late work will result in losing a percentage of that grade. |
| **Grade of Incomplete (I)** | This grade may be assigned by the instructor when: * extenuating circumstances, such as accident or illness, make it impossible for the student to complete the course work by the end of the semester;
* the student has completed most of the course work at a passing level;
* the instructor expects that the student will be able to complete the remainder of the course requirements by the end of the following semester.

A grade of I remains in effect for one semester. A student must make appropriate arrangements with his/her instructor to complete the course requirements. The instructor will inform the student concerning the specific scope and nature of the work that must be completed. To certify fulfillment of course requirements, the instructor is expected to submit a letter grade by the end of the following semester. If the instructor does not submit a grade, the Registrar will automatically assign a grade of F. Students who are completing an incomplete should not re-register for that course in the semester that they are completing the incomplete.  |
| **Classroom Etiquette Policy** | In order to enhance and maintain a productive atmosphere for education, personal communication devices, i.e. *cell phones*, and other *electronic devices*, i.e. *laptops*, *tablets*, are to be used only for the purpose of class participation. Participation will be assessed based on in-class activities. Other uses of these devices are not permitted and will impact your grade negatively. If you are being disruptive, you will be asked to leave**,** and therefore you will receive a zero on all associated materials |

**Calendar of Activities**

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| **WEEK** | **DATE** | **TOPICS** |
| 2. |  May 31 | **ORIENTATION and LAB SAFETY and MICROSCOPY** | In-person |
| 3. | June 5 | **MICROPIPETTING and ELECTROPHORESIS** | In-person |
| 4. | June 7 | **SPECTROPHOTOMETRY**• How to use a spectrophotometer and standard curve generation | In-person |
| 5. | June 12 | **ENZYME: PEROXIDASE**• Determining the properties of Peroxidase | In-person |
| 6. | June 14 | **1) MEMBRANES, DIFFUSION, AND OSMOSIS**• Movement of Water Across a Selectively Permeable Membrane• Tonicity in Red Blood Cells• Tonicity in Elodea CellsMIDTERM EXAMS | In-person 1st Lab Report due |
| 9. | June 19 | **1) MITOSIS** • Microscopic examination**2) MENDELIAN GENETICS** | In-person |
| 10. | June 21 | **MOLECULAR CLONING:**•pGLO transformation | In-person |
| 11. | June 26 | **INFORMATICS****2) REVIEW FINAL** | Lab review dueIn-person |
| 12. | June 28 | \*\*\* LAB FINAL EXAM \*\*\* | In-person |

The course calendar is subject to change. The instructor will notify students via email and/or Brightspace, and/or during class if any changes are made. Students are responsible for those changes.

**GENERAL IMPORTANT INFORMATION**

**Course Withdrawal**

Here is the Registrar’s webpage regarding withdrawals.

<https://www.oldwestbury.edu/academics/registrar/withdrawals>

Language from the Registrar: After the end of the add/drop period and up to the seventh week of classes, a student may withdraw from one or more courses without instructor approval, by completing a withdrawal form.  To access the withdrawal form:

 1. Login to the [connect.oldwestbury.edu](https://connect.oldwestbury.edu/) portal.

 2. Click on the "Registration" icon.

 3. Use the withdrawal form located in the "Forms" section (likely located in the lower right hand corner of the webpage).

After the seventh week of classes, the online withdrawal process will require instructor approval. I will approve withdrawals after the 7th week only under extenuating circumstances.

The deadline to withdraw from classes is published in the Fall or Spring Semester *Dates, Deadlines and General Information*.  Nonattendance in classes does not constitute withdrawal.

**Technology and Remote Learning**

Taking online and remote classes can be challenging, and Old Westbury has several resources to help students adapt.

Brighspace Orientation: Enter Brighspace itself (click on the Brightspace icon from the Student Portal), click on [Student Center](https://bboldwestbury.sln.suny.edu/webapps/portal/execute/tabs/tabAction?tab_tab_group_id=_128_1) in the upper right corner, and find Brightspace Orientation in the 3rd box down on the left. *General help using Brighrspace:*

MS Teams: For information on using MS Teams, see the link on the Old Westbury Tutoring page here. <https://www.oldwestbury.edu/academics/tutor>

SUNY Online: You can find additional support at <https://online.suny.edu/covid19/students/>. Here you will find a Guide to Brighspace, a link to SUNY Online Help, as well as several other resources to help you be successful in a remote class.

Technology Device Loans: Old Westbury has a limited number of laptops available for loan for the semester. Find the Student Device Request Form on the Student Portal. Click on the Academics icon, then look for the Forms section on the left side under My Grades. *Limited laptop supply:* [**Laptop Loaner Program**](https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Fconnect.oldwestbury.edu%2Fstudent%2FPages%2FAcademics.aspx&data=04%7C01%7Ccabailm%40oldwestbury.edu%7C141d2b1667a74c25d96308d96ca2e332%7Cf5089034f2334f12a71638b7f4904370%7C0%7C0%7C637660269135392974%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=Ndrmy%2FhrbRz0swfwVW95JVNUkdX%2BhYhW65AcdvDlqtI%3D&reserved=0)

CARES Act: Some students may be able to purchase their own laptop with help from the CARES Act. To check eligibility contact financialaid@oldwestbury.edu or click here. <https://www.oldwestbury.edu/CARES-Act-2020>.

For general questions or problems with technology issues, contact the IT Service Desk at servicedesk@oldwestbury.edu or click on the ITS Remote Support icon in the Student Portal. [**IT Service Request**](https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.oldwestbury.edu%2Fdivision%2Fdivision-business-finance%2Finformation-technology-services%2Fservice-desk&data=04%7C01%7Ccabailm%40oldwestbury.edu%7C141d2b1667a74c25d96308d96ca2e332%7Cf5089034f2334f12a71638b7f4904370%7C0%7C0%7C637660269135382979%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=31HUMK5zvyYPfyU6hJ73LI35dvYY%2FDRK172RpjROWYQ%3D&reserved=0)

**Accommodations for Students with Disabilities**

If you have a physical, psychological, medical or learning condition that may impact your course work, please contact:

Stacey DeFelice, Director

The Office of Services for Students with Disabilities (OSSD),

NAB 2065

Phone: 516-628-5666, Fax (516) 876-3005, TTD: (516) 876-3083.

E-mail: defelices@oldwestbury.edu

The office will help you determine if you qualify for accommodations and assist you with the process of accessing them. All support services are free and all contacts with the OSSD are strictly confidential. SUNY Old Westbury is committed to assuring that all students have equal access to learning activities and social activities on campus. More information about the OSSD can be found at their webpage: <https://www.oldwestbury.edu/academics/support/OSSD>

**SUNY OW College Library**
[http://libguides.oldwestbury.edu](http://libguides.oldwestbury.edu/) Phone: (516) 876-3150 Text: (516) 279-5084
The College Library is located in the L-Section of the Campus Center and is open year-round. 90 computer access terminals and 6 Mac stations are located on the main floor, including two black and white printers, a color printer, a photocopier, and a scanner *(flash drive required for saving documents)*. Our extensive collection of resources includes over 150 online databases which provide electronic access to thousands of scholarly journals, trade journals, magazines, newspapers, statistics, and country and company reports, over 200,000 circulating print and electronic books, reference volumes, electronic encyclopedias, reserve textbook for many courses, print periodicals, microfilm, DVDs, and streaming online video content. Library services include reference consultations, library instruction workshops, interlibrary loan, private and group study rooms, CMC (Curriculum Materials Center), notary public, and much more.

**Tutoring Center**

Location: Campus Center, H200. Website: <https://www.oldwestbury.edu/academics/tutor>

The Tutoring Center provides free peer tutoring to Old Westbury students for SUNY Old Westbury courses.  Students can receive assistance through one-on-one tutoring, mentoring, group study sessions, handouts or workshops. Walk-ins are welcome.  Please check <https://www.oldwestbury.edu/academics/tutor/course-schedule>for details on hours and availability.

**Writing Center**

Visit the Writing Center for help brainstorming or organizing your ideas or for feedback on a draft. All services will be offered online for Fall 2020. You can make an appointment for an online session at <https://oldwestbury.mywconline.com>. Hours: Mondays and Tuesdays, 11am-8pm and Wednesdays and Thursdays, 10am-7pm. Phone: (516) 876-3093.

**Math Learning Center**

Location: Main floor of the Library in Campus Center (room L-242) Phone: (516) 628-5622

Website: <https://www.oldwestbury.edu/departments/mathematics/mlc>

Staffed by professional and peer tutors, the Math Learning Center (MLC) provides freetutoring and support services for students enrolled in mathematics courses at SUNY Old Westbury. The MLC also houses a library of textbooks for use in the Math Learning Center. Current hours are posted outside the Math Learning Center.  The Center is closed during the Summer and Winter Sessions. (Input Hours for the Semester)

**Online Tutoring Available for Students**

The College offers free online tutoring to students from Pearson/Smarthinking. The tutoring is on topics in Mathematics, the Sciences, Business, and using MS Office, and, over the Summer the Online Writing Center is open as well. Students can use up to 6 hours without restriction, and if they use that up, they can request more. Students access the service via a link in their homepages in Brighspace.

**Basic Needs Statement**

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support at (516)876-3067 or Student Union 303. The college has a food pantry available for the campus community, Panther Pantry Student Union 301B.

**Counseling Resources**

As a college student, there may be times when personal stressors interfere with your academic performance or negatively impact your daily life. If you or someone you know at this college is experiencing mental health challenges, please contact the Counseling and Psychological Wellness Services at 516-876-3053. We’re located at the Student Union, Lower Level, Suite 100, and are open Monday to Friday, 9am to 5pm.

The counseling center continues to operate and offer its services to students even at times of social distancing and remote learning. At such times, services will be offered by telehealth, either via video-chats and phone conversations. If you wish to set an appointment during campus closure, please contact us at counselingcenter@oldwestbury.edu.

The National Suicide Prevention Lifeline also offers help 24/7, and can be contacted at 1-800-273-8255.

**Title IX, Sexual Discrimination, Harassment And Violence**

SUNY Old Westbury prohibits sexual discrimination, harassment and violence, and will promptly respond to all complaints.  The purpose of Title IX is to prevent sex discrimination on campus, address reported assaults and incidents, limit the effects of harassment on the educational environment, and prevent its recurrence.  If you or someone you know believes they have been subjected to sexual discrimination, harassment or violence, help is available. To report or for more information please visit <https://www.oldwestbury.edu/title-ix>, please contact the Title IX coordinator, Deputy Title IX coordinator or University Police at 516-876-3333. Confidential resources and support is also available from the counseling professionals in the Counseling & Psychological Wellness Services department, located in the Student Union Lower Level Room LL100 (off the Rotunda) at 516-876-3053.

* **Stephanie Benzaquen**

Title IX Coordinator

Campus Center H-418

Phone: 516-876-2740

Email: iaccarinos@oldwestbury.edu

**SUNY COLLEGE AT OLD WESTBURY POLICY ON ACADEMIC INTEGRITY**

The College’s Academic Integrity Policy is available at

<https://www.oldwestbury.edu/policies/academic-integrity>

**Administered by the Office of Academic Affairs: S**tudents are expected to maintain the highest standards of honesty in their college work. Any act which attempts to misrepresent to an instructor or College official the academic work of the student or another student, or an act that is intended to alter any record of a student’s academic performance by unauthorized means, constitutes academic dishonesty. Cheating, forgery and plagiarism are considered serious offenses and are subject to disciplinary action. Sanctions for a breach of academic integrity may include academic sanctions decided by the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor. Ignorance of the Academic Integrity Policy is never an acceptable excuse.

**Cheating:** Cheating is defined as giving or obtaining information by improper means in meeting any academic requirements. Examples of cheating, although not inclusive, include: unauthorized giving or receiving of information for an examination, paper, laboratory procedure, or computer assignment (file or printout); taking an examination for another student or allowing another student to take an examination for you; altering or attempting to alter a grade either on graded work or in an instructor’s records or on any College form or record.

**Forgery:** Forgery is defined as the alteration of college forms, documents, records, or the signing of such forms or documents by someone other than the proper authority.

**Plagiarism:** Plagiarism is defined as the use of material from another author whether intentional or unintentional, without referencing or identifying the source of the material. If students have any questions as to what constitutes plagiarism, it is their responsibility to get clarification by consulting with the appropriate instructor.

This is the end of the syllabus. If you reached up to this point, send me a picture of a compound microscope (any pic from the web is fine) and you will get **one extra point towards the first exam**. The subject should read: “Extra-point: microscope”.