

Course Syllabus

 Edit

Instructor

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NOTE: Any emails regarding the course should have BSC2891 in the subject line.

Overview

Discoveries in biology are driven as much by computer analysis as by laboratory work. BSC2891, Python Programming for Biologists, provides training in the theory and practice of computer programming with an emphasis on the practical techniques and problem solving skills required to use programming in biological research. This course is taught completely online.

Time

This course is 100% asynchronous and online, but strict deadlines are in place for weekly assignments/quizzes. Weekly assignments are due the following Monday at 11:59p Florida time but you are encouraged to do them earlier. The only exception for this is Spring Break. **The Monday following Spring Break WILL have assignments/quizzes due.** Canvas quizzes will be graded automatically and assignments on the course's remote computer are graded by me, so grades will not be posted for these immediately.

Each week is laid out on the course landing page and below

Weekly topic	Approximate relative effort
m01 Get Connected (https://ufl.instructure.com/courses/499173/pages/m01-%7C-get-connected)	=====
m02 UNIX Command Line (https://ufl.instructure.com/courses/499173/pages/m02-%7C-unix-command-line)	=====
m03 Biological Sequence Data (https://ufl.instructure.com/courses/499173/pages/m03-%7C-biological-sequence-data)	=====
m04 Case Study 1- BLAST (https://ufl.instructure.com/courses/499173/pages/m04-%7C-case-study-1-blast)	=====
m05 Python Interpreter (https://ufl.instructure.com/courses/499173/pages/m05-%7C-python-interpreter)	=====
m06 Python Scripting (https://ufl.instructure.com/courses/499173/pages/m06-%7C-python-scripting)	=====
m07 Python Lists (https://ufl.instructure.com/courses/499173/pages/m07-%7C-python-lists)	=====
m08 Python Dictionaries (https://ufl.instructure.com/courses/499173/pages/m08-%7C-python-dictionaries)	=====
m09 Case Study 2: Translating cDNA (https://ufl.instructure.com/courses/499173/pages/m09-%7C-case-study-2-translating-cdna)	=====
m10 File Input/Output (https://ufl.instructure.com/courses/499173/pages/m10-%7C-file-input-slash-output)	=====
m11 Case Study 3: Parsing Genome Features (https://ufl.instructure.com/courses/499173/pages/m11-%7C-case-study-3-parsing-genome-features)	=====
m12 Case Study 4: Modeling Protein Structure (https://ufl.instructure.com/courses/499173/pages/m12-%7C-case-study-4-modeling-protein-structure)	===== (instructional weeks 13-15) =====

Office Hours, Fall 2024

Who	Day of week	Time (Florida time zone)	Zoom link

Chevrette (Instructor)	Wednesdays	1-2p	Link ↗ (https://ufl.zoom.us/j/91289378989?pwd=TGZJVlRuWnowNFA5Z2l0czlUmdkZz09)
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Required and Recommended Textbooks

There is no required or recommended textbook for this course. All course materials will be provided by the instructor.

Grading Scale

Course grades will be determined based on percentage of total possible points. The following grading scale will be used:

A 80.00 – 100.0

B 60.00 – 79.99

C 40.00 – 59.99

D 20.00 – 39.99

E 00.00 – 19.99

Grades and Grade Points

Quizzes range from 1 to 4 points each and there are typically multiple of these per week. The first assignment is out of 10 points and all others are out of 50 or 100 points each.

For canvas quizzes (including quizzes related to assignments, like the BLAST questions) late submissions are accepted, but will automatically lose 25% per day (minimum grade of 0). Canvas quizzes have a maximum of 2 attempts and the highest grade will be recorded.

For coding assignments, any assignments missing at the time of grading will receive a 0.

For information on current UF policies for assigning grade points, see:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/> ↗ [\(https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/\)](https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/)

Attendance and Make-Up Work

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/> ↗ [\(https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/\)](https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/)

Extensions on assignments will generally NOT be granted. In the case of emergency, I require documentation from the Dean of Students office. Computer malfunction does not constitute an emergency.

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at:

<https://gatorevals.aa.ufl.edu/students/> ↗ [\(https://gatorevals.aa.ufl.edu/students/\)](https://gatorevals.aa.ufl.edu/students/)

Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via:

<https://ufl.bluera.com/ufl/> ↗ [\(https://ufl.bluera.com/ufl/\)](https://ufl.bluera.com/ufl/)

Summaries of course evaluation results are available to students at:

<https://gatorevals.aa.ufl.edu/public-results/> ↗ [\(https://gatorevals.aa.ufl.edu/public-results/\)](https://gatorevals.aa.ufl.edu/public-results/)

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see:

<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code> ↗ [\(http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code\)](http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code)

Software Use:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

0001 Reid Hall, 352-392-8565

<https://disability.ufl.edu/> ↗ (<https://disability.ufl.edu/>)

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu* ↗ (<http://www.counseling.ufl.edu/>)

Counseling Services Groups and Workshops Outreach and Consultation Self-Help Library Wellness Coaching

- U Matter We Care, www.umatter.ufl.edu ↗ (<http://www.umatter.ufl.edu/>)
- *Career Connections Center, First Floor JWRU, 392-1601, <https://career.ufl.edu/>* ↗ (<https://career.ufl.edu/>)
- Student Complaints:
 - Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/> ↗ (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>)
 - Online Course: <https://distance.ufl.edu/getting-help/> ↗ (<https://distance.ufl.edu/getting-help/>)

Diversity, Inclusion and Equity




This class fully supports the University of Florida's commitment to diversity, inclusion, and equity. By fostering a sense of belonging for students, staff and faculty while leveraging the uniqueness of the people who study and work at the university, we believe our campus community is enriched and enhanced by diversity, including but not limited to race, ethnicity, national origin, gender, gender identity, sexuality, class and religion. Our course will help foster an understanding of the diversity of our campus community, locally and globally.

We will strive to create a learning environment for our students that support a diversity of thoughts, perspectives and experiences while honoring your identities. To accomplish this, please let us know:

- If you have a name and/or set of pronouns that differ from those that appear in your official university records
- If you believe your performance in the class is being impacted by your experiences outside of class. Do not hesitate to reach out and talk with us. We want to be a resource for you. Anonymous feedback may be submitted, which may lead us to make a general announcement to the class, if necessary, to address your concerns.
- We, like many people, are still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that makes you feel uncomfortable, please talk to us about it.

Contact us with any concerns regarding inclusion and equity, including accessibility of learning materials, equipment, and software.

Course Summary:





Date	Details	Due
Wed Jan 10, 2024	 Optional: weekly office hours (Marc) (https://ufl.instructure.com/calendar?event_id=2998589&include_contexts=course_499173)	1pm to 2pm
Mon Jan 15, 2024	 SSH Connect Assignment (https://ufl.instructure.com/courses/499173/assignments/5914846)	due by 11:59pm
	 SSH Connect Quiz (https://ufl.instructure.com/courses/499173/assignments/5914810)	due by 11:59pm

Date	Details	Due
Wed Jan 17, 2024	🔗 UF VPN Quiz (https://ufl.instructure.com/courses/499173/assignments/5914803)	due by 11:59pm
Wed Jan 17, 2024	📅 Optional: weekly office hours (Marc) (https://ufl.instructure.com/calendar?event_id=2998739&include_contexts=course_499173)	1pm to 2pm
Mon Jan 22, 2024	🔗 GREP Quiz (https://ufl.instructure.com/courses/499173/assignments/5914831)	due by 11:59pm
Mon Jan 22, 2024	🔗 Logging on and Looking Around Quiz (https://ufl.instructure.com/courses/499173/assignments/5914792)	due by 11:59pm
Mon Jan 22, 2024	🔗 Making and Removing Directories Quiz (https://ufl.instructure.com/courses/499173/assignments/5914841)	due by 11:59pm
Mon Jan 22, 2024	🔗 Moving Around the UNIX Filesystem Quiz (https://ufl.instructure.com/courses/499173/assignments/5914829)	due by 11:59pm
Mon Jan 22, 2024	🔗 UNIX Filesystem Quiz (https://ufl.instructure.com/courses/499173/assignments/5914798)	due by 11:59pm
Mon Jan 22, 2024	🔗 Working With Text Files Quiz (https://ufl.instructure.com/courses/499173/assignments/5914795)	due by 11:59pm
Mon Jan 22, 2024	📄 Building Your Work Space Assignment (https://ufl.instructure.com/courses/499173/assignments/5914844)	due by 11:59pm
Wed Jan 24, 2024	📅 Optional: weekly office hours (Marc) (https://ufl.instructure.com/calendar?event_id=2998740&include_contexts=course_499173)	1pm to 2pm
Mon Jan 29, 2024	🔗 FASTA Quiz (https://ufl.instructure.com/courses/499173/assignments/5914804)	due by 11:59pm
Mon Jan 29, 2024	🔗 Homology Quiz (https://ufl.instructure.com/courses/499173/assignments/5914842)	due by 11:59pm
Mon Jan 29, 2024	🔗 Less Simple Sequence Similarity Quiz (https://ufl.instructure.com/courses/499173/assignments/5914794)	due by 11:59pm
Mon Jan 29, 2024	🔗 Simple Sequence Similarity Quiz (https://ufl.instructure.com/courses/499173/assignments/5914826)	due by 11:59pm
Mon Jan 29, 2024	🔗 Transcription and Translation Quiz (https://ufl.instructure.com/courses/499173/assignments/5914816)	due by 11:59pm
Wed Jan 31, 2024	📅 Optional: weekly office hours (Marc) (https://ufl.instructure.com/calendar?event_id=2998741&include_contexts=course_499173)	1pm to 2pm
Mon Feb 5, 2024	🔗 BLAST Quiz (https://ufl.instructure.com/courses/499173/assignments/5914791)	due by 11:59pm

Date	Details	Due
	🔗 BLASTP I/O Quiz (https://ufl.instructure.com/courses/499173/assignments/5914808)	due by 11:59pm
	🔗 BLASTP Options Quiz (https://ufl.instructure.com/courses/499173/assignments/5914835)	due by 11:59pm
	🔗 BLASTP Output Formatting Field Options Quiz (https://ufl.instructure.com/courses/499173/assignments/5914823)	due by 11:59pm
	🔗 BLASTP Output Formatting Quiz (https://ufl.instructure.com/courses/499173/assignments/5914793)	due by 11:59pm
	🔗 E-value Quiz (https://ufl.instructure.com/courses/499173/assignments/5914830)	due by 11:59pm
	🔗 Parsing BLAST Results Quiz (https://ufl.instructure.com/courses/499173/assignments/5914790)	due by 11:59pm
	📄 Command Line BLASTP Assignment (https://ufl.instructure.com/courses/499173/assignments/5914845)	due by 11:59pm
	🔗 Command Line BLASTP Assignment Questions (https://ufl.instructure.com/courses/499173/assignments/5914814)	due by 11:59pm
Wed Feb 7, 2024	📅 Optional: weekly office hours (Marc) (https://ufl.instructure.com/calendar?event_id=2998742&include_contexts=course_499173)	1pm to 2pm
	🔗 Python Interpreter Introduction Quiz (https://ufl.instructure.com/courses/499173/assignments/5914801)	due by 11:59pm
	🔗 Python math Module Quiz (https://ufl.instructure.com/courses/499173/assignments/5914815)	due by 11:59pm
	🔗 Python Strings and Numbers Quiz (https://ufl.instructure.com/courses/499173/assignments/5914821)	due by 11:59pm
Mon Feb 12, 2024	🔗 Python Variable Creation Quiz (https://ufl.instructure.com/courses/499173/assignments/5914834)	due by 11:59pm
	🔗 Python Variable Creation with Expressions Quiz (https://ufl.instructure.com/courses/499173/assignments/5914820)	due by 11:59pm
	🔗 Python Variable Creation with Functions Quiz (https://ufl.instructure.com/courses/499173/assignments/5914807)	due by 11:59pm
Wed Feb 14, 2024	📅 Optional: weekly office hours (Marc) (https://ufl.instructure.com/calendar?event_id=2998743&include_contexts=course_499173)	1pm to 2pm

Date	Details	Due
Mon Feb 19, 2024	🔗 Pico Text Editor Quiz https://ufl.instructure.com/courses/499173/assignments/5914837	due by 11:59pm
	🔗 Python Command-Line Parsing Quiz https://ufl.instructure.com/courses/499173/assignments/5914812	due by 11:59pm
	🔗 Python3 Scripting 'Hello World' Quiz https://ufl.instructure.com/courses/499173/assignments/5914797	due by 11:59pm
	🔗 Python3 Scripting Quiz https://ufl.instructure.com/courses/499173/assignments/5914806	due by 11:59pm
	🔗 Vi Text Editor Quiz (https://ufl.instructure.com/courses/499173/assignments/5914833)	due by 11:59pm
	📄 Add Two Numbers (https://ufl.instructure.com/courses/499173/assignments/5914843)	due by 11:59pm
Wed Feb 21, 2024	📅 Optional: weekly office hours (Marc) https://ufl.instructure.com/calendar?event_id=2998744&include_contexts=course_499173	1pm to 2pm
	🔗 Adding to, Removing From and Sorting Lists Quiz (https://ufl.instructure.com/courses/499173/assignments/5914819)	due by 11:59pm
Mon Feb 26, 2024	🔗 List Comprehension Quiz https://ufl.instructure.com/courses/499173/assignments/5914825	due by 11:59pm
	🔗 List Indexing Quiz (https://ufl.instructure.com/courses/499173/assignments/5914824)	due by 11:59pm
	🔗 List Slice Quiz (https://ufl.instructure.com/courses/499173/assignments/5914813)	due by 11:59pm
	🔗 Python For Loop Index Quiz https://ufl.instructure.com/courses/499173/assignments/5914811	due by 11:59pm
	🔗 Python For Loop Quiz https://ufl.instructure.com/courses/499173/assignments/5914817	due by 11:59pm
Wed Feb 28, 2024	🔗 Python List Creation Quiz https://ufl.instructure.com/courses/499173/assignments/5914839	due by 11:59pm
	📅 Optional: weekly office hours (Marc) https://ufl.instructure.com/calendar?event_id=2998745&include_contexts=course_499173	1pm to 2pm
Mon Mar 4, 2024	🔗 Dictionary Looping Quiz https://ufl.instructure.com/courses/499173/assignments/5914827	due by 11:59pm
	🔗 Dictionary Quiz (https://ufl.instructure.com/courses/499173/assignments/5914840)	due by 11:59pm

Date	Details	Due
	🔗 Dictionary Sorting Quiz https://ufl.instructure.com/courses/499173/assignments/5914809	due by 11:59pm
Wed Mar 6, 2024	📅 Optional: weekly office hours (Marc) https://ufl.instructure.com/calendar?event_id=2998746&include_contexts=course_499173	1pm to 2pm
	🔗 Genetic Code Quiz (https://ufl.instructure.com/courses/499173/assignments/5914818)	due by 11:59pm
	🔗 Splitting Strings Quiz https://ufl.instructure.com/courses/499173/assignments/5914799	due by 11:59pm
Mon Mar 18, 2024	🔗 Translating cDNA Assignment Questions https://ufl.instructure.com/courses/499173/assignments/5914800	due by 11:59pm
	📄 Translating cDNA Assignment https://ufl.instructure.com/courses/499173/assignments/5914847	due by 11:59pm
Wed Mar 20, 2024	📅 Optional: weekly office hours (Marc) https://ufl.instructure.com/calendar?event_id=2998748&include_contexts=course_499173	1pm to 2pm
	🔗 File Read Quiz (https://ufl.instructure.com/courses/499173/assignments/5914796)	due by 11:59pm
Mon Mar 25, 2024	🔗 File Write Quiz (https://ufl.instructure.com/courses/499173/assignments/5914828)	due by 11:59pm
Wed Mar 27, 2024	📅 Optional: weekly office hours (Marc) https://ufl.instructure.com/calendar?event_id=2998749&include_contexts=course_499173	1pm to 2pm
	🔗 Case Study 3: Parsing Genome Features Assignment Questions (https://ufl.instructure.com/courses/499173/assignments/5914836)	due by 11:59pm
Mon Apr 1, 2024	🔗 GFF File Quiz (https://ufl.instructure.com/courses/499173/assignments/5914822)	due by 11:59pm
Wed Apr 3, 2024	📅 Optional: weekly office hours (Marc) https://ufl.instructure.com/calendar?event_id=2998750&include_contexts=course_499173	1pm to 2pm
Mon Apr 8, 2024	🔗 Protein Structure Quiz https://ufl.instructure.com/courses/499173/assignments/5914802	due by 11:59pm
Wed Apr 10, 2024	📅 Optional: weekly office hours (Marc) https://ufl.instructure.com/calendar?event_id=2998751&include_contexts=course_499173	1pm to 2pm
Wed Apr 17, 2024	📅 Optional: weekly office hours (Marc) https://ufl.instructure.com/calendar?event_id=2998752&include_contexts=course_499173	1pm to 2pm

Date	Details	Due
Wed Apr 24, 2024	 Optional: weekly office hours (Marc) (https://ufl.instructure.com/calendar?event_id=2998753&include_contexts=course_499173)	1pm to 2pm
	 Final Project Questions - Part 1 (https://ufl.instructure.com/courses/499173/assignments/5914838)	due by 11:59pm
	 Final Project Questions - Part 2 (https://ufl.instructure.com/courses/499173/assignments/5914832)	due by 11:59pm
	 model.py assignment (https://ufl.instructure.com/courses/499173/assignments/5914848)	due by 11:59pm