

# BINF 4900/5900 - Principals of Team Science

## Syllabus Spring 2023



**Instructor:** Dr. Richard Allen White III

**Office Hours:** TH 5:15-6:15 pm EST or by appointment

**Contact:** [rwhit101@uncc.edu](mailto:rwhit101@uncc.edu)

**Website for the course:** <https://github.com/raw-lab/BINF4900-5900>

**CANVAS weblink:** <https://uncc.instructure.com/courses/194223>

**TA:** Lydia Holley

**Office Hours:** by appointment

**Contact:** [lholley4@uncc.edu](mailto:lholley4@uncc.edu)

### Essential course details:

- *Credits:* 3 credit class
- *Meeting times:* T/TH 4:00-5:15
- *Office Hours:* TH 5:15-615 pm EST
- *Semester:* Spring - January 10<sup>th</sup> to May 12<sup>th</sup>, 2023
- *Location:* Main/Uptown Center Campus - Bioinformatics building 217
- *Style of instruction:* Hybrid - F2F & Online (Sync) Instructional Method

## **Course description**

Introduction of appropriate project design, implementation, and management skills needed to function as a small team solving typical problems in Bioinformatics and Genomics. Students are given realistic problems and are required to develop specifications, deliverables, timelines, and costs. Under faculty supervision, the group assigns roles, responsibilities, and deadlines to complete the project and then execute the project. At the end of the course, the group produces a written document with deliverables and makes a formal presentation.

## **Course expectations**

### ***Classroom expectation***

Carefully read the syllabus; it is your complete guide of the expectations of the course. The policies and expectations are intended to create a productive learning environment for all students.

### ***Syllabus changes***

The standards and requirements outlined in this syllabus may be modified at any time by the course instructor. Notice of such changes will be announced in class email notice and changes to this syllabus posted on the course **CANVAS** and github website at (<https://github.com/raw-lab/BINF4900-5900>).

### ***Course introduction***

This course is designed to stimulate a 'start-up' software technology company environment. This course will teach you the mindset and skills required to work in a start-up and show you how to start your own. You will learn various skills, including logic, vision, conflict management, team evaluation, customer discovery, collaboration, funding research, and product development. BINF 4900-5900 will build on all the knowledge you have learned throughout your undergraduate/graduate career.

You will form teams of at least three members to build a product, service, or tool related to computation, bioinformatics, or genomics. Other disciplines are possible with approval by the instructor but must contain a computational component. You form your team (your quasi-company) as a for-profit or non-profit. You will independently develop a product, service, and tool, but the instructor must approve it. Your team will have a

unique name, a unique Github page, an optional website, and a logo.

Team members will elect officers a CEO (Chief Executive Officer - the prominent leader of the team), CTO (Chief Technology/Technical Officer - leads all technology development), and CFO (Chief Financial Officer - leads all sales and outreach for the project). All team members are responsible for specifications, deliverables, timelines, and work required to reach overall team goals. You and your team will have to work together, work beyond classroom times, and stay on task to reach goals.

Each team goes through three-panel rounds (pre, mid and final). These will be oral presentations. These panels will mimic a 'Shark Tank' business pitch evaluation. The pre-evaluation will be with your teammates and instructor only to pitch your company (e.g., team). This preliminary pitch (oral presentation 1) will happen the second week of classes in both a written (i.e., commonly called pre-read materials for your investors/grant panel) and oral presentation format (i.e., the pitch). The mid and final evaluation will be a panel of three professionals from business and science that will score your oral presentation. These panel pitches with written materials (i.e., pre-reads, oral, and poster) represent 70% of your total grade.

As an individual you will provide an independent project with write-up related to your team project. This is where you will go into greater detail that will help your team and your professional career such as CV building, individual GitHub page, a coding project, and present your results (oral and written).

### ***Deliverables for the course***

- Product, service, tool related to bioinformatics, genomics, or computation
- Team name
- Team logo
- Team GitHub page
- Team formation structure (For-profit vs. Non-profit)
- Team formation documents
- Team corporate structure assignment (CEO, CTO, CFO assignment)
- 3 Pre-read documents (Preliminary, mid, and final), submitted 48 h before the oral presentation
- 3 Oral presentations (Preliminary, mid, and final)
- 1 Individual GitHub
- 1 Poster presentation (end of semester)
- 1 Write-up on topic of interest (BINF 5900 only)

### ***Grading***

Grades are scaled on 100% total possible, where 100 to 90% is an A, 89 to 80% is a B, 79 to 70% is a C, and below 69 is a U. Pass or No credit with a grade of satisfactory (S) or unsatisfactory (U) are available. To exercise this option, the student must declare their intention to take a Pass/No Credit option by completing the appropriate form at the Office of the Registrar by the end of the eighth calendar day in the semester; this form requires the approval of the chair of the student's major department. Courses completed with the grade of Honors or Pass will count toward the hours needed for graduation, but they will not be considered in the computation of the grade point average. For further information on grading policy, please refer to [this website](#) .

### ***Bioinformatic internship requirement waiver***

Students who take BINF 5900 will not need to take BINF 6400 internship to satisfy degree requirements.

### ***Grading rubric***

Pre-read Initial - 50 pts

Oral pitch Initial - 50 pts

Pre-read Mid - 50 pts

Oral pitch Mid - 50 pts

Pre-read Final - 50 pts

Oral pitch Final - 50 pts

Formation documents - 50 pts

GitHub page (group) - 50 pts

GitHub page (individual) - 50 pts

Group Poster Presentation - 50 pts

Write-up on Topic of Interest – 50 pts (BINF 5900 only)

**Total points – 500 or 550**

### ***Based on points for grading – BINF4900***

500 - 450 pts (100-90%) = A

445 - 400 pts (89-80%) = B

395 - 350 pts (79-70%) = C

<345 (<69%) = U

Based on points for grading – BINF5900

550 – 495 pts (100-90%) = A

490 – 435 pts (89-80%) = B

430 – 385 pts (79-70%) = C

< 380 (<69%) = U

Any grade in-between will be rounded to the next highest grade. For example, 89.1 or 89.6% would be an A. While grades are important, and you should strive to get the highest marks. The knowledge you take with you and gain will last a lifetime.

### ***Academic integrity***

All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Definitions and examples of plagiarism are outlined in the Code. The Code is available from the Dean of Students Office or [online \(https://legal.uncc.edu/policies/up-407\)](https://legal.uncc.edu/policies/up-407).

### ***Extra credit***

Extra credit may be provided at the instructor's discretion. There are no guarantees of extra credit. It is not recommended to rely on extra credit to improve or pass the course.

### ***Attendance***

Attendance and participation are critical to reaching your team goals and deliverables successfully. To be successful, you will have to work with your team beyond regular classroom hours to prepare for oral and written presentations. Low attendance can hurt not only your grade but your team as well. Students that miss class is expected to consult with their team to complete their deliverables. Students are encouraged to work directly with the instructor regarding class absences for medical appointments, sickness, military/court orders, or personal and family emergencies, such as a death in the immediate family, where a student can provide an instructor with appropriate supporting documentation of the absence.

### ***Instructor absences or tardiness***

If I am late in arriving to class, you must wait a full 20 minutes after the start of class before you may leave without being counted absent, or you must follow any written instructions I may give you about my anticipated tardiness. The instructor will provide a surrogate instructor on his behalf in an emergency, which will be announced via email, Canvas website and on the course website (<https://github.com/raw-lab/BINF4900-5900>).

### ***Withdrawing from the course***

Students are expected to complete all courses for which they are registered at the close of the add/drop period. If you are concerned about your ability to succeed in this course, it is essential to make an appointment to speak with the instructor as soon as possible. The University policy on withdrawal allows students only a limited number of opportunities available to withdraw from courses. You must understand the financial and academic consequences that may result from course withdrawal (<https://provost.uncc.edu/policies-procedures/academic-policies-and-procedures/withdrawal-and-cancellation-enrollment-policy>).

### ***An environment of non-discrimination and diversity***

All students and the instructor are expected to engage with each other respectfully. Unwelcome conduct directed toward another person based upon that person's actual or perceived race, actual or perceived gender, color, religion, age, national origin, ethnicity, disability, or veteran status, or for any other reason, may constitute a violation of University Policy 406, The Code of Student Responsibility (<https://legal.uncc.edu/policies/up-406>). Any student suspected of engaging in such conduct will be referred to the Office of Student Conduct.

This course affirms people of all gender expressions and gender identities. If you prefer to be called a different name than what is indicated on the class roster, please let me know. Feel free to correct me on your preferred gender pronoun. If you have any questions or concerns, please do not hesitate to contact me.

### ***Mental healthcare and positive self-care***

Mental health concerns or stressful events may reduce your ability to participate in daily activities or diminish academic performance. It is common for college students to experience challenges that may interfere with academic success, such as academic

stress, sleep problems, juggling responsibilities, life events, relationship concerns, or feelings of anxiety, hopelessness, or depression. If you or a friend is struggling, we strongly encourage you to seek support. Helpful, effective resources are available on campus at no additional cost. You can learn more about the broad range of confidential mental health services available on campus via the Counseling and Psychological Services (CAPS) website at [caps.uncc.edu](http://caps.uncc.edu).

### ***Title IX reporting of sexual harassment or other related reporting***

UNC Charlotte is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. If you (or someone you know) have experienced or experiences any of these incidents, know that you are not alone. UNC-Charlotte has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with civil protective orders, and more.

Please be aware that all UNC Charlotte employees, including faculty members, are expected to relay any information or reports of sexual misconduct they receive to the Title IX Coordinator. This means that if you tell me about a situation involving sexual harassment, sexual assault, dating violence, domestic violence, or stalking, the instructor is expected to [report the information to the Title IX Coordinator](https://cm.maxient.com/reportingform.php?UNCCCharlotte&layout_id=125) ([https://cm.maxient.com/reportingform.php?UNCCCharlotte&layout\\_id=125](https://cm.maxient.com/reportingform.php?UNCCCharlotte&layout_id=125)). Although the instructor expected to report the situation, you will still have options about how your case will be handled, including whether or not you wish to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need.

If you wish to speak to someone confidentially, you can contact the following on-campus resources, which are not required to report the incident to the Title IX Coordinator: (1) University Counseling Center ([counselingcenter.uncc.edu](http://counselingcenter.uncc.edu) 7-0311); or (2) Student Health Center ([studenthealth.uncc.edu](http://studenthealth.uncc.edu) 7-7400). Additional information about your options is also available at [titleix.uncc.edu](http://titleix.uncc.edu) under the “Students” tab.

### ***Disability accommodations***

Students in this course seeking accommodations for disabilities must first consult with the Office of Disability Services and follow the instructions of that Office for obtaining accommodations. Accommodations will be provided to students presenting

documentation from the Office Of Disability Services (ODS). Please check the ODS website (<https://ds.uncc.edu/>) for more details.

### ***Policies related to COVID-19***

It is UNC Charlotte's policy that, as a condition of on-campus enrollment, all students are required to engage in safe behaviors to avoid the spread of COVID-19 in the 49er community. Face masks are **optional** on UNC Charlotte's campus. This includes classrooms and other academic spaces. This follows the [UNC System issued-guidance that makes face masks optional in all indoor settings](#) on all campuses of the System, sent on Feb. 25, 2022. Masks are available for pick up in the Popp Martin Student Union, Atkins Library and the Career Center for individuals who wish to wear one, while supplies last.

Students are expected to attend every class and remain in class for the duration of the session when it is safe to do so under university guidance regarding COVID-19. Failure to attend class or arriving late may impact your ability to achieve course objectives, affecting your course grade. An absence, excused or unexcused, does not relieve a student of any course requirement. Regular class attendance is a student's obligation, as is a responsibility for all the work of class meetings, including tests and written tasks. Any unexcused absence or excessive tardiness may result in a loss of participation points.

Students are encouraged to work directly with their instructors regarding their absence(s). For absences related to COVID-19, please adhere to the following:

- **Complete your Niner Health Check**  
(<https://emergency.uncc.edu/covid-19/niner-health-check>) each morning.
- **Do not come to class if you are sick.** Please protect your health and the health of others by staying home. Contact your healthcare provider if you believe you are ill.
- **If you are sick:** If you test positive or are evaluated by a healthcare provider for [symptoms of COVID-19](#), ([https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fabout%2Fsymptoms.html](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fabout%2Fsymptoms.html)) indicate so on your [Niner Health Check](#) to alert the University. Submit a copy of your Niner Health Check notification email to your instructors. Upon learning that you have tested



positive or have been diagnosed for symptoms of COVID-19, either from your reporting or from Student health Center testing or diagnosis, representatives from Emergency Management and/or the Student Health Center will follow up with you, and your instructors will be notified of the need for accommodations, as necessary.

- **If you have been exposed** to COVID-19 positive individuals and/or have been notified to self-quarantine due to exposure, indicate so on your [Niner Health Check](#) to alert the University. Representatives from Emergency Management and/or the Student Health Center will follow up with you as necessary. Submit a copy of your Niner Health Check notification email to your instructors. If you need any additional support verifying your absence after communicating with your professors, contact [Student Assistance and Support Services](#). (<https://sass.uncc.edu/>)

To return to class after being absent due to a self-quarantine period, students should submit a copy of their Niner Health Check clearance email to their instructor(s). To return to class after being absent due to a COVID-19 diagnosis, students should submit an online request form to Student Assistance and Support Services (SASS). Supporting documentation can be attached directly to the request form. It should be from a student's health care provider or the Student Health Center, clearly indicating the dates of absences and the date the student can return to class. Instructors will be notified of such absences.

If you are absent from class due to a COVID-19 diagnosis or quarantine, as the instructor, I will do the following to help you continue to make progress in the course: Provide lecture slides or any other materials needed to facilitate learning on a CASE-BY CASE BASIS. As this is a team related course, teammates should discuss deliverables required to reach goals. The instructor determines the final decision for approval of all absences and missed work.

### ***FERPA Notification***

In establishing University Policy 402, Student Education Records, UNC Charlotte adheres to a policy of compliance with the Family Educational Rights and Privacy Act of 1974, also known as FERPA. This federal law affords students the following rights concerning their education records. For details, see the FERPA Annual Notification

posted on the Office of Legal Affairs website. All questions concerning this FERPA Annual Notification may be directed to the Office of the Registrar's attention.

## Tentative Course Schedule

| Week of                     | Lecture Topic                         | Due dates (Thursday)            |
|-----------------------------|---------------------------------------|---------------------------------|
| Jan 10 <sup>th</sup>        | Introduction to the course            |                                 |
| Jan 17 <sup>th</sup>        | Team Building 101                     | Team formation + Topic ideas    |
| Jan 24 <sup>th</sup>        | Customer Discovery 101                | <b>Team formation documents</b> |
| Jan 31 <sup>st</sup>        | Product development 101               |                                 |
| <b>Feb 7<sup>th</sup></b>   | <b>Preliminary Oral presentations</b> | <b>Pre-read/Oral pitch 1</b>    |
| Feb 14 <sup>th</sup>        | Advertising 101                       |                                 |
| Feb 21 <sup>st</sup>        | Managing Research Teams               |                                 |
| <b>Feb 27<sup>th</sup></b>  | <b>Spring break - no classes</b>      |                                 |
| <b>March 7<sup>th</sup></b> | <b>Mid-term Oral presentations</b>    | <b>Pre-read/Oral pitch 2</b>    |
| March 14 <sup>th</sup>      | Collaboration in Science              |                                 |
| March 21 <sup>st</sup>      | Conflict Management                   |                                 |
| March 28 <sup>th</sup>      | Logic in Science                      |                                 |
| April 4 <sup>th</sup>       | Intellectual Property                 |                                 |
| April 11 <sup>th</sup>      | Entrepreneurship in tech              |                                 |
| April 18 <sup>th</sup>      | Detecting Misinformation I            |                                 |
| April 25 <sup>th</sup>      | Detecting Misinformation II           |                                 |
| <b>May 2<sup>nd</sup></b>   | <b>Final Oral presentations</b>       | <b>Pre-read/Oral pitch 3</b>    |

As a note: topics may change without notice for lectures. Dates for assignments will not change without prior notice.