

FYS 101.93: The Biology of Sci-Fi: Where Does Fact End and Fiction Begin? (Fall 2021)

Syllabus v.Sept.21.2021

Professor: Dr. Alita R. Burmeister, Ph.D.

Office Hours: Mondays 1:30-2:30 on Zoom or Slack chat. By appointment M-F.

Contact: See “Instructors” section below.

Peer Catalyst: Joshua Delgado

Office Hours: Available by appointment

Class meeting times: Tues/Thurs 5-6:15 pm

Location: CAS 3 Room 204

First Year-Seminar Course Description:

A Quinnipiac University education is directed towards forming a mindset of lifelong learning, establishing an inclusive, excellence-driven community, nurturing local and global communities, and fostering lifelong connections and success. The first-year seminar (FYS) initiates such an education as the starting point of the University Curriculum. Each student enrolls in a FYS constructed to help examine a complex problem, an enduring question, or new ideas from multiple perspectives. This seminar is designed to accomplish three essential goals that help prepare students for 21st-century careers and citizenship. First, it introduces students to the concept of inquiry as a process that utilizes multiple approaches and perspectives to investigate problems, questions, or ideas systematically. Students learn that the process of inquiry includes the collection, analysis, and evaluation of various types of evidence. Second, the seminar enables students to practice inquiry through an investigation of a problem, question, or idea that faculty select from their areas of expertise. Finally, students begin to develop problem-solving skills that they will deepen throughout their undergraduate experience in the University Curriculum.

FYS Student Learning Outcomes

As a result of taking FYS students will:

- Improve their proficiencies in academic reading and writing
- Enhance their ability to think critically
- Cultivate their ability to deliver oral presentations
- Develop an awareness of and sensitivity to the similarities and differences of perspectives and people in our society
- Reflect on and explain the relationship between Quinnipiac University and the various communities of which it is a part

Section Description for The Biology of Sci-Fi: Science fiction explores future technologies by blending scientific facts with conjecture: dinosaurs are cloned, humans are genetically altered, and cadavers are raised from the dead. Through these hypothetical premises, sci-fi also raises important questions about the role of science in our lives. In this course, students will analyze novels that have scientific themes from the biological sciences. Alongside these readings, students will study related biological concepts while also thinking about the intersection of science and human nature. From the highly plausible cloning of the near future, to the madcap conjectures on distant future dystopias, join us for a semester of searching for the often-elusive line between fact and fiction.

Required readings: Books may be purchased new or used, print or digital, in any edition.

- *Jurassic Park* by Michael Crichton
 - o “An astonishing technique for recovering and cloning dinosaur DNA has been discovered. Now humankind’s most thrilling fantasies have come true. Creatures extinct for eons roam Jurassic Park with their awesome presence and profound mystery, and all the world can visit them—for a price. Until something goes wrong. . . . In *Jurassic Park*, Michael Crichton taps all his mesmerizing talent and scientific brilliance to create his most electrifying technothriller.” – Amazon.com
- *Never Let me Go* by Kazuo Ishiguro
 - o “As children, Kathy, Ruth, and Tommy were students at Hailsham, an exclusive boarding school secluded in the English countryside. It was a place of mercurial cliques and mysterious rules where teachers were constantly reminding their charges of how special they were. Now, years later, Kathy is a young woman. Ruth and Tommy have reentered her life. And for the first time she is beginning to look back at their shared past and understand just what it is that makes them special—and how that gift will shape the rest of their time together. Suspenseful, moving, beautifully atmospheric, *Never Let Me Go* is modern classic.”- Amazon.com
- *Dawn* (Exogenesis trilogy, Book 1) by Octavia Butler
 - o “When Lilith Iyapo wakes from a centuries-long sleep, she finds herself aboard the vast spaceship of the Oankali. She discovers that the Oankali—a seemingly benevolent alien race—intervened in the fate of the humanity hundreds of years ago, saving everyone who survived a nuclear war from a dying, ruined Earth and then putting them into a deep sleep. After learning all they could about Earth and its beings, the Oankali healed the planet, cured cancer, increased human strength, and they now want Lilith to lead her people back to Earth—but salvation comes at a price.” - Amazon.com
- Additional readings from the academic literature will be assigned throughout the semester based on the group’s interests and level of knowledge. PDF or open-access links will be provided (no purchases necessary).

Instructors

Professor: Dr. Alita Burmeister (pronounced “BRRR – my – stir” or just Dr. B works), Ph.D.

Bio: I am a scientist at Yale, where I do research on evolution, microbiology, and molecular biology. Specifically, I study bacterial and the viruses that infect bacterial host cells, including how those viruses mutate and evolve to better infect their hosts. Other courses and programs I’ve taught include *Virus Evolution & Extinction* and Viral Genomics. At Quinnipiac, I’m the first-year seminar instructor for this course, which I designed because I love sci-fi and what it can reveal about us as humans. I’m also the Faculty Affiliate for the Heath & Wellness Living-Learning Community.

How to contact: My preferred modes of contact are, in order: 1) Ask questions during or before/after class; 2) Slack; 3) Stop by office hours, and 4) Email to alita.burmeister@quinnipiac.edu. I will typically reply to emails within 24-48 hours during the workweek (M-F, ~8am-5pm).

Peer Catalyst: Joshua Delgado

Bio: Joshua is a senior majoring in History in the 4+1 MAT program for Secondary Education with minors in Anthropology and Political Science. He is involved around campus in many organizations, including: Orientation Leader, QFTO (Quinnipiac Future Teachers Organization, open to everyone to

join), Student Programming Board (SPB), Quinnipiac Mock Trial Association (open to all), History and Political Honors Societies, and QU spirit.

How to contact: GroupMe and Email (Joshua.Delgado@quinnipiac.edu), details to be announced. Joshua will also be organizing events and meet-ups for our course throughout the semester.

Course Details

Semester start/end dates: August 31, 2021- Dec. 9, 2021 (no classes Nov 22-27)

Final exam: Thursday, Dec. 16th, 6pm. Location to be announced. We will use this time for a final meeting and/or presentations.

Week by week schedule: The schedule will cover a breadth of science fiction reading, analysis activities, and discussions, culminating in a final project on a sci-fi work of your choice. Some of the specific dates and activities will change throughout the semester, depending on how the semester goes, student interest, setbacks related to COVID, etc., but overall, this is what you can generally expect week by week.

Date	Class sessions	Assignments	Due Dates
Module 1: An Introduction to Biological Fiction			
Tues Aug. 31	Course set-up & intro activities	Complete pre-course surveys and open-book syllabus 'quiz' Slack setup	Before end of class (6:15pm Tues Aug. 31)
		Favorite sci-fi scene or trailer	Before beginning of next class (5pm Sept. 2)
Thurs Sept. 2	Biology Basics - activities	View and submit notes on Khan Academy videos on DNA and RNA	Monday Sept 6, 3pm
Tues Sept 7	Biology Basics - activities	Central Dogma Presentations Watch previews for science fiction films that involve any of DNA, RNA, or protein; work these into your presentations	Before beginning of next class
		Jurassic Park, Part I (Prologue, Intro, and 1 st -3 rd iterations) notes	Mon Sept 13, 3pm
Thurs Sept 9	Biology Basics - activities	Reading/notes	
Module 2: From DNA to Life and the Making of Jurassic Park			
Tues Sept 14	Jurassic Park - activities		
Thurs Sept 16	University holiday – no class		
Tues Sept 21	Jurassic Park - activities	Time for QU FYS Program Survey (15 min) Jurassic Park, Part II notes	Due in class (required, but not graded) Wed, Sept 22, 3pm
Thurs Sept 23	Jurassic Park - activities		
Module 3: The Speculative Fiction of Never Let Me Go			
Tues Sept 28	Introduction		
Thurs Sept 30	Class Hike	Never Let Me Go – Full book or movie short-form notes	Tuesday, Oct. 5, 3pm
Tues Oct 5	Never Let Me Go Activities		
Thurs Oct 7	Never Let Me Go Activities	Formal Writing Assignment #1	Full essay due Mon Oct 18, 3pm
Module 4: Cancer or Captivity in Octavia Butler's Dawn			

Tues Oct 12 – Thurs Oct 14	Midterm week. Dr. Burmeister may be traveling this week.		Dawn – full book, short- form notes due Mon Oct 25, 3pm
Tues Oct 19	<i>Dawn</i> activities		
Thurs Oct 21	<i>Dawn</i> activities		
Tues Oct 26	<i>Dawn</i> activities		
Module 5: Final Projects			
Thurs Oct 28	Final project introduction	Project ideas	End of Class
	Project ideation	Formal Writing Assignment #2	Wed Nov. 3, 2021, 3pm
Tues Nov 2	Final project workshop		
Thurs Nov 4	Final project workshop	Assignment: presentation pitches of final projects	Tues Nov. 9th 5pm for presentation in-class
Tues Nov 9-	Final project pitches		
Thurs Nov 11	Final project pitches	Submit notes on your final project preliminary research (due Nov. 16th)	Tues Nov. 16th 5pm for review in class
Tues Nov. 16	Final project workshop time		
Thurs Nov. 18	Final project workshop time	Final project presentation outline	Tues Nov. 30th 5pm for review in class
Tues Nov 23 – Thurs Nov 25	Break – no classes		
Tues Nov 30 –	Group work time	Final project first draft due; peer review discussion and comments due Final presentation	Due date to be announcements Thurs Dec. 2nd 5pm for presentations in class
Thurs Dec 2	Final presentations	Formal writing assignment #3	Final, revised paper due Dec. 7th 5pm.
Tues Dec 7	Final presentations		
Thurs Dec 9	Final presentations		
Thurs Dec. 16, 6pm	Class wrap-up during final exam slot		

Inclusion in our course

I want our classroom environment to support a diversity of thoughts, perspectives, and experiences, and to honor your identities (including race, gender, class, sexuality, religion, ability, etc.). I (like many people) am still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable, please talk to me about it. Anonymous feedback is also always an option. – Adapted from [Monica Linden, Brown University](#).

Attendance, recording, and class materials:

Interaction with the professor and other students in person during class are integral parts of the course that directly contribute to the course's learning outcomes. I use a highly interactive and activity-based course design, so class attendance is required for every class meeting. You will receive points for attendance and participation, including participation points for preparing for class discussions, activities, and presentations.

Note that scheduling conflicts, transportation issues, being out of town, etc. are not allowable reasons to miss class, but that your first two absences will not count towards a participation point reduction. Unless a student has recently tested positive for COVID-19, is under a university quarantine order, or has a pre-approved athletics exception, students should make every effort to attend every class. Class sessions will not be recorded.

If you miss a class, make sure you catch up on the material and assignments before the next class: 1) Consult with the peer catalyst before the next class period to get class notes, announcements, and changes to the schedule, and 2) Check in with the instructor for additional information. If you miss class on a day we have activities worth additional points (for example, presentations), you'll still be responsible for that work.

In the event that class sessions are be recorded in whole or in part, these recordings are the intellectual property of the professor and they may not be shared or reproduced without the explicit, written consent of the faculty member. Further, students may not share these recordings with those not in the class or upload or distribute them via or to any other online environment, which may violate the Academic Integrity Policy and the Family Educational Rights and Privacy Act (FERPA), a federal law governing privacy and students' academic records.

No materials from this course (assignments, activities, materials, syllabi, etc.) may be shared outside the course, including with individuals or with coursework file sharing sites).

(IV) Student evaluation

The formula for your final grade is:

Grade component	Assessment examples	% of final grade
Class participation, preparation, and presence	Attendance, class discussion facilitation, in-class reading questions, surveys, etc. - 1% point per class period - First two missed classes no % point reduction	24%
Assignments	Notes on readings, pre-class lecture videos, final project outlines & drafts - Checked 5 times per semester (3% points each)	15%
Co-curricular and extra-curricular experiences	Documented attendance at Involvement Fair (9/1/21)* and four other extra-curricular activities - 2 points each	10%
Formal writing exercises	Formal papers (3-4 pp. in length): - #1: 5 points - #2: 10 points - #3: 15 points	30%
Oral presentations and discussion leading	Various presentations and presentation checkpoints throughout the semester - General discussion leading: 5 points - Mid-semester presentations: 5 points - Final presentation: 10 points	20%
University Curriculum reflection	Reflection on course experiences	1%

*Student Involvement Fair: this event, which is mandatory for all FYS students, will take place on the Mount Carmel Campus Quad on Wednesday, September 1, from 4:00-6:00 pm.

Quinnipiac University grade scale (for both individual assessments and final grade)

Letter Grade	Numerical range	Grade point value
A	93-100	4.0
A-	90-92	3.67
B+	87-89	3.33
B	83-86	3.0

B-	80-82	2.67
C+	77-79	2.33
C	73-76	2.0
C-	70-72	1.67
D	60-69	1.0
F	0-59	0.00

Co-curricular and extra-curricular experiences

FYS introduces students to Quinnipiac University as a community and a crucial component of that community is student involvement in clubs, organizations, and academic talks.

- In order to introduce first-year students to QU as a community, all students are expected to engage in five co-curricular experiences, including the Involvement Fair (9/1/21 from 4:00-6:00 pm).
- Students will document their experiences with a written summary in your class Google Document that includes reflection on the experience. Activities do not need to be related to the topic of the course.

University Policies

Academic Integrity (AI) Policy

QU is committed to integrity and honesty in the educational process. As a member of the campus community and a student enrolled in this course, you agree to know and observe the university's Academic Integrity (AI) Policy.

- Academic misconduct includes, but is not limited to, cheating, facilitation, fabrication, unauthorized collaboration, and plagiarism.
- You must produce original work and know what constitutes plagiarism. You must also know what constitutes cheating. If you are not certain what sources you can rely on when completing an assignment or exam, including any on-line assessment, you should contact me for clarification.
- All assignments you submit in this class must be original work completed by you for this specific course. A failure to abide by the AI Policy could lead to a grade penalty on the assessment, failure in the course, an "FAI" notation on your transcript, AI probation, suspension or any other sanction outlined in the university's AI Policy.
- If you have questions about what constitutes academic misconduct, please contact the course instructor.
- You may also contact Claude Mayo, Director of Academic Integrity & Pre-Law Adviser: (203) 582-7645 or claudemayo@qu.edu

ADA Policy

QU is committed to creating a learning environment that meets the needs of its diverse student body.

- If you anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with me.
- If you have a disability, or think you may have a disability, you may also want to meet with the Office of Student Accessibility, to begin this conversation or to request reasonable accommodations.
- Quinnipiac University complies with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. Please contact the Office of Student Accessibility by emailing access@qu.edu, or by calling (203) 582 – 7600.
- If you have already been approved for accommodations through the Office of Student Accessibility, please meet with me so we can develop an implementation plan together.

Title IX Policy

QU is dedicated to fostering a healthy and safe environment that is free from all forms of sex discrimination and sexual misconduct.

- The University complies with Title IX of the Education Amendments of 1972. Title IX prohibits discrimination on the basis of sex in educational programs or activities that receive federal financial assistance.
- If you believe that you have been subjected to discrimination on the basis of sex or gender, you are encouraged to file a complaint with the University's Title IX Coordinator, Dennis Kwarteng.
- The Title IX Coordinator can be contacted by phone at (203) 582-7327, or by email at dennis.kwarteng@qu.edu.

CARE Policy

Quinnipiac is dedicated to supporting our students through high-touch practices from CARE (Community, Assessment, Response and Evaluation).

- The CARE team employs a caring, preventive, early intervention approach with students who exhibit concerning or disruptive behaviors.
- The CARE team works to promote student well-being and success in the context of community safety.
- CARE referrals are submitted by faculty, staff, students, and community members.
- Referrals range from topics including:
 - o helping a student during difficult times such as the passing of a loved one
 - o when a student needs support for their physical, emotional, mental, spiritual, financial health; and/or
 - o when experiencing social challenges with roommates, friends, and/or peers.
- More information about the CARE team, behaviors of concern, how to make a referral, and answers to frequently asked questions can be found on the [CARE page](#) on MyQ. If you are concerned about a peer, student, or yourself, please submit a referral [CARE and Conduct Incident Reporting Form](#).

QU Statement of Inclusive Values

At Quinnipiac University, we believe excellence is inclusive and built upon equity, so all groups feel welcome to fully participate in and contribute to our mission.

Achieving this level of excellence requires creating a sense of belonging for all individuals — especially historically marginalized members of society — by affirming the worth, dignity, legitimacy and equality of everyone in the Quinnipiac community and beyond, regardless of race, ethnicity, sex, age, sexual orientation, gender identity, disability, religion, national origin, political viewpoints, veteran status or socioeconomic background.

Our university-wide culture is not built on any single program, initiative or action. Rather, it blossoms when guided by heartfelt care for the well-being of fellow community members. This is what inclusive excellence looks like at Quinnipiac:

- We bring our “whole selves” to our work and study, which means we bring our hearts as well as our minds.
- We stand for the quest for knowledge, encourage the vigorous exchange of ideas, and foster honest, courageous conversations about sometimes uncomfortable subjects.
- We aim to always think and act with kindness to create a safe, respectful environment for these dialogues, with particular sensitivity to fellow community members' individual or collective experiences.

Reasoned, academic and rigorous debate requires us to hear viewpoints with which we may disagree. However, those disagreements must not question the worth, dignity, legitimacy and/or equality of our fellow community members.

We affirm our belief in the ideals of inclusive excellence as a way to continue nurturing Quinnipiac as a university full of people who care deeply about each other and the communities around us.