

Pirates: Sailors, science, and the Seven Seas¹
FSEM 1111-11
Fall Quarter, 2022

Instructor	Dr. Keith Miller
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Class Time:	TR 10:00 – 11:50AM
Class Location:	KRH 306
Office Hours:	By arrangement

COURSE DESCRIPTION. Pirates are a misunderstood lot. Villains to many, heroes to some, and hired mercenaries to others. Yet their stories, ones of adventures, battles, and treasure, capture the imagination of most. Science too, especially in the public domain, is often misunderstood. Why is that? I posit it's all about "your attitude." This seminar will engage students to analyze pirates and their stories, to identify underlying science, technology, engineering, and math (STEM) concepts hidden in their adventures and the pirates "way of life". Inspired by films and readings, students will research selected scientific principles as well as discuss literature on informal science education. As group projects, students will develop, test, and produce pirate-inspired science outreach activities for children. In a culminating class project, students will put their skills to the test, building "sloops" from simple materials they will race across the pool, competing for the ultimate title: *DU's fastest corsair!*

LEARNING OUTCOMES. The seminar is a combination of intellectually engagement, community building, and advising. By the end of the quarter, the students should be able to:

- Engage in critical inquiry in the examination of concepts, texts, or artifacts; effectively communicate the results of such inquiry;
- Articulate the value of in-depth and thoughtful discussions modeled in the seminar, to include the importance of "engaged" listening;
- Advocate for themselves to navigate the broad array of resources, opportunities, and experiences provide the University of Denver; and
- Value the importance of understanding a complex topic from multiple perspectives; and
- Recognize that one can have FUN in the pursuit of new knowledge!

DISCUSSION NORMS. There are some important points to remember; some might call them "ground rules" and discussion "norms" for the seminar. So please remember the following. First, this is a seminar where you should not be afraid to start sentences, "I believe that..." I want all of you to be able to talk about your beliefs and experiences freely. Second, all of us come to the class with difference beliefs and experiences; that is one thing that makes us unique!! We might share common experiences or beliefs that we can talk about, but if we don't, that is ok. Third, I expect us all to respectfully and actively listen to each other. Finally, open discussions are important. There will be times when it is appropriate to be critical of a classmate's comments. For example, one might feel that an interpretation of a series of facts is not valid. However, please be constructive in your criticism and always refrain from being critical of beliefs and experiences.

¹ Updated 9/11/2022

ASSIGNMENTS AND ASSESSMENTS. TBD – updated after “the code” is signed!

GRADES. At the end of the quarter, your grade will be determined by the point totals with the following components:

<u>Component</u>	<u>Points</u>
Assignments/Participation (5 points/session)	100
Outreach group projects	200
In-depth pirate exploration – individual presentation	200
Class project – (<i>duct tape, cardboard boat regatta!</i>)	200
Final knowledge assessment	100
Final reflective piece	200
Total Points	1000

IMPORTANT DATES/TENTATIVE SCHEDULE

Week	Topics/assignments (check Canvas for updates!)
1	Introductions; developing and “signing the code”; movie selection/movie viewing
2	NSTA Science Standards/outreach activity selections/ <i>Treasure Island</i> (TI) update
3	In-class, project work time/ Library visit? /mini-STEM lectures/TI update
4	In-class, project work time/ Writing Center visit? /mini-STEM lectures/TI update
5	<i>Advising</i> / TI update/prototype development/ Career visit?
6	Class project – prototype development and testing/scale-up prototypes/TI update
7	Individual presentations; build full-scale boats; feedback on outreach modules
8	Individual presentations; build full-scale boats; feedback on outreach modules
9	Final class project tests (in pool); trials Tuesday/Final rounds Thursday
10	Knowledge Assessment/Course wrap-up

CELLULAR PHONE, PAGER AND LAPTOP POLICY. I respect the need for each individual to stay in contact with family and friends. The use of cellular phones and pagers, however, is disrupting to the learning environment. Thus, I request that the ringers of all cellular phones and pagers be muted during class. If an emergency arises, and you need to make a call on your phone, I request that you quietly leave the room and conduct your conversation out in the hallway. Laptops can also be quite disrupting in class; therefore, **ONLY** laptops used for taking notes will be allowed. If you use your laptop, I might request that a copy of your notes be emailed to me at the end of class.

LECTURE AND TESTING ACCOMMODATIONS. I will make every effort to accommodate students diagnosed with a learning disability. I will do this in complete confidence. I do, however, request that any student requiring these accommodations inform me the first week of class. For further information, please see the University Disability Services Program [website](#).

RELIGIOUS ACCOMMODATIONS. It is University policy to grant students excused absences from class or other organized activities for the observance of religious holy days, unless the accommodation would create an undue hardship. I will do my best to accommodate your requests if you make arrangement with me *in advance* of your absence. Please examine the course syllabus,

including the tentative schedule, for any potential conflicts with holy days and notify me prior to the end of the second week of classes of conflicts that may require your absence from class and/or prevent you from completing an assignment. [Here](#) is more information on the Religious Accommodations Policy for your reference.

ACADEMIC DISHONESTY. While I advocate collaborative learning and teamwork, I also firmly believe that each individual should maintain the highest ethical standards in all of life's endeavors. As such, I support and will strictly enforce the [Honor Code](#) of the University of Denver.