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Where am I?

Sci 100: Science through Inquiry
Motion, Spring 2025

What do I need before class?

Sci 100 is a four credit-hour course. The prerequisite is 12 hours of college-level credit.

What do I need to buy for class?

Nothing. Required readings will be posted to Canvas. Lab materials will be provided in class.

What is this class about?

In SCI 100 we explore motion from the astronomical to the biological. We work together to connect information, data, and active scientific research to see how fundamental laws of physics impact how we function. In the telling of this story, we describe how our understanding of scientific concepts, and our understanding of the nature of science itself, has changed through time.

My goal is to make everyone more comfortable with science as an **area of inquiry** and **as an active pedagogy**, exploring what we know, what we are learning, and how the two interact.

Who are you?

Dr. Michelle R. Edgcomb Friday (That's me to the right. Please call me Michelle.)

medgcomb@fsmail.bradley.edu, (309) 677-2931

Drop-in Hours: Bradley 200, Pick a time that works for you! My availability is here: <https://calendar.app.google/WUfvQzFkAP5b4iKB9>

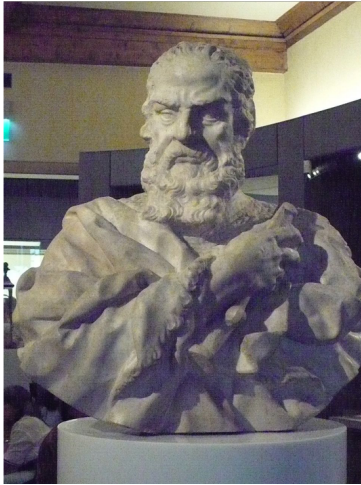
I like to talk to you and I am happy to meet outside of drop-in hours. Talk to me before, after, and during class; send me an email (I try to respond within 24 hours); set up an appointment; or all of the before.



How does this class fit into the BCC?

Our experiences in this class are designed to meet the goals for Knowledge and Reasoning in the Natural Sciences (NS) (Bradley University Core Curriculum, <https://www.bradley.edu/sites/bcc/inquiry/>):

- BCC 1: Recognize science as an ongoing process, guided by ethical standards of practice, that generates and refines knowledge.
- BCC 2: Engage in multiple aspects of the scientific process.
- BCC 3: Apply scientific principles in their personal and professional lives as active members of their communities.



What are we doing in this class?

We're going to work towards the BCC goals along several themes.

- Nature of Science: *Learning to Science*
- Research Design and Scientific Writing: *Discover Something and Tell the World*
- Scientific Inquiry: *We're All Scientists*
- Laws of Motion: *When You've Just Got to Move (or Sit)*
- Gravity and Projectile Motion: *Thinking Multi-Dimensionally*
- Planetary Motion and Microgravity: *Moving to Mars*
- Circadian Rhythms: *Standard Time is Best Time*

What do I need to know?

The learning objectives for this course are built around our themes as well as the goals of the BCC. By the end of the semester, we will:

1. Discuss nature of science (NOS), including what makes science distinct as a way to create knowledge
2. Interpret and discuss technical writing for different audiences
3. Explore the Laws of Motion and how they relate to sports, planets, and people
4. Model how planets move in space
5. Relate NOS to science inquiry (SI) and to current practices in science education
6. Relate planetary motion to circadian rhythms
7. Develop a plan for healthy space travel

How will I know that I know it?

Learning can be a lengthy process. It takes time and a willingness to make and correct mistakes to really understand a new concept or idea. Measuring learning is equally difficult. A single exam or assignment does not convey all that we understand or that we can do.

Because of this, we incorporate plenty of opportunities to show and to revise our understanding. SCI 100 is a project-based class. You will have the opportunity to complete a variety of assignments including: designing research projects, practicing scientific writing, building an inquiry-based lesson plan, and designing a model for long-term space travel. All of these assignments will incorporate an opportunity to revisit and revise your work. You will also actively reflect on your changing understanding of the material.



How do we succeed?

- Prepare ahead of time
- Engage in class
- Revisit your thinking
- Believe you can do this



What is the grading scale?

This course is ungraded. This means that projects do not have a set number of points. Rather, they are built on trying, revising, and critical thinking with the goal of improving throughout the semester.

Ungrading focuses on overall learning, rather than rate of learning. By removing the risk of lost points, we put the emphasis on the learning process in all of its messiness.

But seriously, how do I get a grade?

At midterms and finals, I do have to assign a grade. Grades will be based on your collective work across all aspects of class. This includes the consistent effort that you put into assignments and revisions, the respect you show your classmates, the contributions that you make in-class as well as on individual and team projects. Over the course of the semester, you will collect evidence of your learning through a portfolio of your work and a reflective journal that focuses on your thinking about course material.

At midterm and finals, I will assign a grade in consultation with you. We will discuss your portfolio, a self-assessment, and a proposed grade that reflects your evaluation of your learning and your effort. I will agree or disagree with your grade based on your portfolio and reflection and we will try to reach consensus before I assign the final grade.

You must do your part to support your teammates and their learning as well. Attendance and participation are fundamental to your learning and are part of our determination of midterm and final grades.

How will I be learning?

Active learning activities for the semester include:

- Two research projects
- A lesson plan/professional development project
- A seminar paper and discussion
- A reflective journal
- A group presentation
- In-class mini-labs, discussions, and presentations
- A space travel final project

Due dates are available in Canvas, Module 1.

What will I be writing?

This is a WI class. You will be learning through writing and reflection. Projects that contribute to the WI tag include:

- Research projects
- Lesson plan/professional development project
- Seminar paper
- Reflective journal
- Trip to Mars final project

Full descriptions are available in Canvas, Module 1.



What can you do to support my learning?

Every student is capable of engaging in science. My goal is to make this class an inclusive place where students use their background knowledge and experiences and work together to develop new and deeper knowledge. For this to happen, we need to meet people where they are.

I respect and meet accommodations through Student Access Services. I also recognize that some needs are more fluid. During the semester we may all get sick, have an emergency, or meet an unexpected challenge. I encourage you to talk to me so that we can work together to make a plan to support your learning.

What if I have to miss class or if I am late on an assignment?

If you are sick, notify me as soon as you can. We will set up an appointment to talk about what you missed and to make a plan to get caught up on classwork. If you have an emergency, please notify me or Student Support Services as soon as you can.

Sometimes unexpected issues arise. Assignments that are due at the end of the day can be turned in up to 24 hours late without contacting me. If more time is needed, contact me before the due date to discuss potential options. For assignments due in class, contact me before class if you anticipate a conflict (e.g. University travel). In the case of illness or emergency, we will set up a modified plan during our meeting.

Where do I find important contact information, due dates, and assignment descriptions?

I want to make information as accessible as possible whether you are at your computer, on your iPad, or on your phone. Contact information for Bradley offices including: Student Support Services, Student Access Services, the Academic Success Center, the Office of Inclusive Excellence, and Title IX are on the front page of our class site in Canvas with hyperlinks to their contact information.

The list of project due dates along with links to assignment descriptions is in Module 1 on Canvas. This includes a description of the Writing Intensive (WI) projects.

Assignment reminders and descriptions are also included in our weekly Canvas modules.

Who's ready for a great semester?

I don't know if I'm ever ready, but I am willing and excited. Let's have a great class!