

## INQ 110: Intellectual Inquiry Science, Myths, Magic and Chaos

**Professor:** Dr. Maggie Rahmoeller (aka Dr. Maggie)  
**Office:** Trexler 270J  
**Email:** [rahmoeller@roanoke.edu](mailto:rahmoeller@roanoke.edu)

**Class Meetings:** MWF 1:10 – 2:10PM in Lucas 110 OR via Zoom (personal preference)

**Peer Mentor:** Aiden Kuhle, [atkuhle@mail.roanoke.edu](mailto:atkuhle@mail.roanoke.edu)

**Office Hours:** All office hours will be via Zoom. Available time includes  
MWF 9:30 – 10:30AM  
T/TH 2:30 – 4:00PM

The Zoom link for office hours is: <https://roanoke-edu.zoom.us/j/6576322388?pwd=UVU5OTRtUm9FSjhUR2wzbkI1ZGQxZz09>, which can also be found on Inquire.

**Course Description:** How do we know what we know? We hear that “seeing is believing” but the sights and sounds that reach our consciousness are heavily processed by our brains. Careful experimentation may establish isolated facts, but to utilize these facts we require stories that comfortably integrate them into our unique and flawed view of the world. Chaos theory shows us that complexity in nature can arise from simple processes. This confounds some of western philosophy and science. In this course, we examine the boundaries between fact and fiction, knowable and unknowable, and simple and complex.

**Intended Learning Outcomes:** At the end of the course, successful students will be able to

- describe ways in which scientific fields may differ from non-scientific fields, and discuss ways in which both types of fields may enhance our lives;
- describe ways in which our perception of the world is distorted by the brain, and how these distortions adversely affect our decision-making processes;
- describe different types of myths used to simplify life, and the importance of these myths in our view of the world;
- describe the ways in which different magic tricks work, and discuss what this tells us about the inner workings of the brain;
- describe the butterfly effect, both mathematically and non-mathematically, and its implications for knowledge and prediction;
- analyze current science reporting to identify potential biases and oversimplifications, and discuss how we can develop informed opinions.

In addition to the topic-specific outcomes, all sections of INQ 110 have the following learning outcomes.

- Students will be able to read, discuss, and write about college-level academic texts and ideas.
- Students will be able to use a process of drafting to write papers that have clear theses, cogent argumentation, proper use of evidence, effective organization, and a minimum of sentence-level errors.
- Students will be able to use library and other resources to find, evaluate and synthesize information from multiple sources and use this information in support of a research question.

**Required Materials:**

- *Bully for Brontosaurus* by Stephen Jay Gould.
- *Sleights of Mind* by Stephen Macknik, Susana Martinez-Conde and Sandra Blakeslee

- *Easy Writer (6<sup>th</sup> edition)* by Andrea Lunsford  
Additional readings will be taken from other sources and be provided by me.

**Grading:** Your grade will be determined by the following.

- 60% Three major papers (including drafts and peer responses)
- 25% Short papers
- 15% Presentations, co-curricular papers and class participation

A:	93-100	B:	83-87	C:	73-77	D:	63-67
A-:	90-93	B-:	80-83	C-:	70-73	D-:	60-63
B+:	87-90	C+:	77-80	D+:	67-70	F:	Below 60

## Course Expectations

**Class Structure:** Students will attend class either physically or virtually, based on personal preference. In other words, we will be meeting in a hybrid structure. In-person students will meet in Lucas 110, while virtual students will join in on Zoom. **Students are expected to complete work during class time every class period.**

**In-Class Policies:** Face masks must be worn over the mouth and nose by all students and instructors in classrooms and hallways of academic buildings (among other places). By wearing face coverings, we protect our college community and its most vulnerable members. Students who come to class without a face mask that is being worn properly will be asked to leave and will only be readmitted after they are wearing one.

Students will attempt to maintain a distance of 6 feet from other students and the instructor at all times. Students will limit side conversations (unless told to chat with others by instructor). Wearing masks makes hearing more difficult and we want to limit the amount of white noise.

**Zoom Policies:** Every student is expected to participate in Zoom days; and students not attending class physically are expected to attend via Zoom every class period. To download the Zoom Client for Meetings App, click here: <https://zoom.us/download>. If you scroll down, you will also see Zoom Mobile Apps - you can use the app on your phone. However, Zoom on a computer is better.

By *participate*, I mean:

- Your video will be on in such a way that I can see your face
- your Zoom name consists of your name (nickname is good) - both first and last
- you will stay muted unless you are asking a question or responding to a question
- you take notes, ask questions (either verbally or through chat), and are awake
- if I have you work in small groups through Zoom breakout sessions, you join your breakout group and collaborate with your group members

**Attendance Policy:** If you have a temperature of 100.4 or higher or other coronavirus symptoms, **don't attend class physically!** Call Health Services immediately. Do not go to any public area on campus!

Do keep up with all readings, assignments, and deadlines (everything will always be laid out on Inquire and in the tentative schedule - email me if you are unsure). **Do attend class via Zoom!!**

In order for your absence to be excused, you must give Health Services permission to notify me that you have consulted them about coronavirus symptoms (whether or not you actually have the virus). If Health Services informs you that you should isolate and not attend class for multiple days or weeks, inform me so that we can make a plan to keep you current in the course. Note - if you are in isolation, I expect you to be fully capable of keeping up with Zoom class meetings. I, of course, will always be available for Office Hours to help answer your questions about ANY of the material (in-class or Zoom-based).

All absences caused by consultation with Health Services about coronavirus symptoms or isolation ordered by Health Services will be excused.

All non-coronavirus-related absences will be handled as follows. Any absence that is not discussed with the instructor prior to the missed class is considered unexcused. **If you have three unexcused absences, you will be dropped from the course. After the second absence, a warning letter will be sent to you, your advisor and the Registrar reminding you of this policy. If you miss a Peer Review/Workshop day, your grade on that paper will be reduced by one letter grade.** When absent, excused or unexcused, you are responsible for all material covered in class.

**I expect you to spend at least 12 hours of work each week inside and outside of class.**

**Late Work:** Each day an assignment is late, your grade on that assignment will be reduced by one letter grade. I will not accept assignments that are more than three days late.

**Academic Integrity:** Students are expected to adhere to the Academic Integrity policies of Roanoke College ([https://www.roanoke.edu/inside/a-z\\_index/academic\\_integrity](https://www.roanoke.edu/inside/a-z_index/academic_integrity)). All work submitted for a grade is to be your own work! Doing your own work and properly acknowledging the work of others is of utmost importance in the academic setting.

### **What If ???**

If the college is forced to suspend in-person attendance (as was done during Spring 2020), we will continue to meet via Zoom at our regular class time. I will distribute an amended syllabus. Instead of a hybrid structure, we will only have Zoom days. You will need internet connectivity. If you have technology challenges, I need you to email me as soon as the decision is made to go remote so that we may discuss how you will keep up with the course.

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## **COURSE ASSIGNMENTS**

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**Papers:** You will write three significant papers for this course. The assignments will be broken into stages that include initial planning, a first (well-thought-out) draft, a peer review process, substantive revisions, and a final draft. All of these pieces will affect your grade on the paper. More details will be provided later, but the topics are as follows.

1. Chaos in the World. A paper covering the human side (a specific story) and the historical side (with some “what if” speculation) of the butterfly effect. (4-6 pages)
2. Science in the News. A compare-and-contrast assignment, to carefully analyze the quality and validity of science reporting in various media including magazines and tabloids. (4-6 pages)
3. Popular Myth. A research paper using multiple sources, to investigate the truths and history behind a popular story or belief. Here, “myth” means a story that is used over time to pass wisdom or cultural content to the next generation. (6-8 pages)

**Short Papers:** Short papers may include expansions of reading responses, reflections on revisions, and reflections at the end of the semester. I will read, offer feedback, and return these papers to you.

**Presentation:** You will create a short (5- minute) video demonstrating a magic trick, illusion, or one of the BrainGames concepts provided by me. In this video, you will not only demonstrate the concept, but also explain why the mind is being “tricked”. More information will be given closer to the assigned date of this presentation.

**Co-Curricular:** Roanoke College offers an incredible number of student- and faculty-run events on campus (talks, workshops, music/art/theatric performances, sporting events, civil discourse opportunities, club meetings/events, etc). During the semester, you must attend at least four approved (check with me beforehand) co-curricular events offered by the college, with **2 by Wednesday, Sept 30**. The other 2 need to be attended **after Sept 30**. For each, write a 1-2 page reflection, including a description of the event, specific aspects of the event that were of special interest to you, and how the event relates to this course (if at all). Papers are due within a week of the event.

For each Academic Success Workshop you attend, I will add 1 percentage point to your final grade for the course. Only one of these 4 workshops can count as a co-curricular activity. You don’t need reflections on any workshops you attend that don’t count as a co-curricular activity.

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## RESOURCES

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The **Writing Center @ Roanoke College**, located on the Lower Level of Fintel Library, offers tutorials focused on writing projects and oral presentations for students working in any field. Writers and presenters at all levels of competence may consult the Writing Center at any point in their process - including brainstorming, drafting, organizing, editing, or polishing presentation skills - to talks with trained peer tutors in informal, one-on-one sessions. Schedule a virtual or in-person appointment by going to [www.roanoke.edu/writingcenter](http://www.roanoke.edu/writingcenter), where our staff members and workshops are also posted. If it becomes necessary to temporarily discontinue face-to-face services at any time, online tutorials will still be available. **Questions?** Email [writingcenter@roanoke.edu](mailto:writingcenter@roanoke.edu) or call **540-375-4949**.

**Accessible Education Services (AES)** is located in the Goode-Pasfield Center for Learning and Teaching in Fintel Library. AES provides reasonable accommodations to students with documented disabilities. To register for services, students must self-identify to AES, complete the registration process, and provide current

documentation of a disability along with recommendations from the qualified specialist. Please contact Laura Leonard, Assistant Director of Academic Services for Accessible Education, at **540-375-2247** or by e-mail at **aes@roanoke.edu** to schedule an appointment. If you have registered with AES in the past and would like to receive academic accommodations for this semester, please contact Laura Leonard at your earliest convenience to schedule an appointment..