

***INQ 251-C: Science & Pseudoscience***  
***Syllabus - Fall 2020***

**Location:** Fintel Lib 01

**Instructor:** Dr. Hiba Assi

**Office Hours:** MWF 11:00-12:00

Mainly virtual via Zoom- see below

**Time:** MWF 14:20 – 15:20

**E-mail:** assi@roanoke.edu

**Office:** Trexler 264B

**Phone:** (540) 375-2570

This course will start online until in-person instruction resumes. Meetings will be held during normal class time via Zoom, please see the integrated Zoom link on Inquire or use

<https://roanoke-edu.zoom.us/j/95027401032>

Meeting ID: 950 2740 1032

Passcode: INQ251-C

When in-person instruction resumes at Roanoke College, the class will meet in Fintel Lib 01 at the regular class time, unless otherwise instructed.

During in-person meetings: We all are required to wear face coverings/masks over the mouth and nose in classrooms and hallways of academic buildings. 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 be readmitted only after they are wearing one. Also, social distancing needs to be maintained, so please refrain from rearranging the furniture in the classroom and keep them in their pre-assigned spots. If you have a temperature of 100.4 or higher or other coronavirus symptoms, do NOT come to class, more on that in the Attendance section below.

If the college is forced at any point to suspend in-person meetings, this class will continue to meet via Zoom at our regular time.

**Office Hours:** Due to limited office space that will hinder social distancing guidelines, all office hours will be held via Zoom. Please see the integrated Zoom link for office hours on Inquire, or use:

<https://roanoke-edu.zoom.us/j/91676005828>

Meeting ID: 916 7600 5828

No Passcode is required. No appointment is necessary; the waiting room feature on Zoom will be enabled. If the student in the session and the student in the waiting room are in agreement to work together with me at the same time, both will be allowed in and assisted simultaneously.

**Required textbooks:**

Schick, Theodore and Vaughn, Lewis, *How to Think About Weird Things: Critical Thinking for a New Age*, 8th ed., McGraw-Hill, 2019. ISBN: 978-1259922558

Hines, Terrence, *Pseudoscience and the Paranormal*, 2nd ed., Prometheus, 2003.

ISBN: 978-1573929790

Lundsford, Andrea, *EasyWriter*, 7th ed., Bedford, 2018 ISBN:  
978-1319149505

**Other required materials:** For online meetings, you will need a laptop or a tablet with a functioning webcam, speaker, and microphone.

**Overview:** INQ 251 is an interdisciplinary course in which we study the nature of the scientific enterprise, and how science and the knowledge obtained from science affects our lives and shapes our understanding of the world. This course also seeks to develop your critical thinking skills through the study of past and current controversial topics that involve science or claim to be supported by science. In modern society we are inundated with all kinds of information: the Internet, TV, the radio, the newspaper, magazines and books, and in our daily contact with others. Unfortunately much of this information is incomplete, biased, or just outright false. Since we base many of our actions on what we learn from these sources, it is important to have skills to critically evaluate this information. We will discuss and apply the main kinds of deductive and inductive arguments and be able to recognize them as they are used to influence all of us every day. In addition, you will also understand the role of evidence in rational inquiry and be knowledgeable of the many pitfalls of human "common-sense" intuition, as well as the proper interpretations of probabilities in the evaluation of such evidence. We will utilize and explore many popular mysteries such as ESP, Ghosts, Astrology, the Bermuda Triangle, visitation by extraterrestrial beings (UFOs), and others in our discussions.

**Learning Outcomes:** By the end of this course, successful students will be able to:

- apply scientific methodologies and concepts appropriate for the course's discipline and topic.  
□ write about course topics clearly and effectively.
- communicate effectively about the course topic in an oral format.
- discuss and apply the main kinds of deductive and inductive arguments, and be able to recognize them as they are used to influence historical and popular thinking about science and pseudo-science.
- use evidence in rational inquiry and recognize the many pitfalls within human "common sense" intuition, as well as the proper interpretations of data, in the evaluation of such evidence.
- use facts, ideas, and competing hypotheses to delineate fact from fiction as they pertain to questions of science.

**Discussion Forums:** Since participation is an essential part of this course, it is critically important that you come to class prepared by reading the required material. As such, almost daily discussion forums will be added on Inquire, and you must submit your entry by the indicated time before each class meeting. These forums will vary in nature between those that inspire class discussions to others that promote discussions among students inside and outside the classroom.

**Homework:** Assignments will be posted on Inquire. Logical and tightly-reasoned explanations of your answers are more important than the answers themselves. The due dates will be

announced in advance. Homework solutions will need to be submitted electronically to the assignment link on Inquire, where you can also view your graded work.

No late submissions will be allowed unless an extension is discussed and granted beforehand.

**Exams:** A midterm and a final exam will be given involving multiple-choice and short-answer questions. All material covered in class, including student presentations, is fair game for exam material.

Exam make-up for excused reasons (family or medical emergencies, and university-recognized commitments) must be discussed and arranged with me at least two weeks in advance, unless it is an emergency. If your missed exam is unexcused, you will receive a zero on that exam. Exams are open-book and open-notes, see more below in the Academic Integrity section.

The exam dates are:

Midterm Exam: Wednesday, September 23.

Final Exam: Friday, November 20, 13:00- 17:00.

**Group Work/ Group Presentations:** Very early in the semester you will be asked to indicate a topic (from a handout list) in which you are most interested. I will then group you with others according to your indicated interest. As a group you will meet outside of class and prepare a halfhour presentation and discussion that will be held in class on a specified date. Each group member must show a familiarity with material on the selected topic as discussed in *Hines*, and must go beyond the level presented in the book. Each presentation must present both the “pro” and “con” sides of each case using the available evidence, citing some recent references, and giving some evaluation of the strength of the evidence. This is a cooperative project with each member contributing equally to the presentation; however, each participant will be graded separately according to the information and style of presentation.

Preparation:

The group must research their topic in depth. A minimum requirement is that each member must be able to show a detailed understanding of the topic as presented in *Hines*' text. This is the starting point. It is expected that each group member will research the topic using the library, internet and other resources.

The group should then meet and share the materials they have found. Next, decide how the presentation will proceed and assign responsibilities to each member of the group, but only after each has done adequate research and contributed a fair share to the pool of information.

The group will then prepare a two page outline of the presentation and a list of sources (Books, magazine or journal articles, URLs, etc.). This outline must be turned in to me the week before your presentation. You are encouraged to be imaginative in your presentation. Please make use of visual aids including pictures, video clips, models, charts, graphs. PowerPoint is strongly recommended. Demonstrations, audience participation, guest speakers and other techniques are welcome with the prior approval by me. Email a draft of your presentation materials to me the Monday before the presentation.

Please go through a rehearsal of your presentation with all group members present. The goal is a structured, smooth, and information rich presentation with a focus on justifying major points with in-depth references. More detailed information about the requirements for this project will be provided during the first week of class.

### Timeline

- Outline of presentation and presenters — **due one week before presentation.**
- Draft of PowerPoint presentation — **due the Monday before the presentation.** □ List of used resources in the format of a bibliography — **due presentation day.**

**Critiques:** Each group presentation will be analyzed by the rest of the class in the form of a written critique. Note, if you are part of the presentation, then you will not have to turn in a critique for that week (i.e., you do not critique your own work). Critiques must be submitted to the corresponding Inquire link by 11:59 pm on the Wednesday following the presentation. Additional information will be provided.

**Term Paper and Individual Presentation:** You will have to write one term paper, which counts for 15% of your total grade. The topic of the paper is to be some pseudoscientific topic of your choice (different from your group report topic). The topic can be any of those listed on the handout to be provided, a topic from any of the textbooks, or a topic found through your own research and interest. The instructor must approve all topics.

MLA format citations (as described in *EasyWriter*) are required. In addition, you will be responsible for a short (10 minute) presentation to the class on your topic. The individual presentation will count for 10% of your course grade. A separate handout concerning the details of the paper and individual presentation will be provided.

**Attendance Policies:** If you have a temperature of 100.4 or higher or other coronavirus symptoms, do NOT come to class. Call Health Services IMMEDIATELY. Do not come to class or go to any public area on campus. Keep up with all class meetings (via Zoom while you are away), assignments, and deadlines. 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. 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. All absences caused by consultation with Health Services about coronavirus symptoms or isolation ordered by Health Services will be excused.

Attendance will be formally taken in the beginning of class and will count towards your final grade. Other than the excused absences detailed above, you have two freebies during the semester. You are fully responsible for the material that was covered and for any announcements made during class meetings.

**Use of Electronic Devices:** You can use personal laptops and/or tablets for class meetings and taking notes. While in a class meeting (whether in-person or online), your phones must be on silent mode and out of reach to limit distractions and must be turned off during exams.

**Grading:** Class grades will be calculated according to the following distribution

- Attendance 5%
- Discussion Forums 10%
- Homework 10%
- Group Presentation 15%
- Critiques 15% ▪ Term Paper 15%
- Individual Presentation 10%
- Midterm 10%
- Final Exam 10%

Furthermore, letter grades will be assigned at the end of the semester according to the following scale

|    |       |   |        |    |       |
|----|-------|---|--------|----|-------|
| A- | 90-92 | A | 93-100 |    |       |
| B- | 80-82 | B | 83- 86 | B+ | 87-89 |
| C- | 70-72 | C | 73- 76 | C+ | 77-79 |
| D- | 60-62 | D | 63- 66 | D+ | 67-69 |
|    |       |   |        | F  | <60   |

You should expect to spend at least 12 hours inside and outside of class each week on this course.

**Academic Integrity:** The Academic Integrity (AI) policy at Roanoke College will be thoroughly followed in this course, and I expect you to abide by all the outlined rules to avoid any questionable conduct.

During in-class activities, I encourage you to discuss and learn from one another. However, unless specifically stated otherwise, you are expected to **individually** complete all steps of the activity and to turn in your own work. Homework and other assignments (unless specifically stated otherwise) are to be completed **individually**. Misrepresentation of your contribution to a group effort will be considered a violation of the academic integrity policy. Copying and pasting directly from a website and claiming it as your own work is the same as copying and pasting directly from a book – both are violations of the academic integrity policy and will be treated accordingly.

Exams are open-book and open-notes, i.e only this course textbooks and your class notes are permitted. NO discussion among students is allowed after an exam in case a student has not taken the exam. I will explicitly inform you if/when you can start discussing exams with others.

Consulting any unauthorized person(s) or any online resources will be a violation to the AI policy, whether for a homework assignment or an exam.

If I become aware of a possible violation of these guidelines, I am obligated to report it to the Academic Integrity committee. Student resources on the AI policy can be found online at: [https://www.roanoke.edu/inside/a-z\\_index/academic\\_affairs/academic\\_integrity/resources\\_for\\_students](https://www.roanoke.edu/inside/a-z_index/academic_affairs/academic_integrity/resources_for_students)

**The Writing Center:** located on the Lower Level of Fintel Library. It 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 talk 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 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):** 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](mailto: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.

**Class Environment:** Each member of this class is valued, and is expected to 1) treat everyone else with respect and 2) contribute to a welcoming and inclusive environment.

***INQ 251-C: Science & Pseudoscience, Fall 2020- Tentative Schedule***

The following schedule outlines the timeline for the topics to be covered and highlights the reading for which you are responsible. Also pay close attention to the timing of exams, presentations and the due date for the term paper.

| Dates     |            | Read Before  |  | Who's Presenting on Wednesday   | What's Due by 11:59 p.m. Friday |
|-----------|------------|--|--|---------------------------------|---------------------------------|
|           |            | Schick and Vaughn  | Hines  |                                 |                                 |
| August    | 19, 21     | Ch: 1&2  | Ch: 1, all   | --                              |                                 |
|           | 24, 26, 28 | Ch: 3  | Ch: 2, pp. 66-73                                   | --                              |                                 |
| September | 31, 2, 4   |  | Ch: 3, pp. 91-101                                  | Group 1: Psychic Predictions    |                                 |
|           | 7, 9, 11   | Ch: 4  | Ch: 3, pp. 101-106                                 | Group 2: Ghosts and Hauntings   |                                 |
|           | 14, 16, 18 | Ch: 5  | Ch: 3, all   | Group 3: Near Death Experiences | <b>Term-paper proposal</b>      |
|           | 21, 23, 25 | <b>Midterm: Chapters 1-4 of Schick and other material discussed in class</b>   |  |                                 |                                 |
|           | 28, 30, 2  | Ch: 5  | Ch: 7&8  | Group 4: Reincarnation          |                                 |
| October   | 5, 7, 9    | Ch: 6  | Ch: 9, pp. 303-305                                 | Group 5: UFOs                   |                                 |
|           | 12, 14, 16 | Ch: 7  | Ch: 11, pp. 358-362                                | Group 6: Ancient Astronauts     | <b>Annotated bibliography</b>   |
|           | 19, 21, 23 |  | Ch: 11, pp. 362-370                                | Group 7: Homeopathy             |                                 |
|           | 26, 28, 30 | Ch: 8  | Ch: 11, all  | Group 8: Therapeutic Touch      |                                 |
|           | November   | 2, 4, 6  | Individual Student Presentations (10 minutes each) |                                 |                                 |
| 9, 11, 13 |            | Individual Student Presentations (10 minutes each)                             |  |                                 |                                 |
| 16        |            | Individual Student Presentations (10 minutes each)                             |  |                                 | <b>Final Paper</b>              |
| <b>20</b> |            | <b>Final Exam: Comprehensive including content from student presentations.</b> |  |                                 |                                 |