1. **NSM307 Junior Seminar**

**Ferrum College**

**Program: Natural Sciences School: Natural Sciences and Mathematics**

1. **Instructor:** Instructor Name: Dr.Jinnie Garrett

Office: Garber Hall – Room 224

Phone Number: (540) 365-4370

Office Hours: T 1:30-3:30 and W 10:00-12:00 or by appointment

1. **Class Meeting Time:** T 1:25-2:20 in Garber 100 and F 1:25-2:45 in Garber 106
2. **Textbooks and Materials:**

REQUIRED: Internet access, a Ferrum College email account, a Brightspace account, and a PDF viewer.

NOTE 1: You are expected to check your Ferrum College email account and the course Brightspace page (through <https://ferrum.desire2learn.com/d2l/home>) regularly (i.e., at least once a day). In particular, assignment due dates and updates to the Tentative Schedule will be posted on Brightspace regularly.

NOTE 2: Use available resources to improve the style and quality of your written work. Please complete versions of your papers with enough time to utilize the Writing Center to refine your work. You will also be required to show your work to a research librarian and to an expert committee member.

1. **Catalog Course Description:**

Students will study current issues and research in a seminar format. Outside speakers, students, and faculty will make presentations in junior and senior seminars. Papers from the scientific literature will be analyzed and criticized. Students will synthesize theoretical and practical experience in preparation for a successful career. This course is designated Writing Intensive; a grade of “C” or higher in this course is required for this course to count toward the six credit-hour Writing Intensive graduation requirement for Ferrum College. A student cannot earn a grade of “C” or higher in this course unless he or she earns a “C” or better on the writing assignments required by the course.

This course is Speaking Intensive; a grade of “C” or higher in this course is required for this course to count as one of two Speaking Intensive courses required for graduation from Ferrum College. A student cannot earn a grade of “C” or higher in this course unless he or she earns a “C” or better on the speaking assignments required by the course. *Two and one-half hours, two credits.*

1. **Purpose/Rationale for this Course:**

This course will teach you how to read, analyze, and critique the current literature in your chosen field. Scientific fields are dynamic; scientists learn more information about the world around us every day and this information may change the way we work in a given field. In order to be successful in your field you must stay up to date by staying informed of the current literature. You must be able to communicate your ideas to others in your field. This class will also teach you how to disseminate your knowledge to others through both written and oral methodologies.

1. **Instructional Methodology and Use of Technology**

In this course you will learn by a series of lectures from different speakers, participation in class activities and feedback from both faculty and your peers. Assignments, lectures and course information will be found on your Brightspace course page. Students and faculty will use PowerPoint or another similar software package to make oral presentations to the class.

Competent use of computers, Microsoft Office, and the internet is expected. Frequent access to and use of a computer with internet access is required for successful completion of this course.

1. **College and Course Outcomes**

After successful completion of this course, students will be able to:

1. design a thesis idea that integrates knowledge from multiple subjects.
2. explore the scientific literature in their discipline.
3. read and analyze scientific journals in their field and determine if they are a primary or secondary source.
4. explain and critique the current literature through effective written communication.
5. respond to relevant issues through effective oral communication.
6. evaluate their own assignments and the work of their peers.

By successfully achieving these course goals students will meet the following college-wide and program student learning outcomes:

**College-wide Student Learning Outcomes**

* **Students will demonstrate an integrated knowledge in the liberal arts.**
  + Course goal: Students will be able to design a thesis project that integrates knowledge from multiple subjects.
    - Instruction methodologies used will be lecture and peer feedback.
    - This goal will be assessed by faculty and peer evaluation of student poster presentations of their proposed thesis idea.
* **Students will demonstrate information literacy, using available technology when appropriate.**
  + Course goal: Students will be able to explore the scientific literature in their discipline.
    - Instructional methodologies will be a lecture on Mendeley software and in-class practice using the Ferrum College library site.
    - This goal will be assessed using the annotated bibliography.
* **Students will think critically and solve problems through analysis, evaluation, and inference.**
  + Course goal: Students will be able to read and analyze scientific journals in their field and determine if they are a primary or secondary source.
    - Instructional methodologies will include lecture and in-class assignments.
    - This goal will be assessed using specific rubric categories to analyze student success on their research review paper.
* **Students will communicate with unity of purpose and coherent organization consistent with standard rules and recognized conventions using appropriate methodologies.**
  + Course goal: Students will explain and critique the current literature through effective written communication.
    - Instructional methodologies will include lecture, in-class assignments, and feedback from their 1st and 2nd research paper drafts.
    - This goal will be assessed using specific rubric categories to analyze student success on their second research review paper.
  + Course goal: Students will respond to relevant issues through effective oral communication.
    - Instructional methodologies will include lectures on how to design and present a Power Point presentation and feedback from their research review presentation.
    - This goal will be assessed based on student success on their research review presentation and poster presentation.
* **Students will demonstrate personal responsibility.**

***Students will collaborate with people of diverse cultural attitudes, beliefs and values.***

* + Course goal: Students will be able to evaluate their own assignments and the work of their peers.
    - Instructional methodologies will include discussion and feedback from both the faculty and their peers.
    - This goal will be assessed based on a student’s self-evaluations and the number and quality of questions asked during peer presentations.
* **Students will demonstrate awareness of local, national and global issues.**
  + Course goal: Students will respond to relevant issues through effective oral communication.
    - Instructional methodologies will include lectures on how to design and present a Power Point presentation and feedback from their research review presentation.
    - This goal will be assessed based on student success on their research review presentation and poster presentation.
* **Students will demonstrate a depth of knowledge, capability and ethical reasoning in a chosen field.**
  + Course goal: Students will be able to read and analyze scientific journals in their field and determine if they are a primary or secondary source.
    - Instructional methodologies will include assigned readings, in-class discussion, and assignments.
    - This goal will be assessed using specific rubric categories to analyze student success on their research review paper.
  + Course goal: Students will explain and critique the current literature through effective written communication.
    - Instructional methodologies will include lecture, in-class assignments, and feedback from their 1st and 2nd research paper drafts.
    - This goal will be assessed using specific rubric categories to analyze student success on their second research review paper.
  + Course goal: Students will respond to relevant issues through effective oral communication.
    - Instructional methodologies will include lectures on how to design and present a Power Point presentation and feedback from their research review presentation.
    - This goal will be assessed based on student success on their research review presentation and poster presentation.

**Course Assignments**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Category** | **% Category** | **Assignment** | **Due** | **Points** | **% Final** |
| Literature Review Paper Project  40% | 5% | Topic Submission | 09/18 | 20 | 2% |
| 10% | Annotated Bibliography First Submission | 09/23 | 40 | 4% |
| 20% | Annotated Bibliography Final Submission | 09/30 | 80 | 8% |
| 25% | Literature Review First Submission | 10/09 | 100 | 10% |
| 10% | Literature Review Second Submission | 10/28 | 40 | 4% |
| 30% | Literature Review Final Submission | 11/18 | 120 | 12% |
| Oral Presentation  20% | 40% | Literature Review Presentation | 10/21 | 80 | 8% |
| 40% | Presentation Materials | 10/21 | 80 | 8% |
| 20% | Evaluations | 10/21 | 40 | 4% |
| Journal Articles  10% | 100% | Journal Article Assignments | On syll. | 100 | 10% |
| Senior Seminar Thesis Proposal  20% | 20% | Thesis Statement | 11/04 | 40 | 4% |
| 40% | Argument Outline | 11/20 | 80 | 8% |
| 40% | Poster | 12/04 | 80 | 8% |
| Participation  10% | 100% | Class Participation | Weekly | 100 | 10% |
| **Total** |  | | | **1000** | **100%** |

Literature Review Paper – Students will write a >10-page literature review paper. The purpose of this paper will be to teach proper scientific writing along with how to present research using organized, logical, carefully conceived arguments. Part of this assignment will include an annotated bibliography to allow for analysis of your references along with two drafts and a final copy of the paper, which should demonstrate how your skills progress throughout the semester.

Research Review Presentations – Students will prepare a short (~5-minute) computer-aided presentation to present their literature review paper to the class. Presentations will be graded by both the instructor and their peers.

Journal Article Assignments – Each week, the scientific journal *Science*, published by the American Association for the Advancement of Science (AAAS), publishes editorials (called “Perspectives”) on several of the research articles appearing in that issue. In these “Perspectives,” an expert not associated with the study in question comments on what is noteworthy or ground-breaking about the research. In order to familiarize you with reading and understanding scientific literature you will read and analyze two Perspectives and the corresponding research article from a recent issue of *Science*. You will complete both a critical reading form and a perspective analysis form for the research article. You will also complete critical reading forms for 3 of the articles you are using in your review.

Senior Seminar Thesis Poster – Part of the experience in Junior Seminar will be to research and develop a thesis statement for continuation into Senior Seminar. Students will present their thesis proposals in a poster session at the end of the semester. Posters should include the developed thesis statement along with background information and supporting arguments. Additionally, students will have a thesis statement and argument outline to bring into Senior Seminar when they enroll in a subsequent semester.

Seminar Attendance – You are required to attend the weekly NSM seminar on Fridays from 1:25-2:45 PM (or the corresponding time if the schedule is compressed or delayed in some way). To be counted present, you must arrive on time, pay attention, be respectful of the audience and the speaker (i.e., sit near the front, don’t talk, don’t text, don’t use your laptop, don’t sleep, etc.), and not leave until the seminar is over. Note that these seminars are part of the scheduled class meeting times for the course, so absences can result in deductions from overall course grade or even automatic failure in the course as discussed in the Ferrum College catalog.

Assigned Readings – There will be several reading assignments throughout the semester to introduce you to skills and concepts that you will need in order to succeed in both Junior and Senior Seminar. These readings must be completed and any associated questions submitted by the assigned due dates.

1. **Evaluation and Grading Evaluation Scale:**

Because this course is designated Writing Intensive, you cannot earn a grade of C or higher in this course unless you earn an average of C or better on the writing assignments. In addition, the Speaking Intensive designation dictates that you cannot earn a grade of C or higher in this course unless you earn an average of C or better on the speaking assignments. With that provision, to receive an "A" in this course you must earn a minimum grade of 90%. A "B" requires 80%, a "C" 70%, and so on. If you do not earn at least 60% points, you will not receive credit for this course.

1. **Attendance Policy:**

You are expected to attend all classes and be on time for each class. If you arrive after roll has been taken, you will be considered absent. ***You are always responsible for any and all missed work.*** If you are absent due to illness or an emergency, see the instructor as soon as physically possible. If you know you will be absent from class, inform the instructor *in advance* so that accommodations can be made. While in class, you are expected to contribute constructively to all classes. If your behavior is disruptive or distracting to the classroom environment, you will be told to leave and counted absent for the day.

In accordance with Ferrum College policy, missing 25% or more of this class will result in a grade of "F" for the course except under extremely unusual circumstances.

If you are absent or late to class and miss a quiz, you will receive zero points for that assignment. No make-up assignments or examinations will be administered for this course. If you miss a scheduled examination, you will also receive a zero unless you have made arrangements to take a "pre-examination" with me. I understand that surprises do come up that may require you to miss a class session. If this happens, you should *call or e-mail me at the earliest possible moment*. Athletic events and performance commitments can only be excused ***in advance***--you should give me a note from your coach or faculty advisor *at least one week in advance* so that I can accommodate you. Leaving early or returning late from breaks or vacations will not constitute an excused absence *under any circumstances*.

1. **Academic Integrity:**

In all instances, policies identified in the Ferrum College Catalog and the Ferrum College Student and Faculty Handbooks regarding the Honor System shall be followed. Students are expected to display academic integrity at all times and in all circumstances.

1. **Civility in the Classroom Policy**

Civil behavior and mutual respect between faculty and students are critical in the college classroom environment if teaching, learning, critical thinking, and sharing of ideas are to occur. Respectful and civil behavior at a very basic level includes the following: turning off cell phones; arriving to class on time; engaging appropriately in classroom activities, lecture, or discussion through attentive listening without interruption or side chats; and demonstrating the ability to discuss topics without inappropriate language or attacking others (physically or verbally). Students who do not comply with the Civility in the Classroom policy described in the Faculty Handbook and the Student Handbook may be removed from the academic setting and may risk serious consequences as outlined in the Civility policy.

1. **Classroom Management**

You must treat the instructor and your peers with respect at all times in this course.

There will be no wearing of hats or bandanas in the classroom at any time.

No tobacco products, food, or drink will be used in the classroom at any time.

Cellular telephones and other mobile computing devices are prohibited in the classroom except under special circumstances previously agreed to by the instructor.

In accordance with Ferrum College policy, the instructor may remove anyone from the classroom if that person is disrupting the learning environment. If you are asked to leave the class for any reason, you will receive an absence for that day.

1. **Tentative Course Schedule**

| **Wednesday (Class)** | **Assignments** | **Friday (Seminar)** |
| --- | --- | --- |
| 09/02  Course Introduction Discipline Perspectives |  | 09/04 Seminar Overview |
| 09/09  Critical Reading Forms Assigned Reading 1 | ***Assigned Reading 1 Perspective Analysis 1***  ***Candidate papers for review*** | 09/11 Water Quality Monitoring Program |
| 09/16  Annotated Bibliographies Assigned Reading 2 | ***Assigned Reading 2 Critical Reading Form 1 Tentative Topic Selection*** | 09/18 Darryl Turner  ***Topic Submission*** |
| 09/23  Literature Reviews | ***Perspective Analysis 2 Annotated Bibliography - First Submission*** | 09/25  Bill Jacobson |
| 09/30  Individual student conferences | ***Critical Reading Form 2 Annotated Bibliography – Final Submission*** | 10/02 TBA |
| 10/07  How to prepare a Powerpoint presentation  Individual student conferences | ***First Draft Literature Review due 10/9***  ***(mid-term grade determined)*** | 10/09 No seminar – River Currents Conference |
| 10/14  Individual student conferences | ***Draft Presentation Slides*** | 10/16 ***Fall Break*** |
| 10/21  Student Presentations 1 | ***Critical Reading Form 3*** | 10/23 Mole Day Chemistry Presentations |
| 10/28  Student Presentations 2 | ***Critical Reading Form 4***  ***Second Draft Literature Review*** | 10/30 TBA |
| 11/04  Developing Your Problem Statement | ***Critical Reading Form 5*** | 11/06 Andra Thomas |
| 11/11  How to prepare a poster presentation | ***Draft Problem Statement*** | 11/13 TBA |
| 11/18  TBD | ***Final Submission Literature Review***  ***Draft Poster*** | 11/20 Jacque Pelzer  ***Argument Outline*** |
| 11/25  ***Thanksgiving Break*** *– No Class* | ***Thanksgiving Break*** *– No Assignments* | 11/27 ***Thanksgiving Break*** |
| 12/02  Practice Poster Session |  | 12/04  Practicum and Independent Research |
| 12/07  Monday  ***NSM Symposium*** | ***Senior presentations 1.25-3.00***  ***Junior Seminar Poster Session (ends ~5:00)*** |  |

**Attendance will be taken at each Friday afternoon seminar. After one unexcused absence, points will be deducted from your final grade.**