

**Research Quest** (somewhat preliminary! Things will change later in the project as we flesh them out. Thanks for your patience and flexibility!)

**From the syllabus :** Every learner will undertake a research quest - a project (carried out in assigned groups) comparable in scope to a large term paper with an accompanying poster presentation. Learners will be guided through the process of defining their quests, starting in February, with regular deadlines for ideas, a prospectus, drafts and peer reviews. The topic is completely up to the learners, as long as the topic meets the learning objectives of the course. The final products will be a term paper and a poster, showcased in a poster fair on 4/9 or 4/11. A total of 16000 points are available, split up between 5000 points total for interim artifacts - ideas, drafts, outlines & peer reviews, 6000 points on written paper, 4000 points on poster and discussion and 1000 points for description of learning from poster session. As can be seen in the syllabus, we spend a considerable amount of class time (often in discussion) to be able to better coordinate group work and provide meaningful, timely feedback to you to help your research quest shine!

**M-Write :** We will be using the M-Write framework for coordinating many parts of the research quest. M-Write is an effort supported through U-M's Third Century Initiative, with the goal of creating ways to improve student learning through the medium of writing. M-Write is used in very different ways from course-to-course; our use of M-Write is pretty unusual and so may differ from any previous experience you have with M-Write. Each M-Write assignment asks learners to submit an initial draft, to provide feedback on peer's draft (or drafts), and (usually) submit a substantially improved final product along with a description of the changes made from the initial draft. There will be 3 writing assignments that use this framework (the Research Quest prospectus, first draft, and second draft).

**Purposes and skills/knowledge that you will require and deepen :**

- To deepen your understanding of at least one foundational knowledge [learning goal](#) of the course.
- State and support a claim in a significant piece of formal writing.
- Practice teamwork, collaborative problem solving and discussing academic topics with others who are less familiar with the topic than you are.
- Be able to synthesize information from multiple reputable sources (primary sources, scholarly books, articles in publications like Scientific American, National Geographic, etc.) into an improved and coherent understanding of a scientific issue or discovery.
- Improve in your ability to quantitatively investigate a new and novel situation, including interpreting graphs, data and grasping the typical scales of the problem.
- Improve the skills necessary to do independent research on complex problems and present their work to faculty and peers.

**Tasks :**

**Phase A : Forming groups, coming up with ideas, planning research (early Feb - Feb 7)**

**[Link to task descriptions and deadlines](#)**

Brief to-do list (more in the above link):

- come up with 2-3 topics or ideas that you're interested in
- Homework - by 11pm on Friday Feb 1 fill out [this questionnaire](#) to help us form teams.

- Homework - Bring two copies of your ideas **before discussion on Feb 5, 6 or 7**, as a small written assignment (with your name and UMID on it), one to be handed in and one to be discussed.
- During discussion on 2/5-2/7 : with your group, discuss ideas and converge on 1-2 ones you're excited about as a group.
- During discussion or within 24 hours : flesh out 1-2 best ideas, discuss with GSI to downselect to one, and split up research for Phase B.

#### Phase B : the prospectus (2/12-2/19) - MWrite

##### [Link to task descriptions and deadlines](#)

While we understand that each group member is likely to have something that they specialize in for the project, we want to make sure that each group member has had a chance at the beginning to understand the whole idea, both for their learning and so that their individual efforts more easily integrate into a coherent argument. First draft due 2/12, reviews due 2/15, final drafts due 2/19.

#### Phase C : research, bringing it together and drafting the outline (due by 2/19-2/21)

##### [Link to task description and deadlines](#)

Conduct preliminary research into your topic - bring two copies of your set of notes and main ideas, preliminary analysis, references and your prospectus to Discussion on Feb 19-21.

#### Phase D : First draft of written report (2/28-3/14)

##### [Link to task description and deadlines](#)

By Feb 28 by 10pm, prepare a first draft of the written work. Each group member will be handing in the full group's draft, but the part(s) of the draft that you played the largest role in drafting should be highlighted (e.g., in black, bold, etc). This will be handed in on Canvas and the review will be handled through Canvas' peer review tool. You have until **11am** Tuesday 3/12 to peer review. During discussion on 3/12-3/14 you will be discussing the feedback with your group mates, deciding on what changes to make, and you'll hand in a response to the feedback you got by Friday 3/15 at 10pm.

##### [Rubric of final written work \(for your reference\)](#)

#### Phase E : The Second draft of the written report (3/26-poster fair 4/9 or 4/11)

##### [Link to task description and deadlines](#)

On March 26, 10pm you'll hand in the [second draft of the written report](#). This will be handed in on Canvas and the review will be handled through Canvas' peer review tool. You have until 10pm on Monday 4/1 to [write a peer review \(description of task here\)](#), and you will also get feedback from your MWrite Fellow and GSI. You will hand in your final written project, as a group, at the poster fair on 4/9 or 4/11.

##### [Rubric of final written work \(for your reference\)](#)

#### Phase F : The poster conversion (3/26-poster fair 4/9 or 4/11)

In parallel to you handing in your second draft, at discussion on 3/26-3/28 you will plan your conversion to the poster. What the most important ideas are to appear on the poster? How will you illustrate those (the poster is much more visual than your written work)? Do you need more

illustrations? There won't be much text, so consider what needs to be written, and how is it different from writing for the written project. Decide on format (e.g., single .ppt that is printed, or illustrations/text attached to poster board - anything is fine as long as it is readable, neat and clear). Split up work and decide on meeting time to finalize first draft to be peer-reviewed during discussion on 4/2-4/4. [Rubric for poster](#)

Phase G : The poster conversion part 2 (4/2-poster fair 4/9 or 4/11)

Bring the draft poster to discussion on 4/2. You will set your poster out, and then go around the room reviewing and giving comments on other poster drafts. Then at the end of discussion, with your group reflect on the feedback you got, and make plans for completing the poster before the poster fair on 4/9 or 4/11. [Rubric for poster](#)

The poster session (4/9 or 4/11)

Your written work, a description of the changes you made in response to your reviews, and your poster are handed in today. Go to both poster sessions, and you'll be presenting at one. At the other, go around the posters, ask questions, and create the notes you need on 2 or more posters to create a brief description of learning from the poster session.

[Rubric of final written work](#)

[Rubric for poster](#)

Description of learning from poster session (4/16): [Submit a thoughtful description and brief analysis of one or more things that you learned from two or more posters.](#) Deadline : Tuesday April 16, beginning of class

[Example written report](#)

Example posters [1](#), [2](#), [3](#), [4](#)

Most of the example posters have somewhat too much text, but all are very good.