

# HONR 105AH

## Fundamental Concepts of Inquiry in Science and Math

### Scientific Writing and Publishing

#### Instructor Information

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Office and appointment hours	MWF 10:30 am – 12:50 pm
<a href="#">Click here to book an appointment</a>	

#### Course Information

HONR 105AH  
Spring 2025 CRN 34774  
Distance Learning

#### Catalog Description:

Selected themes and topics in the natural sciences and mathematics will be used to help students develop a better understanding of the concepts, terminology, and methodology of the study of natural sciences and mathematics. Students may take this course twice to fulfill the requirements of the Honors Scholar Program, provided each time it is taken, a different topic is covered. Specific information about each section of this course will be published prior to the start of each registration and may be obtained from the campus honors coordinator.

*1 semester hour*

Upon completion of this course, a student will be able to:

- Demonstrate an understanding of the concepts, terminology, and methodologies associated with conducting research in science and mathematics.
- Explain research methodologies in science, including aspects of experimental design, statistical analysis, inferences from observation versus experimental data, and the use of mathematical models.
- Explain the differences and similarities in approach to science and mathematics.
- Communicate effectively concepts in both oral and written presentations.

#### Course Topic and Outcomes:

This course is an introduction to scientific writing and publishing. Topics include:

- Genres of scientific writing and manuscript formats
- Scientific writing tools

- The writing process and the publication process for scientific writing
- Academic integrity and plagiarism, including the use of AI in the writing process

Upon completion of this course, a student will be able to:

- Identify the various genres of scientific writing such as laboratory reports, research posters, journal articles, magazine articles, research and grant proposals, literature reviews, etc.
- Describe appropriate manuscript formats for various genres of scientific writing and helpful tools for generating manuscripts.
- Describe the publication process for scientific journals and magazines.
- Understand what is academic integrity and what is plagiarism, including what are appropriate and inappropriate uses of artificial intelligence (AI) in the scientific writing process.
- Produce at least one piece of scientific writing.

#### Prerequisites:

Students must have completed 12 MC credits, including an A or B in ENGL 101, with a minimum GPA of 3.4. Students must also be eligible for college-level math; this means eligibility for any MATH course at the 100 level or above without support (e.g. MATH 117 without MATH 017, MATH 120 without MATH 020, or MATH 165).

#### Transfer credit:

HONR courses do not meet General Education requirements. In addition, the transferability of HONR courses is determined by the transfer institution. It is recommended that students planning to transfer complete a degree audit to verify that this course complies with new Program of Study and Financial Aid Guidelines.

#### Attendance:

This is a distance learning course but the students are expected to meet virtually with the instructor at least once a week at mutually agreed upon times. Students are expected to complete assigned coursework as scheduled. Late submissions of coursework will not earn full points. Student may be asked to schedule virtual meetings with other students as necessary for completion of assignments.

#### Communication:

I will use your MC email and Microsoft Teams to communicate with you. All class materials and assignments will be on our class Team: [CURM – Game Theory](#).

This course will NOT use Blackboard for communication.

#### Assignments:

- Writing in the Sciences online course by Stanford  
<https://online.stanford.edu/courses/som-y0010-writing-sciences>
  - Watch 2-3 hours online lecture each week
  - Complete Homework assignments for each module
- MC Library Tutorials  
<https://library.montgomerycollege.edu/research/tutorials-quizzes.html>
  - Academic Integrity and Avoiding Plagiarism

- APA Citations
- Presentations
  - CURM give-back project – Sonya Kovalevsky Day on February 8, 2025
  - Conference Presentation – MCHC Conference on February 21, 2025
  - Conference Presentation – MAA Section Meeting on April 4-5, 2025
- Publication Process Project
  - Research the publication process for a specific scientific journal or magazine
  - Make a 1-page informative pamphlet on the publication process for selected journal or magazine
- Research Paper
  - Research Paper for submission to CURM Grant

Grading:

Scientific Writing online course	40 points
MC Library Tutorials	5 points
Presentations	20 points
Publication Process Project	15 points
Research Paper	20 points
<b>Total</b>	<b>100 points</b>

90 – 100 points	A
80 – 89 points	B
70 – 79 points	C
60 – 69 points	D
<60 points	F

**Grading rubric for Scientific Writing online course: 5 points per module (40 points total)**

4-5	On-time completion of module, including watching the videos and completing the assignments. Points awarded based on quality of assignment.
1-3	Late completion of module. Points awarded based on quality of assignment.
0	Not completed.

Course has 8 modules for a total of  $5 \times 8 = 40$  points.

**Grading rubric for MC Library Tutorials: 5 points**

5	Completed both tutorials on time.
3	Completed both tutorials but late.
0	Did not complete tutorials

Two required tutorials: Academic Integrity and APA Citations.

**Grading rubric for Presentations: 20 points**

16-20	Participated in all three presentations and contributed to their preparation. Points awarded based on quality of contribution.
10-15	Participated in two presentations and contributed to their preparation. Points awarded based on quality of contribution.
1-9	Participated in one presentation and contributed to its preparation. Points awarded based on quality of contribution.
0	Did not participate in any presentations.

**Grading rubric for Publication Process Project: 15 points**

10-15	On-time submission of pamphlet.
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	Points awarded based on quality of pamphlet.
1–9	Late submission of video or pamphlet. Points awarded based on quality of pamphlet.
0	Not completed.

### Grading rubric for Research Paper: 20 points

11-20	On-time submission of Research Paper. Points awarded based on quality of writing.
1 – 10	Late submission of Research Paper Points awarded based on quality of writing.
0	Not completed.

### Academic Dishonesty:

All students are expected to achieve their goals with academic honor. Cheating, plagiarism, and/or other forms of academic dishonesty or misconduct, examples of which can be found in The Student Code of Conduct, are not tolerated. Students who engage in any act of academic dishonesty or misconduct are subject to sanctions ranging from an F on the assignment to failing the course. Each student should read and comply with the policies and procedures in The Student Code of Conduct.

### Late/Make-up Work:

Students with emergency situations or other life circumstances affecting their ability to meet assignment deadlines should contact the instructor as soon as they are aware of the situation. Deadlines may be extended if the situation warrants it and the student notified the instructor in a timely manner. Students submitting late work without prior approval from the instructor will receive lower points on assignments as described in the grading rubrics.

### Online Classroom Conduct:

To do well in this course you should familiarize yourself with each assignment’s requirements and due dates, read all announcements and communications for the class via email and Teams. Any questions about the class should be addressed to the professor via email or Teams. Be actively involved in the learning process. Of course, I will expect all students to comply with the behaviors outlined in The Student Code of Conduct.

### Disability:

Any student who may need an accommodation due to a disability, please make an appointment to see me during my office hour. A letter from Disability Support Services authorizing your accommodations will be needed.

### Tentative Course Outline/Schedule:

Week	<i>All Module assignments due by Sunday 11:59 pm</i>		
	<b>Writing in the Sciences</b>	<b>Other Assignments</b>	<b>Presentations</b>
1 2/2	Module 1 due 7 videos (78 min)	SK Day lesson plan	
2 2/9		MCHC Poster - Draft	Sonya Kovalevsky Day Saturday, 2/8

3 2/16	Module 2 due 7 videos (87 min)	MCHC Poster - Final	
4 2/23		Library Tutorials	MCHC Friday, 2/21
5 3/2	Module 3 due 8 videos (105 min)	MAA Presentation - Outline	
6 3/9		MAA Presentation - Draft 1	
7 3/16	Module 4 due 7 videos (80 min)	MAA Presentation - Draft 2	
SPRING BREAK			
8 3/23	Module 5 due 9 videos (136 min)	MAA Presentation – Final	
9 4/6			MAA Meeting Friday – Saturday, 4/4-5
10 4/13	Module 6 due 9 videos (143 min)	Research Paper - Outline	
11 4/20		Research Paper - Draft 1	
12 4/27	Module 7 due 7 videos (103 min)	Publication Process Project	
13 5/4		Research Paper - Draft 2	
14 5/11	Module 8 due 8 videos (124 min)	Research Paper - Final	
15 5/18	<b>5/18 is last day to turn in any work for the class.</b>		