

Course Change Request

New Course Proposal

Date Submitted: 03/17/26 4:25 pm

Viewing: NEUR 562 : Advanced Generative AI for Scientific Research and Scholarly Communication

Last edit: 03/17/26 4:25 pm

Changes proposed by: gscott21

Are you completing this form on someone else's behalf?

Yes

Requestor:

Name	Extension	Email
Frank Krueger	3-4334	frueger@gmu.edu

Effective Term: Spring 2027

Subject Code: NEUR - Neuroscience

Course Number: 562

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:

Catalog Title: Advanced Generative AI for Scientific Research and Scholarly Communication

Banner Title: Adv Gen AI for Sci Rsrch & Com

Will section titles vary by semester? No

Credits: 3

In Workflow

1. NEUR Chair
2. SC Curriculum Committee
3. SC Assistant Dean
4. Assoc Provost-Graduate
5. Registrar-Courses
6. Banner

Approval Path

1. 03/18/26 10:56 am
Saleet Jafri (sjafri):
Approved for NEUR Chair

Schedule Type: Lecture

Hours of Lecture or Seminar per week: 3

Repeatable: May only be taken once for credit (NR)
GRADUATE ONLY

Default Grade Mode: Graduate Regular

Recommended Prerequisite(s):

Recommended Corequisite(s):

Required Prerequisite(s) / Corequisite(s) (Updates only):

Graduate standing or permission of instructor. Advanced undergraduate students with demonstrated interest in scientific research may be admitted with permission.

Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):

And/Or	(Course/Test Code	Min Grade/Score	Academic Level)	Concurrency?

Registration Restrictions (Updates only):

Registrar's Office Use Only - Registration Restrictions:

Field(s) of Study:

Class(es):

Level(s):

Degree(s):

School(s):

Catalog Description:

This course examines how modern AI systems—including generative AI and emerging AI agents—are transforming scientific research, scholarly writing, and knowledge communication. The course focuses on

how researchers can integrate AI systems directly into the scientific research workflow, including idea generation, literature discovery, evidence synthesis, academic writing, and scientific communication. Through interactive readings, weekly mini-projects, tool-based assignments, and ethical discussions, students gain hands-on experience with cutting-edge AI tools and research assistants. The course emphasizes technological fluency and ethical literacy, guiding students to apply AI effectively, responsibly, and with scientific rigor. By the end of the course, students will be equipped to critically assess and integrate AI systems into their scholarly workflows, preparing them for a research landscape shaped by rapid AI-driven innovation.

Justification:

What: This proposal updates and refines an existing course on generative AI to more clearly position it as an advanced course on the use of modern AI systems in scientific research and scholarly communication.

Why: Scientific research is undergoing a rapid transformation driven by advances in artificial intelligence.

While earlier versions of this course focused on generative AI tools in academic contexts, the updated course reflects a broader and more current perspective in which researchers increasingly integrate AI systems—including generative AI and emerging AI agents—directly into the scientific research workflow. The revised course emphasizes how AI systems can support key stages of scientific work, including idea generation, literature discovery, evidence synthesis, academic writing, data interpretation, and scientific communication. In doing so, it moves beyond a tool-focused approach and instead frames AI as a collaborative component of modern scientific inquiry.

This update is necessary to ensure alignment with the evolving landscape of AI in research and with the emerging AI-related curriculum within the College of Science. The revised framing clarifies the distinction between this course and existing or proposed offerings that focus on AI applications within specific scientific domains or on the development of machine learning models.

Unlike courses that emphasize algorithm development, data mining, or domain-specific applications of AI, this course focuses on the practical integration of AI systems into scientific research workflows. It therefore fills a distinct and currently underrepresented need within the College of Science curriculum.

Overall, this update improves clarity, strengthens alignment with current scientific practice, and ensures that the course contributes to a coherent and forward-looking AI curriculum.

Does this course cover material which crosses into another department? No

Learning Outcomes:

Students will be able to:

1. Critically evaluate the role of modern AI systems—including generative AI and emerging AI agents—in scientific research contexts.
2. Integrate AI tools into key stages of the scientific research workflow, including literature discovery, evidence synthesis, academic writing, and scientific communication.
3. Apply AI-supported methods to enhance scholarly communication, including writing, visualization, and presentation of scientific ideas.
4. Design AI-supported research workflows that improve efficiency, transparency, and reproducibility in scientific work.
5. Reflect on the ethical, methodological, and societal implications of AI-supported scientific research.

Will this course be scheduled as a cross-level cross listed section? No

Attach Syllabus

[AI Research & Scholarly Communication – Syllabus - Krueger - IPN.pdf](#)

Additional Attachments

Staffing:

Frank Krueger, SSB & IPN

Relationship to Existing Programs:

N/A

Relationship to Existing Courses:

N/A

Have you reached out to the Libraries to determine whether there are adequate resources to support your course? If not, please email Meg Meiman, Associate University Librarian for Learning, Research, and Engagement at mmeiman2@gmu.edu.

No

Additional Comments:

Reviewer Comments

Key: 19286

Syllabus

Advanced Generative AI for Scientific Research and Scholarly Communication

BIOL-691 | NEUR-562 | BINF-739 |

Spring Semester 2026

Course Organization

Weekly schedule: Each week runs from Monday (12:01 am) to Sunday (11:59 pm EST), starting January 19, 2026

Instructor: [Frank Krueger, Ph.D.](#)

Department: [School of Systems Biology](#)

Phone: 703-993-4358

E-mail: fkruieger@gmu.edu (preferred)

Office Hours: Announcements, the Canvas calendar, and optional Zoom office hours work together to support planning, clarification, and connection throughout the semester.

Course Description

This asynchronous online course examines how modern AI systems, including generative AI and emerging AI agents, are transforming scientific research, scholarly writing, and knowledge communication. Rather than focusing on AI applications within specific disciplines, the course focuses on how researchers can integrate AI systems directly into the scientific research workflow, including idea generation, literature discovery, evidence synthesis, academic writing, and scientific communication.

Through interactive readings, weekly mini-projects, tool-based assignments, and ethical discussions grounded in science fiction narratives from *AI 2041*, students will gain hands-on experience with cutting-edge AI tools, including ChatGPT, Litmaps, SciSpace, Gamma, and other AI-supported research tools, as well as emerging AI-supported research systems and agents. The course emphasizes technological fluency and ethical literacy, guiding students to apply AI effectively, responsibly, and with scientific rigor. By the end of the course, students will be equipped to critically assess and integrate AI systems into their scholarly workflows, preparing them for a research landscape shaped by rapid AI-driven innovation.

The course does not focus on building AI models, but on using AI systems as collaborators in scientific research and knowledge production.

This course is intentionally designed using inclusive STEM teaching principles to support diverse learners in an asynchronous environment. Rather than treating equity and accessibility as accommodations added after the fact, the course structure, assessments, and discussion practices are designed to make expectations transparent, reduce unnecessary barriers, and support sustained engagement with complex technical and ethical material. In the context of rapidly evolving AI systems—which can amplify existing inequities if used uncritically—this course treats responsible AI literacy as both a technical and pedagogical responsibility.

Learning outcomes

By the end of this course, students will be able to:

1. **Critically evaluate the role of modern AI systems—including generative AI and emerging AI agents—in scientific research contexts**, including their benefits, limitations, and ethical implications.
2. **Integrate AI tools into key stages of the scientific research workflow**, including literature discovery, evidence synthesis, academic writing, data interpretation, and scientific communication.
3. **Apply AI-supported methods to enhance scholarly communication**, including writing, visualization, and presentation of scientific ideas, while maintaining standards of academic rigor and integrity.
4. **Design AI-supported research workflows** that improve efficiency, transparency, and reproducibility in scientific work.
5. **Reflect on the broader societal, ethical, and methodological implications of AI-supported scientific research**, drawing connections between emerging technologies, real-world applications, and future research practices.

Across these outcomes, students will develop not only technical fluency with AI systems but also the judgment, reflection, and ethical reasoning necessary to use such tools responsibly in scientific and professional contexts.



AI meets scientific research in harmony (created by ChatGPT 5.2)

Prerequisite

Graduate standing or permission of the instructor. Advanced undergraduate students with demonstrated interest in scientific research and data-driven inquiry may be admitted with permission. This course is designed for students interested in the rapidly evolving role of artificial intelligence in scientific research. Major components include engagement with current literature, development of AI-supported research workflows, creation of AI-enhanced scholarly outputs, and participation in collaborative discussions on ethical and methodological issues in AI-supported science.

Textbook & Course Materials

Required Text, Recommended Texts, and Other Readings

- Readings will be made available on Canvas (See Learning Modules).

Course readings and examples are intentionally selected to reflect a range of scholarly perspectives, including contributions from early-career researchers, interdisciplinary scholars, and authors from diverse backgrounds. Materials include both foundational and current research on AI in scientific practice, with a focus on how modern AI systems are used in research workflows, data analysis, and scholarly communication. AI is not a value-neutral technology, and exposure to multiple intellectual traditions strengthens critical thinking, ethical reasoning, and scientific rigor. Students are also encouraged to identify and share relevant scholarly sources that extend or challenge the perspectives represented in the course, provided they meet academic standards of quality, rigor, and relevance.

Course Logistics

This course will use a distance learning format; the primary meeting space will be on Canvas; and we will use other means of keeping in touch, such as e-mail, telephone, and Zoom. This is a rigorous course: you will accomplish the following activities in a typical week:

- Reading about 35-50 pages, reflecting on the content, and discussing the material with your classmates,
- Completing online activities and responding to weekly requirements, and
- Working on assignments, completing in Canvas according to the assignment schedule.

Although the delivery method differs, it should take you the same amount of time as a typical full-semester course. You should **expect to spend approximately 9 hours on coursework each week** (including the time you would have spent in a classroom). It is critical to keep up with weekly requirements. Each week, I will provide announcements via e-mail and a module in our Canvas course to specify required activities and assignments (available by clicking on 'Modules' on the course menu in Canvas).

Weekly announcements are used intentionally to scaffold learning across the week: early-week announcements provide orientation and relevance (often linking to current AI news or newsletters), midweek reminders support deeper engagement with course readings and optional book chapters, and end-of-week announcements offer reflective extensions, such as films or broader cultural examples related to the topic.

The weekly structure of this course is intentionally scaffolded to support learning in an asynchronous environment. Activities such as glossary work, discussions, tool exploration, and mini-projects are sequenced to build understanding progressively, allowing students to practice new skills in lower-stakes contexts before applying them in more integrative assignments.

Canvas (Available on January 19, 2026)

We will use Canvas for the course. Additional guidance on individual assignments and discussion questions will be posted there. Please visit our Canvas site regularly.

Access Canvas by following these steps:

1. Go to <http://mymason.gmu.edu>.
2. Log in using your NETID and password.

3. Click on the 'Dashboard' tab.
4. Click on 'Advanced Generative AI for Scientific Research and Scholarly Communication.'

Deadlines and Late Submissions

All assignments will be submitted through Canvas for grading. Deadlines in this course are intended to structure learning and support timely feedback, not to serve as punitive cutoffs. Students are encouraged to submit work by the posted due dates whenever possible.

Late submissions are permitted. However, after the due date, assignments may no longer be visible for submission in Canvas. In such cases, students must contact the instructor to request re-activation of the assignment and briefly explain the reason for the delay.

There is no automatic grade penalty for late submissions. Final grades reflect the quality and completeness of submitted work. Missing work is not graded automatically and remains ungraded until submitted or addressed directly with the instructor.

This approach is designed to balance academic rigor with flexibility, recognizing that students may be managing complex schedules, responsibilities, or unexpected challenges while engaging in a demanding STEM course.

Instructor-Student Communication

I will respond to your e-mails from Monday (9 am) through Friday (6 pm) within 24 hours. If I am away from e-mail for more than two days, I will send an announcement to the class.

Before sending an e-mail with questions, please check the following (available on your Canvas course menu) **unless the e-mail is of a personal nature**:

1. Syllabus.
2. Tutorials on how to use Canvas features.
3. Canvas Q&A (resources specific to Mason).
4. Technology Requirements.

Mason E-MAIL

- Mason requires that the Mason e-mail be used for all courses. I will be sending messages to your Mason e-mail address, and you are responsible for ensuring you have access to them.
- You may forward your Mason e-mail to other accounts, but always use your Mason e-mail when communicating with me to verify your identity.
- You must regularly check your Mason e-mail account and keep your mailbox maintained so that messages are not rejected for being over quota.
- When you e-mail me, you can expect a response within 24 hours (*Monday through Friday*). If I am going to be away from e-mail for more than two days, I will send an announcement to the class.

- When you e-mail me, be sure to include ‘**AI & Scientific Research**’ at the beginning of the subject heading to alert me that I have received a message from one of my online students.

Participation

Netiquette For Online Discussions

Our discussion should be collaborative, not combative; you create a learning environment, share information, and learn from one another. Respectful communication is essential to your success in this course and as a professional. Please re-read your responses carefully before you post them so others will not take them out of context or as personal attacks. Be positive to others and diplomatic with your words, and I will try my best to do the same. Be careful when using sarcasm and humor. Without face-to-face communication, your joke may be viewed as criticism. Experience shows that even an innocent remark in the online environment can be easily misconstrued.

Netiquette prepared by Charlene Douglas, Associate Professor, College of Health & Human Services, GMU.

In Week 1, students will participate in a structured activity to co-create a small set of operational agreements for respectful dialogue and collaboration. These agreements—developed collectively and revisited as needed—will guide discussion and interaction throughout the semester. Respectful engagement is treated as an academic skill that supports ethical reasoning, perspective-taking, and productive disagreement.

Participation in this asynchronous course is defined as meaningful academic engagement rather than constant visibility. Students may demonstrate participation through discussion posts, reflective writing, project work, and thoughtful interaction with course materials and peers. Evaluation emphasizes the quality of reasoning and engagement, not communication style or frequency alone.

Technology Requirements

Technology requirements for the course are:

- Internet connection (DSL, LAN, or cable connection desirable).
- Supported web browser (e.g., Chrome, Edge, Safari, or Firefox) for Canvas and optional live sessions.
- MS Office 365 ProPlus is provided at no cost via the [Microsoft Student Advantage Program](#) (Access is tied to your @gmu.edu e-mail address).

Student Responsibilities

Mason E-mail

Students are responsible for the content of university communications sent to their George Mason University e-mail account and are required to activate their account and check it regularly. For accessibility and privacy, the university, school, and program will send communications to students solely through their Mason e-mail account —students should respond accordingly.

Patriot Pass

Once you sign up for your Patriot Pass, your passwords will be synchronized, and you will use your Patriot Pass username and password to log in to the following systems: Canvas, University Libraries, Mason E-Mail, myMason, Patriot Web, Virtual Computing Lab, and WEMS. [[See](#)]

AI Guidelines

These resources provide a framework and guidance for the responsible and ethical use of AI across our academic community. [[See](#)]

Students with Disabilities

Students with disabilities who seek accommodations in a course must register with the George Mason University Office of Disability Services (ODS) and inform their instructor in writing at the beginning of the semester. [[See](#)]

Academic Integrity

Students must be responsible for their work, and students and faculty must take on the responsibility of dealing explicitly with violations. The tenet must be the foundation of our university culture. [[See](#)]

Honor Code and Virtual Classroom Conduct

Students must adhere to the guidelines of the George Mason University Honor Code. [[See](#)]

University Policies

Students must follow university policies ([See](#)).

Responsible Use of Computing

Students must follow university policies. [[See](#)]

University Calendar

Details regarding the current Academic Calendar [[See](#)].

University Catalog

The current university catalog [[See](#)].

Student Services

Writing Center

The George Mason University Writing Center staff provides various resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing. ESL Help: The program was designed specifically for students whose first language is not English who feel they might benefit from additional, targeted support throughout the semester [[See](#)].

University Libraries

University Libraries provide resources for distance students [[See](#)].

Counseling and Psychological Services

The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counselors, clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops, and outreach programs) to enhance students' personal experience and academic performance [[See](#)].

Students experiencing challenges related to mental health, food security, housing stability, or other basic needs are strongly encouraged to make use of these services. Seeking support is a responsible and proactive step, and doing so will not negatively affect your standing in the course.

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act of 1974 (FERPA), or the 'Buckley Amendment,' is a federal law that protects students' educational records and provides students with certain rights. [[See](#)].

Weekly Schedule

Distance learning courses are dynamic—to ensure we achieve our learning outcomes, we may need to negotiate changes to the weekly schedule. We will focus on learning, fairness, and reason for any approved changes. Each week's activities—reading assignments on topics, watching videos, defining key concepts (via a glossary), sharing and discussing your knowledge with classmates (via the discussion forum), and completing assignments to build the AI toolbox—**require approximately 9 hours**.

The course emphasizes hands-on application of AI systems within scientific research workflows rather than theoretical model development. Note that this course has no final exam. Instead, students complete a final project in which they design and implement an AI-supported scientific research workflow that integrates literature discovery, analysis, and scientific communication using the AI tools and systems introduced throughout the course. The project emphasizes the use of AI systems as collaborative tools in scientific inquiry rather than the implementation of machine learning models.

The table below lists the weekly schedule, significant activities, significant assignments, points, and due dates for this course. Final grades will be based on the total points earned in the class. The course structure emphasizes continuous engagement and reflection rather than high-stakes testing, supporting sustained learning and multiple pathways for students to demonstrate mastery of course outcomes. Submission deadlines and late submission procedures are described in the *Deadlines and Late Submissions* section above.

Week	Major Topics and Methods	Assignments	Points	Due Dates (11.59 pm EST)
Week 1		Orientation Quiz	10	Sunday, January 25
Monday, January 19		Self-Introduction	15	
—	AI Foundations: From Deep Learning to Modern AI	Topic: Glossary	10	Thursday, January 22
Sunday, January 25	AI Ethical Focus: Innovation vs. Responsibility	Ethics: Discussion (Part 1)	10	
		Ethics: Discussion (Part 2)	10	Sunday, January 25
	<i>AI Phase 1: Discovery & Idea Generation:</i> Tool: ChatGPT – Prompt Powerhouse	Project: Prompt Design for Scholarly Explanation	20	
Week 2	AI Foundations: Generative Models & LLMs	Topic: Glossary	10	Thursday, January 29
Monday, January 26	AI Ethical Focus: Reliance vs. Judgment	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, February 1
Sunday, February 1	<i>Phase 1: Discovery & Idea Generation:</i> Litmaps – Literature Mapper	Project: Literature Mapping & Research Positioning	20	
Week 3	AI in Academia: Research, Writing, and Learning	Topic: Glossary	10	Thursday, February 5
Monday, February 2	AI Ethical Focus: Speed vs. Integrity	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, February 8
Sunday, February 8	<i>Phase 1: Discovery & Idea Generation:</i> Perplexity – Academic Research Assistant	Project: Rapid Literature Scan & Evidence Summary	20	
Week 4	AI in Practice: Deep Learning, Data, and Discovery	Topic: Glossary	10	Thursday, February 12
Monday, February 9	AI Ethical Focus: Optimization vs. Autonomy	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, February 15
Sunday, February 15	<i>Phase 1: Discovery & Idea Generation:</i> Elicit – Evidence Finder	Project: Research Question & Study Concept Brief	20	
Week 5	AI in Practice: Computer Vision & Visual Intelligence	Topic: Glossary	10	Thursday, February 19
Monday, February 16	AI Ethical Focus: Authenticity vs. Manipulation	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, February 22
Sunday, February 22	<i>Phase 2: Deep Analysis & Writing:</i> SciSpace – AI Analyst	Project: Methods & Claims Comparison Memo	20	
Week 6	AI in Practice: Natural Language Processing	Topic: Glossary	10	Thursday, February 26
Monday, February 23	AI Ethical Focus: Support vs. Shaping	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, March 1
Sunday, March 1	<i>Phase 2: Deep Analysis & Writing:</i> Paperpal – Precision Writer	Project: Academic Paragraph Revision & Style Audit	20	

Week 7	AI in Practice: Robotics & Embodied Intelligence	Topic: Glossary	10	Thursday, March 5
Monday, March 2	AI Ethical Focus: Safety vs. Connection	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, March 8
Sunday, March 8	<i>Phase 2: Deep Analysis & Writing:</i> Grammarly – Style & Clarity Coach	Project: Abstract & Research Pitch Polishing	20	
Spring Break				
Monday, March 9				
Sunday, March 15				
Week 8	AI in Practice: Extended Reality (VR / AR / MR)	Topic: Glossary	10	Thursday, March 19
Monday, March 16	AI Ethical Focus: Authentic Experience vs. Curated Reality	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, March 22
Sunday, March 22	<i>Phase 2: Deep Analysis & Writing:</i> Consensus – Evidence Engine	Project: Claim Validation & Evidence Alignment Brief	20	
Week 9	AI in Practice: Autonomous Systems & Driving	Topic: Glossary	10	Thursday, March 26
Monday, March 23	AI Ethical Focus: Automation vs. Responsibility	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, March 29
Sunday, March 29	<i>Phase 3: Communication & Creativity:</i> Gamma – Structure Master	Project: Ethical Systems Timeline Briefing	20	
Week 10	AI in Practice: Quantum Computing & Intelligent Discovery	Topic: Glossary	10	Thursday, April 2
Monday, March 30	AI Ethical Focus: Capability vs. Control	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, April 5
Sunday, April 5	<i>Phase 3: Communication & Creativity:</i> DALL·E 3 – Image Generator	Project: Conceptual Figure: Ethical Futures of Quantum AI	20	
Week 11	AI & Society: Work, Automation, and Job Displacement	Topic: Glossary	10	Thursday, April 9
Monday, April 6	AI Ethical Focus: Productivity vs. Purpose	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, April 12
Sunday, April 12	<i>Phase 3: Communication & Creativity:</i> ElevenLabs – Synthetic Voice Studio	Project: Audio Research Summary (Conference-Style)	20	
Week 12	AI & Well-Being: Happiness, Design, and Human Values	Topic: Glossary	10	Thursday, April 16
Monday, April 13	AI Ethical Focus: Efficiency vs. Meaning	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, April 19
Sunday, April 19	<i>Phase 4: Collaboration & Integration:</i> HeyGen – Digital Avatar Creator	Project: Future Ethics Briefing: AI-Mediated Well-Being	20	
Week 13	AI & Society: Plenitude, Abundance, and Meaning	Topic: Glossary	10	Thursday, April 23
Monday, April 20	AI Ethical Focus: Abundance vs. Equity	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, April 26
Sunday, April 26	<i>Phase 4: Collaboration & Integration:</i> PatriotAI (DocuMate)	Project: Plenitude Insight Brief	20	

Week 14	AI Futures: AI Atlantis & Intelligent Economies	Topic: Glossary	10	Thursday, April 30
Monday, April 27	AI Ethical Focus: Abundance vs. Agency	Ethics: Discussion (Part 1)	10	
—		Ethics: Discussion (Part 2)	10	Sunday, May 3
Sunday, May 3	<i>Phase 4: Collaboration & Integration:</i> Google NotebookLM – AI Integrator	Project: Scenario Synthesis & AI Design Brief	20	
		Course Evaluation (optional)	15	
Exam Week	Phase 5: Final Integration	Project: Final AI Integration Project	85	Sunday, May 10
Monday, May 4		Tool Mastery Bonus (optional)	15	
—		Final Reflection Portfolio (optional)	20	
Sunday, May 10				
		Total	850	

Grading Scale (points)

Final grades for this course will be based on the percentage of total points earned, calculated from a core total of **800 points**. In addition to the required weekly assignments, you can earn up to **50 extra points** through optional activities. These include a *Tool Mastery Badge (15 points)*, *Final Reflection Portfolio (20 points)*, and submission of your *GMU course evaluation (15 points)*. While not required, these bonus points can help boost your final grade, compensate you for missed work, or even move you into a higher-grade bracket. Your final grade will be determined solely based on the 800-point core, and any extra credit will be added on top. As a result, earning more than 100% is possibly a meaningful reward for students who go above and beyond. These opportunities are a chance to enrich your experience, reflect deeply, and demonstrate your full engagement with the course.

Letter Grade	Percentage	Points	Performance
A ⁺	98–100%	784–800 (800+ with extra credit)	Superb work
A	93–97%	744–783	Excellent work
A ⁻	90–92%	720–743	Nearly excellent work
B ⁺	87–89%	696–719	Very good work
B	83–86%	664–695	Good work
B ⁻	80–82%	640–663	Mostly good work
N/A	<80%	<640	Failing work