

MOLLOY UNIVERSITY
School of Education and Human Services
Department of Teacher Education

EDU 5900 45 Scientific and Industrial Revolutions to the Digital Age:

A Historical Lens on Innovation and Society

(3 credits)

Summer 2026

Instructor: Paul Zaratin

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Office hours: Monday - Friday 3:00 PM - 7:30 PM

Course Description:

This course offers a comprehensive exploration of how innovation has transformed human society from the Scientific Revolution of the 16th and 17th centuries through the Industrial Revolution and into the Digital Age of the 21st century. Students will examine how major scientific discoveries, technological breakthroughs, and industrial advancements reshaped economies, cultures, education, and global power structures.

Through thematic modules, case studies, interactive discussions, and applied assignments, students will analyze how key innovations—such as the printing press, steam engine, electricity, and the internet—have influenced human behavior, cultural change, and the modern classroom. This course is designed for K–12 educators and will provide strategies for integrating the history of innovation and technology into classroom instruction, supporting cross-curricular learning and historical inquiry. NYS teaching standards include SS.E.2.2: World History — examine major turning points in global history. ISTE Standards for Educators — inspire student learning through technology and inquiry. NGSS Connections — historical perspectives on science and innovation.

Shared Vision

The Molloy University Teacher Education faculty has derived its vision for the exemplary teacher from the University's mission statement, the four pillars of the Dominican tradition, comments and input from the Professional Education Unit's Advisory Board and degree candidates as well as numerous faculty discussions rooted in the department's knowledge base which undergirds the initial and advanced programs' curriculum, pedagogy, and values.

The teaching professionals who complete Molloy's teacher preparation programs are distinguished by their ability to exemplify and promote core values in their own teaching. These values include:

- Belief that all children can learn
- Learner-centered and value-centered curriculum and pedagogy
- Ethics and spirituality
- Intellectual curiosity
- Independence and risk taking, while promoting collective identity and responsibility
- Diversity, multiculturalism and pluralism, including divergent thinking
- Passion for teaching
- Commitment to students and their communities
- Civic responsibility through the promotion of social justice and interdependence
- Commitment to democracy

Course Objectives:

- Analyze the origins and impacts of the Scientific Revolution on society, education, and global thought.
- Examine the social, economic, and cultural transformations of the Industrial Revolution.
- Explore the evolution of communication technologies, from the printing press to the internet.
- Evaluate how technological advancements have shaped globalization and interconnected societies.
- Investigate how innovation has influenced cultural identities and educational practices.

- Assess the ethical and societal implications of rapid technological change.
- Integrate historical and technological themes into K–12 curriculum design.
- Create a lesson plan or activity that engages students in understanding innovation's role in shaping the world.

Course Format:

This course will be offered online through Canvas, Molloy's learning management system. The course will open on the start date and close on the last day of class. This section is offered during the summer semester of 2026. There will be daily activities and discussions that must be completed at the end of each day. All work will be due on the last day of class.

Required Readings, Videos, and Other Materials:

All materials will be provided throughout the course.

Course Requirements and Evaluation:

Discussion #1	Innovation and Human Society	Introductions and discussion of innovation as a historical driver of change.	5 pts
Module 1	The Scientific Revolution	Examine the shift from medieval thought to scientific inquiry and its global implications.	10 pts
Module 2	Industrialization and Social Transformation	Explore industrialization, urbanization, labor, and education in the 18th–19th centuries.	10 pts
Module 3	Communication Breakthroughs	From the printing press to the telegraph and radio—how communication shaped societies.	10 pts
Discussion #2	Innovation and Cultural Change	Discussion on how technology alters identity, culture, and community.	5 pts

Module 4	The Digital Revolution	Investigate how computers, the internet, and AI transformed information sharing and global interaction.	10 pts
Module 5	Case Studies in Innovation	Analyze specific innovations (e.g., electricity, aviation, vaccines, or digital media) and their impacts.	10 pts
Module 6	Ethical Implications of Innovation	Explore issues such as equity, digital divides, surveillance, and environmental impacts.	10 pts
Module 7	Teaching Innovation in K–12	Strategies for integrating the history of science and technology into curriculum.	10 pts
Module 8	Final Lesson Plan	Design a classroom-ready lesson or activity that brings innovation history to life for students.	20 pts

Molloy University and School of Education and Human Services Policies and Supports:

Expectations of Academic Integrity for All Students

[Honor Pledge and Academic Honesty Policy](#)

Course Withdrawals

View [Withdrawal Policy](#) for potential financial implications

View [the Academic Calendar](#) and/or the course syllabus for the last day to withdraw dates

Incompletes

[Incompletes Policy](#)

Health and Wellness

[Student Health Services](#)

[Student Counseling Center \(SCC\)](#)

Center for Access and Disability (Access)

[Center for Access and Disability](#)

Technical Support

[Student Account, Technology and Canvas](#)

Ally for Canvas

[Supportive Tools and Resources/ Ally](#)

Use of Proctorio for Exams/Quizzes (if applicable)

[Proctorio Resources for Students](#)

Email Accounts

Students are to utilize their Molloy e-mail account or via Canvas when communicating throughout the semester. Those who use a non-Molloy account may miss important

messages. Students are responsible for responding to all methods of communication in a timely fashion relating to this course. Instructors will respond to emails from students within 24 hours. When/ if you email the instructor(s), please indicate what course you are in with the course number and section.

APA Manuscript Style

All manuscripts in the field of education are written in the style format of the American Psychological Association. Candidates in the Graduate Education Programs are required to purchase the Publication Manual of the American Psychological Association (7th ed.). (2010). American Psychological Association.

All papers written in every course must adhere to the manuscript prescriptions defined in this manual.