

MOLLOY UNIVERSITY

School of Education and Human Services

Department of Teacher Education

EDU 5900.XX The Renaissance Mind: Leonardo da Vinci's Legacy in Art, Science, and Innovation (3 credits)

Fall 2026

Mode : Online Asynchronous

Instructor:

Susan Zaratini

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

Course Title: The Renaissance Mind: Leonardo da Vinci's Legacy in Art, Science, and Innovation

Course Overview: The Renaissance Mind: Leonardo da Vinci's Legacy in Art, Science, and Innovation

This comprehensive course is designed to empower educators by demonstrating effective strategies for incorporating art projects throughout various subject areas in the curriculum. Participants will engage in hands-on learning experiences that highlight the intersection of art with critical academic disciplines, including science, social studies, English Language Arts (ELA), foreign languages, mathematics and STREAM.

Throughout the course, educators will have the opportunity to develop detailed lesson plans that incorporate these art projects, ensuring that they align with educational standards and learning objectives. Additionally, teachers will create demonstration pieces that can be used as examples in their classrooms, making it easier to implement

these strategies effectively.

By the end of the course, participants will have a robust toolkit of resources and ideas for integrating art across the curriculum, fostering a more dynamic and engaging learning environment for their students.

The activities will align with Art Standards K-12, focusing on four essential components:

1) Creating, 2) Presenting, 3) Responding, and 4) Connecting. This comprehensive approach ensures that all lessons are not only engaging but also relevant across various subjects and educational levels.

Participant Outcomes:

- Participants will be able to identify the links between science and art. ●

Participants will be able to link science and art and any K-12 classroom. ●

Explores da Vinci's integrated approach to art and science

- Examines his contributions to anatomy, engineering, architecture, and visual arts.
- Analyzes his scientific methodology and observational techniques ● Investigates his influence on modern interdisciplinary thinking

Art and Visual Analysis

- Techniques in perspective and composition
- Anatomical drawing and scientific illustration
- Analysis of masterworks including The Last Supper and Mona Lisa
- Study of da Vinci's unique drawing and painting methods

Scientific Investigation

- Anatomical studies and medical illustrations
- Engineering principles and mechanical designs

- Mathematical concepts in art and architecture
- Natural science observations and documentation

Innovation and Design

- Design thinking and problem-solving methods
- Engineering concepts and mechanical innovations
- Architectural principles and urban planning
- Integration of art and technology

Professional Applications

- Cross-disciplinary thinking strategies
- Observational skills development
- Technical drawing and documentation
- Research methodology and scientific inquiry

Course Requirements and Evaluation:

- Discussion #1: Introduction (5 points)
- Module #1: Introduction to Leonardo da Vinci (10 points)
- Module #2: Anatomy and Art (10 points)
- Module #3: Physics and Art (10 points)
- Module #4: Optics and Art: (10 points)
- Module #5: Botany and Art (10 points)
- Module #6: Geology and Art (10 points)
- Module #7: Chemistry and Art (10 points)
- Module #8: Final Project: Participants will create a lesson plan that is designed for their grade level and subject area using concepts learned in this course. (25 points)

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 spring 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.

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

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). Washington, DC: American Psychological Association.

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

in this manual.