

ENTC 1510 - The History of Engineering

Fall 2026 Syllabus, Section 01, CRN 43881,

Credit hours: 3

Instructor

Michael Costarell

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Public Instructor Information

Mike Costarell

Instructor Title: Professor, MET Program Coordinator, Vice Chair of Academic Senate

Instructor Professional Qualifications:

Bachelor of Engineering, Civil Engineering, Youngstown State University, 1989.

Master of Science, Mechanical Engineering, Carnegie Mellon University, 2000

Instructor Office Location: Moser 4138

Instructor Office Phone: 330.941.3741

Bob Korenic

Instructor Title: Professor, CCET Program Coordinator

Instructor Professional Qualifications:

Bachelor of Engineering, Civil Engineering, Youngstown State University.

Master of Science, Civil Engineering, Youngstown State University

Instructor Office Location: Moser 4106

Instructor Office Phone: 330.940.3288

Jason Zapka

Instructor Title: Associate Professor, EET Program Coordinator

Instructor Professional Qualifications:

Bachelor of Engineering, Electrical Engineering, Youngstown State University, 1998

Master of Science, Electrical Engineering, Youngstown State University, 2010

Instructor Office Location: Moser 4104

Instructor Office Phone: 330.941.3816

Course Description

1510. The History of Engineering. This course explores the historical development of engineering from ancient times to the present day. Students will examine key innovations, the evolution of engineering disciplines, major engineers and their contributions, and how engineering has shaped society and vice versa. This course counts as a General Education Art and Humanities course. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Engineering: An Illustrated History from Ancient Craft to Modern Technology (100 Ponderables)	Tom Jackson	0985323094

Text:

"Engineering: An Illustrated History from Ancient Craft to Modern Technology (100 Ponderables)" by Tom Jackson (Shelter Harbor Press)

Online Primary Historical Sources:

American Society of Civil Engineers <https://www.asce.org/>

American Society of Electrical Engineers <https://www.asee.org/>

American Society of Industrial Engineers <https://www.iise.org/Home/>

American Society of Mechanical Engineers <https://www.asme.org/>

Colorado Springs Nikola Tesla Notes <https://archive.org/details/nikolateslanikolateslacoloradospringsnotes18991900/mode/2up>

Google Patent <https://patents.google.com/>

Ohio Professional Engineering <https://peps.ohio.gov/>

Perseus Digital Library <https://avalon.law.yale.edu/>

Project Gutenberg – da Vinci Books <https://www.gutenberg.org/ebooks/author/1629>

Rutgers Thomas Edison Papers <https://edisondigital.rutgers.edu/notebooks/home>

Yale Avalon Project <https://avalon.law.yale.edu/>

Youngtown Steel Museum <https://www.ohiohistory.org/visit/browse-historical-sites/youngstown-historical-center-of-industry-labor/>

US Library of Congress <https://www.loc.gov/>

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Proposed Topic	Due/To Prepare for Class
8/24	Introduction, Science vs Engineering, Steel	
8/31	ME - Metal Casting, Steel Museum Visit	
9/7	ME - Refrigeration, Waves	
9/14	ME - Bicycles, Welding	
9/21	ME - Nuclear Power, Submarines	
9/28	CE - Cities, Irrigation, Dams	
10/5	CE - Roads, Arches	
10/12	CE- Ancient Buildings, Skyscrapers	
10/19	CE - Fresh and Wastewater, Subways and Tunnels	
10/26	EE - Magnetism, Electricity, Light Bulb, Telephone	
11/2	EE - Radio, TV, MRI	
11/9	EE- Motors and Generators	
11/16	EE - Batteries, Transistors	
11/23	IE - Industrial Revolution	
11/30	Materials - Gunpowder, Pottery	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.