ENGR 140: Engineering in History

CLASS SCHEDULE AND LOCATION: TBD

COURSE FORMAT: In-class lecture, class activities, group projects, and exams

CREDIT HOURS: 3 credit hours

PREREQUISITES: NONE

INSTRUCTOR: Melissa L. Morris, Ph.D.

E-MAIL: melissa.morris@mail.wvu.edu

OFFICE: 161 ESB

OFFICE HOURS: XXXX OR BY APPOINTMENT


Course Satisfies GEC Objectives 3 and 4.

INTRODUCTION
This course provides an introduction to the impact of engineering on society throughout history. Introduces the first engineers and thinkers, and the developments for which they are responsible. This course examines engineering accomplishments in history such as the Seven Wonders of the World, machines, structures, buildings, transportation, and innovations, and the societies responsible ranging from ancient civilizations to the twenty-first century. The objective of this course is to provide students with an understanding of how the field of engineering was created, how it has evolved, and how engineering accomplishments have impacted society throughout history.

STUDENT LEARNING OUTCOMES
Upon completion of this course, students will be able to:
- Demonstrate an understanding of historical chronology related to engineering developments
- Summarize the major engineering accomplishments associated with particular eras in time
- Explain the impact engineering has had on society throughout history
- Research a topic in history and communicate its importance
- Discuss influential engineers in history, and their contributions
- Identify items in history which were a product of engineering

GRADING
Grades are based upon student performance on assignments, tests and quizzes, and projects. Each assessment tool is weighed as follows:

15%  Project(s)
35%  Homework, In-class Assignments, Quizzes
50%  Exams (15% First Exam, 15% Second Exam, 20% Final)
Note: Graded material will not be kept longer than one semester after the course is completed.

Grading Scale
Letter grades are assigned according to the following scale:

- A 90% - 100%
- B 80% - 89%
- C 70% - 79%
- D 60% - 69%
- F Below 60%

Grading Policies
- Tentative dates for Exams are on the course schedule. There may be additional, unannounced quizzes. Quizzes may not be made up.
- No make-up exams are permitted, except by prior arrangement with the instructor, at the sole discretion of the instructor.
- Assignments are due at the beginning of class on the due date assigned. It is expected that assignments will be printed out before class starts and handed in on time. Additionally, electronic copies of assignments may be requested. These electronic copies must also be submitted prior to the start of class. Late assignments will not be accepted or graded; extenuating circumstances may be considered at the discretion of the instructor.
- This course contains both team and individual elements. All homework, quizzes, and exams are considered individual assignments. Anyone found to be cheating on any individual assignment will be disciplined according to the University’s policy on Academic Integrity.

Attendance Policy
Class attendance is mandatory. In this highly participatory class, students will be required to (1) work on and complete graded assignments, individually or in teams, (2) take quizzes or tests, (3) contribute to projects, or (4) participate in class discussions during every class meeting. Such participatory work cannot be made up effectively, so attendance at each class is essential to facilitating the attainment of student learning outcomes. Students with 3 or more unexcused absences will be subject to the following penalty: For each 3 unexcused absences, the student's grade in the course may be reduced by one letter grade. Students who are absent from class for any reason are responsible for the content covered during the missed class and, although they may not be permitted to make up the specific assignments for credit, they may still be expected to know and apply that content on future tests, assignments, and projects.

The basis for an excused absence will follow University policy. Students who have a documented excused absence must make arrangements with the instructor to make up any class work they missed during their absence. Students who anticipate missing class because they are representing the university (WVU team athletes, band members, etc.), must provide the instructor with appropriate documentation of the event and make arrangements for make-up work, BEFORE the absence.

Any exception will be allowed at the sole discretion of the instructor.

Days of Special Concern
WVU recognizes the diversity of its students and the needs of those who wish to be absent from class to participate in Days of Special Concern, which are listed in the Schedule of Courses. Students should notify their instructors by the end of the second week of classes or prior to the first Day of Special Concern, whichever is earlier, regarding Day of Special Concern observances that will affect their
attendance. Further, students must abide by the attendance policy of their instructors as stated on their syllabi. Faculty will make reasonable accommodation for tests or field trips that a student misses as a result of observing a Day of Special Concern.

**ACADEMIC INTEGRITY**
In taking this course, it is assumed you aspire to a professional career in which you will lead people and manage resources. As a result, your personal integrity is an integral component of your preparation for such a career. Therefore, I will require that you adhere to the academic guidelines specified in the University Catalog and at the following website: [http://www.arc.wvu.edu/admissions/integrity.html](http://www.arc.wvu.edu/admissions/integrity.html)
If you have any questions, please do not hesitate to contact me.

**INCLUSIVITY STATEMENT**
“The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect and inclusion.”

**STATEMENT ON DISABILITY ACCOMMODATION**
If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise the instructor and make appropriate arrangements with the Office of Disability Services (304-293-6700).
## Tentative Course Schedule

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<th>Week</th>
<th>Topic</th>
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<tr>
<td>1</td>
<td>Syllabus, Announcements, Intro to Engineering Disciplines Reading Assignment #1 (Ch.1 of Text)</td>
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<tr>
<td>2</td>
<td>Origins of Engineering, Beginning of Urban Society Reading Assignment #2 (Ch.2 of Text) HW#1 Assigned</td>
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<tr>
<td>3</td>
<td>Greek Engineering HW#1 Due – Quiz 1 Reading Assignment #3 (Ch. 3 of Text) HW#2 Assigned In-Class Discussion/Reflection on Readings up to date</td>
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<td>4</td>
<td>Imperial Civilization HW#2 Due Reading Assignment #4 (Ch. 4 of Text) HW#3 Assigned Review for Exam #1</td>
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<tr>
<td>5</td>
<td>Exam #1 HW #3 Due Revolution in Power (Middle Ages) Reading Assignment #5 (Ch. 5 of Text) HW# 4 Assigned</td>
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<tr>
<td>6</td>
<td>Foundations for Industry HW#4 Due Reading Assignment #6 (Ch. 6 of Text) HW# 5 Assigned</td>
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<tr>
<td>7</td>
<td>Industrial Revolution HW#5 Due – Quiz 2 Reading Assignment #7 (Ch. 7 of Text) HW#6 Assigned In-Class Discussion/Reflection on Readings up to date</td>
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<tr>
<td>8</td>
<td>Roads, Rivers, and Canals HW# 6 Due Reading Assignment #8 (Ch. 8 of Text) Project 1 Assigned</td>
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<td>9</td>
<td>Steam Vessels and Locomotives Reading Assignment #9 (Chs. 9 &amp; 10 of Text) HW#7 Assigned Review for Exam</td>
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<tr>
<td>10</td>
<td>Exam #2 HW#7 Due Electrical Engineering Reading Assignment #10 (Ch.11 of Text ) HW# 8 Assigned In-Class Discussion/Reflection on Readings up to date</td>
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<td>11</td>
<td>Modern Transportation HW# 8 Due Reading Assignment #11 (Ch. 12 of Text) HW# 9 Assigned</td>
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<td>12</td>
<td>Sanitation and Hydraulic Engineering HW# 9 Due – Quiz 3 Reading Assignment #12 (Ch. 13 of Text) HW # 10 Assigned</td>
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<td>13</td>
<td>Construction HW#10 Due Reading Assignment #13 (Ch. 14 of Text) HW# 11 Assigned In-Class Discussion/Reflection on Readings up to date</td>
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<td>14</td>
<td>Reflection on the Impact of Engineering In Society and Look to the Future HW# 11 Due Review for Final Exam</td>
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<tr>
<td>15</td>
<td>Project Due, Project Presentations</td>
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<tr>
<td>16</td>
<td>Final Exam</td>
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Note: Instructor Reserves the Right to Modify Schedule if Needed.