

Term Information

Effective Term Summer 2016
Previous Value Autumn 2015

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

Change being proposed is to make this course a GE for Culture and Ideas; Change subsidy level to General Studies; remove first course goal.

What is the rationale for the proposed change(s)?

To make the course a GE Culture and Ideas course.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

None

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area	Engineering
Fiscal Unit/Academic Org	Engineering Administration - D1400
College/Academic Group	Engineering
Level/Career	Graduate, Undergraduate
Course Number/Catalog	5797.18
Course Title	Engineering of Ancient Greece
Transcript Abbreviation	Engr Ancient Gr
Course Description	A study abroad trip to Greece for the purpose of understanding the importance of the influences and continuing contributions to society of Ancient Greece's Engineering and Technological advancements. Students will visit various significant engineering marvels and examine the methods used for their formulation and construction.
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	4 Week (May Session)
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
<i>Previous Value</i>	<i>Yes, Greater or equal to 50% at a distance</i>
Grading Basis	Letter Grade
Repeatable	No
Course Components	Field Experience, Lecture
Grade Roster Component	Field Experience
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Always
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites
Exclusions

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	14.9999
Subsidy Level	General Studies Course
<i>Previous Value</i>	<i>Doctoral Course</i>
Intended Rank	Junior, Senior, Masters, Doctoral

Requirement/Elective Designation

General Education course:
Culture and Ideas
The course is an elective (for this or other units) or is a service course for other units

Previous Value

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- To increase the students' knowledge on how Ancient Greek Engineering was formulated and built and the identification and history of the ancient engineers, mathematicians and scientists
- Participate in a study abroad experience and understand how innovations from thousands of years ago still influence modern society.
- *To gain an appreciation for the influences of Ancient Greek Engineering and Technology*
- *To increase the students' knowledge on how Ancient Greek Engineering was formulated and built and the identification and history of the ancient engineers, mathematicians and scientists*
- *Participate in a study abroad experience and understand how innovations from thousands of years ago still influence modern society.*

Previous Value

Content Topic List

- Experience culture, history, ancient and modern engineering marvels and innovations.
- Students research, create a detailed report and make a presentation on an assigned site that is included on the itinerary. Additionally, students will reflect via journal entries on all sites visited while in country.
- Visit the engineering sites, museums, archaeological sites and engineering universities.

Previous Value

- *Experience culture, history, ancient and modern engineering marvels and innovations.*
- *Students make a presentation on the assigned site that the group will visit.*
- *Visit the engineering sites, museums, archaeological sites and engineering universities*

Attachments

- GE rationale assessment plan ENGR 5797_18-2_sas.pdf: GE Rationale for Culture and Ideas
(GEC Course Assessment Plan. Owner: Lindeboom,Sally Frances)
- assesment plan_sas.pdf: Assessment Plan
(GEC Course Assessment Plan. Owner: Lindeboom,Sally Frances)
- ENGR 5797_18_2016 syllabus_sas.pdf: Syllabus
(Syllabus. Owner: Lindeboom,Sally Frances)

Comments

- See 1-19-16 e-mail to S. Lindeboom. *(by Vankeerbergen,Bernadette Chantal on 01/19/2016 12:56 PM)*
- Returned per unit's request. Returned for needed changes. *(by McCaul Jr,Edward Baldwin on 11/03/2015 07:14 AM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Lindeboom,Sally Frances	10/15/2015 09:26 AM	Submitted for Approval
Revision Requested	McCaul Jr,Edward Baldwin	10/15/2015 10:20 AM	Unit Approval
Submitted	Lindeboom,Sally Frances	10/27/2015 11:13 AM	Submitted for Approval
Revision Requested	McCaul Jr,Edward Baldwin	11/03/2015 07:14 AM	Unit Approval
Submitted	McCaul Jr,Edward Baldwin	11/12/2015 10:27 AM	Submitted for Approval
Approved	McCaul Jr,Edward Baldwin	12/03/2015 03:08 PM	Unit Approval
Approved	McCaul Jr,Edward Baldwin	12/03/2015 03:09 PM	College Approval
Revision Requested	Vankeerbergen,Bernadette Chantal	01/19/2016 12:57 PM	ASCCAO Approval
Submitted	Lindeboom,Sally Frances	02/10/2016 12:17 PM	Submitted for Approval
Approved	McCaul Jr,Edward Baldwin	02/10/2016 01:03 PM	Unit Approval
Approved	McCaul Jr,Edward Baldwin	02/10/2016 01:04 PM	College Approval
Pending Approval	Nolen,Dawn Vankeerbergen,Bernadette Chantal Hanlin,Deborah Kay Jenkins,Mary Ellen Bigler Hogle,Danielle Nicole	02/10/2016 01:04 PM	ASCCAO Approval

Course Syllabus
ENGR 5797.18 Engineering of Ancient Greece (3 credit hours)
May 2016

Course Time and Location

M-F May 9-17, 2016 from 1:00pm-3:00 pm
346 Hitchcock Hall

Instructor and Resident Directors

Olga Stavridis
Instructor and Resident Director, ENGR 57971.8
Office Hours: T/R 9:00am – 11:00am
Stavridis.2@osu.edu
Hitchcock Hall 205

Sheryl Sorby
Resident Director, ENGR 5797.18
Sorby.1@osu.edu ph: 906-231-71331

Class Materials

Books: Reserved books will be available for your research at the OSU Libraries for purposes of this course.

Passport

Cost for one Greek meal during class

Objectives

At the end of the term, you will:

- Experienced Greek culture, researched the history and significance of Ancient Greece's Engineering Contributions and visited these sites.
- Researched and submitted a final report about the importance of the iconic engineering sites and excavations and the various methods used for their construction.
- Reflected via Journals on the possible gaps between what was researched pre traveling to sites and what was learned additionally and/or contrary to what was conveyed on site.
- Tour and experience the culture of mainland Greece and the Islands of Crete and Samos and Kusadasi, Turkey (Ephesus Archaeological Excavation Site).

Grading (class taken at OSU & in Greece)

Report	50%
Presentation	40%
Journal Entries and Final Reflection	10%

Assignments:

Unless otherwise noted, write up of site visit (agreed upon information between instructor and student during in class research) is due to CARMEN by the presentation date stated on the syllabus. No late assignment will be accepted.

Each student will be required to research one of the sites planned for the in country visit. Students will create a Report, PowerPoint presentation of site's highlights; location; history; current impact for Greece and a "Q&A" format to an electronic notebook in CARMEN. Basic requirements of Report will include:

- Who ordered the construction and cost of construction
- Why this location was selected and dates of construction
- Date of abandonment, if appropriate, and the reason for the abandonment
- Technique of construction to include materials used and any special design features (photographs with sources cited).
- For the religious sites, what historical ancient story was recorded here
- For the archaeological sites and fortified cities, were they ever besieged and the results of the siege. Did they serve their designed purpose?
- Environmental impact and/or changes since the time of construction
- Current impact on Greece's National and local governments to preserve these sites

Formatting and requirements will be posted in CARMEN. Students must upload required research directives from Instructor by 11:59pm to CARMEN notebook each class session.

Attendance:

The in class portion of ENGR 5797.18 will meet M-F for (7) class sessions from 1:00-3:00pm. Attendance is **MANDATORY**. Students are expected to PROMPTLY attend all classroom sessions. . Excused absences are: jail, court, hospital, and serious illness. ALL OF THESE MUST HAVE PROPER DOCUMENTATION (DOCTOR'S NOTE, COURT DOCUMENTS, ETC.). Students should e-mail the instructor **before** class if they are going to be absent.

Academic Misconduct:

Academic Misconduct such as cheating or plagiarism will be reported using official University procedures. Policies and procedures can be found in the Code of Student Conduct available online in several places including http://studentaffairs.osu.edu/resource_csc.asp. As a student, you need to know that faculty members are obligated to report all misconduct cases to the University Committee on Academic Misconduct. Not reporting suspected misconduct is not an option.

Hours of Study

(Equivalencies used: 3-credit course = approximately 42 hours of lecture instruction; 2-3 hours of lab instruction = 1 hour of lecture instruction)

$7 \times 2 = 14$ hours of lecture instruction at OSU prior to the trip

~6 hours per day visiting historical and engineering sites in Greece

$= 6 \times 12 = 72$ hours of equivalent lab instruction = 36 hours of lecture instruction

Professional Conduct

Students are expected to conduct themselves in a professional manner and to abide by the provisions in the Code of Student Conduct. Students should appreciate diversity, and they should conduct themselves professionally with members of the opposite gender and/or from different cultures. Any forms of sexual harassment or intimidation will not be tolerated. The University's Code of Student Conduct and Sexual Harassment Policy are available on the OSU web page. Harassment can occur between two or more students and between students and faculty, and the actions can take place in physical, verbal, or written forms. When a complaint is received, the situation will be investigated by the department and possibly by the police even if the harassment was done anonymously or possibly as a jest. Being found guilty of harassment, even if it was nominally done in jest, can be professionally damaging.

Students are also reminded to represent themselves in a professional manner in any information that they wish to share with the public. This includes information on personal forums available inexpensively on the web. Examples are Instagram and Facebook. Information on these pages is often screened by potential employers, and unprofessional material can have a negative impact on job prospects.

Students with Disabilities

Course materials and exercises can be made available in alternative formats. Please contact the instructor or the Office for Disability Services (ODS) at 292-3307 for further information.

Tentative Lecture Topics

Class	Date	Topics	In Class Work
1	May 9	Assignment of location/topic OSU Librarian to explain research options Lesson 1 <ul style="list-style-type: none"> • Acropolis, • New Acropolis Museum • Syndagma Square 	Research and information loaded to CARMEN Site for “electronic travel guide”. Make changes to research based on instructor input/comments.-
2	May 10	Lesson 2 <ul style="list-style-type: none"> • Lavrion Technical Park • Ancient Corinth Canal • Oracle of Delphi 	Research and information loaded to CARMEN Site for “electronic travel guide”. Make changes to research based on instructor input/comments.-
3	May 11	Lesson 3 <ul style="list-style-type: none"> • Arch Museum of Ancient Mycenae • Epidaurus Theater & Museum • Nafplion • Final pre-departure orientation 	Leslie Callihan -pre departure Research and Discussion
4	May 12	Lesson 4 <ul style="list-style-type: none"> • Arch Museum of Crete • Palace of Knossos • Chania Archaeological Museum 	Research and Discussion
5	May 13	Lesson 5 <ul style="list-style-type: none"> • Tunnel of Eupalinos • Cave of Pythagoras • Temple of Hera (Heraion) • Ephesus 	Research and Discussion
6	May 16	Presentations to class	
7	May 17	Presentations to class	
	May 18-31	Greece trip!	

GE Goals and Expected Learning Outcomes: Cultures and Ideas

Cultures and Ideas

Goals: Students evaluate significant cultural phenomena and ideas in order to develop capacities for aesthetic and historical response and judgment; and interpretation and evaluation.

Expected Learning Outcomes:

1. Students analyze and interpret major forms of human thought, culture, and expression.
2. Students evaluate how ideas influence the character of human beliefs, the perception of reality, and the norms which guide human behavior.

GE Rationale: Cultures and Ideas

a. How do the course objectives address the GE category expected learning outcomes?

This course will provide students the opportunity to research how ancient engineering ideas and techniques were discovered and enacted upon to create either monuments, machinery, and landmarks that would withstand the test of time while providing improvements for mankind. Students will understand the economic, environmental, political, and cultural impact Ancient Greek Engineering had upon the local society. Moreover, during the actual visits to the sites, the students will be able to extend that understanding of the cultural impact to how it relates to Greece's modern culture. Students will construct an integrated perspective on history and the factors that shape human activity. Many of the archaeological /ancient sites to be researched and visited were originally constructed to manifest different religious beliefs or reflect dominance of powerful leaders, thus, studying these edifices will also help the students to understand some of the history of Greece.

b. How do the readings assigned address the GE category expected learning outcomes?

The students will be required to research one of the ancient sites, buildings or cities planned for onsite visits while in Greece. In addition to providing the necessary information and background to events and places surrounding the construction and build methods that integrated Ancient Greek Engineering, the political, national, and religious values will be explored and researched. Students will consider how informed choices about what to keep, what to destroy, what to move, and what to repurpose and revalue in the creation of an ancient Greek structure will be learned. Engineers are required to be culturally sensitive in their designs and to work in a global economy. For this reason, they need to understand things like appropriate technologies and use of locally available materials. By learning about how things were constructed from available materials in ancient times this will greatly enhance their abilities as professional engineers. Therefore, this course will not only help them to understand other cultures and societies, but it will also help them to be better engineers. The requirements for the research that will be graded using APA citing will include:

- Who ordered the construction and cost of construction

- Why this location was selected and dates of construction
- Date of abandonment, if appropriate, and the reason for the abandonment
- Technique of construction to include materials used and any special design features (photographs with sources cited).
- For the religious sites, what historical ancient story was recorded here
- For the archaeological sites and fortified cities, were they ever besieged and the results of the siege. Did they serve their designed purpose?
- Environmental impact and/or changes since the time of construction
- Current impact on Greece's National and local governments to preserve these sites

Where possible, conflicting interpretations (for example, between the assigned readings and the information provided in museum displays or by official tour guides) will require students to adjudicate between different options and apply their own critical skills in producing original analyses.

c. How do the topics address the GE category expected learning outcomes?

The sites chosen for visit, exploration, and discussion in this course are all places that have incorporated engineering methods or ideas unique to Ancient Greece. Each phase of these Ancient sites, reflects the human beliefs, the perception of reality, and the norms of the civilizations as the timeline to modern day progressed. It will be interesting for students to discover the possibility that modern and ancient ideas sometimes were very similar while during other decades or periods varied vastly. These sites are thus ideal for promoting the development of the critical skills outlined above.

d. How do the written assignments address the GE category expected learning outcomes?

While meeting during the seven class times on campus, students will be assigned one of the sites that will be visited and research and write a report that contains the items listed above under item "b." Dr. Gary Downey, at Virginia Tech, has developed an award-winning general education course aimed at helping engineering students to understand what it means to be a global engineering. One of the instructors of the May course, Dr. Sheryl Sorby, is well aware of Dr. Downey's work and knows him personally. We will consult with him as we prepare assignments for the course to ensure that they meet the standards for this type of learning. Three forms of written deliverables will be completed by the students as follows:

1. Each students' completed (formal) reports will be compiled in on an online forum (in CARMEN) for all the class to read in preparation for the trip. During the drafting of these reports, students will work in teams to review, reflect on, and revise their written work. Students will be required to prepare at least two complete drafts of their reports before the final draft is submitted. A hardcopy of these final reports will be created, as well for students' use as a tour guide.
2. A formal presentation will be presented by each student to the class. The formal writing will be outlined in a PowerPoint presentation where content and presentation skills will be assessed.

3. Once visiting each site, students will then reference that forum to add his/her own personal reflections of the site. The daily journal entries will include reactions to the current state of the site, perceived importance to the Modern Greek culture, new ideas relayed from the museum or professional tour guide and any reactions either positive or negative to those ideas.

At the end of the trip, students will be required to write a reflection of what they learned while in-country. They will be prompted to discuss how their perceptions of the country changed through their visit and to also reflect on their understanding of how the history of engineering was manifested in the sites they visited. It is well-known that reflection is an important part of learning. We believe that this final assignment will help them to solidify their learning so that they can have a deeper understanding of the cultural differences and similarities.

e. How does the course aim to sharpen students' response, judgment, and evaluation skills?

Students will learn that Ancient Greeks helped to create edifices, landmarks, and inventions that utilized theories and ideas of scientists and mathematicians of Ancient Greece. Furthermore, these engineering principles will be examined and their influence on modern engineering techniques will be addressed.

Discussions, written assignments, and presentations will require them to hone their ability to articulate these critical responses and develop their own vocabulary, imagery, and modes for expressing them. The individual ideas formed by students on the impact of Ancient Greek Engineering (whether in a museum or visiting the actual site) vs. what was researched makes this an excellent opportunity for evaluation of significant cultural ideas and historical responses.

Assessment Plan for Culture and Ideas for ENGR 57971.8

Culture and Ideas Expected Learning Outcomes	Direct Methods	Follow-up	Indirect Methods	Follow-up	Achieving
Students analyze and interpret major forms of human thought, culture, and expression.	Analysis of the students' report, presentation and journal entries. Students must include information how the site has impacted engineering – if applicable and how profoundly local and world cultures have been impacted by these ancient ideas/monuments and/or people.	If the required information is not included on 80% of the presentations, the instructor and resident director will meet to determine what targets need more specificity and clarification for students to achieve Expected Learning Outcomes.	Opinion survey will be administered at the end of the course. Results of 80% or higher are required to indicate the Learning Outcome has been achieved.	If results are not 80% or higher, the Instructor and Resident director will re-evaluate the survey comments and compare to the learning outcomes to see what improvements can be made.	Records of the presentations and surveys will be kept by the Instructor.
Students evaluate how ideas influence the character of human beliefs, the perception of reality and the norms which guide human behavior.	Analysis of the students' presentation will have to include evidence that students took into account the scholarly agreed upon beliefs of Ancient times when these sites were planned and erected. Moreover, the students will indicate how these ancient monuments continue to affect present day beliefs. Analysis of final student reflections will also enable us to determine the extent to which they achieved this learning objective.	If the required information is not included on 80% of the presentations, the instructor and resident director will meet to determine what targets need more specificity and clarification for students to achieve Expected Learning Outcomes.	Opinion survey will be administered at the end of the course. Results of 80% or higher are required to indicate the Learning Outcome has been achieved.	If results are not 80% or higher, the Instructor and Resident director will re-evaluate the survey comments and compare to the learning outcomes to see what improvements can be made.	Records of the presentations and surveys will be kept by the Instructor.

Metrics of success to be used in the assessment of:

Direct Methods

Report:

Basic: Paper includes:

- Who ordered the construction and cost of construction
- Why this location was selected and dates of construction
- Date of abandonment, if appropriate, and the reason for the abandonment
- Technique of construction to include materials used and any special design features (photographs with sources cited).
- For the religious sites, what historical ancient story was recorded here
- For the archaeological sites and fortified cities, were they ever besieged and the results of the siege. Did they serve their designed purpose?
- Environmental impact and/or changes since the time of construction
- Current impact on Greece's National and local governments to preserve these sites

Intermediate: Paper includes:

- all the Basic information and extends beyond the facts to interpret similarities to current world events and/or to render a supported reaction to how ancient engineering methods utilized in the construction of the student's subject could have been improved or applied today with improvements.

Advanced Paper includes:

- not only the *Intermediate* level but learned more through observation and further study; introduces novel information and contexts in his or her analyses.