

**Math 471: Time, Space and Place,
The History of Mathematics in England from 1500-1850
Syllabus Spring 2012**

Time and Place:	TBD evening meetings plus May trip to London	
Instructor:	Maria Zack, Ph.D.	
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Office Number:	S222	
Office Hours:	Monday	8:30-9:30 a.m.
	Tuesday	9:30-10:30 a.m. and 2-3 p.m.
	Wednesday	8:00-9:00 a.m.
	Thursday	4:00-5:00 p.m.
	Friday	9:00-9:45 a.m.

These are the hours that I will definitely be available. You can come by my office any time and if I am free I will help you (you can also call me at home if you call **before 8:45 p.m.** 760-753-7861). I keep a sign-up sheet on my office door and you can sign up for any empty time slot (there are slots other than my office hours) if you want to be sure that the time is reserved for you. If you have a question or just want to hang out, come by my office.

Texts: *Christopher Wren* by James Chambers (this book is out of print but Amazon has used copies and I have some that you can borrow).

Isaac Newton by James Gleick

Longitude by Dava Sobel (there are multiple versions of this book the most basic paperback is sufficient).

Content:

This course offers students the opportunity to study events in the history of mathematics with the assistance of original artifacts. This course will put the development of English mathematics in the context of specific scientific problems. This course will also allow students to get a feel for the general cultural context of these mathematical and scientific problems and resultant discoveries.

Learning Outcomes:

This class is designed to help develop your abilities in the areas addressed by the following department learning outcomes:

- Students will be able to demonstrate facility with analytical concepts.
- Students will be able to apply their mathematical knowledge to solve problems.
- Students will be able to speak about their work with precision, clarity and organization.

General Aims of the Course:

- To survey the history of English physical science as a context for the development of particular mathematical ideas.
- To understand and experience the culture of England and how it relates to the mathematical personalities and discoveries studied.

- To acquaint the student with specific major museums and some of the items in their collections that relate to the history of mathematics. Some of the museums to be included are The British Museum, National Gallery of Art and The Royal Observatory (Greenwich).
- To acquaint the student with architectural monuments such as the St Paul's Cathedral (London), Hampton Court Palace, The Royal Observatory and The Banqueting House. The focus of this study will be on the development of proportionality and some of the science behind the construction techniques.
- To tap into some of the original documents stored in noted English archives including the Sloan Museum, The University of London and Cambridge so that students may see some of the original work done by notable mathematicians and other physical scientists.

Methods:

1. Once the flight has arrived in England the class will take advantage of well-developed public transportation systems.
2. As the course gets under way the student will be guided to various locations to view and discuss various artifacts. It will be in this context that students will present the information that they have researched. The professor will “fill in” the gaps.
3. Since one of the objectives of the class is the synthesis of the development of mathematics with certain developments in the sciences and events in English history, the students will be required to keep a journal of reactions, notes and guided reflections (questions and other assignments for the trip handed out in a binder).

Class Requirements:

1. During the semester:
 - a. Attendance at the organizational meetings to be held in the evenings.
 - b. The completion of the two pre-trip reading assignments (Newton and Wren).
 - c. The necessary reading and preparation for an oral report to be given on the trip. The topics and materials for the oral reports will be discussed at the group meetings.
 - d. Group writing interaction on the contents of the British Museum
2. During the trip:
 - a. One oral report to be delivered on location (this will be based on the individually assigned reading topics – see 1d above).
 - b. Homework packet from the trip binder that contains reflection on class activities, discussions, lectures and readings (selected articles and *Longitude* by Dava Sobel).
 - c. Participation in discussions at various times and locations on the tour.

Class Logistics:

1. Since the course is offered as a 11-day intensive, it is critical for everyone to make a special effort to be courteous and considerate of fellow group members.
 - a. It is imperative that you be on time for planned events. Tardiness will not be tolerated. Trains and busses leave on time and won't wait for the group.
 - b. You should be prepared in the morning for the day's activities. Returning to the hotel for “forgotten” items will not generally be possible.
2. This is a PLNU course and ALL PLNU rules governing student behavior are applicable.

Grading:

The course grade will be made up of five major components:

Newton and Wren book summaries	20%
British Museum Preparation	10%
Oral report on an assigned topic	20%
Participation in group discussions and activities	25%
Daily journal entries	25%

Points may be lost for behavior that adversely affects the learning experience or others.

Class Enrollment:

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

Academic Accommodations:

While all students are expected to meet the minimum academic standards for completion of this course as established by the instructor, students with disabilities may require academic accommodations. At Point Loma Nazarene University, students requesting academic accommodations must file documentation with the Disability Resource Center (DRC), located in the Bond Academic Center. Once the student files documentation, the Disability Resource Center will contact the student's instructors and provide written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. This policy assists the university in its commitment to full compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities (ADA) Act of 1990, and ADA Amendments Act of 2008, all of which prohibit discrimination against students with disabilities and guarantees all qualified students equal access to and benefits of PLNU programs and activities.

Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.

Academic Honesty:

The Point Loma Nazarene University community holds the highest standards of honesty and integrity in all aspects of university life. Academic honesty and integrity are strong values among faculty and students alike. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose.

Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. Such acts include plagiarism, copying of class assignments, and copying or other fraudulent behavior on examinations. For more details on PLNU's policy go to:

<http://www.pointloma.edu/experience/academics/catalogs/undergraduate-catalog/point-loma-education/academic-policies>

A student who is caught cheating on any item of work will receive a zero on that item and may receive an "F" for the semester. See the PLNU Catalog for a further explanation of the PLNU procedures for academic dishonesty.