

## **PHYS 171 - Planetary and Stellar Astronomy (*COLL 200, NQR*)**

This course is intended for anyone interested in learning about the solar system and the planetary systems around other stars. The setting, is in Cambridge, we will walk in the footsteps of Newton, Hawking, and the royal astronomers in our exploration into how we know what we know about these objects including the bizarre leftovers of dead stars including white dwarfs, neutron stars, and black hole. In addition to our coverage of the scientific ground of the subject, we will also discuss the technological advances that have made major discoveries possible.

Along the way, we will include interludes that explore the wider historical context of astronomical revolutions via exploration of historical periods at the time important Astronomy events. A highlight will be a visit to London's Royal Greenwich Observatory, the definition of the Prime Meridian, and their exhibits global race to viable time-keeping, star charts, and accurate navigation on the Empire's supremacy, and Stonehenge Neolithic observatory. Local to Cambridge, we will tour and study in the Whipple Museum for the History of Science and Cambridge Institute of Astronomy.

(This course is anchored in the NQR domain, and also considers aspects of the ALV and CSI domains.)

## The Physics of Music (PHYS 121, COLL 200 NQR)



What's the purpose for jamming a hand into a French horn?

How can a vocalist possibly be heard from the back of a cathedral without amplification?

Why is it so loud in an arena, which also makes it a terrible place to see a concert?

Why was the organ the renaissance equivalent of the electric guitar?

We will try to answer those and other questions in this class. In a workshop format, we will perform experiments to understand why the structures of different types of instruments (and their environments) produce different tones and how those are perceived by our sense of hearing. This course we will use microphones, acoustic analysis software, physics concepts, our ears, and our body's physiological and psychological responses to sounds and music to analyse different classes of instruments. We will focus on real instruments, but will also look at synthetic and naturalistic sounds. In addition, we will explore the elements of one's perception of music, the limits of music, and how our sensation of sound leads to concepts in composition.

While in England, which has a rich musical tradition, we will perform (or last least make music-like sounds) with a many different instruments, hear some performances, and explore performance venues in Cambridge and other sites during our tours.

(This course is anchored in the NQR domain, and also considers aspects of the ALV and CSI domains.)



## Brexit!

“Brexit means Brexit,” the current British Prime Minister, Theresa May, famously declared during her successful campaign to lead the Conservative Party and UK government following David Cameron’s resignation in the summer of 2016. More than two years on, the country is still debating what Brexit means, even as it prepares to leave the European Union on 29 March 2019. Indeed, it is not even clear what “leave” means, precisely, or whether May will still be Prime Minister by the time this W&M/Cambridge course meets next summer. What is certain is that there will be no lull in the debate surrounding Brexit and its consequences for British and European politics and society. This course considers the background to this crisis in UK-EU relations, the Brexit referendum, and its impact on popular culture and society and implications for the future. We will consider something of the historical context – surveying UK-European relations from the end of WWII to the 2008 Great Recession – and then focus on the Leave and Remain campaigns and whatever is the current state of play in the summer of 2019.

A  
SERMON  
PREACHED IN  
LONDON before the right hono-  
rable the Lord LAVARRE, Lord Gouver-  
nour and Captaine Generall of VIRGINIA,  
and others of his Maiesties Council for that  
Kingdome, and the rest of the Adven-  
turers in that Plantation.

AT THE SAID LORD GENERALL HIS  
leau taking of ENGLAND his Native Countrey,  
and departure for VIRGINIA,  
FEBR. 21. 1609.

By W. CRASHAW Bachelor of Diuinitie,  
and Preacher at the Temple.

Wherein both the lawfulness of that Action is  
maintained, and the necessity thereof is also demon-  
strated, not so much out of the grounds of POLITICS,  
as of HUMANITY, EQUITY, and  
CHRISTIANITY.

Taken from his mouth, and published by direction.

David 11. 1.  
*They that sown many in righteousness, shall also reap the harvest for ever and ever.*

LONDON,  
Printed for William Welfy, and are to be sold  
in Pauls Church-yard at the signe  
of the Swan. 1610.

2.  
GOOD  
NEWES FROM  
VIRGINIA.

SENT TO THE COVNSELL  
and Company of VIRGINIA, resident  
in England.

FROM ALEXANDER WHITAKER, THE  
Minister of HENRICO in  
Virginia.

WHEREIN ALSO IS A NARRATION  
of the present State of that Countrey, and  
see Colours here.

Perused and published by direction  
from that Countrey.

And a Preface prefixed of some matters  
touching that Plantation, very requisite  
to be made knowne.



AT LONDON,  
Imprinted by Iulius & Iuliana for WILLIAM  
WELFY, and are to be sold at his Shop in  
Pauls Church-yard at the signe of the  
Swanne 1613.



## Renaissance Virginia, 1580-1660

Historians have long described the founding of the Virginia colony as a geopolitical and commercial venture, in contrast to the religious motives and utopian ambitions that underpinned the foundation of Massachusetts Bay, Rhode Island, and Pennsylvania. More recently, however, scholars have recovered a literature featuring militant protestant and reform-minded humanist ideologies in the establishment of Virginia. Using Alexander B. Haskell's, *For God, King, & People: Forging Commonwealth Bonds in Renaissance Virginia* (Chapel Hill, 2017) as a key text, this course explores this early colonizing literature. We are particularly interested in the people and writings associated with Cambridge University, a renowned centre of Elizabethan and Jacobean puritan activism. This activism reveals the sense of providential mission at heart of the early colonization of Virginia, and the contemporary sense that God had not kept America hidden for centuries so that men should now merely admire it. Rather, it was believed, that the Almighty had bestowed these New World opportunities so that godly Englishmen could fulfil their duty to establish churches and commonwealths. Grappling with this vision, we will investigate the late sixteenth-century English renaissance, as revealed in puritan tracts, political controversies, and the plays of William Shakespeare.

## FMST 330 - Darwin's Dangerous Idea and Life

In this course we will explore Charles Darwin's ongoing cultural and scientific legacy over 150 years after the completion of *The Origin of the Species*, (completed in 1858 and first published in 1859,) perhaps the most important book written in the history of biology. Our questions about Darwin and Darwinism are not from the perspective of biologists, though, but rather from that of cultural critics. Students will first read *Origin of the Species* itself, and then we will turn to texts which investigate Darwin's life as well as the many debates about and (mis)-readings of Evolution and Natural Selection from Darwin's time until our own. Topics include but are by no means limited to: the importance of the debates (most on-going) about evolution, various representations of Darwin and Darwinism (including its misinterpretation by German, English and American Eugenicists) and the role they play in popular culture, and the implications of Natural Selection itself. (This course is anchored in the CSI domain.)

A highlight of our London excursion will be a tour of the Down House, Darwin's home. Darwin was educated in Cambridge's Christ College, our home for the next summer.