

ASTR 2000: ANCIENT ASTRONOMIES 2:00-3:15pm TUES/THURS; BESC 180 on TUESDAYS;
FISKE PLANETARIUM ON THURSDAYS

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I LOVE TO LOOK AT THE SKY AND SO DID MY ANCESTORS !!!

The purpose of this course is to introduce you to the wonders of the sky as it is accessible to our eyes alone, i.e. "**naked eye astronomy**" as the ancients saw the sky. And because the wonders of the sky offer us both a constant reference through time since prehistory that shaped the world-view of ancient cultures and our continuing method for actually measuring increments of time from prehistory to the present day, naked eye astronomy is an important cultural factor now and in times past. So we will also explore some of the anthropology and archaeology associated with naked eye astronomy.

In this course you will learn how the sky appears to the naked-eye in considerable detail, including the motions of the stars, planets, Sun and Moon relative to the horizons here on the Earth. You will also learn the positions and appearances of some of the most conspicuous constellations of stars. Half of the lectures will be conducted in the Fiske Planetarium to facilitate you learning these basics. A few nighttime optional viewing sessions at the Sommers-Bausch Observatory and the Mountain Research Station are scheduled to this end. In parallel with learning the basics of how the sky looks and moves, we will explore the diverse connections that ancient and indigenous cultures had with the sky. The development and setting of various types of calendars will be studied. Ancient and indigenous mythologies & cosmologies will also be discussed.

TOPICS TO BE COVERED:

The Way the Sky Looks: An Introduction

Daily & Annual Motions of the Sun, Moon, Planets & Stars

Basics of Celestial Navigation and its use in Polynesia

Lunar Phases, the Sun at all Seasons & the Development of Calendars

Setting the Calendar with Monument Alignments: e.g., Stonehenge & the Sundagger

Maya sites & the Maya Calendars.

Eclipses: Lunar & Solar eclipse prediction and the Antikythera Mechanism

Constellations and Star-lore of several Cultures, e.g., Navajo, Lakota, Inca and Aboriginal Australian

The Zodiac and Astrology; Greek/Babylonian and others

Other Naked Eye Phenomena: Meteors, Comets, Supernovae

Ancient Greek Astronomy & Cosmology: Measuring the Cosmos

PREREQUISITES: High School Algebra and Geometry

TEXTBOOKS:

Notes for ASTR 2000 (required)

Observing Projects for ASTR 2000 packet (required)

Early Man and the Cosmos by Evan Hadingham (recommended)

COURSE GRADE: {Midterm Exam, Research Paper (10--15 pages) and Final Exam; Do 2 of 3 (25% + 25%)}; Observing Projects (do 4 out of 7; 25%); Homework (25%); and "Stump the TA/LA" (extra credit)

DETAILED SCHEDULE FOR ASTR 2000: READING SPECIFIED BY PART, CHAPTER (Ch) OR PAGES (pp).
***** ENBOLDEN & ITALACIZED LECTURES ARE SPECIAL ETHNIC ASTRO PRESENTATIONS ****

WEEK OF (MON)	TUESDAY @ BESC 180	THURSDAY @ FISKE	READING	MOON PHASE
AUG 22	INTRODUCTION	DAILY MOTION OF SKY; ETHNIC SKY	NOTES pp. 1-13 EARLY MAN Forward	
AUG 29	CELESTIAL NAV & SKY MOTIONS	POLYNESIAN NAVIGATION	NOTES pp. 14-25 EARLY MAN Ch 1, 12	NEW
SEPT 5	TIME & CLOCKS GNOMON	ANNUAL MOTION OF SUN	NOTES pp. 26-40	
SEPT 12	CALENDAR & SETTING IT	HELICAL RISINGS & INCA CALENDAR	NOTES pp. 41-57 EARLY MAN Ch 2 & 4	FULL
SEPT 19	MOON INTRO & MOTION	LUNAR PHASES	NOTES 58-69 EARLY MAN Ch 5, 7 & 8	
SEPT 26	ECLIPSES	ECLIPSES & STONEHENGE	NOTES pp. 70-85 EARLY MAN Ch 3	NEW
OCT 3	ECLIPSE PREDICTION	CHACO CANYON & SUNDAGGER SITE	EARLY MAN Ch 10, 11 NOTES pp. 86-91	
OCT 10	**MIDTERM EXAM**	ANTIKYTHERA MECHANISM	** REVIEW **	FULL
OCT 17	ZODIAC & PLANETS	VENUS & MAYA CALENDARS	NOTES pp. 92-100	
OCT 24	MAYA CALENDARS	PRECESSION	NOTES pp. 101-104 EARLY MAN Ch 13--16	
Oct 31	ASTROLOGY & ASTRONOMY	PRECESSION & LAKOTA PILGRIMAGE	NOTES pp. 105-118	NEW
NOV 7	ANCIENT COSMOLOGIES	NAVAJO COSMOLOGY	EARLY MAN Ch 17 NOTES pp. 119-131	
NOV 14	CHINESE ASTRO & COSMOLOGY	AUSTRALIAN ABORIGINAL SKIES	NOTES pp. 137-145	FULL
NOV 21	*** FALL BREAK: NO CLASSES ***			
NOV 28	COMETS & METEORS	GREEK ASTRONOMY I	NOTES pp. 132-136 and pp. 146-154	NEW
DEC 5	GREEK ASTRO II	MODERN SKIES	NOTES pp. 155-160	

***** OBSERVING PROJECTS DUE: THURSDAY OCT 20th (2 projects are due) and
 THURSDAY DEC 1st (final 2 projects are due) *****

***** RESEARCH PAPERS (hard copy and e-copy) DUE: THURSDAY DECEMBER 8th *****

***** FINAL EXAM: WEDNESDAY DEC 14th 1:30-4:00 pm in BESC 180 *****