

# Climbing the Distance Ladder to the Big Bang: How astronomers survey the Universe

## Schedule

Faculty: Dragan Huterer (DH), [huterer@umich.edu](mailto:huterer@umich.edu)

Graduate student Instructor: Noah Weaverdyck (NW)

Undergraduate Student Instructor: Brian Cook

WEEK ONE	9:00-10:00	10:00-11:00	11:00-12:00	12:00-1:30	1:30-2:30	2:30-3:30	3:30-4:30	Evening
7/10/2017	Orientation MMSS	LEC: Introduction and overview DH	Planetarium show (Angell H) USI	Lunch	EX: Programming DH	LEC: Observing the Universe DH		
7/11/2017	LAB: Parallax GSI/USI	LEC: Gravity - board lecture DH	LEC: HR diagram NW	Lunch	EX: Starry Night USI	LEC: Cosmic Micr Background DH	VISIT: CMB Detector Lab (McMahon) McMahon	
7/12/2017	LEC: Low mass stars NW	LAB: Cepheids NW/USIs		Lunch	LEC: High mass stars NW	EX: Programming DH	VISIT: NH Museum planetarium	Angell Hall observing
7/13/2017	LAB: Galactic star clusters Brian	LEC: Exoplanets NW	EX: Programming DH	Lunch	LEC: Galaxies NW	EX: Galaxy mergers NW/USI	Quiz Bowl NW/USI	Angell hall, rain date
7/14/2017	Bagels and coffee 9:45 DH	EX: Programming DH		Lunch	LEC: Relativity DH	Research: Introduction NW/DH/USI	LAB: Small Radio Telescope P. Hughes	
WEEK TWO	9:00-10:00	10:00-11:00	11:00-12:00	12:00-1:30	1:30-2:30	2:30-3:30	3:30-4:30	
7/17/2017	EX: Sgr A black hole NW		LEC: Three pillars of cosmology DH	Lunch	LAB: Tully-Fisher (1:30-3:00) NW/USIs	RESEARCH: start on it		
7/18/2017	LEC: Dark matter DH		VISIT: Library Manuscripts	Lunch	Prepare scale model of Local Group			Observing (Peach Mountain)
7/19/2017	Present Local Group model to passersby on Diag			Lunch: admissions presentation	RESEARCH:		LAB: Age of the universe USI	
7/20/2017	LEC: Dark energy DH	RESEARCH: Complete research prepare presentations and handouts		Lunch	RESEARCH: Complete research DH	LEC: Big Bang DH	Quiz Bowl NW/USI	Rain date, Peach Mtn.
7/21/2017	RESEARCH: group final presentations		Lec: Distance ladder, recap, highlights	Lunch				