

AST 111 Labs - Schedule and Topics - Fall 2023

Pages last updated 08/20/2023, see <http://windhorst111lab.asu.edu/>

This schedule is **TENTATIVE** after the second week of classes, and may change weekly! Always refresh your browser or clear your cookies when viewing this schedule.

Please stand by for last minute notices on changes to the class rules and schedule as required by ASU. You sometimes may meet in a **DIFFERENT ROOM EACH WEEK**, see your section schedule below.

Arizona **NEVER** has Daylight Savings Time (DST), so all times below are **ALWAYS** given in Mountain Standard Time (MST). Remember:

MST = PDT - 0 hr = MDT - 1 hr = CDT - 2 hrs = EDT - 3 hrs = GMT - 7 hrs,

Please scroll down to your appropriate section number or click on the section number at the indicated times below. Your TA name and the correct room-numbers for each Mo-Th section during the first week of Labs [Aug. 21-Aug. 24] are given between parentheses:

Mond 7:30pm: [85255](#) (TA: Katherine Elder; 450)

Mond 7:30pm: [85282](#) (TA: Isabel McIntyre; PSH 456)

Mond 8:30pm: [96316](#) (TA: Zach Carpenter; PSH 460)

Tues 7:30pm: [85283](#) (TA: Katherine Elder; PSH 450)

Tues 7:30pm: [85285](#) (TA: Zach Carpenter; PSH 456)

Tues 8:30pm: [96317](#) (TA: Isabel McIntyre; PSH 460)

Wedn 7:30pm: [85284](#) (TA: Zach Carpenter; PSH 450)

Wedn 7:30pm: [85290](#) (TA: Isabel McIntyre; PSH 456)

Wedn 8:30pm: [96318](#) (TA: Evrim Gulser; PSH 460)

Thur 7:30pm: [85287](#) (TA: Ashley Herbst; PSH 450)

Thur 7:30pm: [96315](#) (TA: Laura Pang; PSH 456)

Thur 7:30pm: [85292](#) (TA: Logan Conrad; PSH 460)

Color Key to Labs:

Naked Eye Observing Labs **Telescope Observing Labs** **Planetary Geology Labs** **Computer/Instrument Labs**

Print your Prelab+Lab the night BEFORE you go to class, clicking on the links below, or on the Lab Scripts button. (DON'T print them all at the start of the semester, since some Labs may get updated a few days before they start, especially if weather demands. For the first week of the Labs only, the TA's will provide this printout for you).

ROOM ASSIGNMENTS: see Tables below. Except for the first week of Labs, these are subject to change **AT ANY TIME WITHOUT NOTICE**, so check this URL before going to class every week. The following rules of thumb **ALWAYS** apply when we meet in person at ASU:

(1) ALL sections ALWAYS meet in either one of the rooms [PSH-450](#), [456](#), [457](#), [460](#), [461](#), or [465](#). Unless indicated otherwise below, rooms [PSH 450](#), [456](#), [457](#), [460](#), and [461](#) can be used for the

Computer/Instrument Labs. Note the Space Exploration Lab SES 123 will use the telescope platform on the PSH-5th floor and computer room PSH-457 during several nights (on MWTh) this semester. The AST 111 Labs will share the telescopes with SES 123 those nights. AST sections that do NOT need a computer room can use PSH-465. In case of an unforeseen room schedule conflict, laptops can be used in PSH 465. (Click on Syllabus to see how you can borrow a laptop in temporary exchange for your ID). For some Labs, two versions are available, one of which can be used without a computer room.

(2a) The observing platform for most sections listed above is the one on the PSH-5th floor, east of the double doors next to room PSH-563, which is one floor up from the PSH-4** rooms (use the stairwell in the middle of the PSH-4** corridor for quickest access to the observing platform).

(2b) In the nights where the PSH-5th floor observing platform is expected to get too crowded to accommodate social distancing, the observing platform for some sections will be on the 7th floor of the PSF-wing. Your TA will notify you if this change happens. The PSF-wing is the building due south of PSH. To get to the PSF-7th floor from the lobby of PSF, take the easternmost stairwell up to PSF-7th (or take any elevator to the 6th floor, and then the easternmost stairwell up). The elevator should be used to exit the rooftop from the 7th floor, and only take the stairwell down in emergencies. The stairwell should be lit at night, but please be careful in the dark if you have to take the stairwell.

(3) Follow your TA instructions as to schedule changes --- the Labs planned below for any given date may change due to weather, etc. Even though a different Lab may be done on a given night, it will still be held in the room indicated in the Tables below FOR THAT DATE AND SECTION, unless your TA says otherwise. Please watch for Email instructions from your TA, or signs on the door indicating any last-minute room changes.

(4) Be careful in the dark and use your flashlights! NEVER GO BEYOND THE ROOF WALLS OR FENCES!!

(5) What to do in case of looming thunderstorms? Do NOT use the outside observing platform if thunderstorms or lightning are dangerously close. You will know this is the case if either: (1) you can SEE lightning all around you; or (2) you can HEAR the thunder; or (3) you can see thunderstorms/lightning higher than 30 degrees anywhere above the horizon; or (4) there is less than 15 seconds delay between a lightning bolt and its thunder (they are then within 3 miles); or (5) airplanes no longer take their normal East-West path into/from Sky Harbor. When in doubt, do not use the observing platform.

The URL Schedule below is kept up-to-date, but here's a PDF of the schedule as of Aug. 2023:
[AST111Fall23Sched.pdf](#)

Print your Prelab+Lab BEFORE you go to class, clicking on the links below, or on the Lab Scripts button.

SLN 85255 - Monday 7:30 - 10:00 pm - TA Katherine Elder

DAY	LAB TYPE	ROOM
August 21	Math Refresher Lab	PSH 450
August 28	Impact Cratering	PSH 450
September 04	Labor Day - no Labs	PSH 450
September 11	Intro to the Night Sky	PSH 450
September 18	Intro to Telescopes	PSH 450
September 25	Spectroscopy Lab	PSH 450
October 02	Coordinate Systems	PSH 450
October 09	Fall Break - No Labs	PSH 450
October 16	Mapping Mars	PSH 450
October 23	Lunar Observing	PSH 450
October 30	Orbital Motion	PSH 450
November 06	Extrasolar Planets	PSH 450
November 13	General Observing	PSH 450
November 20	Planetary Atmospheres	PSH 450
November 27	Motion of the Night Sky	PSH 450

SLN 85282 - Monday 7:30 - 10:00 pm - TA Isabel McIntyre

DAY	LAB TYPE	ROOM
August 21	Math Refresher Lab	PSH 456
August 28	Impact Cratering	PSH 456
September 04	Labor Day - no Labs	PSH 456
September 11	Intro to the Night Sky	PSH 456
September 18	Intro to Telescopes	PSH 456
September 25	Spectroscopy Lab	PSH 456
October 02	Coordinate Systems	PSH 456
October 09	Fall Break - No Labs	PSH 456
October 16	Mapping Mars	PSH 456
October 23	Lunar Observing	PSH 456
October 30	Orbital Motion	PSH 456
November 06	Extrasolar Planets	PSH 456
November 13	General Observing	PSH 456
November 20	Planetary Atmospheres	PSH 456
November 27	Motion of the Night Sky	PSH 456

SLN 96316 - Monday 8:30 - 11:00 pm - TA Zachary Carpenter

DAY	LAB TYPE	ROOM
August 21	Math Refresher Lab	PSH 460
August 28	Impact Cratering	PSH 460
September 04	Labor Day - no Labs	PSH 460
September 11	Intro to the Night Sky	PSH 460
September 18	Intro to Telescopes	PSH 460
September 25	Spectroscopy Lab	PSH 460
October 02	Coordinate Systems	PSH 460
October 09	Fall Break - No Labs	PSH 460
October 16	Mapping Mars	PSH 460
October 23	Lunar Observing	PSH 460
October 30	Orbital Motion	PSH 460
November 06	Extrasolar Planets	PSH 460
November 13	General Observing	PSH 460
November 20	Planetary Atmospheres	PSH 460
November 27	Motion of the Night Sky	PSH 460

SLN CLOSED - Monday 8:30 - 11:00 pm - TA TBD

DAY	LAB TYPE	ROOM
August 21	Math Refresher Lab	PSH 461
August 28	Impact Cratering	PSH 461
September 04	Labor Day - no Labs	PSH 461
September 11	Intro to the Night Sky	PSH 461
September 18	Intro to Telescopes	PSH 461
September 25	Spectroscopy Lab	PSH 461
October 02	Coordinate Systems	PSH 461
October 09	Fall Break - No Labs	PSH 461
October 16	Mapping Mars	PSH 461
October 23	Lunar Observing	PSH 461
October 30	Orbital Motion	PSH 461
November 06	Extrasolar Planets	PSH 461
November 13	General Observing	PSH 461
November 20	Planetary Atmospheres	PSH 461
November 27	Motion of the Night Sky	PSH 461

SLN 85283 - Tuesday 7:30 - 10:00 pm - TA Katherine Elder

DAY	LAB TYPE	ROOM
August 22	Math Refresher Lab	PSH 450
August 29	Impact Cratering	PSH 450
September 05	Intro to the Night Sky	PSH 450
September 12	Spectroscopy Lab	PSH 450
September 19	Intro to Telescopes	PSH 450
September 26	Coordinate Systems	PSH 450
October 03	Mapping Mars	PSH 450
October 10	Fall Break - No Labs	PSH 450
October 17	Orbital Motion	PSH 450
October 24	Lunar Observing	PSH 450
October 31	Extrasolar Planets	PSH 450
November 07	Planetary Atmospheres	PSH 450
November 14	General Observing	PSH 450
November 21	Motion of the Night Sky	PSH 450
November 28	BACKUP/Observing	PSH 450

SLN 85285 - Tuesday 7:30 - 10:00 pm - TA Zachary Carpenter

DAY	LAB TYPE	ROOM
August 22	Math Refresher Lab	PSH 456
August 29	Impact Cratering	PSH 456
September 05	Intro to the Night Sky	PSH 456
September 12	Spectroscopy Lab	PSH 456
September 19	Intro to Telescopes	PSH 456
September 26	Coordinate Systems	PSH 456
October 03	Mapping Mars	PSH 456
October 10	Fall Break - No Labs	PSH 456
October 17	Orbital Motion	PSH 456
October 24	Lunar Observing	PSH 456
October 31	Extrasolar Planets	PSH 456
November 07	Planetary Atmospheres	PSH 456
November 14	General Observing	PSH 456
November 21	Motion of the Night Sky	PSH 456
November 28	BACKUP/Observing	PSH 456

SLN 96317 - Tuesday 8:30 - 11:00 pm - TA Isabel McIntyre

DAY	LAB TYPE	ROOM
August 22	Math Refresher Lab	PSH 460
August 29	Impact Cratering	PSH 460
September 05	Intro to the Night Sky	PSH 460
September 12	Spectroscopy Lab	PSH 460
September 19	Intro to Telescopes	PSH 460
September 26	Coordinate Systems	PSH 460
October 03	Mapping Mars	PSH 460
October 10	Fall Break - No Labs	PSH 460
October 17	Orbital Motion	PSH 460
October 24	Lunar Observing	PSH 460
October 31	Extrasolar Planets	PSH 460
November 07	Planetary Atmospheres	PSH 460
November 14	General Observing	PSH 460
November 21	Motion of the Night Sky	PSH 460
November 28	BACKUP/Observing	PSH 460

SLN CLOSED - Tuesday 8:30 - 11:00 pm - TA TBD

DAY	LAB TYPE	ROOM
August 22	Math Refresher Lab	PSH 461
August 29	Impact Cratering	PSH 461
September 05	Intro to the Night Sky	PSH 461
September 12	Spectroscopy Lab	PSH 461
September 19	Intro to Telescopes	PSH 461
September 26	Coordinate Systems	PSH 461
October 03	Mapping Mars	PSH 461
October 10	Fall Break - No Labs	PSH 461
October 17	Orbital Motion	PSH 461
October 24	Lunar Observing	PSH 461
October 31	Extrasolar Planets	PSH 461
November 07	Planetary Atmospheres	PSH 461
November 14	General Observing	PSH 461
November 21	Motion of the Night Sky	PSH 461
November 28	BACKUP/Observing	PSH 461

SLN 85284 - Wednesday 7:30 - 10:00 pm - TA Zachary Carpenter

DAY	LAB TYPE	ROOM
August 23	Math Refresher Lab	PSH 450
August 30	Impact Cratering	PSH 450
September 06	Intro to the Night Sky	PSH 450
September 13	Spectroscopy Lab	PSH 450
September 20	Intro to Telescopes	PSH 450
September 27	Coordinate Systems	PSH 450
October 04	Mapping Mars	PSH 450
October 11	Orbital Motion	PSH 450
October 18	Extrasolar Planets	PSH 450
October 25	Lunar Observing	PSH 450
November 01	Planetary Atmospheres	PSH 450
November 08	Motion of the Night Sky	PSH 450
November 15	General Observing	PSH 450
November 22	Thanksgiving - no Labs	PSH 450
November 29	BACKUP/Observing	PSH 450

SLN 85290 - Wednesday 7:30 - 10:00 pm - TA Isabel McIntyre

DAY	LAB TYPE	ROOM
August 23	Math Refresher Lab	PSH 456
August 30	Impact Cratering	PSH 456
September 06	Intro to the Night Sky	PSH 456
September 13	Spectroscopy Lab	PSH 456
September 20	Intro to Telescopes	PSH 456
September 27	Coordinate Systems	PSH 456
October 04	Mapping Mars	PSH 456
October 11	Orbital Motion	PSH 456
October 18	Extrasolar Planets	PSH 456
October 25	Lunar Observing	PSH 456
November 01	Planetary Atmospheres	PSH 456
November 08	Motion of the Night Sky	PSH 456
November 15	General Observing	PSH 456
November 22	Thanksgiving - no Labs	PSH 456
November 29	BACKUP/Observing	PSH 456

SLN 96318 - Wednesday 8:30 - 11:00 pm - TA Evrim Gulser

DAY	LAB TYPE	ROOM
August 23	Math Refresher Lab	PSH 460
August 30	Impact Cratering	PSH 460
September 06	Intro to the Night Sky	PSH 460
September 13	Spectroscopy Lab	PSH 460
September 20	Intro to Telescopes	PSH 460
September 27	Coordinate Systems	PSH 460
October 04	Mapping Mars	PSH 460
October 11	Orbital Motion	PSH 460
October 18	Extrasolar Planets	PSH 460
October 25	Lunar Observing	PSH 460
November 01	Planetary Atmospheres	PSH 460
November 08	Motion of the Night Sky	PSH 460
November 15	General Observing	PSH 460
November 22	Thanksgiving - no Labs	PSH 460
November 29	BACKUP/Observing	PSH 460

SLN CLOSED - Wednesday 8:30 - 11:00 pm - TA TBD

DAY	LAB TYPE	ROOM
August 23	Math Refresher Lab	PSH 461
August 30	Impact Cratering	PSH 461
September 06	Intro to the Night Sky	PSH 461
September 13	Spectroscopy Lab	PSH 461
September 20	Intro to Telescopes	PSH 461
September 27	Coordinate Systems	PSH 461
October 04	Mapping Mars	PSH 461
October 11	Orbital Motion	PSH 461
October 18	Extrasolar Planets	PSH 461
October 25	Lunar Observing	PSH 461
November 01	Planetary Atmospheres	PSH 461
November 08	Motion of the Night Sky	PSH 461
November 15	General Observing	PSH 461
November 22	Thanksgiving - no Labs	PSH 461
November 29	BACKUP/Observing	PSH 461

SLN 85287 - Thursday 7:30 - 10:00 pm - TA Ashley Herbst

DAY	LAB TYPE	ROOM
August 17	No Labs	PSH 450
August 24	Math Refresher Lab	PSH 450
August 31	Impact Cratering	PSH 450
September 07	Intro to the Night Sky	PSH 450
September 14	Spectroscopy Lab	PSH 450
September 21	Intro to Telescopes	PSH 450
September 28	Coordinate Systems	PSH 450
October 05	Mapping Mars	PSH 450
October 12	Orbital Motion	PSH 450
October 19	Extrasolar Planets	PSH 450
October 26	Lunar Observing	PSH 450
November 02	Planetary Atmospheres	PSH 450
November 09	Motion of the Night Sky	PSH 450
November 16	General Observing	PSH 450
November 23	Thanksgiving - no Labs	PSH 450
November 30	No Labs	PSH 450

SLN 96315 - Thursday 7:30 - 10:00 pm - TA Laura Pang

DAY	LAB TYPE	ROOM
August 17	No Labs	PSH 456
August 24	Math Refresher Lab	PSH 456
August 31	Impact Cratering	PSH 456
September 07	Intro to the Night Sky	PSH 456
September 14	Spectroscopy Lab	PSH 456
September 21	Intro to Telescopes	PSH 456
September 28	Coordinate Systems	PSH 456
October 05	Mapping Mars	PSH 456
October 12	Orbital Motion	PSH 456
October 19	Extrasolar Planets	PSH 456
October 26	Lunar Observing	PSH 456
November 02	Planetary Atmospheres	PSH 456
November 09	Motion of the Night Sky	PSH 456
November 16	General Observing	PSH 456
November 23	Thanksgiving - no Labs	PSH 456
November 30	No Labs	PSH 456

SLN 85292 - Thursday 7:30 - 10:00 pm - TA Logan Conrad

DAY	LAB TYPE	ROOM
August 17	No Labs	PSH 460
August 24	Math Refresher Lab	PSH 460
August 31	Impact Cratering	PSH 460
September 07	Intro to the Night Sky	PSH 460
September 14	Spectroscopy Lab	PSH 460
September 21	Intro to Telescopes	PSH 460
September 28	Coordinate Systems	PSH 460
October 05	Mapping Mars	PSH 460
October 12	Orbital Motion	PSH 460
October 19	Extrasolar Planets	PSH 460
October 26	Lunar Observing	PSH 460
November 02	Planetary Atmospheres	PSH 460
November 09	Motion of the Night Sky	PSH 460
November 16	General Observing	PSH 460
November 23	Thanksgiving - no Labs	PSH 460
November 30	No Labs	PSH 456

SLN CLOSED - Thursday 7:30 - 10:00 pm - TA TBD

DAY	LAB TYPE	ROOM
August 17	No Labs	PSH 461
August 24	Math Refresher Lab	PSH 461
August 31	Impact Cratering	PSH 461
September 07	Intro to the Night Sky	PSH 461
September 14	Spectroscopy Lab	PSH 461
September 21	Intro to Telescopes	PSH 461
September 28	Coordinate Systems	PSH 461
October 05	Mapping Mars	PSH 461
October 12	Orbital Motion	PSH 461
October 19	Extrasolar Planets	PSH 461
October 26	Lunar Observing	PSH 461
November 02	Planetary Atmospheres	PSH 461
November 09	Motion of the Night Sky	PSH 461
November 16	General Observing	PSH 461
November 23	Thanksgiving - no Labs	PSH 461
November 30	No Labs	PSH 461

Note that all four nights of the week (MoTuWeTh) hold 12 regular scheduled Lab classes + one Math Refresher Lab during the semester. The last regular nights of Lab classes are Thursday Nov. 30. Scheduled backup dates (Lab Type = Backup) are for in-class make-up work, or if needed to repeat/complete labs that were previously affected by bad weather. They also serve as a backup date this semester for the General Observing or Lunar Observing Labs, which need clear weather. No regular Lab classes are scheduled for the week of finals (Dec. 4--7).

Planetarium shows will be given for the AST 111 Lab, this semester associated with the Coordinate Systems Labs. Your TA's will announce the Planetarium show that you will attend this semester during class time on MTWTh from 8:30-9:10 pm, during the night that the Coordinate Systems Lab is done by your section. (Specifically this semester: Planetarium shows will all start at 8:30 pm). Please follow your TA's instructions on the actual Planetarium Show times.

These shows will be held in the Marston Exploration Theater auditorium of ISTB-4. This building is just west of Parking Structure 4, South of the Biodesign Building, and its entrance is on the building's north-side. It's about a 10 min walk from the PSH/PSF. For more information, click on Contacts button or see: <https://sese.asu.edu/community-engagement/3d-astronomy>

Have a good semester!