

AST 111 Labs - Schedule and Topics - Fall 2021

Pages last updated 08/31/2021, 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 to address the COVID19 pandemic. All AST 111 Labs in Fall 2021 will be done in person and not by Zoom. You may sometimes meet in a **DIFFERENT ROOM**, 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. 20-Aug. 23] are given between parentheses. (Zoom recordings may be available only for those students directly affected by COVID19 with your TA's permission; click COVID19 rules). Zoom links for your TA's office hours are also listed:

Mond 7:30pm: [92609](#) (TA: Angelica Berner; PSH 450) <https://asu.zoom.us/j/8833232819>

Mond 7:30pm: [92663](#) (TA: Austin Ware; PSH 460) <https://asu.zoom.us/j/99226222193>

Mond 8:30pm: [92664](#) (TA: Zoe Horvath; PSH 461) <https://asu.zoom.us/j/92878986125>

Mond 8:30pm: [Closed](#) (TA: TBD PSH 456) <https://asu.zoom.us/j/95000984910>

Tues 7:30pm: [92665](#) (TA: Megan Householder; PSH 450) <https://asu.zoom.us/my/megan.householder>

Tues 7:30pm: [92666](#) (TA: Skylar Grayson; PSH 456) <https://asu.zoom.us/j/3048373542>

Tues 8:30pm: [92668](#) (TA: Heather Hewitt; PSH 461) <https://asu.zoom.us/j/7051883088>

Tues 8:30pm: [92669](#) (TA: Izzy Huckabee; PSH 465) <https://asu.zoom.us/j/5559187679>

Tues 7:30pm: [92667](#) (TA: Austin Ware; PSH 460) <https://asu.zoom.us/j/99226222193>

Wedn 7:30pm: [92670](#) (TA: Skylar Grayson; PSH 450) <https://asu.zoom.us/j/3048373542>

Wedn 7:30pm: [92671](#) (TA: Heather Hewitt; PSH 456) <https://asu.zoom.us/j/7051883088>

Wedn 8:30pm: [92672](#) (TA: Angelica Berner; PSH 460) <https://asu.zoom.us/j/8833232819>

Wedn 8:30pm: [92673](#) (TA: Austin Ware; PSH 461) <https://asu.zoom.us/j/99226222193>

Thur 7:30pm: [92674](#) (TA: Heather Hewitt; PSH 450) <https://asu.zoom.us/j/7051883088>

Thur 7:30pm: [Closed](#) (TA: TBD; PSH 461) <https://asu.zoom.us/j/92565223589>

Thur 8:30pm: [92675](#) (TA: Megan Householder; PSH 456) <https://asu.zoom.us/my/megan.householder>

Thur 8:30pm: [92676](#) (TA: Skylar Grayson; PSH 460) <https://asu.zoom.us/j/3048373542>

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 be careful in the dark when taking the stairs.

(2c) During fall 2021, there is significant construction with scaffolding around the PSF and PSH-wings. Hence, enter the PSH-wing from the North-side only via University Blvd, using the glass doors on the West-side of the breeze-way in the middle of the building. PSH is just East of the pedestrian archway across University. The PSF-wing is just South of PSH, but enter it through the doors on the South side, or the from the North-East or making your way past the scaffolding into the East door. See also: [PSF+PSH-wing Access Restrictions for Fall 2021](#) and [PSF+PSH-wing Access Restrictions Map](#).

(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. Use your flashlights! NEVER GO BEYOND THE ROOF WALLS/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. 2021: [AST111lab_Fall21Sched.pdf](#)

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

SLN 92609 - Monday 7:30 - 10:00 pm - TA Angelica Berner

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

SLN 92663 - Monday 7:30 - 10:00 pm - TA Austin Ware

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

SLN 92664 - Monday 8:30 - 11:00 pm - TA Zoe Horvath

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

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

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

SLN 92665 - Tuesday 7:30 - 10:00 pm - TA Megan Householder

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

SLN 92666 - Tuesday 7:30 - 10:00 pm - TA Skylar Grayson

DAY	LAB TYPE	ROOM
August 24	Math Refresher Lab	PSH 456
August 31	Intro to the Night Sky	PSH 456
September 07	Impact Cratering	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	Fall Break - No Labs	PSH 460
October 19	Orbital Motion	PSH 460
October 26	General Observing	PSH 456
November 02	Extrasolar Planets	PSH 456
November 09	Planetary Atmospheres	PSH 456
November 16	Lunar Observing	PSH 456
November 23	Motion of the Night Sky	PSH 456
November 30	BACKUP/Observing	PSH 460
December 07	No Labs	PSH 456

SLN 92668 - Tuesday 8:30 - 11:00 pm - TA Heather Hewitt

DAY	LAB TYPE	ROOM
August 24	Math Refresher Lab	PSH 461
August 31	Intro to the Night Sky	PSH 461
September 07	Impact Cratering	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	Fall Break - No Labs	PSH 461
October 19	Orbital Motion	PSH 461
October 26	General Observing	PSH 461
November 02	Extrasolar Planets	PSH 461
November 09	Planetary Atmospheres	PSH 461
November 16	Lunar Observing	PSH 461
November 23	Motion of the Night Sky	PSH 461
November 30	BACKUP/Observing	PSH 461
December 07	No Labs	PSH 461

SLN 92669 - Tuesday 8:30 - 11:00 pm - TA Izzy Huckabee

DAY	LAB TYPE	ROOM
August 24	Math Refresher Lab	PSH 465
August 31	Intro to the Night Sky	PSH 457
September 07	Spectroscopy Lab	PSH 457
September 14	Intro to Telescopes	PSH 457
September 21	Impact Cratering	PSH 457
September 28	Mapping Mars	PSH 457
October 05	Coordinate Systems	PSH 457
October 12	Fall Break - No Labs	PSH 457
October 19	General Observing	PSH 457
October 26	Orbital Motion	PSH 457
November 02	Extrasolar Planets	PSH 457
November 09	Planetary Atmospheres	PSH 457
November 16	Lunar Observing	PSH 457
November 23	Motion of the Night Sky	PSH 457
November 30	BACKUP/Observing	PSH 457
December 07	No Labs	PSH 457

SLN 92670 - Wednesday 7:30 - 10:00 pm - TA Skylar Grayson

DAY	LAB TYPE	ROOM
August 25	Math Refresher Lab	PSH 450
September 01	Intro to the Night Sky	PSH 450
September 08	Impact Cratering	PSH 450
September 15	Spectroscopy Lab	PSH 450
September 22	Intro to Telescopes	PSH 450
September 29	Coordinate Systems	PSH 450
October 06	Mapping Mars	PSH 450
October 13	Lunar Observing	PSH 450
October 20	Orbital Motion	PSH 450
October 27	Extrasolar Planets	PSH 450
November 03	Planetary Atmospheres	PSH 450
November 10	Motion of the Night Sky	PSH 450
November 17	General Observing	PSH 450
November 24	Thanksgiving - no Labs	PSH 450
December 01	BACKUP/Observing	PSH 450
December 08	No Labs	PSH 450

SLN 92671 - Wednesday 7:30 - 10:00 pm - TA Heather Hewitt

DAY	LAB TYPE	ROOM
August 25	Math Refresher Lab	PSH 456
September 01	Intro to the Night Sky	PSH 456
September 08	Impact Cratering	PSH 456
September 15	Spectroscopy Lab	PSH 456
September 22	Intro to Telescopes	PSH 456
September 29	Coordinate Systems	PSH 456
October 06	Mapping Mars	PSH 456
October 13	Lunar Observing	PSH 456
October 20	Orbital Motion	PSH 456
October 27	Extrasolar Planets	PSH 456
November 03	Planetary Atmospheres	PSH 450
November 10	Motion of the Night Sky	PSH 456
November 17	General Observing	PSH 456
November 24	Thanksgiving - no Labs	PSH 456
December 01	BACKUP/Observing	PSH 456
December 08	No Labs	PSH 456

SLN 92672 - Wednesday 8:30 - 11:00 pm - TA Angelica Berner

DAY	LAB TYPE	ROOM
August 25	Math Refresher Lab	PSH 460
September 01	Intro to the Night Sky	PSH 460
September 08	Spectroscopy Lab	PSH 460
September 15	Intro to Telescopes	PSH 460
September 22	Impact Cratering	PSH 460
September 29	Mapping Mars	PSH 460
October 06	Coordinate Systems	PSH 460
October 13	Lunar Observing	PSH 460
October 20	Orbital Motion	PSH 460
October 27	Extrasolar Planets	PSH 460
November 03	Planetary Atmospheres	PSH 460
November 10	General Observing	PSH 460
November 17	Motion of the Night Sky	PSH 460
November 24	Thanksgiving - no Labs	PSH 460
December 01	BACKUP/Observing	PSH 460
December 08	No Labs	PSH 460

SLN 92673 - Wednesday 8:30 - 11:00 pm - TA Austin Ware

DAY	LAB TYPE	ROOM
August 25	Math Refresher Lab	PSH 461
September 01	Intro to the Night Sky	PSH 461
September 08	Spectroscopy Lab	PSH 461
September 15	Intro to Telescopes	PSH 461
September 22	Impact Cratering	PSH 461
September 29	Mapping Mars	PSH 461
October 06	Coordinate Systems	PSH 461
October 13	Lunar Observing	PSH 461
October 20	Orbital Motion	PSH 461
October 27	Extrasolar Planets	PSH 461
November 03	Planetary Atmospheres	PSH 461
November 10	General Observing	PSH 461
November 17	Motion of the Night Sky	PSH 461
November 24	Thanksgiving - no Labs	PSH 461
December 01	BACKUP/Observing	PSH 461
December 08	No Labs	PSH 461

SLN 92674 - Thursday 7:30 - 10:00 pm - TA Heather Hewitt

DAY	LAB TYPE	ROOM
August 19	No Labs	PSH 450
August 26	Math Refresher Lab	PSH 450
September 02	Intro to the Night Sky	PSH 450
September 09	Impact Cratering	PSH 450
September 16	Spectroscopy Lab	PSH 450
September 23	Intro to Telescopes	PSH 450
September 30	Coordinate Systems	PSH 450
October 07	Mapping Mars	PSH 450
October 14	Lunar Observing	PSH 450
October 21	Orbital Motion	PSH 450
October 28	Extrasolar Planets	PSH 450
November 04	Planetary Atmospheres	PSH 450
November 11	Veterans Day - No Labs	PSH 450
November 18	Motion of the Night Sky	PSH 450
November 25	Thanksgiving - no Labs	PSH 450
December 02	General Observing	PSH 450

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

DAY	LAB TYPE	ROOM
August 19	No Labs	PSH 461
August 26	Math Refresher Lab	PSH 461
September 02	Intro to the Night Sky	PSH 461
September 09	Spectroscopy Lab	PSH 461
September 16	Intro to Telescopes	PSH 461
September 23	Impact Cratering	PSH 461
September 30	Mapping Mars	PSH 461
October 07	Coordinate Systems	PSH 461
October 14	Lunar Observing	PSH 461
October 21	Orbital Motion	PSH 461
October 28	Extrasolar Planets	PSH 461
November 04	Planetary Atmospheres	PSH 461
November 11	Veterans Day - No Labs	PSH 461
November 18	General Observing	PSH 461
November 25	Thanksgiving - no Labs	PSH 461
December 02	Motion of the Night Sky	PSH 461

SLN 92675 - Thursday 8:30 - 11:00 pm - TA Megan Householder

DAY	LAB TYPE	ROOM
August 19	No Labs	PSH 456
August 26	Math Refresher Lab	PSH 456
September 02	Intro to the Night Sky	PSH 456
September 09	Spectroscopy Lab	PSH 456
September 16	Intro to Telescopes	PSH 456
September 23	Impact Cratering	PSH 456
September 30	Mapping Mars	PSH 456
October 07	Coordinate Systems	PSH 456
October 14	Lunar Observing	PSH 456
October 21	Orbital Motion	PSH 456
October 28	Extrasolar Planets	PSH 456
November 04	Planetary Atmospheres	PSH 456
November 11	Veterans Day - No Labs	PSH 456
November 18	General Observing	PSH 456
November 25	Thanksgiving - no Labs	PSH 456
December 02	Motion of the Night Sky	PSH 456

SLN 92676 - Thursday 8:30 - 11:00 pm - TA Skylar Grayson

DAY	LAB TYPE	ROOM
August 19	No Labs	PSH 460
August 26	Math Refresher Lab	PSH 460
September 02	Intro to the Night Sky	PSH 460
September 09	Impact Cratering	PSH 460
September 16	Spectroscopy Lab	PSH 460
September 23	Intro to Telescopes	PSH 460
September 30	Coordinate Systems	PSH 460
October 07	Mapping Mars	PSH 460
October 14	Lunar Observing	PSH 460
October 21	Orbital Motion	PSH 460
October 28	Extrasolar Planets	PSH 460
November 04	Planetary Atmospheres	PSH 460
November 11	Veterans Day - No Labs	PSH 460
November 18	Motion of the Night Sky	PSH 460
November 25	Thanksgiving - no Labs	PSH 460
December 02	General Observing	PSH 460

SLN 92667 - Tuesday 7:30 - 10:00 pm - TA Austin Ware

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

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 Dec. 02. (Two Thursdays are holidays this semester: Veterans Day November 11, and Thanksgiving November 25). 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. 6--9).

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](http://sese.asu.edu/planetarium/) button or see: <http://sese.asu.edu/planetarium/>

Have a good semester!