

2015

Astronomy 101-001 The Solar System Fall 2015

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Parkland College – Fall 2015

Syllabus for Astronomy 101: The Solar System

Section 001

Instructor: Katrina Wefel
Email: kwefel@parkland.edu

Student Office Hours: Monday, Wednesday 11 am - noon; in L-240
Office Phone: 353-2628 *during office hours only*

Required Materials:

Text: “Discovering the Essential Universe” by Comins, 6th edition
The text is available for purchase *or* rental in the Parkland Bookstore
The text is also on reserve in the Parkland library
An e-book is available for a 180-day rental at the bookstore, or from this link:
<http://www.macmillanhighered.com/launchpad/deu6e>

Other materials: i>Clicker (generation 1 or 2) or REEF polling app (<http://iclicker.com>)
Lab packet (available at the Parkland Bookstore) – *be sure you are buying the 101 packet!*

Class Homepage: <http://natsci.parkland.edu/ast/101/> (also see <https://cobra.parkland.edu>)

Observing Hotline: 373-3782 ext 6407

Class Times: Mon, Wed, Fri 10 am; L146 **Laboratory Times:** Tuesdays, 10 am; L146

Final Exam: Thursday Dec 17, 8-10 am, L146 (*Please note that the exam schedule in the printed catalog is inaccurate!*)

Disability Services:

If you believe you have a disability for which you may need an academic accommodation (e.g. an alternate testing environment, use of assistive technology or other classroom assistance), please contact: Cathy Robinson, Room U264, 217-353-2082, crobinson@parkland.edu

Course Policies

Attendance and Make-Up:

You are required to have in class each day an i-Clicker, or a device with the REEF polling app. After the first week, these will be used to take attendance, and to keep track of participation points. If you do not have your i-Clicker with you, you will be considered absent. You can be absent up to three days in the semester without affecting your participation grade.

You are responsible for all material and activities covered in class. Missing lab activities generally can not be made up. If you know in advance that you must miss a lab, talk to me about it a couple of weeks before; there may be some possible accommodation.

Drops/Withdrawals:

If you have not attended the first week of class, you will be dropped on the Census Date (August 31) with no refund of tuition or fees.

At the midterm (October 16), your progress will be assessed. Be sure you have satisfied the following criteria by that date:

1. Complete at least six labs.
2. Miss fewer than six classes.
3. Turn in at least three weeks of observations for the lunar project.
4. Take at least 2 quizzes.

If you are dropped at midterm and you wish to be admitted back into the class, you must complete the missing assignments before being reinstated into the class.

After the midterm, you should not plan on an instructor withdrawal if you want to withdraw from the course. You are ultimately responsible for your own withdrawal by the withdrawal date, Friday, December 4. Non-attendance will result in an F if you don't withdraw yourself.

Planetarium:

We'll have several class meetings in the planetarium during the semester. These dates are listed on the schedule, and will be announced in class. Please be on time.

Do not bring food or drinks to the planetarium, and keep your lights/phones off when the dome is dark.

Cobra and Email:

We will extensively make use of the online learning system, Cobra Learning. This will be a central spot for organizing the class, including links for labs, due dates, handouts, etc. You will use Cobra to turn in many assignments, take quizzes, and monitor your grades.

Cobra has an email system that I will be utilizing extensively. To be sure that you see messages in a timely manner, I would suggest that you set up your Cobra email to forward messages to whatever email account you check frequently.

Academic Honesty:

Many labs and assignments done in collaboration, but any work you turn in with your name on it must be your own work. See [my academic honesty](#) page for further clarification on what is acceptable, and what is not. You should also familiarize yourself with Parkland College's policies in the Syllabus Addendum, and in the [academic honesty](#) section in the Student Policies and Procedures Manual.

Grading

| Graded assignments: | | | |
|--|------------|---|---|
| Pre/Post Assessment, Syllabus Quiz | 30 points | 900 - 1000 Points | A |
| Labs (top 13 of 14) | 260 points | 800 - 899 Points | B |
| Dark Sky Observations | 100 points | 700 - 799 Points | C |
| Quizzes | 280 points | 600 - 699 Points | D |
| Sky Quiz (two quizzes plus two drills) | 50 points | < 600 Points | F |
| Moon Cycle Project | 80 points | Please note: in order to earn a passing grade for this class, your lab grade must be at least 60%, or 156 points. | |
| In-Class and Participation | 90 points | | |
| Final Exam | 110 points | | |

Homework:

There will be no regularly assigned homework. You are encouraged to look through the questions at the end of each chapter. Remember that some of the quiz questions will come directly from the reading in the text.

Stellarium:

Stellarium is a "planetarium" program which allows you to view a simulated sky. The Stellarium software will be used in class, is required for some of the labs, and will also be used for your class project. You can download the software for free at <http://stellarium.org>. The software is also installed on the Library computers.

Quizzes and Final Exam:

There will be a timed, 40 point quiz every other week that you'll take online on Cobra. They are available starting Friday afternoon, through Monday evening (see class schedule). You will have an opportunity to re-take each completed quiz to improve your grade. Quizzes cover the recent class material, while the final exam is cumulative.

Participation:

Nearly every day, there will be questions in class that you will respond to using the i>clicker; points are for participation. In addition, there will be an occasional project or activity done in class (usually in small groups) or online. You will get points for completing this activity. In-class activities or participation points cannot be made up. You can be absent (or forget your clicker) up to three times without penalty.

Labs: Tuesdays in L146

See the "[Lab Procedures](#)" page for more information. You are expected to attend every lab.

A few labs will meet in the computer lab, M108. See the lab schedule for details.

Sky Drills and Sky Quizzes:

You will be quizzed on constellations, asterisms, and other sky objects in the planetarium. A list of the objects you will need to know is given on Cobra and on the [class web page](#).

A drill session will be given during class to prepare you for each Sky Quiz. Attendance at each drill is worth 5 points. Dates for these drills are given in the schedule and on the "Sky Quizzes" page. Optional extra practices will be held and are also listed on the "Sky Quizzes" page.

The Sky Quizzes will be held in the planetarium on Monday, October 5 and Friday, October 3 during our normal class time. Each Sky Quiz is worth 25 points.

Moon Cycle Observing Project:

An observing research [project](#) will be completed during the semester. The project is worth 80 points. The project involves making independent observations of the moon over a 6 week period, and determining the period of the moon from your own observations. It will conclude with analysis of the data you have collected, and a final written report. Details of the project can be found online, and will be covered in class.

Observing Sessions:

The dark sky observing session takes place at the Champaign-Urbana Astronomical Society Observatory, which is located Southwest of Champaign. You will be required to sign up for the session you wish to attend. Dates and times for these observations will be provided in class and on Cobra. These are scheduled between the last quarter and new moon phases. See the [Observing Schedule](#) page for more information.

Attending one dark sky observing session is a requirement for this course.

All observing sessions are "weather permitting." An observing hotline is available at 373-3782 ext. 6407. Call before coming to the session.

A typed report (worth 20 points) must be turned in within one week of the observing session. The report should be at least 800 words (around 3 pages). The report should include a description of the observing conditions, a summary of what you did during the session, a description of each object observed, and a definition of each type of object observed (i.e. if you observe a planetary nebula, write a definition of a planetary nebula). You will receive 80 points for simply attending the observing session, but you will not receive any points until the report is turned in.

To help get the observing project underway, you are strongly encouraged to attend a lunar observing session on the Parkland College campus. This is an optional observing session; you can earn 10 points extra credit for attending.

Extra Credit:

Other extra credit options may be found on the [Extra Credit](#) page.

Ast 101 Tentative Class Schedule Fall 2015

| Week | Monday | Tuesday (lab) | Wednesday | Friday | Topics/Reading |
|-------|--|------------------------------------|---------------------------------|--|--|
| 8/24 | | Lab Intro and Stellarium Tutorial* | | Class in Planetarium | Astronomical units, distances, the night sky. 1-5 to 1-7, 1-14, 2-1 |
| 8/31 | | Scientific Method* | | | Motions in the sky, seasons, calendars. 1-8 to 1-10 |
| 9/7 | No Classes: Labor Day | Seasons | | Quiz 1 Available | Lunar phases, eclipses, ancient astronomy. 1-11 to 1-13 |
| 9/14 | <i>Begin observing project</i> | Lunar Phases and Eclipses | | | Development of the geocentric model, Kepler, Galileo, Newton. 2-1 to 2-6 |
| 9/21 | Class in Planetarium <i>Observations due</i> | Retrograde Motion*** | | Quiz 2 Available | Gravity, planetary orbits, intro to light. 2-6 to 2-8, 3-1 to 3-4 |
| 9/28 | Planetarium: Sky Drill 1 <i>Observations due</i> | Telescopes | Make-up drill, 3 pm | | Telescopes. 3-5 to 3-11 |
| 10/5 | Planetarium: Sky Quiz 1 <i>Observations due</i> | Light and Spectra | | Quiz 3 Available | Light and spectra. 3-12 to 3-18 |
| 10/12 | <i>Observations due</i> | Hunt for Alien Worlds | Planetarium: Sky Drill 2 | Mid-Semester | Solar system overview, comparative planetology. 4-1 to 4-10, 6-1 |
| 10/19 | <i>Observations due</i> | Meteors: Fire in the Sky* | Make-up drill, 3 pm | Planetarium: Sky Quiz 2 Quiz 4 Available | Solar nebula, extrasolar planets. 5-1 to 5-10 |
| 10/26 | <i>Observations due</i> | Lunar project analysis*** | | | Earth and Moon. 6-2 to 6-10 |
| 11/2 | | Magnetic Storm* | | Quiz 5 Available | Mercury, Venus, Mars. 6-11 to 6-25 |
| 11/9 | | Future Tourist Traps | | | Jovians, Jupiter, Saturn. 7-1 to 7-13 |
| 11/16 | <i>Project Report Due</i> | Finding Life Beyond Earth* | | Quiz 6 Available | Uranus, Neptune, dwarf planets. 7-14 to 7-17, 8-1 to 8-2 |
| 11/23 | | Kuiper Belt Discovery | | Thanksgiving holiday | Asteroids, comets, meteors. 8-3 to 8-13 |
| 11/30 | | Solar Observing | | Quiz 7 Available <i>last day to withdraw with "W" is Dec 4</i> | The Sun. 9-1 to 9-10 |
| 12/7 | | No lab | | | SETI, special topics, review. |
| 12/14 | | | | THURSDAY, December 17, 8-10 am: Final Exam | |

* If you have a laptop, please bring it to lab this day.

*** These labs will be in M108, the computer lab. You may also choose to bring your laptop.