

2015

# Astronomy 101-001 The Solar System Spring 2015

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# Parkland College – Spring 2015

## Syllabus for Astronomy 101: The Solar System

### Section 001

**Instructor:** Katrina Wefel  
**Email:** [kwefel@parkland.edu](mailto: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  
An e-book is available for a 180-day rental at the bookstore  
Other materials: i>Clicker (generation 1 or 2)  
Lab packet (available at the Parkland Bookstore)

**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 May 14, 8-10 am, L146

#### **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 X148, 217-353-2082, [crobinson@parkland.edu](mailto:crobinson@parkland.edu)

## Course Policies

#### **"i>Clicker":**

You are required to have an i-Clicker with you in class each day. 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.

#### **Attendance and Make-Up:**

Attendance records will be kept each day, via i-Clicker. 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.

#### **Census Date Rosters and Midterm:**

As you may know, instructors are required to drop any students who are not actively pursuing instruction in the class after the first week of the semester. Students who are "actively pursuing instruction" must meet the following criteria by Monday, January 19:

1. Miss fewer than three classes.
2. Complete the Pre-Assessment and Syllabus Quiz
3. Complete and turn in the first lab.

Instructors may also drop students who are not making satisfactory progress in the course at midterm. Students must satisfy the following criteria by Friday, March 6:

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 the 10 day point or at midterm and you wish to be admitted back into the class, you must complete the missing assignments before being reinstated into the class.

**Drops/Withdrawals:**

If you have not attended regularly in the first two weeks of class, you will be dropped with no refund of tuition or fees. Afterwards, 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, May 1. Non-attendance will result in an F if you don't withdraw yourself.

**Academic Honesty:**

Many labs and assignments will be worked on in groups, 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.

**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.

**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 Friday, February 22 and Friday, March 8 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 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.

**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 Spring 2015

Week	Monday	Tuesday (lab)	Wednesday	Friday	Topics/Reading
1/12		Lab Intro and Stellarium Tutorial***			Astronomical units, distances, the night sky. 1-5 to 1-7, 1-14, 2-1
1/19	No Classes: Dr. Martin Luther King Jr. Day	Scientific Method***	Class in <b>Planetarium</b>		Motions in the sky, seasons, calendars. 1-8 to 1-10
1/26		Seasons		<i>Quiz 1 Available</i>	Lunar phases, eclipses, ancient astronomy. 1-11 to 1-13
2/2	<i>Begin <a href="#">observing project</a></i>	Lunar Phases and Eclipses		Class in <b>Planetarium</b>	Development of the geocentric model, Kepler, Galileo, Newton. 2-1 to 2-6
2/9	<i>Observations due</i>	Retrograde Motion***		<b>Planetarium: Sky Drill 1</b> <i>Quiz 2 Available</i>	Gravity, planetary orbits, intro to light. 2-6 to 2-8, 3-1 to 3-4
2/16	<i>Observations due</i>	Telescopes	Make-up drill, 3 pm	<b>Planetarium: Sky Quiz 1</b>	Telescopes. 3-5 to 3-11
2/23	<i>Observations due</i>	Light and Spectra		<b>Planetarium: Sky Drill 2</b> <i>Quiz 3 Available</i>	Light and spectra. 3-12 to 3-18
3/2	<i>Observations due</i>	Hunt for Alien Worlds	Make-up drill, 3 pm	<b>Planetarium: Sky Quiz 2</b> <b>Mid-Semester</b>	Solar system overview, comparative planetology. 4-1 to 4-10, 6-1
3/9	<i>Observations due</i>	Lunar project analysis***		<i>Quiz 4 Available</i>	Solar nebula, extrasolar planets. 5-1 to 5-10
3/16	<i>Observations due</i>	Meteors: Fire in the Sky			Earth and Moon. 6-2 to 6-10
3/23	Spring Break!				
3/30		Magnetic Storm		<i>Quiz 5 Available</i>	Mercury, Venus, Mars. 6-11 to 6-25
4/6	<i>Project Report Due</i>	Future Tourist Traps			Jovians, Jupiter, Saturn. 7-1 to 7-13
4/13		Finding Life Beyond Earth		<i>Quiz 6 Available</i>	Uranus, Neptune, dwarf planets. 7-14 to 7-17, 8-1 to 8-2
4/20		Kuiper Belt Discovery			Asteroids, comets, meteors. 8-3 to 8-13
4/27		Solar Observing		<i>Quiz 7 Available</i> <i>last day to withdraw with "W" is May 1</i>	The Sun. 9-1 to 9-10
5/4		No lab		Exams begin/no classes	SETI, special topics, review.
5/11				<b>THURSDAY, May 14, 8-10 am: Final Exam</b>	

\*\*\* These labs will be in M108, the computer lab.