Course Title: Astronomy
Course Number: AST 1002
Prerequisites: None
Credit Hours: 3 credit hours
Contact Hours: 45 contact hours

Class Meeting Times: Online course: no meeting times
Class Method: This course is designed as an online course and therefore there are no on-campus meeting dates required. A student may access the course on the first day of class at: http://online.fkcc.edu. If the student has difficulty in logging in to the course or the student does not see the course listed, contact the Office of Distance Learning helpline at 305-809-3177 or e-mail to D2lhelp@fkcc.edu for assistance.

Synchronous Office Hours: Check the Announcement section of the course for synchronous office hour times.

Announcements: Weekly Announcements from the instructor will be posted on the announcements page. To access click on "Announcements" under Course Tools.

Instructor: Erik Christensen
erik.christensen@fkcc.edu – preferred method
863.784.7363

Office Hours: I will monitor email on a regular basis throughout the week and respond to all emails/posts in a timely manner. If you wish to have a synchronous discussion with me using the D2L Chat function we can arrange it at a mutually agreed upon time. If you wish to telephone you can usually catch me on Tuesdays or Thursdays from 1:00 to 3:00 PM or Fridays from 9:00 AM-2:00 PM. If not, just leave a voice mail and I will return your call.

Course Description: Descriptive study of the elements of astronomy including the chemical composition and motion of the planets, their moons, comets and asteroids. Theories of solar system formation, the Sun and the universe are discussed and compared based on the physical and the chemical nature of matter. Such current topics as the “Greenhouse Effect” caused the increased levels of carbon dioxide in the atmosphere and “The Hole in the Ozone Layer” caused by the release of flurochlorcarbons into the atmosphere are used to help understand the chemical nature of the atmospheres of other planets and
and their moons and the implications for planet Earth. Mathematical procedures are not stressed. Use of telescopic images and computer software enhance the study of celestial objects. Recommended for liberal arts majors.

**COURSE OBJECTIVES**

Upon completion of the course, the student will be able to demonstrate knowledge—by successfully answering questions on an objective examination—of the following topics:

1. Trace the historical development of astronomy.
2. Describe the contributions of the major personalities in the history of astronomy.
3. Demonstrate a workable vocabulary enabling them to intelligently read articles about astronomy in media for general audiences.
4. Understand the primary methods used to collect astronomical data.
5. Identify and describe the primary members of the solar system, the galaxy, and the universe.
6. Understand the relationship between the earth and movements of celestial objects.
7. Identify the major constellations of each season of the year.
8. Describe the role of the sun with regard to the earth and the solar system.
9. Understand the evolution of the stars.
10. Demonstrate a knowledge of the debate concerning extraterrestrial life.

**REQUIRED MATERIALS:**

*Astropeda: Universe Revealed*, by Chris Impey. This open educational resource (OER) textbook is available **FREE** online at [http://teachastronomy.com/textbook](http://teachastronomy.com/textbook) or [http://m.teachastronomy.com/textbook](http://m.teachastronomy.com/textbook) as either an ePub and a wikimap.

**PROPOSED COURSE SCHEDULE**

On the last page of this syllabus is a weekly schedule that outlines all requirements of the course. Details of each assignment are discussed below. The point value for each assignment is listed in the Student Grade Determination Table below.

**ORIENTATION ASSIGNMENT:** In order to be successful in this class you must have a good grasp of the various functions on D2L. **To receive credit and to confirm your enrollment in this class, this assignment MUST be completed before the end of the Week 1.** The five parts of the Orientation Assignment, which are explained more in the D2L Content section, are:

- Discussion Board – post your introduction
- Discussion Board – post your Backup Plan
- Dropbox – post your signed Course Contract
- Dropbox – one day of Lunar Observation
- Quiz – Syllabus Quiz (Quiz #1)

**READING:** Each week you are to read a chapter in the online textbook as indicated on the course schedule at the end of this syllabus.
VIDEO: Each week there will be assigned video(s) to watch. You will be provided links to these videos. You should consider watching the videos comparable to attending a lecture and so it is strongly recommended that you take notes while watching the videos. A good way to do this is to open two windows on your computer – one for the video and one with your word processor and then take notes as you view the video. Former students have also found it very helpful to have read the textbook before watching the videos.

VIDEO QUESTIONS: Along with each weekly video will be accompanying question for you to comment on related to watching the video. Only your highest score obtained each week will be recorded. Only your top thirteen quiz scores will count towards your final grade. There are no makeup quizzes.

HOMEWORK: Each week there are a variety of assignments that are due by 8:00 AM the following Tuesday. These are all listed on the course schedule at the end of this syllabus. It is strongly suggested that you use the course schedule as a check off list to make sure you have completed each week’s assignments.

QUESTION OF THE WEEK: Each week a conceptual question of the week will be posted on the D2L Discussion Board. You are required to post an answer to the question along with your rationale AND then also comment on at least TWO responses from other members of the class – either agreeing or disagreeing and stating why. You will be graded on your active participation. Only your top thirteen Question of the Week scores will count towards your final grade.

QUIZZES: An online quiz will be posted each week covering the material from the previous week. You can take the online quiz anytime between 8 a.m. on Tuesday until 8 a.m. on the following Tuesday. These will typically contain 10 multiple choice questions that you will have 15 minutes to answer. These are mastery-type quizzes which you are free to retake as many times as you desire during the week. Quiz questions will be randomly selected from a larger database so no two quizzes will have all the same questions. Many of the questions will be conceptual in nature and will require you to apply what you have learned from watching the videos and reading the book. Only your highest score obtained each will be recorded.

EXAMS: There will be a comprehensive final exam administered online the last week of the semester. The final exam is worth 200 points (20% of your overall grade). You may take this exam only once. The best way to prepare for the final exam is to keep up with the weekly course schedule and use the weekly quizzes as a way to check your understanding as you progress through the course.

CURRENT EVENT IN ASTRONOMY: You are to find an interesting astronomical event from the newspaper, magazine, or the internet. Any news worthy event (meteor shower, spacecraft launch, exoplanet discovery, Congressional funding related to NASA, etc…) and discuss it in a paragraph (minimum of six sentences.) You do not have to go into depth, but try to give an indication as to why you personally thought the event was worthwhile or important. This is to be posted on the appropriate Discussion Board and must contain the following:

- Title
- Description of the event
- Why you think this event is significant
- How it relates to our course (identify specifically which chapter)
- Include at least one photo
- Cite your references (hyperlinks are acceptable)
STAR PROJECT: You will be assigned your own “personal” star the first week of class (check on D2L content). You are to study it in greater detail by applying the material from the textbook and videos as well as researching it online. If you work on this each week as we study the different concepts, you will easily be able to complete this task in bite-sized pieces and hopefully you will find this an excellent way to deepen your understanding of the material in a personal way. Your entire completed Star Project MUST be submitted via the D2L Dropbox according to the schedule at the end of this syllabus. This project is worth 100 points (10% of your overall grade.) Late projects will be penalized 20 points per day late and will not be accepted if more than one week late. Bonus points will be awarded if submitted early as noted on the course schedule.

LUNAR OBSERVATION PROJECT: You are required to complete a Lunar Observation Project. There are five parts to the Lunar Observation Project as detailed on the D2L website. This consists of making observations of the Moon approximately every other night for a month and then reporting your observations, recording and plotting tidal information, and summarizing your results. The entire project must be submitted via the D2L Dropbox. This project is worth 200 points (20% of your overall grade.) You will be penalized 40 points per day late and it will not be accepted if more than one week late. Bonus points will be awarded if submitted early as noted on the course schedule. Additional instructions can be found in the D2L content section.

PHOTOVOICE: You are to create a PhotoVoice of one topic you find most interesting in the course. This will be due near the end of the semester and will help you with your review for the final exam. This consists of a single photo (or image) plus a paragraph discussing the image. It must be done on a single page using a word processor or PowerPoint and then saved as a pdf file in the D2L Discussion Board. Additional instructions can be found in the D2L content section.

ONLINE SELF-REFLECTION: Periodically during the course, as noted in the course schedule, you will be asked to submit an online self-reflection. I want you to write a short paragraph discussing the following:

- What grade do I think I have in the course?
- What actions do I need to do to improve my learning?

Online self-reflections MUST be submitted via the D2L Dropbox. No credit will be given if submitted via email or any other format or if submitted more than a week late.

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**STUDENT EVALUATION AND COURSE POLICIES**

<table>
<thead>
<tr>
<th>STUDENT GRADE DETERMINATION</th>
<th>FKCC GRADING SCALE</th>
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<tbody>
<tr>
<td>260 Weekly Quizzes (13)</td>
<td>90% or above</td>
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<td>200 Final Exam</td>
<td>A</td>
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<tr>
<td>200 Lunar Observation Project</td>
<td>80%-89%</td>
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<tr>
<td>100 Star Project</td>
<td>B</td>
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<tr>
<td>65 Video Questions (13)</td>
<td>70%-79%</td>
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<tr>
<td>65 Question of the Week Participation (13)</td>
<td>C</td>
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<tr>
<td>30 Self-Reflections (2)</td>
<td>60%-69%</td>
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<tr>
<td>30 Orientation Assignment</td>
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<tr>
<td>25 Current Event In Astronomy</td>
<td>Below 60%</td>
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<td>25 PhotoVoice</td>
<td>F</td>
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<td>1,000 Total</td>
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</tbody>
</table>
Exam Policy

- Each exam will be given online.
- Makeup exams *may be* offered to students with emergencies, but only if they can provide acceptable documentation of the emergency (e.g., hospital admits slip, etc.). The instructor reserves the right to change the format of any makeup exams (e.g., to essay questions).
- The final exam cannot be made up for any reason.

**Communications:** The online format of this class puts a premium on communications. The prime responsibility for timely communications rests with you - the student. This course will utilize the following methods:

**DISCUSSION FORUMS:** Most weeks under the discussion tab, there will be a question to which the students are to **post a response during the week**. The student must click on the “respond” button immediately after the question. The student is to make appropriate comments; for maximum credit the student is to respond to at least one other student’s response that week. The student should also check to see who has responded to their comments and respond to this person if it is appropriate to do so. These responses are also to be thought revealing – they are more than “I agree” or “I disagree.” The student is expected to provide quality insight citing and documenting references, in order to demonstrate an understanding of the weekly topic and provide original thought in the posts. Cutting and pasting from the text, websites, or providing a response with limited substance will receive a significantly reduced grade. As with all activities in this class, quality counts and the postings need to add value to the discussion.

In addition, most questions about class policies and subject matter should be posted in the discussion forum to allow the entire class to benefit from the question and the answer. There will often be important information published to the class via the Announcements section, such as changes in due dates, exam information, etc. **The student is responsible for all information published here.**

Occasionally, time-sensitive announcements will be posted in the Announcements section. The student should log on to D2L 3-4 times each week to check for time-sensitive messages. Before the student posts a question, look through the Discussion Board. That same question may have already been asked and answered.

**EMAIL:** The email utility within D2L should not be used for personal items that are not appropriate to share with the entire class. This e-mail uses the student’s FKCC e-mail account.

**What can the student expect from your instructor?**
The instructor will log into D2L and check for messages at least once per day, including weekends and holidays. If the student has an urgent message for the instructor, do not post the same message both on a Discussion Forum and in an email. Doing both will waste the students time and will not result in the instructor getting the message any faster. If the instructor expects to be out of contact for more than a couple of days, they will inform the class via the Announcement section...

**Important Note:** If the instructor has not responded to a student email or voicemail message by the end of the day after the student left the message, the student should assume that the instructor did not receive it and leave another message.

**Logging Off From D2L**
In order to better serve our faculty and students, all D2L users should click the “Logout “link when completing online course work. By logging off instead of just closing the internet browser window, D2L server space is freed and system performance is optimized. In addition, logging off will more accurately record each student’s time logged into the online course?
Class Participation

Class participation is a combination of discussions and online assignments. The online discussion component is defined as posting a minimum number of substantial, separate, and distinct messages to the various Discussion Forums. These discussion board messages must be posted before the deadlines in the Course Calendar to count toward the student’s participation grade.

For the purposes of this class, a substantial online posting must:

1. Provide a good explanation of a concept or concepts related to the material discussed in the forum, or give a good example of how a concept can be applied, or provide an insightful response to a previous post.
2. Be factually correct. The post should help your classmates, and yourself, learn the material.
3. **Be at least 150 words in length.** Messages that do not meet this length requirement will earn only a small amount of partial credit.
4. Have acceptable spelling and grammar. Although this is not a writing class, this is College. Students should get into the habit of writing complete sentences that are grammatically correct. Take advantage of the spell check feature in D2L.
5. Do your own work. Do not plagiarize from any source (internet, textbook, etc) as the body of your post. Study the concept, and then express it in the student’s own words. Make certain to cite and document references.

Other key points:

1. **Only messages that meet all of the requirements of a substantial post** listed above will earn full credit for participation.
2. It is acceptable (and encouraged!) for more than one student to respond to the same message. The best way to be sure you understand a topic is to try to explain it to someone else.
3. Please use the discussion forums to ask all of the questions you have about the class material. The instructor wants students to ask a lot of questions, and these questions will contribute to the class participation grade.
4. Off-topic messages will not count toward the participation grade.
5. If the final average is on the borderline between two letter grades, active participation (posting several messages to each forum, on average) will work to the student’s advantage as the instructor decides which of the two letter grades the student has earned.
6. Messages must have content that contributes to the discussion. Messages that contain a few words and merely say “I agree with you” or something similar will not earn any credit.
7. These participation points are the easiest part of the grade to earn, and also the easiest to forget to do. Don’t forget!
8. Copying and pasting from any source, even if the student cites the source, is not acceptable. The should study the source document and paraphrase what they learned when typing a message.

To earn **100% on the discussion portion of the class participation grade**, the student must do the following by the dates published in the Course Calendar:

1. Post an introductory message to the class in the Introductions forum.
2. Post one substantial message in each discussion forum at any time during the week in which that forum is scheduled. (If two forums are scheduled during the same week, then one message must be posted in each forum.)
3. Some extra credit will be given for substantial messages that are posted no later than Wednesday of the week they are due. This is to encourage students to post early in the week, which will help generate a better class discussion within each forum.
4. If no substantial messages are posted on time in a forum, it will not be possible to earn 100% for that forum. A small number of messages that are not substantial but do say more than “I agree” or “Good Post!” and are more than 1 or 2 sentences in length will earn some part credit, but not very much.

Copyright Notice

The materials and content provided in this course is intended only for registered Florida Keys Community College students who have paid their tuition and fees to attend this course. Materials that are affected include, but are not limited to, text, still images, audio recordings, video recordings, simulations, animations, diagrams, charts, and graphs. Every effort has been made to insure these materials are not disseminated to anyone beyond those who have legally registered for this course. Download, revision, or distribution of course material with anyone other than registered classmates and the instructor is strictly prohibited.

Students are expected to familiarize themselves with FKCC Policies, which can be found in the current Student Handbook.

AST 1002 Astronomy

Class Contract

This is part of the Orientation Assignment. You must print this page out, sign it, and post it in the Course Contract Dropbox by the end of the first week.

If you don’t have access to a scanner you can take a photo with a smartphone and post that.

The Class Contract assignment is my method of ensuring you know what you should expect from me, and what I expect from you. By returning the Class Contract to me, you are acknowledging that you:

a. Understand the policies detailed in this syllabus.

b. Understand the expectations and due dates listed in the Course Calendar.

c. Understand that you will be held accountable to the standards published in this document.

d. This Class Contract must be submitted via the D2L Dropbox by the end of the first week of class.

By signing my name I acknowledge the above.

Print Name: __________________________ Date: ________________

Signature: ____________________________________________
# AST 1002 Astronomy Course Schedule – Fall 2014

Weeks “typically” run from 8:00 AM Tuesday to 8:00 AM the following Tuesday.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Chapter</th>
<th>Video</th>
<th>Video Question</th>
<th>Active Exploration</th>
<th>Quiz</th>
<th>QoW</th>
<th>Additional Assignments</th>
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<tbody>
<tr>
<td><strong>Week 1 8/21</strong></td>
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<td>Orientation Assignment</td>
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<tr>
<td>The First Discoveries About Earth and Sky</td>
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<td>Orientation Video Various videos</td>
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<td><strong>Week 2 9/2</strong></td>
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<td>The Copernican Revolution &amp; Detecting Radiation from Space</td>
<td>3 10 (parts)</td>
<td>The Birth of Astronomy</td>
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<td>The Earth-Moon System</td>
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<td>The Moon</td>
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<td>Current Event</td>
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<td>The Terrestrial Planets</td>
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<td>The Inner Planets Mars</td>
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<td>The Giant Planets and Their Moons</td>
<td>7</td>
<td>The Outer Planets</td>
<td>5</td>
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<td><strong>Week 6 9/30</strong></td>
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<tr>
<td>Interplanetary Bodies</td>
<td>8</td>
<td>The End of Earth: Deep Space Threats</td>
<td>6</td>
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<td>How Planetary Systems Form</td>
<td>9</td>
<td>How the Solar System was made</td>
<td>7</td>
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<td>Our Sun: The Nearest Star</td>
<td>11</td>
<td>Secrets of the Sun</td>
<td>8</td>
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<td>Properties of Stars</td>
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<td>The Family of Stars</td>
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<td>Star Birth and Death</td>
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<td>Life and Death of a Star</td>
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<td>Lunar Project Analysis</td>
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<td><strong>Week 11 11/4</strong></td>
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<td>The Milky Way</td>
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<td><strong>Week 12 11/11</strong></td>
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<td>Galaxies</td>
<td>15</td>
<td>Alien Galaxies</td>
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<td>Star Project</td>
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<td><strong>Week 13 11/18</strong></td>
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<td>The Expanding Universe</td>
<td>16</td>
<td>The Expanding Universe</td>
<td>13</td>
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<tr>
<td><strong>Weeks 14-15 11/25</strong></td>
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<tr>
<td>Cosmology</td>
<td>17</td>
<td>Cosmology and the Arrow of Time</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>PhotoVoice</td>
</tr>
</tbody>
</table>

**Thanksgiving (11-26 – 11/30)**

**Take Final Exam BEFORE 8:00 AM on Tuesday, December 9th**

*To earn BONUS POINTS: Submit Lunar Observation Project Analysis before the start of Week 10 and Star Project before the start of Week 12.*

*Please note: The course schedule is subject to change to meet the needs of the course and its students. If you miss a class, it is YOUR responsibility to stay current.*