Course Syllabus

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. You may access the course on the first day of class at: http://online.fkcc.edu. If you have difficulty in logging in to the course or do 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 – these can be setup using video conferencing using zoom.us. Contact Professor Christensen if desired.

Announcements - Weekly announcements from the instructor will be posted on the D2L News section which can accessed by clicking on the “Course Home” tab.

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 video discussion with me we can arrange it at a mutually agreed upon time. If you wish to telephone you can usually catch me on Tuesdays from 1:00 to 2:00 PM, Thursdays from 11:00 AM to 3:00 PM, or Fridays from 9:00 AM to 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 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 knowledge of the debate concerning extraterrestrial life.

**REQUIRED MATERIALS:**

*Astropedia: Universe Revealed*, by Chris Impey. This open educational resource (OER) textbook is available **FREE** online at [http://m.teachastronomy.com/textbook](http://m.teachastronomy.com/textbook) or [http://teachastronomy.com/textbook](http://teachastronomy.com/textbook).

**PROPOSED COURSE SCHEDULE**

A weekly schedule outlining all requirements of this course is provided on the last page of this syllabus. Details of each assignment are discussed below. The point value for each assignment is listed in the Student Grade Determination Table.

**COURSE RESOURCES**

- [online.fkcc.edu](http://online.fkcc.edu) – our course D2L website.
- [http://www.sunrisesunset.com](http://www.sunrisesunset.com) – great Moonrise and Moonset information
- [http://reetidetables.com](http://reetidetables.com) – a great source for tidal information
- [http://www.almanac.com/astronomy](http://www.almanac.com/astronomy) – Moon and tidal information

**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

**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. 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 AM on Tuesday until 8 AM 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. Only your top thirteen quiz scores will count towards your final grade.

EXAM: 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. Near the end of the semester, review quizzes for each chapter will be posted in the Quiz section to help you prepare for this exam.

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 this star in greater detail by applying the material from the textbook, videos, and researching it online. If you work on this each week, 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 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. Additional instructions can be found in the D2L content section.

LUNAR OBSERVATION PROJECT: You are required to complete a Lunar Observation Project. There are five parts to the Lunar Observation Project which are to be submitted in two separate submissions 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 a total of 200 points (20% of your overall grade.) Late projects will be penalized 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 at the end of this syllabus. 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.

Student Evaluation and Course Policies

<table>
<thead>
<tr>
<th><strong>STUDENT GRADE DETERMINATION</strong></th>
<th><strong>FKCC GRADING SCALE</strong></th>
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<tbody>
<tr>
<td>260 Weekly Quizzes (13)</td>
<td>90% or above A</td>
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<tr>
<td>200 Final Exam</td>
<td>80%-89% B</td>
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<tr>
<td>200 Lunar Observation Project</td>
<td>70%-79% C</td>
</tr>
<tr>
<td>100 Star Project</td>
<td>60%-69% D</td>
</tr>
<tr>
<td>65 Video Questions (13)</td>
<td>Below 60% F</td>
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<tr>
<td>65 Question of the Week Participation (13)</td>
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<tr>
<td>30 Self-Reflections (2)</td>
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<td>30 Orientation Assignment</td>
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<td>25 Current Event In Astronomy</td>
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<td>25 PhotoVoice</td>
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<td><strong>1,000 Total</strong></td>
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**Exam Policy:** There is only one exam in this course, the final exam. It will be given online and 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 you are to post a response during the week. You must click on the “respond” button immediately after the question. You are 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 your 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. **You are responsible for all information published here.**

Occasionally, time-sensitive announcements will be posted in the News section. You should log on to D2L three to four times each week to check for time-sensitive messages. Before posting 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 your 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 you have 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 your 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, he will inform the class via the News section.

**Important Note:** If the instructor has not responded to your email or voicemail message by the end of the day after you left the message, you 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 your 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 Boards. These discussion board messages must be posted before the deadlines in the Course Calendar to count toward your 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 you, 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 your advantage as the instructor decides which of the two letter grades you have earned.**

6. These participation points are the easiest part of the grade to earn, and also the easiest to forget to do. Don't forget!

7. Copying and pasting from any source, even if you cite the source, is not acceptable. You should study the source document and paraphrase what they learned when typing a message.

**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.
Class Contract

This is part of the Orientation Assignment. You must print this out, sign it, scan 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 just can take a photo with your smartphone and post it (make sure you post it in the proper orientation).

By signing and returning this Class Contract, I acknowledge that I understand that:

a. Weekly assignments are due 8 AM the following Tuesday as per the syllabus.

b. All assignments must be submitted electronically into the appropriate D2L Dropbox or Discussion Board. Late assignments will be accepted up to a week late if submitted into the appropriate “Late” D2L Dropbox.

c. I can retake the Video Quiz as many times as desired during the week.

d. I can retake the Weekly Quiz as many times as desired during the week.

e. Each week I must post a response to weekly Question of the Week.

f. Twice during the semester, I must complete a Self-Reflection analysis of my class performance.

f. I must complete a Current Event assignment near the start of the semester using the guidance provided on D2L.

h. I must observe the Moon every other day for a month, record observations each time, and then submit both my observational data sheets as well as my data analysis to the appropriate D2L Dropbox.

h. I must complete a Star Project on the specific star assigned to me. This will require me to research facts about my star using resources outside of the textbook and the videos.

Print Name: ________________________________

Signature: ________________________________ Date: ________________
<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>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 8/26</td>
<td>The First Discoveries About Earth and Sky</td>
<td>2</td>
<td>Orientation Video Various videos</td>
<td>1</td>
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<tr>
<td>Week 2 9/1</td>
<td>The Copernican Revolution &amp; Detecting Radiation from Space</td>
<td>3</td>
<td>The Birth of Astronomy</td>
<td>2</td>
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<tr>
<td>Week 3 9/8</td>
<td>The Earth-Moon System</td>
<td>5</td>
<td>The Moon</td>
<td>3</td>
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<tr>
<td>Week 4 9/15</td>
<td>The Terrestrial Planets</td>
<td>6</td>
<td>The Inner Planets Mars</td>
<td>4</td>
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<td>Week 5 9/22</td>
<td>The Giant Planets and Their Moons</td>
<td>7</td>
<td>The Outer Planets</td>
<td>5</td>
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<td>Week 6 9/29</td>
<td>Interplanetary Bodies</td>
<td>8</td>
<td>The End of Earth: Deep Space Threats</td>
<td>6</td>
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<tr>
<td>Week 7 10/6</td>
<td>How Planetary Systems Form</td>
<td>9</td>
<td>How the Solar System was made</td>
<td>7</td>
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<tr>
<td>Week 8 10/13</td>
<td>Our Sun: The Nearest Star</td>
<td>11</td>
<td>Secrets of the Sun</td>
<td>8</td>
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<tr>
<td>Week 9 10/20</td>
<td>Properties of Stars</td>
<td>12</td>
<td>The Family of Stars</td>
<td>9</td>
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<tr>
<td>Week 10 10/27</td>
<td>Star Birth and Death</td>
<td>13</td>
<td>Life and Death of a Star</td>
<td>10</td>
<td>10</td>
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<tr>
<td>Week 11 11/3</td>
<td>The Milky Way</td>
<td>14</td>
<td>The Milky Way</td>
<td>11</td>
<td>11</td>
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<tr>
<td>Week 12 11/10</td>
<td>Galaxies</td>
<td>15</td>
<td>Alien Galaxies</td>
<td>12</td>
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<tr>
<td>Week 13 11/17</td>
<td>The Expanding Universe</td>
<td>16</td>
<td>The Expanding Universe</td>
<td>13</td>
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11/24  
Thanksgiving Break – no new assignments this week

| Week 14 12/1 | Cosmology | 17 | Cosmology and the Arrow of Time | 14 | 14 | 14 | 14 | PhotoVoice |
| Week 15 12/8 | Take Final Exam BEFORE 8:00 AM on Tuesday, December 15th |

To earn BONUS POINTS: Submit Lunar Observation Project Analysis before 10/27/15 and Star Project before 11/10/15.

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.