

GESC 2440 Exploring the night sky (探索夜空)

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Course homepage: <https://blackboard.cuhk.edu.hk>

Lecture: Thursday 6:30 PM - 9:15 PM, Wen Lan Tang LG204

Course description:

Since ancient time, human beings have been curious about and fascinating with the remote sky. This curiosity and fascination have boosted the invention of various techniques in observational astronomy and, on the other hand, the spread of mythology about constellations under cultural influences. This course introduces the mythology in both the East and the West, stimulating students to ponder on the cultural significances behind the stories. In addition, students are encouraged to practice basic techniques in observational astronomy, acquiring knowledge through experiential learning. No scientific knowledge beyond junior secondary education is assumed.

Expected learning outcomes:

By the end of the course, students are expected to

1. gain basic knowledge and techniques in observational astronomy;
2. acquire an ability to apply observational astronomy to organize stargazing activities; and
3. have an acquaintance with cultural significances behind the mythology of constellations in both the East and the West.

Over grade descriptors:

A / A-	Proficient performance: Outstanding performance on all (or almost all) learning outcomes.
B+ / B / B-	General performance: Substantial performance on all learning outcomes, OR high performance on some learning outcomes which compensates for less satisfactory performance on others, resulting in overall substantial performance.
C+ / C / C-	Inconsistent performance: Satisfactory performance on the majority of learning outcomes, possibly with a few weaknesses.
D+ / D	Incompetent performance: Barely satisfactory performance on a number of learning outcomes.
F	Failed performance: Unsatisfactory performance on a number of learning outcomes, OR failure to meet specified assessment requirement.

Assessment scheme:

Final exam (selected response and essay)	40 %
Mid-term (selected response and essay)	25 %
Project (presentation / practical)	25 %
Participation in classes	10 %

Course contents:

PART ONE: BASIC PRINCIPLES	Chapter 1	Bad astronomy
	Chapter 2	Seasons and calendars
PART TWO: OBSERVATION TECHNIQUES	Chapter 3	Stargazer aides
	Chapter 4	Astrophotography
	Chapter 5	Special topic
PART THREE: MODERN TECHNOLOGY	Chapter 6	Space exploration
	Chapter 7	Widening the horizons
PART FOUR: EASTERN AND WESTERN MYTHOLOGY	Chapter 8	Greco-Roman mythology
	Chapter 9	Ancient Chinese mythology
	Chapter 10	Traditional Chinese astronomy

Teaching and Learning Activities:

Students are encouraged to practice their knowledge learnt from classrooms and thus strengthen their knowledge through experiential learning. In addition to interactive lecture and tutorial, this course requires students to participate field studies and practicum. The time allocation is tentatively as follows:

	Interactive Lecture / Tutorial	Field studies and practicum
Time (hours in total)	Not less than 26	Not less than 13

A full day of a stargazing activity is tentatively scheduled on February 29 (Saturday) from 2:00 PM to 10 PM. Shuttle buses will be arranged to go there from and back to CU campus. Noted: Partial payment for the transportation and light dinner is required. The details will be announced in due course. In addition, observations will be arranged during lecture classes if the weather is fine, so some lecture classes might end a bit later than a normal class, says 10:00 PM.

Consultation hour:

A consultation hour is scheduled every Thursday 2:00 PM to 3:00 PM in the lecturer's office, or students may request another time slot by making appointment via emails.

Required readings:

PART ONE: BASIC PRINCIPLES - Philip C. Plait, <i>Bad Astronomy: Misconceptions and Misuses Revealed, from Astrology to the Moon Landing “Hoax”</i>, 1 edition (Wiley: March 1, 2002). - Steve Owens, <i>Stargazing For Dummies</i> (John Wiley & Sons, 2013), pp. 9-21.
PART TWO: OBSERVATION TECHNIQUES - Steve Owens, <i>Stargazing For Dummies</i> (John Wiley & Sons, 2013), pp. 39-80 - 王永雄，彭金滿，陳天機：《天問：探索宇宙的真貌》（香港：牛津大學出版社，2013），頁 143 至 156。 - Thierry Legault, <i>Astrophotography</i>, (Rocky Nook; 1st edition, 2014), pp. 61-75.
PART THREE: MODERN TECHNOLOGY 王永雄，彭金滿，陳天機：《天問：探索宇宙的真貌》（香港：牛津大學出版社，2013），頁 157 至 213。
PART FOUR: EASTERN AND WESTERN MYTHOLOGY - David E. Falkner, <i>The Mythology of the Night Sky: An Amateur Astronomer's Guide to the Ancient Greek and Roman Legends</i>, (Springer; 2011 edition, 2011), pp. 139-161. - 王玉民：《天上人間－中國星座的故事》（北京：群言出版社，2004 年），頁 1 至 71。 J. Needham, et al. “Astronomy in ancient and medieval China”, <i>Phil. Trans. R. Soc. Lond. A.</i> 276, 67–82 (1974). <https://royalsocietypublishing.org/doi/abs/10.1098/rsta.1974.0010>

Recommended reading list/references:

1. 陳久金：《星象解碼：引領進入神秘的星座世界》第 1 版（北京：群言出版社，2004 年）。
2. 王玉民：《天上人間－中國星座的故事》（北京：群言出版社，2004 年）。
3. 王永雄、彭金滿、陳天機：《天問：探索宇宙的真貌》（香港：牛津大學出版社，2013）。
4. 王為豪：《星野攝影》第 2 版（星星工廠）。網頁版：
<http://group.asiaa.sinica.edu.tw/whwang/astrophotothebook>。
4. *50 Things To See With A Small Telescope*, (John A Read, 2013).
5. David E. Falkner, *The Mythology of the Night Sky: An Amateur Astronomer's Guide to the Ancient Greek and Roman Legends*, (Springer; 2011 edition, 2011).
6. Philip C. Plait, *Bad Astronomy: Misconceptions and Misuses Revealed, from Astrology to the Moon Landing “Hoax”*, 1 edition (Wiley: March 1, 2002).
<<http://www.badastronomy.com/index.html>>
7. Steve Owens, *Stargazing For Dummies* (John Wiley & Sons, 2013).
8. Thierry Legault, *Astrophotography*, (Rocky Nook; 1st edition, 2014).
9. William Millar, *The Amateur Astronomer's Introduction to the Celestial Sphere*, (Cambridge University Press; 1 edition, 2006).

Feedback for evaluation

Students are welcome to give comments and feedback on the course via emails or stopping by the lecturer's office during the consultation hour for a chat or another time slot by making appointment via emails.

Academic honesty and plagiarism

Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations. Details may be found at <http://www.cuhk.edu.hk/policy/academichonesty/>.

With each assignment, students will be required to submit a signed declaration that they are aware of these policies, regulations, guidelines and procedures.

- In the case of group projects, all members of the group should be asked to sign the declaration, each of whom is responsible and liable to disciplinary actions, irrespective of whether he/she has signed the declaration and whether he/she has contributed, directly or indirectly, to the problematic contents.
- For assignments in the form of a computer-generated document that is principally text-based and submitted via VeriGuide, the statement, in the form of a receipt, will be issued by the system upon students' uploading of the soft copy of the assignment.

Assignments without the properly signed declaration will not be graded by teachers.

Only the final version of the assignment should be submitted via VeriGuide.

The submission of a piece of work, or a part of a piece of work, for more than one purpose (e.g. to satisfy the requirements in two different courses) without declaration to this effect shall be regarded as having committed undeclared multiple submissions. It is common and acceptable to reuse a turn of phrase or a sentence or two from one's own work; but wholesale reuse is problematic. In any case, agreement from the course teacher(s) concerned should be obtained prior to the submission of the piece of work.

Guideline about plagiarism

Any assignment (i.e., project, essay, or paper) that shows evidence of plagiarism will be marked down severely. In simple terms, plagiarism is copying passages and/or ideas from other sources without referencing those sources. Moreover, when you report someone else's ideas/findings you must put it in your own words and not merely copy full sentences or parts of sentences from the source article. It is your responsibility as a scholar-in-training to cite the ideas and work of others correctly.

In all cases of plagiarism, the student's name will be recorded in a central database maintained by the general office. If a student is referred for plagiarism in more than one course, or more than one instance in the same course, the student's case will be forwarded to the university administration for follow-up action. If the charge is established, the penalty guidelines are as follows:

Plagiarism	Minimum Penalties
First offence	i) One demerit; ii) A mark of zero for that component of the course; and iii) Completion of relevant training in academic honesty
Second of further offence (and a first offence that is serious as decided by the disciplinary committee concerned / the FTP Committee)	i) Two demerit (of which one will remain in the University's record permanently and one is reviewable) and; ii) A failure grade for the course concerned

Detecting plagiarism

The Senate Committee on Teaching and Learning requires that all student assignments in undergraduate programmes should be **submitted via VeriGuide**. This policy will only apply to assignments in the form of a computer-generated document that is principally text-based (i.e., excluding calculations in science, brief laboratory reports, drawings in fine arts and architecture, etc.).

Note:

*Each student is required to complete the **Declaration of Honesty in Academic Work** separately attached.

*A completed assignment has to be uploaded to the plagiarism detection engine VeriGuide.

Teaching schedule, PTO

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