Tamkang University Academic Year 112, 1st Semester Course Syllabus

| Course Title | EXPLORING THE UNIVERSE | Instructor | SHANG YUNG WANG | | | | |
|---|---|------------|--|--|--|--|--|
| Course Class | TNUUBOC NATURAL SCIENCES, OC One Seme | | General Course Required One Semester | | | | |
| Relevance to SDGs | SDG4 Quality education Relevance o SDGs | | | | | | |
| Departmental Aim of Education | | | | | | | |
| By exploring natural laws and studying scientific methods, to let students understand the impact of science and technology on human life, and to cultivate in them the ability to think independently, and to discover, analyse and solve problems. Also, throu. | | | | | | | |
| Subject Schoolwide essential virtues | | | | | | | |
| A global perspective. (ratio:10.00) Information literacy. (ratio:30.00) A vision for the future. (ratio:10.00) Moral integrity. (ratio:5.00) Independent thinking. (ratio:30.00) A cheerful attitude and healthy lifestyle. (ratio:5.00) A spirit of teamwork and dedication. (ratio:5.00) A sense of aesthetic appreciation. (ratio:5.00) | | | | | | | |
| Exploring the Universe is a general education course that provides an elementary introduction to modern physics, astronomy and cosmology for undergraduate students. Topics include Einstein and theory of relativity, Planck and quantum theory, elementary particles and fundamental interactions, sun and solar system, sky and constellations, stars and galaxies, cosmic expansion and big bang theory, and history and fate of the Universe. | | | | | | | |
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| The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives. Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives. | | | | | | | |
|--|--|------------------------|---|--|-----------------------|--|--|
| I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc. II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc. III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation. | | | | | | | |
| No. | | objective methods | | | | | |
| 1 | 1 Understanding scientific methods, rational thinking and critical thinking | | | Cognitive | | | |
| 2 | 2 Understanding the latest development in modern physics and Cognitive cosmology | | | | | | |
| | The c | orrespond | lences of teaching objectives | : core competences, essential virtues, teaching me | thods, and assessment | | |
| No. | Core Competences | | Essential Virtues | Teaching Methods | Assessment | | |
| 1 | 1 | | 12345678 | Lecture, Discussion | Testing | | |
| 2 | 2 | | 12345678 | Lecture, Discussion | Testing | | |
| | 1 | | | Course Schedule | | | |
| Week | Date | | Course Contents | | Note | | |
| 1 | 112/09/11 ~ 112/09/17 | Einsteir | Einstein and Theory of Relativity (1) | | | | |
| 2 | 112/09/18~ 112/09/24 | Einsteir | Einstein and Theory of Relativity (2) | | | | |
| 3 | 112/09/25 ~ 112/10/01 | Einsteir | Einstein and Theory of Relativity (3) | | | | |
| 4 | 112/10/02 ~ 112/10/08 | Planck | Planck and Quantum Theory (1) | | | | |
| 5 | 112/10/09 ~ 112/10/15 | Planck | Planck and Quantum Theory (2) | | | | |
| 6 | 112/10/16~ 112/10/22 | Elemer | Elementary Particles and Fundamental Interactions (1) | | | | |
| 7 | 112/10/23~ 112/10/29 | Elemer | Elementary Particles and Fundamental Interactions (2) | | | | |
| 8 | 112/10/30 ~ 112/11/05 | Elemer | Elementary Particles and Fundamental Interactions (3) | | | | |
| 9 | 112/11/06 ~ 112/11/12 | Midter | Midterm Exam Week | | | | |
| 10 | 112/11/13 ~ 112/11/19 | Sky and Constellations | | | | | |
| | | | | | | | |

| 11 | 112/11/20~ 112/11/26 | Sun and Solar System (1) | | |
|-------------------------------------|--------------------------|---|--|--|
| 12 | 112/11/27 ~ 112/12/03 | Sun and Solar System (2) | | |
| 13 | 112/12/04 ~ 112/12/10 | Stellar Evolution (1) | | |
| 14 | 112/12/11 ~ 112/12/17 | Stellar Evolution (2) | | |
| 15 | 112/12/18 ~ 112/12/24 | Cosmic Expansion and Big Bang Theory (1) | | |
| 16 | 112/12/25 ~ 112/12/31 | Cosmic Expansion and Big Bang Theory (2) | | |
| 17 | 113/01/01 ~ 113/01/07 | Final Exam Week | | |
| 18 | 113/01/08 ~ 113/01/14 | Search for Extraterrestrial Intelligence | | |
| Key | , capabilities | | | |
| Interdisciplinary | | | | |
| Distinctive teaching | | | | |
| Course Content | | Logical Thinking | | |
| Requirement | | This is an elective general education course with an emphasis on learning attitude. A detailed version of the syllabus will be posted on iClass one day before the start of the classes and emailed to students. Excerpts from previous Teaching Evaluation < https://reurl.cc/ynyElD>. | | |
| Textbooks and Teaching Materials | | Self-made teaching materials:Presentations Using teaching materials from other writers:Videos | | |
| (| Grading Policy | Attendance: % | | |
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| | This syllabus may be uploaded at the website of Course Syllabus Management System at |
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| | http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the |
| Note | home page of TKU Office of Academic Affairs at <u>http://www.acad.tku.edu.tw/CS/main.php</u> . |
| | Wunauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications. |

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