

## Tamkang University Academic Year 111, 1st Semester Course Syllabus

|   |  |            |  |
|---|--|------------|--|
| Course Title  | A VOYAGE TO SCIENCE  | Instructor | WU, JUNYI  |
| Course Class  | TNUUB0B<br>NATURAL SCIENCES, 0B  | Details    | <ul style="list-style-type: none"> <li>◆ General Course</li> <li>◆ Required</li> <li>◆ One Semester</li> </ul> |
| Relevance to SDGs   | SDG4 Quality education   |            |  |
| <b>Departmental Aim of Education</b>  |  |            |  |
| 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.  |  |            |  |
| <b>Subject Schoolwide essential virtues</b>   |  |            |  |
| <ol style="list-style-type: none"> <li>1. A global perspective. (ratio:20.00)</li> <li>2. Information literacy. (ratio:5.00)</li> <li>3. A vision for the future. (ratio:25.00)</li> <li>4. Moral integrity. (ratio:5.00)</li> <li>5. Independent thinking. (ratio:25.00)</li> <li>6. A cheerful attitude and healthy lifestyle. (ratio:5.00)</li> <li>7. A spirit of teamwork and dedication. (ratio:10.00)</li> <li>8. A sense of aesthetic appreciation. (ratio:5.00)</li> </ol> |  |            |  |
| <b>Course Introduction</b>  | <p>Science is not just about nature. It is a dialog between human beings and nature. Motivated by curiosity, scientists have been asking their questions to nature in their way, i.e. experiments, and interpreting the answer of nature with their theory.</p> <p>In this course, one will see how our scientific view of nature has been built up through the whole history of human beings. Such a historical review of the scientific principle will then help us to understand the current development of science and technology, and foresee their future.</p> |            |  |
|   |  |            |  |

**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. | Teaching Objectives                           | objective methods |
|-----|---|-------------------|
| 1   | Understand the scientific principle           | Cognitive         |
| 2   | Understand the current science and technology | Affective         |

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

| No. | Core Competences | Essential Virtues | Teaching Methods    | Assessment                         |
|-----|------------------|-------------------|---------------------|------------------------------------|
| 1   |                  | 12345678          | Lecture, Discussion | Report(including oral and written) |
| 2   |                  | 12345678          | Lecture, Discussion | Report(including oral and written) |

**Course Schedule**

| Week | Date                     | Course Contents  | Note                                 |
|------|--------------------------|--|--------------------------------------|
| 1    | 111/09/05 ~<br>111/09/11 | 1. What exactly is the FINAL CAUSE of this course?           | This syllabus is subject to changes. |
| 2    | 111/09/12 ~<br>111/09/18 | 2. See, that is what I SAW                                   |                                      |
| 3    | 111/09/19 ~<br>111/09/25 | 3. Twinkle, twinkle, little star, how I wonder WHEN we are?  |                                      |
| 4    | 111/09/26 ~<br>111/10/02 | 4. Twinkle, twinkle, little star, how I wonder WHERE we are? |                                      |
| 5    | 111/10/03 ~<br>111/10/09 | 5. May the FORCE be with you!                                |                                      |
| 6    | 111/10/10 ~<br>111/10/16 | Public holiday   |                                      |
| 7    | 111/10/17 ~<br>111/10/23 | 6. Enlightenment on light: Colors                            |                                      |
| 8    | 111/10/24 ~<br>111/10/30 | 7. A revolutionary bath in THERMODYNAMICS.                   |                                      |
| 9    | 111/10/31 ~<br>111/11/06 | 8. And God said "E+M"  |                                      |
| 10   | 111/11/07 ~<br>111/11/13 | Midterm Exam Week  |                                      |

|                                  |  |   |  |
|----------------------------------|--|---|--|
| 11                               | 111/11/14~<br>111/11/20  | 9. A war for POWER: the current war                                       |  |
| 12                               | 111/11/21~<br>111/11/27  | 10. Sport time: the LIVE golf on the moon.                                |  |
| 13                               | 111/11/28~<br>111/12/04  | 10-1. Space missions: pave the way to the Moon and Mars (Invited speaker) |  |
| 14                               | 111/12/05~<br>111/12/11  | 11. A new grammar: QUATNUM  |  |
| 15                               | 111/12/12~<br>111/12/18  | 12. The imitation game  |  |
| 16                               | 111/12/19~<br>111/12/25  | 13. "Ketchup or Mayo?" "SEMICONDUCTORs on chips, please!"                 |  |
| 17                               | 111/12/26~<br>112/01/01  | 14. Computing in the quantum world.                                       |  |
| 18                               | 112/01/02~<br>112/01/08  | Final Exam Week   |  |
| Requirement                      | Curiosity  |   |  |
| Teaching Facility                | Computer, Other (Whiteboard/Blackboard)  |   |  |
| Textbooks and Teaching Materials | The slides of the lecture will be shared online.   |   |  |
| References                       |  |   |  |
| Number of Assignment(s)          | (Filled in by assignment instructor only)  |   |  |
| Grading Policy                   | ◆ Attendance : 15.0 %   ◆ Mark of Usual : 25.0 %   ◆ Midterm Exam :   %<br>◆ Final Exam : 30.0 %<br>◆ Other (Written report) : 30.0 %  |   |  |
| Note                             | This syllabus may be uploaded at the website of Course Syllabus Management System at <a href="http://info.ais.tku.edu.tw/csp">http://info.ais.tku.edu.tw/csp</a> or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at <a href="http://www.acad.tku.edu.tw/CS/main.php">http://www.acad.tku.edu.tw/CS/main.php</a> .<br><b>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</b> |   |  |