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| Course Title | : <i>Introduction to Scientific Literacy</i> |
| Course Code | : SCI2001 |
| Recommended Study Year | : Year 2 |
| No. of Credits/Term | : 3 |
| Mode of Tuition | : Sectional mode |
| Class Contact Hours | : Two 1.5 hours lecture each week |
| Category | : Required course in the Minor in Environmental and Scientific Literacy |
| Prerequisite | : Past or current enrollment in CCC8013 or any CLD course |
| Co-requisite | : Nil |
| Exclusion | : Nil |
| Exemption Requirement | : Nil |
| Remarks | : Students may take this course as free electives with permission of the instructor based on prior knowledge of relevant disciplines |

Brief Course Description:

This course will introduce students to scientific literacy, introduce the reasons for developing individual and societal scientific literacy, and develop the knowledge, skills, and attitudes required to achieve scientific literacy.

Aims:

The aims of this course are to introduce students to concept of scientific literacy, to begin to develop characteristics of a scientifically literate individual, and to prepare students to participate in a scientifically literate society.

Learning Outcomes (LOs):

Upon completion of this course, students will be able to:

1. Define the characteristics of a scientifically literate person and society.
2. Identify and analyze the rationale for achieving scientific literacy.
3. Explain phenomena scientifically, evaluate and design scientific inquiry, and interpret data and evidence scientifically.
4. Express the states of knowing, capacities, and personal traits required for a scientifically literate individual.
5. Critically analyze scientific argument including written (primary literature, secondary literature, and media) and oral arguments.
6. Express scientific arguments and analyze scientific issues both orally and in writing.

Indicative Contents:

What is scientific literacy?

Rationales for developing scientific literacy including the different rationales: economic, personal, democratic, and cultural.

Designing scientific investigations

Interpreting scientific evidence

Critical analysis of scientific writing

Detecting misinformation in the era of “alternative facts” and “fake news”

How to effectively participate in scientific “arguments” and “controversies”

Teaching Method:

Students will meet twice each week for one and a half hours of lecture.

Course Assessment:

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| Assignments (in class and take-home) | 25% |
| Written Assignments | 25% |
| Debate/Discussion | 25% |
| Final Assignment | 25% |

Measurement of Learning Outcomes: Introduction to Science Literacy

| Assessment Method | Intended Learning Outcomes | | | | | |
|----------------------------|----------------------------|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Assignments | X | X | X | X | | |
| Writing Assignments | X | X | X | X | | X |
| Debates | | | X | X | X | X |
| Final Take-Home Assignment | | | X | X | X | X |

Required Readings:

There is no required textbook for this course. Readings from a variety of sources throughout the semester on the course moodle.

Important Notes:

1. Students are expected to spend a total of 9 hours (i.e. 3 hours of class contact and 6 hours of personal study) per week to achieve the course learning outcomes.
2. Students shall be aware of the University regulations about dishonest practice in course work, tests and examinations, and the possible consequences as stipulated in the Regulations Governing University Examinations. In particular, plagiarism, being a kind of dishonest practice, is “the presentation of another person’s work without proper acknowledgement of the source,

including exact phrases, or summarised ideas, or even footnotes/citations, whether protected by copyright or not, as the student's own work". Students are required to strictly follow university regulations governing academic integrity and honesty.

3. Students are required to submit writing assignment(s) using Turnitin.
4. To enhance students' understanding of plagiarism, a mini-course "Online Tutorial on Plagiarism Awareness" is available on <https://pla.ln.edu.hk/>.

Grading Rubrics

Assignments

| | Excellent (A, A-) | Good (B+, B, B-) | Fair (C+, C, C-) | Poor (D+, D) | Fail (F) |
|---|--|--|---|---|--|
| Context (20%) | Demonstrates excellent understanding of context and audience | Demonstrates good understanding of context and audience | Demonstrates some understanding of context and audience | Demonstrate minimal understanding of context and audience | Fails to demonstrate understanding of context and audience |
| Organization and Content (50%) | Includes excellent detail and full analysis of subject Organized in a thoughtful and effective manner | Includes good detail and analysis of subject Good organization | Includes fair detail and analysis of subject Fair organization, but some ideas could be expanded | Poor detail and analysis of subject Poor organization, ineffective in delivery | Fails to include detail and analysis of subject Unorganized delivery of content |
| Communication (30%) | Uses excellent language that effectively conveys the message Contains minimal errors | Uses good language that conveys the message Contains a few errors | Uses fair language to convey the message Contains some errors | Use poor language Contains excessive errors | Fails to convey the message |

Written Assignments

| | Excellent (A, A-) | Good (B+, B, B-) | Fair (C+, C, C-) | Poor (D+, D) | Fail (F) |
|---|---|---|---|--|--|
| Understanding context and audience (20%) | Demonstrates a thorough understanding of context and audience | Demonstrates good attention to the audience and purpose of the assignment | Demonstrates some understanding of context and audience | Demonstrate minimal understanding of context and audience | Fails to demonstrate understanding of context and audience |
| Depth and Organization of content (50%) | Includes in full depth of analysis and detail of subject matter and organizes the material in a thoughtful and effective manner | Includes good depth of analysis and detail subject matter and organizes the material but ideas could be organized and communicated more fully and effectively | Includes adequate depth of analysis and detail of subject matter and provides acceptable organization of the material but ideas could be organized and communicated much more fully and effectively | Include limited depth of subject matter or organize material | Fails to include adequate depth of subject matter or organize material |
| Uses language effectively (30%) | Uses language that effectively conveys the message and contains no errors | Uses clear language, the use of language may contain a few errors | Uses appropriate language, but these efforts may be simple, and the use of language may contain some errors | Use poor language and contains many errors | Fails to convey the message |

Debates

| | Excellent (A, A-) | Good (B+, B, B-) | Fair (C+, C, C-) | Poor (D+, D) | Fail (F) |
|--|---|--|--|---|---|
| Understanding of Topic (20%) | Demonstrates in-depth understanding of topic | Demonstrates good knowledge of topic | Demonstrated an understanding of major points, but lacked on some detail | Demonstrate minimal understanding of the topic | Fails to demonstrate understanding of the topic |
| Organization (20%) | Well organized presentations | Organized presentations | Organization of the presentations could be improved | Poor organization of presentations | Fails to organize presentations effectively |
| Arguments (statistics, examples, facts, etc) & Rebuttal (40%) | Excellent and repeated use of supporting arguments and evidence throughout, able to effectively rebut arguments using effective counter-arguments | Good use of supporting arguments and evidence, effectiveness of some arguments could be improved. Able to rebut with counter-arguments | Fair use of supporting arguments and evidence, may include a fewer effective arguments and inaccurate facts. Could improve counterarguments and ability to rebut arguments | Poor use of supporting arguments and evidence and unable to rebut arguments | Fails to provide useful supporting arguments and evidence and unable to rebut arguments |
| Communication (use of language, eye contact, tone, gestures, etc) (20%) | Delivery with language and communication style that conveyed the message effectively | Generally good use of language and communication style. Some room for improvement | Fair use of language and communication style. Room for improvement in both | Use poor language and ineffective communication style | Fails to convey the message |