

Course Title	: Food: Health, Technology and Environment
Course Code	: CLD9026
Recommended Study Year	: Any
No. of Credits/Term	: 3
Mode of Tuition	: Sectional
Class Contact Hours	: Two 1.5-hour sections per week
Category	: Science, Technology, Mathematics and Society
Prerequisite	: Nil
Co-requisite	: Nil
Exclusion	: Nil
Exemption Requirement	: Nil

Brief Course Description:

Food is essential to life. The course aims to provide students a comprehensive overview of scientific principles and issues related to food production and consumption by combining knowledge from multiple disciplines, including food science, environmental sciences, public health and social science. Upon completion of the course, students should be able to critically discuss the concepts and apply the knowledge to make healthy and sustainable choices of food.

Aims:

The course will start with lectures on food production, followed by food processing, human nutrition, digestive system, food-related disease and global food crisis. In class activities, for example, discussion and debate, global and local issues related to food will be introduced and addressed. Students will develop critical thinking skills and scientific literacy, alongside knowledge about food. Students will participate in independent projects (poster, oral presentation and/or written report) to learn a specific issue in depth. The ultimate goal of this course is to provide students with knowledge and skills and apply it to achieve a sustainable and healthy diet.

Learning Outcomes (LOs):

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

1. Describe and discuss the processes of food production
2. Describe and discuss the digestion system and nutritional requirement of humans
3. Evaluate global and local issues about food critically and scientifically
4. Apply the knowledge to make healthy and sustainable food choices
5. Articulate information and express ideas using written and oral media effectively

Indicative Contents:

- 1) Introduction to food resources
- 2) History of agricultural development
- 3) Contemporary agriculture
- 4) Aquaculture and fisheries
- 5) Environmental impacts of food production
- 6) Food resources and distribution
- 7) Food processing technology
- 8) Human nutrition
- 9) Human digestive system
- 10) Diseases related to dietary habits
- 11) Food and society – dietary habit in different cultures
- 12) Healthy and sustainable choice of food
- 13) Summary - global food issues

Teaching Method:

Sectional approach will be adopted. Lessons will make use of lectures, class activities, videos, in-class discussions and/or group projects to engage students in analyzing and reflecting on the topics introduced.

Classroom time will be split between lectures and class activities.

Lecture: A schedule, with the assigned readings connected to the lectures, will be provided to the students. The course contents will be introduced to the students through lectures with informative Powerpoint presentations. PowerPoints will be made available to the students through Moodle.

Class activities: Students will have a chance to learn and address key issues and concepts related to the lectures in a variety of activities, such as discussion, think-pair-share and debate. Global and local issues related to food, for example, global food crisis and food waste in Hong Kong, will be covered.

Independent projects will be assigned to students. Students will independently explore a specific topic and present on a poster, an oral presentation and a written report. The poster (non-technical) targets to illustrate the issue clearly to non-science majors at Lingnan. In the oral presentation, students will explain the content on the poster in class. In-depth discussion of the topic will be included in the written report.

A sample topic: “*Climate change and food production*”. Explain the relationship between food production and weather by providing evidence from literature. Provide examples of how food production will be affected by global climate change. Critically discuss what has been and can be done to minimize the negative impacts.

The examinations will test students’ knowledge on the material presented and discussed in the lectures and tutorials. Questions will be in the form of multiple-choice, short answer, and/or short essay questions. Multiple-choice questions will test on key details, while short answer and short essay will test on synthesis of material.

Assessment:

Tests: 50% (Test 1: 25%, Test 2: 25%)

Independent project: 25%

Continuous assessment: 25% (assignments, presentations, participation)

Measurement of Learning Outcomes:

Learning Outcome	Assessment Method		
	Tests	Project	Tutorial
Comprehend the processes of food production	X		X
Comprehend the digestion system and nutritional requirement of humans	X		X
Evaluate global and local issues about food critically and scientifically	X	X	X
Apply the knowledge to make healthy and sustainable food choices	X	X	X
Articulate information and express ideas using written and oral media effectively	X	X	X

Recommended Readings (selected topics):

FAO (2017) *The future of food and agriculture – Trends and challenges*. Food and Agriculture Organization of the United Nations, Italy.

Mader S, Windelspecht M (2012) *Biology*. McGraw-Hill Higher Education, USA.

Nierenberg D (2018) *Nourished Planet: Sustainability in the Global Food System*. Island Press, USA.

Wright RT (2008) *Environmental Science*. Pearson, UK.

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 (<http://www.ln.edu.hk/reg/docs/arue.pdf>). 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. Plagiarism (unattributed copying) will be heavily penalized and may attract zero mark and disciplinary action.
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/>.

Assessment Rubrics

Tests

	Excellent (A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Poor (D+, D, F)
Organization (30%)	Answer organized in a thoughtful and effective manner	Answer mostly organized and effective	Answer disorganized and/or ineffective in some places	Answer completely disorganized and ineffective
Content (40%)	Information accurate Correct amount of detail	Information has a few mistakes Good amount of detail	Information has some mistakes Fair amount of detail	Information has many mistakes Poor amount of detail
Communication (30%)	Excellent communication using writing/diagrams	Good communication using writing/diagrams	Fair communication using writing/diagrams	Poor communication using writing/diagrams

Independent Project (e.g. poster project)

	Excellent (5)	Good (4)	Adequate (3)	Inadequate (≤2)
Content (30%)	<input type="checkbox"/> Perfect amount of information <input type="checkbox"/> Advanced synthesis of material <input type="checkbox"/> Advanced insight into topic <input type="checkbox"/> All material appropriate for audience <input type="checkbox"/> Captivating, interesting material <input type="checkbox"/> Audience leaves with high understanding	<input type="checkbox"/> Good amount of information <input type="checkbox"/> Good synthesis of material <input type="checkbox"/> Good insight into topic <input type="checkbox"/> Most material appropriate for audience <input type="checkbox"/> Interesting material <input type="checkbox"/> Audience leaves with good understanding	<input type="checkbox"/> Adequate amount of information <input type="checkbox"/> Some synthesis of material <input type="checkbox"/> Some insight into topic <input type="checkbox"/> Some material too easy or difficult <input type="checkbox"/> Straightforward material <input type="checkbox"/> Audience leaves with superficial understanding	<input type="checkbox"/> Inappropriate amount of information <input type="checkbox"/> Little or no synthesis <input type="checkbox"/> Little or no insight <input type="checkbox"/> Most material too easy or difficult <input type="checkbox"/> Boring material <input type="checkbox"/> Audience no new understanding
Organization & Clarity (25%)	<input type="checkbox"/> All main points clearly stated <input type="checkbox"/> All main points clearly explained <input type="checkbox"/> All sections clear focus <input type="checkbox"/> Logical, smooth flow of information <input type="checkbox"/> Advanced language—skillfully communicate	<input type="checkbox"/> Most main points clearly stated <input type="checkbox"/> Most main points clearly explained <input type="checkbox"/> Most sections clear focus <input type="checkbox"/> Generally logical, smooth flow of information <input type="checkbox"/> Straightforward language—generally convey meaning	<input type="checkbox"/> Some main points clearly stated <input type="checkbox"/> Some main points clearly explained <input type="checkbox"/> Some sections clear focus <input type="checkbox"/> Flow ok, but gaps in logic are evident <input type="checkbox"/> Language generally conveys meaning	<input type="checkbox"/> Main points unclear <input type="checkbox"/> Main points unexplained <input type="checkbox"/> No focus of sections <input type="checkbox"/> Jumps between disconnected topics <input type="checkbox"/> Poor language usage
Layout and Design (25%)	<input type="checkbox"/> Attractive, organized layout <input type="checkbox"/> All graphics expertly produced and easily understood <input type="checkbox"/> All graphics related and necessary to topic <input type="checkbox"/> Size of text and graphics perfect <input type="checkbox"/> High-level of creativity	<input type="checkbox"/> Organized layout <input type="checkbox"/> Most graphics clean and easily understood <input type="checkbox"/> Most graphics related and necessary to topic <input type="checkbox"/> Size of text and graphics good <input type="checkbox"/> Good creativity	<input type="checkbox"/> Acceptable layout <input type="checkbox"/> Some graphics not easily understood <input type="checkbox"/> Some graphics do not contribute to the topic <input type="checkbox"/> Some text and graphics not easy to read <input type="checkbox"/> Adequate creativity	<input type="checkbox"/> Disorganized layout <input type="checkbox"/> Graphics unclear and not understood <input type="checkbox"/> Graphics not connected to topic <input type="checkbox"/> Most text and graphics cannot be read <input type="checkbox"/> Low creativity
Technical (20%)	<input type="checkbox"/> 2 primary references <input type="checkbox"/> High-quality, relevant sources <input type="checkbox"/> All sources accurately documented <input type="checkbox"/> Perfect spelling, punctuation, and grammar	<input type="checkbox"/> 1 primary reference <input type="checkbox"/> All relevant sources <input type="checkbox"/> Some errors in documenting sources <input type="checkbox"/> Minor mistakes in spelling, punctuation, and grammar	<input type="checkbox"/> All secondary references <input type="checkbox"/> Some sources not relevant <input type="checkbox"/> Documenting sources incomplete or major errors <input type="checkbox"/> Major mistakes in spelling, punctuation and grammar	<input type="checkbox"/> No references <input type="checkbox"/> All sources not relevant <input type="checkbox"/> Disorganized and/or missing references <input type="checkbox"/> Excessive mistakes

Continuous Assessment

Assignment

	Excellent (A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Poor (D+, D, F)
Context (30%)	Demonstrates excellent understanding of context and audience	Demonstrates good understanding of context and audience	Demonstrates some understanding of context and audience	Does not demonstrate understanding of context and audience
Organization and Content (40%)	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
Communication (30%)	Uses excellent language that effectively conveys the message Contains minimal errors	Uses good language that conveys the message Contains few errors	Uses fair language to convey the message Contains some errors	Fails to use clear language Contains excessive errors

Presentation

	Excellent (A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Poor (D+, D, F)
Organization (20%)	Presents information in a logical, interesting sequence	Present information in a somewhat logical sequence	Minimal organization, difficulty following presentation	Lack of organization, cannot understand presentation
Subject Knowledge (20%)	Demonstrates full knowledge with clear, detailed explanations Able to answer questions	Demonstrates good knowledge with explanations Answers to questions adequate, but lacking some detail	Demonstrates fair knowledge Can only answer rudimentary questions	No grasp of information Cannot answer questions about subject
Graphics (20%)	Graphics essential and reinforce text/presentation	Graphics useful and reinforce text/presentation	Some graphics do not support text/presentation	No graphics or graphics do not relate to presentation
Communication (20%)	No language problems (spelling, grammar)	Some language problems	Many language problems	Excessive language problems
Presentation (20%)	Clear, loud voices Eye contact with audience Works hard to engage	Voice generally clear Some eye contact Some engagement of audience	Voice too low Minimal eye contact Minimal engagement of audience	Voice unclear No eye contact No engagement of audience

	audience			
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Participation

Criteria	Excellent (A, A-)	Good (B+, B, B-)	Fair (C+,C,C-)	Poor (D+, D, F)
Class participation (50%)	Participates regularly and enthusiastically	Participates now and then	Participates only when asked by the instructor	Participation is nil or almost nil
Expression (50%)	Expression of ideas or opinions is consistently factually accurate, logical and clear	Expression of ideas or opinions is generally factually accurate, logical and clear. Lapses were rare and minor in nature	Expression of ideas or opinions is generally factually accurate, logical and clear, but with a number of minor lapses	Ideas or opinions are not expressed logically, and are characterized by significant factual inaccuracies and lack of clarity