

课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	课程名称 Course Title	The Language of Interdisciplinary Problem Solving				
2.	授课院系 Originating Department	Center for Language Education				
3.	课程编号 Course Code	CLE047				
4.	课程学分 Credit Value	2				
5.	课程类别 Course Type	通识选修课程 General Education (GE) Elective Courses				
6.	授课学期 Semester	春季 Spring / 夏季 Summer / 秋季 Fall				
7.	授课语言 Teaching Language	英文 English				
8.	授课教师、所属学系、联系方式 (如属团队授课, 请列明其他授课教师) Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	The main instructor will be Stephen Pellerine, but not limited to depending on number of enrolled participants.				
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	无 NA				
10.	选课人数限额(可不填) Maximum Enrolment (Optional)	20-40				
11.	授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total
	学时数	32	0	0	0	32

Credit Hours

--	--	--	--	--

12.	先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	无 NA
13.	后续课程、其它学习规划 Courses for which this course is a pre-requisite	无 NA
14.	其它要求修读本课程的学系 Cross-listing Dept.	无 NA

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

A primary objective is to provide students with the opportunity to learn language from various academic disciplines, centering on problem solving.

A secondary objective is to facilitate interdepartmental collaborations in meaningful academic forms that keep student progress at the center of attention, yet demonstrate professional academic partnerships.

This course is considered to be very progressive and 21st century in that content and expertise comes together, from many vantage points, and produces a cohesive theme that is cognitively beneficial to SUSTech in many ways.

This course should be a model that other institutes can model from, placing SUSTech as a leader in Education.

16. 预达学习成果 Learning Outcomes

Upon successful completion of this course, students will:

- develop note taking skills (In English) in an academic setting
- demonstrate gain in interdisciplinary thinking through writing assignments and presentations
- develop academic writing, aware fully of avoiding plagiarism, since their main course essay will come from in class guests, and assigned reading "notes".
- deliver a final presentation demonstrating a case which an interdisciplinary mind-set was required, for deriving a solution

17. 课程内容及教学日历 (如授课语言以英文为主, 则课程内容介绍可以用英文; 如团队教学或模块教学, 教学日历须注明主讲人)
Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

Week 1: Panel Discussion/Introduction to course) / Hand out materials in second hour (**Education Lecture**) L1

Class 1: SLO Students will understand, through an English lecture, why interdisciplinary thinking has emerged in the 21st century more than ever before as a theme in education and academics. They will be tasked with note taking and a mini writing reflection on this experience.

Class 2: SLO In the second hour, of this first week, students will be provided with a course pack. This will be reviewed in class (in brief) and they will for 8 groups (1 per discipline represented in this course) and will be tasked with presenting the gist understanding to the class, from their brief review.

Week 2: Looking at the last lecture linking to the next (discussing reading assigned)

Class 3 SLO Students will share their notes (homework) from a reading related to the talk on interdisciplinary education. They will discuss this and link the content to last weeks talk, and as a class we will summarize the value of this pioneering course.

Class 4 SLO In the second part of week two, we will look closely at the literature provided on an Engineering oriented talk which addresses the interdisciplinary. Students will have been requested to bring on one other document (any) that they have found relating to the article. In future sessions more academic stilted text will be required, but at this stage the idea is to have students develop backgrounds through any source – while being critically reflective on the nature of the source.

Week 3: Guest Speaker 1 (30 min talk + 20 min Q&A) / Class Discussion (**Engineering**) L2

Class 5 SLO In the first hour of this session students will hear a lecture on their “Engineering” case study (the reading reviewed last week). They will have the opportunity to ask questions to the presenter. An emphasis will be placed on succinct questions: quick question and let them respond.

Class 6 SLO Following the first hour, students will have the chance to discuss any points of interest and will be encouraged to link their extra self-selected reading. We will determine how the talk was interdisciplinary and compare this to thoughts from the initial lecture on education.

Week 4: Hour 1 Introduce MLA/APA Formatting, Conventions of Writing Academic Papers/Link (week 2,4, & 6)

Class 7 SLO Students will be presented with a dissertation on bio mimicry. The document is quite detailed and lengthy, a 137 page report. The goal is not to master the document, but to see what the points being made are as well as analyzing the paper for linguistic values/stylistic values. How does the author cite? How are references done? How are table of contents made in formal papers? Et cetera. The aim is to, in an interwoven way, provide them with a quality dissertation to demonstrate to them what may come in their writing future.

Class 8SLO In the second hour students will isolate lexical stems (i.e. According to, although ___ claims ___ proponents of this argument have suggested ____, to shine the light on _____, et cetera). These stems will be tools that students can use in this course paper.

These two tasks will prepare them for next weeks talk.

Week 5, Guest Speaker (30 min talk + 20 min Q&A) / Class Discussion (**Biology**) L3

Class 9: SLO In the first hour students will hear a talk on the literature they have been analyzing. They will have the opportunity to ask questions and deepen their understanding on the talk.

Class10: SLO In the second hour students will be placed into four groups. 1 group will prepare and present a review of the talk on Education, and will try to link and idea or two to the talks on Engineering and Biology. A second group will focus on Biology and link to Education and Biology, the third focusing on Biology linking to Education and Engineering. The fourth group will present and discuss two-three main points from each topic (the points can be from lectures or assigned readings).

Week 6, Introduce groups for final presentation / Discuss challenges with paper (reference page started)

Class 11: SLO Students will make groups (of about 5) for a final presentation. Based on the past lectures, and course materials for future talks, they will start to negotiate their topics for this. A brief presentation will be given on public speaking: verbal punctuation or signposting, stance, volume and clarity, clean and easy to follow slides, and a clear direction of their talk (cutting it down to a clear example).

Class 12: SLO In the second hour students will discuss the applications of mathematics and how statistics, math, and algebra are valuable from the view of application. We will discuss this in relation to the materials provided from the algebra lecture in the following week.

Week 7: Class 6: Hour 1 Guest Speaker (30 min talk + 20 min Q&A) / Class Discussion (**Algebra**) L4

Class13: SLO students will hear a different kind of talk on algebra, not the formulas and philosophies, but the applications and how problems in various fields have been solved through either complex or simple math, like the work of Shannon, entropy in general, ANOVAs, or simple number needed solutions.

Class 14: SLO Students will have heard a lecture on algebra and we will discuss this. Students will have been tasked with finding a case, for homework, where algebra and math/statistics provides solutions in other disciplines and help solve challenges.

I, the instructor, will present a paper written at Oxford addressing education, and in this the European Social Survey was used as a data set for investigating migrant language proficiency (lack thereof) and disadvantage they have in accessing health care in the UK.

Week 8, Class 8: Summarize links (Compare and Contrast) between: Engineering, Education, Biology, and Algebra.

Class15: SLO In the first hour students will practice impromptu public speaking. Each student will be given an index card and 5 minutes to use their notes and reflect on the course thus far. 1) What was the most interesting thing they learned thus far, 2) How was it interdisciplinary, 3) How can this shape their future thinking.

In the time remaining (in hour 1) random numbers will be picked and students will be tasked with a 3-5 minute speech (not graded) to practice their public speaking.

Class 17: SLO students will be asked to reflect on biochemistry, how math/numbers are important for dealing with chemistry, how are new synthetic chemicals engineered. We will then look at the materials presented by the lecturer on chemistry.

Week 9, Class 9: Hour 1 Guest Speaker (30 min talk + 20 min Q&A) / Class Discussion (**Chemistry**) L5

Class 18: We will hear a talk on chemistry that looks at synthetic materials and how these materials may shape the future for society. There will be a question and answer period.

Class 19: SLO Students will be asked to think of how chemistry has shaped the world, past present, and future. They will then be asked to get back into groups and think about a past present and future for their presentation (does it help them a – build the background b – describe the problem being solved itself c – offer important insights for the future. No group will be forced to add this into their final presentation but will be required to discuss this possibility in this class.

Week 10, Class 10: Students will present individual progress on individual papers (5 min presentations with Q & A)

Class 20: SLO Individual paper presentations with Q & A

Class 21: SLO Individual paper presentations with Q & A

Students will be asked and reminded to read the Physics article for next week, as we have been doing in class. They should have the idea now and the goal is to develop learner independence.

Week 11, Class 11: Hour 1 Guest Speaker (30 min talk + 20 min Q&A) / Class Discussion (**Physics**) L6

Class 22: SLO Students will hear a lecture on physics, and how physics is an integral part of many disciplines.

Class 23: SLO In addition to having read the article, and listened to the lecture on physics, students will be responsible for bringing one idea to class that links the article/or talk with a daily life application. Groups will discuss these. The most interesting will be shared with the class.

Week 12, Class 12: Hour 1 Guest Speaker (30 min talk + 20 min Q&A) / Class Discussion (**Economics**) L7

Class 24: : SLO It all boils down to money. Economics will be presented as a pure discipline, but quickly linked to .. well.. any and everything. The lecturer can elicit a lot from students on this, and engage them in conversations on how finance and economics can be tied to all disciplines.

Class 25: SLO students will be asked to consider the talk on Economics, and see if and how this links to their presentation. No group will be forced to add this into their final presentation but will be required to discuss this possibility in this class.

Week 13, Class 13: Hour 1 Guest Speaker (30 min talk + 20 min Q&A) / Class Discussion (**Computing Science**) L8

Class 26: SLO For the final session computing science will be presented in a way that links to all previous talks, computing in: Education, Physics, Chemistry, Biology, Engineering, Economics, and Algebra.

Class 27: SLO Students will discuss computing, and the future of computing. We will briefly look at the Agricultural Revolution, the Industrial Revolution and the current Technological Revolution. We will consider what is next? The nan technological revolution? If so, what role will computer science play?

Week 14, Class 14: Looking into the future with groups (planning final group case presentation)

Class 28: SLO Students will review all lectures after they are provided with a take-home exam. The exam is constructed to capture their learning and bring points together from readings and content delivered via 8 lectures. Students can clarify point son the take home exam.

Class 29: SLO In the second half of the session students will get into groups and make sure PPTs for presentations are complete. If the do not use a PPT some kind of visual aid/hand out is required. Students will have time to practice speaking and working on pronunciation/intonation for the final group case presentations.

Week 15, Class 15: Sharing Individual Papers (there will be a class book collated with student chapters)

Take home exam is due next week: Second hr recapping talks

Class 30: SLO Students will share their chapter (their essay) in a class book, titled "Interdisciplinary Problems: Interdisciplinary Solutions".

Class 31: SLO Presentation (informal) will take place on papers. With any remaining time questions will be addressed regarding the take-home exam.

Week 16, Class 16: Group Presentations

Group presentations will take place this week. Panel will be invited to observe.

18. 教材及其它参考资料 **Textbook and Supplementary Readings**

Articles and materials presented by guest speakers

TED Talk as a back up (bit will try to avoid this)

Will record lectures, if possible, so absent students can see and they can act as back-up lectures for future runnings of the course.

课程评估 **ASSESSMENT**

19. 评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance		10%	-2%	1 class unexcused is ok
课堂表现 Class Performance		11%		Teacher Evaluation
小测验 Quiz				
课程项目 Projects	Note taking log	14%		Log to be handed in
平时作业 Assignments	Paper/Essay	20%		1500-3000 word essay
期中考试 Mid-Term Test				
期末考试 Final Exam				
期末报告 Final Presentation	Week 15 or 16	20% in class		In Groups Cases will be Presented Demonstrating a Significant Problem the Required an Interdisciplinary Solution
其它 (可根据需要 改写以上评估方 式) Others (The above may be modified as necessary)	Handed out in week 12	25% Take home exam		Culminating reflections on problem solving

20. 记分方式 **GRADING SYSTEM**

Yes 十三级等级制 **Letter Grading**

B. 二级记分制 (通过/不通过) **Pass/Fail Grading**

课程审批 **REVIEW AND APPROVAL**

21. 本课程设置已经过以下责任人/委员会审议通过
This Course has been approved by the following person or committee of authority

Center for Language Education