THE EDUCATION UNIVERSITY OF HONG KONG

Handbook for General Education Interdisciplinary Courses (GEICs) (for 2019/20 cohort and onwards)

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1. Introduction

1.1 The Academic Board endorsed the new curriculum structures of both BEd and Non-BEd programmes from the 2019/20 intake in September and December 2017 respectively (AB 58 & 82/2017 refer). Under the new curriculum, students have to take one Interdisciplinary Course in the General Education (GE) domain as part of the 9 credit-point Breadth Course requirement.

1.2 In the framework of the GE domain, General Education Interdisciplinary Courses (GEICs):

a) focus on themes and issues that cut across disciplinary boundaries and promote dialogues or interaction between two or more disciplines;
b) aim at promoting understanding on the complexity and diversity in ontological, epistemological and methodological domains;
c) apply multiple thinking skills to the inquiry into real-life issues/ problems; and
d) are more concerned about the connectivity and/or integration of disciplinary concepts, perspectives and skills.

1.3 This handbook (i) elaborates on the definition and rationale for GEICs; (ii) provides examples from other institutions; (iii) makes suggestions on what the themes could be; and (iv) details the course development guidelines.

2. Definition and Rationale

2.1 The interdisciplinary approach has become an important element of any contemporary curriculum – partly because the world and the world of work, for that matter, have become more volatile, uncertain, complex, and ambiguous. A single skill-set or one single area of expertise will not take our graduates too far. Knowledge has become more unbounded and innovation often happens at intersections of traditional disciplines (Holley, 2017). The interdisciplinary approach seems to be more conducive to nurturing the lifelong learning and creative disposition that are essential to our students' future.

2.2 An interdisciplinary study is identified as "addressing a topic that is too broad or complex to be dealt with adequately by a single discipline or profession" (Klein & Newell, 1997, p. 393). It "draws on disciplinary perspectives and integrates their insights through construction of a more comprehensive perspective" (Klein & Newell, 1997, p. 394).

2.3 As such, the interdisciplinary approach is premised on ***interaction*** and ***integration***, which complements the "breadth" in general education. Repko (2008) elaborates that "in the context of interdisciplinarity, integration is a process by which ideas, data and information, methods, tools, concepts, and/or theories from two or more disciplines are synthesized, connected, or blended" (p. 4). Jones (2010) reiterates that interdisciplinary techniques help the learner's "lifelong learning habits, academic skills, and personal growth" besides helping him/her "learn any one single discipline or solve a problem in a synthesized manner" (p. 78).

2.4 Repko (2008) further discusses four techniques that characterize the interdisciplinary process.

a) **Redefinition** – certain terms, when used in different disciplines and contexts, might take on different meanings. The interdisciplinary process helps to compare and contrast definitions, and construct new ones.
b) **Extension** – to bring a concept from one discipline to another would highlight some common ground unseen before. For example, in recent years, the concept of sustainability has been extended from the environment to include cultural and economic issues, opening up new dialogues and areas for research.
c) **Organization** – The focus in argumentation and knowledge organization in one discipline varies from another. To align perspectives along a continuum of parameters would be an interdisciplinary process.
d) **Transformation** – Turning traditionally opposite (and axiomatic) schools of thoughts into more fluid variables that can be further studied and re-examined.

2.5 Following suit, interdisciplinary learning requires interaction of knowledge from different disciplines; integration of knowledge from different disciplines; and an **overarching topic, theme, or problem that shapes the learning experience**. Klein (2005) argues that when done well, interdisciplinary studies should enable students to:

a) **ask meaningful questions** about complex issues and problems;
b) locate **multiple sources** of knowledge, information, and perspectives;
c) compare and contrast them to reveal **patterns and connections**;
d) create an **integrative framework and a more holistic understanding**; and
e) adapt knowledge in **unexpected and changing contexts**.

2.6 In the GE domain, GEIC makes sure that students are not only afforded a wide range of disciplinary learning but also the opportunities to develop and exercise metacognitive skills for gaining deep understanding of issues of significance, making reasonable decisions and judgments about them, and knowing when/how to make plans ahead.

3. Local and International Examples

3.1 While many universities start to embrace interdisciplinarity in their curricula, not all of them have yet opted for incorporating such an element in the general education domain. Below are some examples for reference.

3.2 *Local*

3.2.1 At the Baptist University of Hong Kong, all General Education (GE) courses and independent studies would be interdisciplinary from the 2018/19 academic year. They were designed to open up students' minds "to new ideas and perspectives" and help them "acquire a deeper understanding of people and issues through making connections at personal, societal and historical levels" (General Education Office, Hong Kong Baptist University, 2021). Three levels of learning consisting of Foundational Courses, Interdisciplinary Thematic Courses and the GE Capstone were included in the GE programme.

The foundational courses include three categories, namely History and Civilization, Quantitative Reasoning and Values and the Meaning of Life. Some examples of their current offerings are:

a) Religion, Philosophy and the Rise of Modern Science;
b) Life is a Game; How to Win? and
c) Freedom in Modern Society.

For the interdisciplinary thematic courses, programmes under one of the three themes including Culture, Creativity and Innovation, Science, Technology and Society, and Sustainable Communities are offered. Here are some examples of their current thematic courses:

a) Creative Entrepreneurship;
b) Astronomy for the 21st Century; and
c) Human Rights in a Multicultural World.

To synthesize knowledge from different disciplines, students are required to complete the GE capstone course[1]. For the Interdisciplinary GE capstone course, structured classes with a project as the key element would be provided, while an interdisciplinary project[2] under the supervision of a member from the faculty would have to be done for the interdisciplinary independent study.

[1] Students can either complete the interdisciplinary GE capstone course or the interdisciplinary independent study.
[2] The project can either be a group project or an individual project of the student's own choice.

3.2.2 At the Hong Kong University of Science and Technology (HKUST), the Interdisciplinary Programs Office was established in 2008 to host three divisions - The Division of Environment and Sustainability[3], The Division of Public Policy[4] and The Division of Emerging Interdisciplinary Areas[5]. This Office hosts a number of undergraduate and postgraduate programmes on its own, such as BSc in Environmental Management and Technology and PhD in Atmospheric Environmental Science. It aims at supporting new educational initiatives at HKUST, including policy, sustainability, design thinking and entrepreneurship (Interdisciplinary Programs Office, HKUST, 2021).

3.2.3 At the Hong Kong Shue Yan University, the General Education Programme aims at providing students with opportunities to develop and apply relevant skills, knowledge, and social responsibilities focusing on four areas: Chinese Culture in the 21st Century, Communication and Literacy, Global Citizenship, and Interdisciplinary Perspective (General Education, Hong Kong Shue Yan University, 2021). Here are some examples of the courses in the area of Interdisciplinary Perspective:

a) Nature and Spirituality;
b) Science, Film and Fiction;
c) Cultural Insights for Business Success; and
d) Economics and Sports.

3.2.4 In addition, the "Common Core@HKU: Transdisciplinarity-in-Action" at the University of Hong Kong, an award-winning programme, is designed to broaden students' intellectual and social perspectives, and to develop skills needed to address the complexities of life. This unique programme involves pedagogical questions, styles, content, and methodologies, and through this curriculum movement, stimulates student learning, creativity, and responsibility (Common Core, The University of Hong Kong, 2019).

3.3 *International*

3.3.1 Hands-on Projects

3.3.1.1 In the U.S., interdisciplinary work is often connected with "making" (i.e., hands-on tasks), design thinking, and creativity. At Stanford University, their Institute of Design organizes three types of experiential classes that bring together students from all faculties to collaborate and tackle authentic problems. The three types are the "core" (on design thinking; for credit), the "boost" (on advanced topics; for

[3] The main areas of focus of the division are climate change, environmental changes on regional and local scales, and economic and social impact and solutions for environmental problems.
[4] The main areas of focus of the division are the key challenges faced by Hong Kong and Greater China such as China's Development Policy.
[5] The main areas of focus of the division are the agile development of new education programs and the emerging interdisciplinary research areas.

credit) and the "pop-up/out" (on/off campus, informal/ for fun, non-credit)[6]. For example, in the core course "Beyond Pink and Blue: Gender in Tech," students of media and innovation, sex and gender studies, and design and product investment engage in focused interactions to update the institute's empathy field guide and develop other web-based gender inclusive toolkits. Other themes in the core cluster include:

a) Inventing the Future;
b) The Designer in Society;
c) Transformative Design; and
d) Forget All the Jargon, Let's Innovate!

3.3.1.2 At Princeton University, The Council on Science and Technology (CST)[7] launched a project-based undergraduate class entitled "Transformations in Engineering and the Arts"[8] in 2016. Roughly 10 students from different backgrounds form a group and work on a hands-on project together. The first half of the semester focuses on the topics of visuals, sound, structure and movement. The modules include lectures, hands-on activities, discussions of aesthetics in well-known pieces, mini-design challenges, and tutorials on tools. The second half of the semester is dedicated to independent or group design projects. Topics of the projects include:

a) artful visualizations of sound and compositions (or translations of movement into sound);
b) motion-capture game that pits one player moving in a physical space against another operating a computer;
c) hourglass that uses water instead of sand to express the different concepts of time; and
d) a system that captures the movements of a person's hands and portrays them in stylized computer graphics settings.

A similar course, entitled "Creative Process", is also being offered at the University of Michigan[9].

3.3.1.3 The University of Sydney also offers a similar interdisciplinary project option, named as Industry and Community Project Units (ICPUs). The focus of the ICPUs is more on partnership with the industry (including leading business, government and community organizations), hence giving students a taster of career experience,

[6] The details of the three types of experiential classes are available at https://dschool.stanford.edu/classes#semester
[7] In collaboration with the School of Engineering and Applied Science, the Department of Music, and the Center for the Arts.
[8] The news for the project is available at https://www.princeton.edu/news/2016/07/18/transformations-students-find-creativity-intersection-art-and-engineering?section=featured
[9] The introduction of the course is available at http://www.crlt.umich.edu/opening-students-minds-through-interdisciplinary-making

a boost of employability and a chance of tackling real-world issues[10]. Examples of their project units for this year are:

a) Reimagining university admissions for wider access to higher education (partnering with Universities Admission Centre);
b) Building a collaborative conservation and restoration future (partnering with Wandiyali Environa Wildlife Sanctuary);
c) Closing the digital skills gap (partnering with Adobe); and
d) Sustainable decision making (partnering with Accenture)[11].

3.3.1.4 At University of Plymouth (U.K.), a cross-disciplinary team launched the project "The Sea and Me" which is a collaborative project designed for students of Photography and Marine Science to raise environmental awareness and communication through photography (Plymouth University, 2016). The project involved background knowledge lectures, field trips, a public exhibition and a post-project evaluation. This project team later on received a greater sum of national-level funding to further develop a toolkit, The Learning for the Future[12], for undergraduate interdisciplinary learning.

3.3.2 Interdisciplinary courses

3.3.2.1 At Manchester University (U.K.), interdisciplinary courses are conducted to provide students with "signature lectures from some of the world's leading minds in their fields", "experiences in enterprise and leadership", and to "give students the edge in the graduate jobs market". Flexibility and multidisciplinary interests are built into different majors. Undergraduate courses are divided into units, some examples of the course units are:

a) AI: Robot Overlord, Replacement or Colleague?
b) Are We Alone? The Search for Extraterrestrial Life;
c) Creating a Sustainable World: 21st Century Challenges and the Sustainable Development Goals;
d) Equality, Diversity and Inclusion: Your Role in Shaping a Fairer World;
e) Trust and Security in a Digital World: From Fake News to Cybercriminals;
f) Understanding Mental Health.[13]

[10] The detail of the project unit is available at https://sydney.edu.au/study/study-options/undergraduate-courses/interdisciplinary-projects.html
[11] More examples of the ICPUs for the Semesters 1 and 2, 2021 are available at https://www.sydney.edu.au/students/industry-and-community-projects/projects-and-partners.html
[12] The detail of the toolkit is available at https://www.plymouth.ac.uk/about-us/teaching-and-learning/guidance-and-resources/interdisciplinary-learning
[13] The introduction of the interdisciplinary learning at Manchester is available at https://www.manchester.ac.uk/study/undergraduate/expanding-study/interdisciplinary-learning/

3.3.2.2 At the National University of Singapore, interdisciplinary courses are embedded in the general education curriculum without a clearly delineated strand (University of Singapore, 2021). Also, an interdisciplinary class as part of the informal learning curriculum, called Reading Groups, were offered to students on a residential college basis[14].

3.3.2.3 At West Chester University (U.S.), Interdisciplinary Requirement is one of the General Education Requirements. By using an inquiry approach, the interdisciplinary courses question and offer an alternative to traditional knowledge production processes in that they seek to be integrative and holistic. Examples of those courses include:

a) American Civilization;
b) Artifacts and Culture;
c) Gender and Peace; and
d) Introduction to Digital Humanities.[15]

Similarly, interdisciplinary courses are team-taught by more than one faculty member from different departments in New York City College of Technology (U.S.), such as "Research Methods in the Social and Behavioral Sciences", "Topics in Modern World History Since 1945", and "Environmental Economics"[16].

3.3.2.4 At North Carolina State University (U.S.), Interdisciplinary Perspectives course is one of the categories of the General Education Program for undergraduates. Focusing on interdisciplinary content and approaches, the courses are taught by teams of faculty or experts from different disciplines or individual faculty members who are experts in multiple disciplines (Interdisciplinary Perspectives, North Carolina State University, 2020). Examples of those courses are:

a) Technology in Society & Culture;
b) Teaching Environmental Education; and
c) Equity and Education.

[14] The introduction of Reading Groups is available at https://capt.nus.edu.sg/current-students/reading-groups
[15] The detailed Course List is available at https://catalog.wcupa.edu/undergraduate/general-education-requirements/interdisciplinary-requirement/#header
[16] The detailed Course List is available at http://www.citytech.cuny.edu/advisement/interdisciplinary.aspx

3.3.2.5 Boston University turns the complete set of courses[17] in their general education programme into "The Minor in Core Interdisciplinary Studies," which emphasizes an interdisciplinary and global reach, as well as a capstone experience. This minor programme is supposed to prepare students to undertake further innovative research work that crosses disciplinary boundaries. Courses are taught in small discussion-based seminars led by some of the University's most enthusiastic teachers. Similarly, at the University of British Columbia (Canada), Bachelor of Arts students can opt for the Interdisciplinary Studies programme[18] in which they can choose a series of courses drawn from two of four broad categories – the Creative and Performing Arts, the Humanities, the Physical and Life Sciences, and the Social Sciences – and that suit their own learning and career goals.

3.4 Consortium to address a global challenge

3.4.1 Another popular model for offering interdisciplinary courses is based on exploring and discussing, in a consortium format, a "global challenge," such as achieving gender equity, reforming the global trade framework, helping developing communities and addressing the impact of climate change. In the U.K., the University of Sheffield has designed a programme called 'Global Engineering Challenge' for first-year engineering students. In this project, students would work in interdisciplinary teams with other engineering students to find solutions to engineering problems faced by developing communities around the world, such as the innovative use of local materials for houses and the water purification at the household scale (The University of Sheffield, 2021). Students would be able to collaborate with engineers from different disciplines and be encouraged to think from a global perspective.

3.4.2 At the University of Washington, staffs, alumni and students from various institutions were invited to a public conversation called 'Global Challenge Discussion' in November 2020. Participants were given opportunities to explore the topic of communicating crises across a divided public in an interdisciplinary way and were engaged in open discussions with members from different faculties (University of Washington, 2021).

3.5 According to the practical experience gained from local and international universities, the possible themes, problems and/or issues of Interdisciplinary Courses are those topics of common interest, where multiple perspectives (ideological and/or geographical) could be used in tackling them, all leading to innumerable views or positions eventually. The offering patterns of Interdisciplinary Courses vary, including:

[17] Courses are usually conceptualized in pairs. For example, in the duo CAS CC 101 and CC 111, first-semester students explore humanity's long-lasting fascination with "origins" in the accounts from ancient civilizations and present-day scientific research.

[18] Details are available at http://you.ubc.ca/ubc_programs/interdisciplinary-studies/

a) mass lectures and learning activities plus independent/group design project;
b) hands-on project-based tasks to be tackled by students from all faculties through different formats (formal and non-formal, on and off campus, blended learning);
c) partnership with other universities and industrial sectors; and
d) co-teaching with further reading and interactive discussion/ activities.

4. GEICs at EdUHK: Some Guiding Thoughts

4.1 Three courses were conducted in the first and second pilot exercises in 2019/20 and 2020/21 respectively (see **Table 1**). Since the "Four Cos", namely co-planning, co-teaching, co-assessing and co-evaluating, are the key concepts of GEIC pedagogy and the foundation of GEIC, and they should be present and be incorporated in each GEIC. The "Four Cos" are suggested and explained with literature support in **Appendix I**. Faculties are invited to consider a range of modes of course delivery (i.e. Parallel Mode, Rotational Mode and Interactive Mode which are elaborated in **Appendix II**) or other alternative modes that suit their course features.

Table 1: Courses involved in the first and second pilot exercises

Faculty	Hosting department	Course code	Course title	MOI
FLASS	SES	GEI4001	Stem and its Application on Language Acquisition and Communication	EMI
FEHD	C&I	GEI4002	Who Are the Educators in the 21st Century?	EMI
FHM	ELE	GEI4003	Ideals and Reality: Urban Environments	EMI

4.2 Each faculty may contribute – individually or collaboratively[19] – some instructional materials on an overarching problem to provide the necessary background knowledge or perspectives for course takers, as well as to create scholarly conversation opportunities to make "intersections" of disciplines obvious. For example, members from each participating faculty may contribute some teaching videos individually to address different aspects of the same topic, or they might

[19]Initially, each faculty will take up the coordination role in one GEIC as the "custodian unit". See paragraphs 5.7 and 5.8 for more details.

develop the course collaboratively in the overall design. Hands-on/ collaborative tasks might be incorporated.

4.3 Given the long-held mission of EdUHK in teacher education, as well as the global interest in technology and artificial intelligence, one of the overarching problems for the first set of GEICs centred around "Rethinking the Roles of Educators," a topic that was identified by the New Media Consortium (NMC) and the EDUCAUSE Learning Initiative in 2017 as a "wicked" challenge in education that is complex to define and address (NMC, 2017). It also resonated with comments from influential entrepreneurs:

> *"A teacher should learn all the time; a teacher should share all the time. Education is a big challenge now - if we do not change the way we teach 30 years later we will be in trouble […] We cannot teach our kids to compete with the machines who are smarter - we have to teach our kids something unique. In this way, 30 years later, kids will have a chance."*
>
> – Jack Ma (馬雲), Alibaba founder and Executive Chairman, at World Economic Forum Annual Meeting 2018

> *"In innumerable instances, excellent AI tools may emerge, but the "human-to-human" interface is critical to ensuring we feel listened to and cared for when we encounter important life events. We should encourage more people to go into service careers, choosing the ones into which they can pour their hearts and souls, spreading their love and experiences [...] We should also work hard to invent new service jobs that deliver joy and love."*
>
> – Kai-fu Lee (李開復), Founder & CEO of Sinovation Ventures

4.4 As of December 2021, a total of 11 GEICs are developed, their topics are listed as follows:

Topic	**Contributing Faculty (Department)**	**Examples of Contribution(s) as listed in the course outlines**
STEM education	FLASS (SES)	• Introduction of STEM • Principles of scientific inquiry

	FEHD (PS)	• Understanding on language acquisition and reading from biological approach (e.g. brain structure and sensation) and cognitive approach (e.g. memory and attention)
	FHM (CHL)	• Language acquisition, speech delivery and communication
Rethinking the roles of Educator	FLASS (MIT)	• Roles and impact of technology in the context of education
	FEHD (C&I)	• Exploring the learning paradigm • Roles and identities of educators in different settings
	FHM (LML)	• Etymologies of the word 'Educator' • History and meaning of educators in the East and the West
Ideals and reality in urban environment	FLASS (SSC)	• Features of global, green and smart cities
	FEHD (IE)	• Relationship between the ideals and values of societies from both Eastern and Western perspectives
	FHM (ELE)	• Ideals and reality in literature
Ocean literacy	FLASS (SES)	• Knowledge on the historical, political, socio-economic, cultural and ecological aspects of ocean in a global perspective
	FEHD (C&I)	• Principles of teaching and learning of ocean in all levels of schooling
	FHM (LCS)	• Ocean related literary appreciation and analysis
Biographical film	FLASS (SSC)	• Social and political issues like the proper relationship between politics and morality
	FEHD (C&I)	• Human Development like the Purpose in life and well-being
	FHM (LCS)	• Film appreciation • Costumes and make-ups
Technology and digital age	FLASS (SES)	• Environmental sustainability • The impact of new technologies on human life
	FHED (EPL)	• Reflexivity and reflective thinking
	FHM (LCS)	• Good life and the art of living with technology
Harassment	FLASS (SSC)	• Harassment and law in global and local contexts • Forms of harassment (such as physical, verbal, indirect and cyber bullying)
	FEHD (EPL)	• Harassment in various school settings

	FHM (ELE)	• Stereotype, bias and gender • Sexist language and discrimination
Artificial Intelligence (AI)	FLASS (MIT)	• Evolution and the core elements of AI • Social and ethical issues arising from AI applications
	FEHD (C&I)	• Quality education and AI • How AI empowered learning and teaching strategies
	FHM (ELE)	• Communication an AI • Redefine language as a means of communication
Olympism	FLASS (HPE)	• The fundamental principles and core values of Olympism • Ethics and value of sportsmanship
	FEHD (IE)	• The educational themes of Olympism • Pacifism and international education in the 19th century
	FHM (LCS)	• Ethics, philosophy, and moral behaviour • Gender and diversity
Informal learning	FLASS (MIT)	• Informal learning through digital media • Consumption and creation of digital media • Digital citizenship
	FEHD (PS)	• Adolescence psychology (such as Autonomy and social relationship)
	FHM (ELE)	• Application of information and media literacy
Transformation of work and workers in Asia	FLASS (APS)	• The "Asian miracle" and industrialization in East Asia
	FEHD (EPL)	• Factors affecting the Asian working culture, such as economics, politics, education, the environment
	FHM (LCS)	• Concepts and patterns of work

4.5 Some proposed topics are listed in **Appendix III**. In future, course developers may use, as reference, the guiding questions in **Appendix IV** to assess the interdisciplinarity of their proposed topics.

4.6 In terms of format, the option of a blended learning[20] course could be considered. Course developers and students should also bear in mind that artefacts from GEICs

[20] Colleagues are reminded that the University is promoting "One Course One Online Lesson" to maximize the benefits of blended learning through the Moodle platform. Academic/teaching staff are encouraged to consider offering blended learning courses with quality online lessons using pedagogical features of Moodle, e.g. online discussion forums and Turnitin workshops, to replace at least one (but usually note more than three) face-to-face lesson (LTQC 102/2016 refers).

will become an important contribution to the University ePortfolio as milestones in students' learning journeys.

5. Course Development and Organization

Course Intended Learning Outcomes

5.1 Courses should articulate clearly the Graduate Attributes of PEER & I and the seven GILOs. In the process of course design/ development, the six GE Learning Outcomes (GELOs) should also be referred to. GEICs should echo well the broad-based nature of General Education, with a particular focus on **integration** (please refer to paragraph 2.5 for suggestions on how integration can be demonstrated). By referring to the example given in 4.2, the course objectives may include enabling course participants to deepen their professional knowledge and skills through identifying, from different disciplinary perspectives, the possible impacts of innovation (now often labelled as "the Fourth Industrial Revolution") on the roles of educators. The interdisciplinary course should afford students insightful understanding of the ethical thinking and decision-making processes, as well as meaningful application of relevant generic skills.

5.2 It is expected that interdisciplinary courses, however organized, could help students to broaden their conceptual constructs, synthesize different disciplinary perspectives to think out of the box in solving problems (hence **innovation**), and enhance their skill-based development across disciplines.

Course development

5.3 The medium of instruction for all GEICs must be **English**. In terms of depth and complexity of learning, GEICs should be at **Level 4**. Students are suggested to take GEIC **from Year 2 Semester 2 to Year 3 Semester 1**[21], and they need to have taken any General Education Breadth Learning Strands (GELS) course or Positive and Values Education (PAVE) course as a pre-requisite (No pre-requisite for Senior Year Entrants).

5.4 In terms of design approach, faculties and departments can choose to develop interdisciplinary courses through a generalist approach (i.e., any form of dialogue or interaction between two or more disciplines) or integrationist approach (i.e., a

[21] Students are allowed to take GEICs from Year 2 Semester 2 to Year 3 according to the previous version of GEIC handbook (May 2018). However, BEd students cannot take GEICs during their BP I (i.e. Year 3 Sem 2) and non-BEd students have to complete GEICs before taking University ePortfolio in Year 3 Sem 2. For Senior-Year Entrants, they are encouraged to complete GEICs before Year 4 Sem 2 and make full use of summer semester, in order to avoid the heavy workload such as Final Year Project (i.e. Honours/Capstone Project) in their final year of study.

real fusion and organic integration of disciplines (Repko, Szostak, & Buchberger, 2017). Moreover, faculties and departments can consider the summarized offering themes and patterns in paragraph 3.7.

5.5 Interdisciplinarity can be expressed through these strategies and techniques, as suggested by Lyall, Meagher, Bandola, & Kettle (2015):

Strategy	***Pedagogical techniques***
Co-teaching	• Advanced planning and negotiation with co-teacher • Co-advising with industry representatives • Taking turns in teaching • Creating learning communities • Co-creation of syllabus and case studies
Interactive methods	• Project-based learning[22] • Case study methods • Role-playing • Simulations • Virtual methods • Peer-assessment and review • Peer-assisted Learning • Small-group teaching

5.6 Atomization of disciplines and trivialization of knowledge have to be minimized as far as possible when attempt is being made to connect and/or integrate disciplines.

5.7 Faculties are going to develop three GEICs collectively at the initial stage, with one department in each faculty as the "custodian unit". The role of this custodian includes, but not limited to, planning and reviewing/ evaluating the course(s), organizing meetings, coordinating team-teaching, and liaising with its home faculty to oversee the quality assurance (QA) process (*vide* paragraph 6.1). In other words, GEICs are co-teaching courses taught by relevant teaching staff from the three Faculties. In the co-teaching, all the lecturers-in-charge of GEICs would involve in planning, teaching, and evaluating lessons collaboratively. Individual lecturer(s)-in-charge would take the main teaching responsibility in one lecture or one part of the lecture. All the lecturers-in-charge and co-lecturers of GEICs should discuss thoroughly what they consider as the best way to facilitate students to achieve the learning outcomes and share their workload as equally as possible. All the lecturers-in-charge and co-lecturers should involve in co-guiding and co-marking (co-assessing) students' assessment / learning tasks. It is worth noting that co-teaching of GEICs is *not* simply splitting evenly the teaching load amongst the lecturers-in-charge and co-lecturers without a careful consideration of the teaching content, in light of promoting integration and interaction in the teaching/ learning process. Co-teaching of GEICs is also *not* independently working on the assigned part(s) without any knowledge and consensus of what is

[22] Example: How to Change the World (developed by University College London) https://www.ucl.ac.uk/centre-for-engineering-education/research-projects/2018/jun/how-change-world

going on amongst team-teaching members. The assessment of teaching performance of GEICs would be conducted according to the current practice of team teaching.

5.8 Course designers should note that the difficulty in successful development of GEICs also relates closely to people – having to break many silos in thinking and ways of practice. When necessary, each faculty may form a working group on GEIC responsible for liaising internally (within the faculty) and externally (with other faculties).

5.9 Faculties would be invited to nominate GEIC lecturers before each academic year, GEIC Core Team would then review the nominations and provide their comment(s) as appropriate. In order to ensure the quality delivery of GEIC courses, faculties/ departments shall provide strong justification(s) for changing lecturer(s), if any, to GEIC Core Team via GEO for their advice and/or endorsement before the semester commences.

5.10 In order to maintain sufficient supply of GEICs, faculties/ hosting departments are advised to provide strong justification(s) to GEIC Core Team members via GEO for their advice and/ or endorsement before cancelling the course(s) when the enrollment is over 10 or the enrollment rate is over 50.00%.

Assessment

5.11 Grade descriptors shall be drawn up for each course. As a general principle, the grade descriptors should accurately and consistently reflect the different levels of performance. It is expected that the GEIC will embrace most, if not all, GELOs and GILOs. As such, the general rubrics for GILOs[23] should be referred to when drawing up the assessment tasks and grade descriptors at course level. The GILO rubrics are provided below for easy reference.

Achievement of Learning Outcomes		**Level 4 Outstanding**	**Level 3 Mastering**	**Level 2 Developing**	**Level 1 Beginning**
Course Grade (for reference only)		A+, A, A-	B+, B, B-	C+, C, C-	D, F
Mark Range (for reference only)		81-100	66-80	46-65	0-45
GILO 1: Problem	1.1 Identify the problem (e.g., global grand challenge)	Identify the problem critically with an insightful problem statement listing	Identify the problem with a well-defined problem statement	Identify the problem with an adequately detailed problem statement listing some	Identify the problem listing few relevant contextual

[23] The general rubrics for GILOs are available at http://www.lttc.eduhk.hk/?p=3449

		substantial relevant contextual factors.	listing major relevant contextual factors.	relevant contextual factors.	factors in a superficial way.
	1.2 Formulate a plan to solve the problem	Formulate a feasible plan to solve the problem, considering substantial relevant contextual factors.	Formulate a feasible plan to solve the problem, considering most relevant contextual factors.	Formulate a feasible plan to solve the problem, considering some relevant contextual factors.	Formulate a plan to solve the problem, considering few relevant contextual factors.
	1.3 Implement a solution and monitor the process	Implement a solution and monitor the process in a manner that addresses, thoroughly and in depth, multiple contextual factors.	Implement a solution and monitor the process in a manner that addresses multiple contextual factors.	Implement a solution and monitor the process in a manner that addresses limited relevant contextual factors.	Implement the solution and monitor the process in a superficial manner that does not directly address contextual factors.
	1.4 Reflect upon and evaluate the process and outcomes	Review the quality of the process and outcomes, with thorough and specific consideration of the need for further work.	Review the quality of the process and outcomes, with sufficient consideration of the need for further work.	Review the quality of the process and outcomes, with some consideration of the need for further work.	Review the quality of the process and outcomes superficially, with little consideration of the need for further work.
GILO 2: Critical Thinking Skills	2.1 Identify the issue	Use substantial relevant information to identify the issue clearly and describe it comprehensively.	Use the most important information to identify the issue and describe it clearly.	Identify the issue with some relevant information.	Identify the issue without any or little clarification or description.
	2.2 Examine the influence of the context and assumptions	Examine one's own and others' assumptions, and identify the influence of contexts thoroughly and systematically.	Identify own and others' assumptions and several relevant contexts.	Identify some assumptions and several relevant contexts; may be more aware of others' assumptions than one's own (or vice versa).	Demonstrate an emerging awareness of assumptions; begin to identify some contexts.
	2.3 Analyse and evaluate the issue	Analyse the issue comprehensively using substantial relevant information, and evaluate it carefully with substantial evidence and logical reasoning.	Analyse the issue with the most relevant information, and evaluate it with some evidence and logical reasoning acknowledged.	Analyse the issue with some relevant information, and evaluate it with little evidence and simplistic logical reasoning.	Analyse the issue with little information, evidence and logical reasoning.
	2.4 Formulate a conclusion/ position (perspective/ thesis/ hypothesis)	Produce a conclusion/ position (perspective/thesis/hypothesis) that acknowledges the limits of that conclusion/position and takes into account the complexities of the issue; synthesise others' points of view	Produce a conclusion/ position (perspective/thesis/hypothesis) that takes into account the complexities of the issue; acknowledge others' point of view within the conclusion/ position.	Produce a conclusion/ position (perspective/thesis/ hypothesis) that acknowledges different sides of the issue.	Produce a conclusion/ position (perspective/ thesis/ hypothesis) that is subjective.

		within the conclusion/ position.			
GILO 3: Creative Thinking Skills	3.1 Sensitivity	Demonstrate heightened awareness of changes, signals, influences, incompleteness and unusual stimuli.	Demonstrate adequate awareness of changes, signals, influences, incompleteness and unusual stimuli.	Demonstrate awareness of external and internal stimuli.	Demonstrate a low level of awareness of external and internal stimuli.
	3.2 Flexibility	Integrate information from multiple perspectives; shift readily from one perspective to another.	Explore information from multiple perspectives.	Generate information from few perspectives.	Provide information from a single perspective.
	3.3 Innovative thinking	Extend a novel or unique idea, question, format or product to create new or boundary-crossing knowledge.	Create a novel or unique idea, question, format or product.	Experiment with creating a novel or unique idea, question, format or product.	Reformulate a collection of available ideas.
	3.4 Connecting, synthesising, transforming	Transform ideas or solutions into entirely new forms.	Synthesise ideas or solutions into a coherent whole.	Connect ideas or solutions in novel ways.	Recognise existing connections amongst ideas or solutions.
	3.5 Elaboration	Elaborate new ideas/concepts/ products with details to strive for excellence.	Extend and refine new ideas/concepts/ products to improve their quality.	Add few details to new ideas/concepts/ products to make improvements.	Reproduce the necessary components of an idea/concept/ product.
4a. Oral Communication Skills	4a.1 Convey a central message with context and purpose	Convey a compelling central message with context and purpose explicitly and in a manner that makes it memorable.	Convey a central message with context and purpose clearly and consistently, making it somewhat memorable.	Convey a basic understandable central message with context and purpose that is not memorable.	Convey a central message with context and purpose superficially; it can be deduced, but is not explicitly stated in the presentation.
	4a.2 Use supporting evidence	Use a variety of supporting evidence (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities), making appropriate reference to information or analysis that provides significant support for the presentation.	Use adequate supporting evidence (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) in terms of both amount and relevance.	Use adequate supporting evidence (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) that is irrelevant at times.	Use little or irrelevant supporting evidence (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities).
	4a.3 Display organisation	Display an exemplary organisational pattern (distinct introduction and conclusion,	Display a competent organisational pattern (distinct introduction and conclusion,	Demonstrate an adequate awareness of organisational pattern (distinct	Demonstrate a low level of awareness of organisational pattern (distinct

		sequenced material within the presentation body, and transitions) that is consistently observable throughout the presentation.	sequenced material within the presentation body, and transitions) that is clearly observable during the presentation.	introduction and conclusion, sequenced material within the presentation body, and transitions) that is only intermittently observable.	introduction and conclusion, sequenced material within the presentation body, and transitions), which is not observable during the presentation.
	4a.4 Use proper language and engage the audience	Use imaginative, memorable and compelling language while engaging the audience by means of posture, gestures, eye contact and use of voice at all times.	Use thoughtful language, and engage the audience by means of posture, gestures, eye contact and use of voice most of the time.	Use adequately clear language, and engage the audience by means of posture, gestures, eye contact and use of voice to some extent.	Use little clear language, and engage the audience by means of posture, gestures, eye contact and use of voice to a very limited extent.
4b. Written Communication Skills	4b.1 Consider context and purpose	Apply appropriate elements aligned with the context, audience and purpose of the assigned task, displaying a sophisticated understanding of texts.	Apply appropriate elements aligned with the context, audience and purpose of the assigned task.	Demonstrate adequate familiarity with the context, audience and purpose of the assigned task.	Demonstrate superficial understanding of the context, audience and purpose of the assigned task.
	4b.2 Use supporting evidence	Use a variety of supporting evidence (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities), with appropriate reference to information or analysis that provides significant support for the points being made.	Use adequate supporting evidence (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) in terms of both amount and relevance.	Use adequate, but sometimes irrelevant, supporting evidence (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities).	Use little or irrelevant supporting evidence (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities).
	4b.3 Display organisation/ structure	Display exemplary organisational structure in terms of paragraphs, sections, length, and overall coherence and awareness of the audience.	Display good organisational structure in terms of paragraphs, sections, length and overall coherence.	Demonstrate adequate awareness of a recognisable organisational structure.	Demonstrate a low level of awareness of basic organisational structure.
	4b.4 Use proper language/ grammar and format	Use graceful and error-free language/ grammar and format accurately, fluently and eloquently.	Use straightforward language/grammar and format that are accurate but not completely fluent or error-free.	Use language/ grammar and format adequately, but with some usage errors that impede meaning.	Use language/ grammar and format superficially, with meaning often impeded by usage errors.

GILO 5: Social Interaction Skills	5.1 Initiate and maintain relationships	Initiate and maintain mutually supportive relationships characterised by mutual respect at all times.	Initiate and maintain good relationships characterised by either self-respect or respect for others most of the time.	Initiate and maintain relationships sometimes characterised by basic respect on either side.	Demonstrate inadequate ability to initiate and maintain relationships characterised by respect.
	5.2 Interact with others appropriately in specific contexts	Interact with others appropriately in specific contexts while always clearly expressing one's meaning and feelings.	Interact with others appropriately in specific contexts while expressing one's meaning and feelings most of the time.	Interact with others adequately in specific contexts while sometimes expressing one's meaning and feelings.	Interact with others superficially, seldom expressing one's meaning and feelings.
	5.3 Practise negative assertions	Defend oneself skilfully with confidence and discretion.	Turn down unreasonable requests; defend and stand up for one's rights.	Aware of the need to turn down unreasonable requests.	Unaware of the need to turn down unreasonable requests.
	5.4 Manage conflicts	Resolve conflicts successfully to contribute to smooth relationship development.	Possess a range of skills to resolve conflicts in a way that maintains the relationship.	Demonstrate awareness of interpersonal conflicts and have basic skills to deal with conflicts.	Accept the presence of conflicts passively, with no attempt made to resolve them.
6. Ethical Decision Making	6.1 Recognise ethical issues	Recognise ethical issues when presented in a complex, multi-layered (grey) context AND the cross-relationships amongst those issues.	Recognise ethical issues when presented in a complex, multi-layered (grey) context OR the cross-relationships amongst those issues.	Recognise basic and obvious ethical issues, and grasp (incompletely) the complexities or interrelationships amongst them.	Recognise basic and obvious ethical issues, but fail to grasp their complexity or interrelationships.
	6.2 Evaluate different ethical perspectives/ concepts	State a position and objections to/ assumptions and implications of different ethical perspectives/ concepts; reasonably counter objections to/ assumptions and implications of different ethical perspectives/ concepts with an effective defence.	State a position and objections to/ assumptions and implications of different ethical perspectives/ concepts; respond to objections to/assumptions and implications of different ethical perspectives/ concepts, but in a superficial manner.	State a position and objections to/ assumptions and implications of different ethical perspectives/ concepts, but do not respond to them.	State a position, but no objections to or assumptions and limitations of different perspectives/ concepts.
	6.3 Establish ethical intention	Maintain a high level of ethical integrity by always prioritising ethical values over self-interest.	Commit to ethical integrity by sometimes prioritising ethical values over self-interest.	Consider ethical integrity over self-interest occasionally when facing ethical dilemmas.	Prioritise self-interest over ethical integrity when facing ethical dilemmas.

	6.4 Apply ethical perspectives/ concepts	Apply ethical perspectives/ concepts to an ethical question independently, accurately and in full consideration of the implications.	Apply ethical perspectives/ concepts to an ethical question independently and accurately, but without considering the implications.	Apply ethical perspectives/ concepts to an ethical question independently, but inaccurately.	Apply ethical perspectives/ concepts to an ethical question with support from examples, but not independently.
7. Global Perspectives	7.1 Aware of one's own culture	Articulate insights into one's own cultural rules and biases (e.g. seeking complexity; awareness of how one's own experiences have been shaped by those rules; knowledge of how to recognise and respond to cultural biases, resulting in an altered self-description).	Recognise new perspectives on one's own cultural rules and biases (e.g. avoid looking for sameness; comfortable with the complexities that new perspectives offer).	Identify one's own cultural rules and biases (e.g. display a strong preference for those rules of one's own cultural group; seek the same in others).	Demonstrate a low level of awareness of one's own cultural rules and biases (e.g. uncomfortable with identifying possible cultural differences with others).
	7.2 Recognise global issues and interconnection	Construct a systematic understanding of the interrelationships in the global system and contemporary and past challenges amongst countries, governments, corporations, NGOs, civil society bodies and individuals.	Recognise the interrelationships amongst global issues and problems based on the interdependence of countries, governments and corporations.	Recall plausible causes of global problems and their possible effects; aware that the world is an interconnected system.	Aware of the global issues covered in the media.
	7.3 Initiate interactions with other cultures	Initiate and develop interactions with culturally different others; suspend judgment in valuing interactions with culturally different others.	Begin to initiate and develop interactions with culturally different others; begin to suspend judgment in valuing interactions with culturally different others.	Express openness to most, if not all, interactions with culturally different others; have difficulty suspending judgment in interactions with culturally different others; aware of one's own judgment and willing to change.	Receptive to interacting with culturally different others; have difficulty suspending judgment in interactions with culturally different others, but unaware of that judgment.
	7.4 Make long-term decisions for the benefit of future generations	Make long-term rather than short-term decisions; feel a sense of responsibility for future generations.	Care about the long-term consequences of one's actions for future generations rather than the short-term benefits.	Recognise that current human choices have an impact on future generations; concerned with benefiting future generations in the short term.	Recognise that current human choices may have an effect on future generations, but unconcerned with benefiting them.

5.12 It is a common understanding that gradually, most assessments will be done on 4 levels – which is in line with the current standardized rubric for GILOs. However, based on practicality, subject discipline, assessment tasks, as well as the need for a more detailed (and pedagogically meaningful) distinction of the performance, course developers can still use the common 4-level rubric for academic course assessment. The bottom line is that all assessment results need to be converted to a final grade.

6. Quality Assurance

6.1 Initially, each faculty will take up the coordination role in one GEIC as the "custodian unit". The custodian department will have to take lead in overseeing quality assurance issues. To enable formative advice to be given for the course content and delivery etc., proposals of GEICs will be presented to Faculty Board of the custodian department to endorse. The proposals will be submitted to CCCCUS for further endorsement and then to APDC for approval. GEO will coordinate self-evaluation with input on course evaluation to be provided by the custodian department for submission to LTQC via CCCCUS. The entire workflow in the quality assurance mechanism is as follows:

Development	**Endorse-ment**	**Further endorse-ment**	**Approval**	**Subsequent Refinement & Approval**	**Implementation and Coordination**	**Self-evaluation**
Departments (DLTC of custodian department)	Faculty Board of custodian department to endorse	CCCCUS to endorse	APDC to approve	Faculty Board of custodian department to endorse and then CCCCUS to approve	1. GEO to coordinate and provide overview of offering pattern 2. Offering units/ GEO responsible for implementation, and promotion	GEO to coordinate; with input on course evaluation provided by custodian department for submission to LTQC via CCCCUS for review

6.2 The Student Evaluation of Teaching (SET) will be administered for quality assurance purpose in accordance with the EdUHK's **"Procedures for Online Student Evaluation of Teaching (SET)"** (version as of April 2021)[24]:

i) **(Section 2.1 of the procedures)**
"The questionnaire should be administered near the end of the teaching of every course, normally in the last or second last session but preferably not in an examination session."

[24] The full text of the Procedures for Student Evaluation of Teaching (SET) from Registry (April, 2021) is available at: https://lt.eduhk.hk/wp-content/uploads/2021/05/20210510_Procedures-for-SET.pdf

The hosting departments are encouraged to conduct SET in the last or second session of the whole course.

ii) **(Section 2.2 of the procedures)**
"The questionnaire should be administered to every course each time it is taught, covering both the course's design and the lecturer's teaching. If a course is taught by more than one lecturer, evaluation will normally be arranged for the course lecturers who take up a major teaching responsibility. When deemed necessary, evaluation for the whole teaching team could be arranged. If that is the case, students' response should reflect their overall evaluation of the course's teaching."

iii) **(Section 2.3 of the procedures)**
"The followings provide a general reference for the evaluation of a teaching team:

a) For a 13-week course, no individual teaching evaluation is required if **an instructor teaches 3 lessons (i.e. 9 contact hours) or less in the course group**. For courses not running as regular 13-week pattern, teaching workload in the course group will be considered. No individual teaching evaluation is required if **an instructor takes up less than 30% of teaching load of the course group**. For those courses without conducting individual SET for instructors, they have to form a teaching team and arrange one SET for the whole teaching team;
b) No individual teaching evaluation is required **if a course group consists of fewer than 5 students**. If appropriate, several courses/ course groups (with similar topics) could be combined together to run an evaluation for a teaching team who teaches several small classes; and
c) Notwithstanding the above arrangements, HoD has the discretion to grant flexibility to arrange SET for an individual staff member in the course group if deemed necessary (e.g. staff appraisal, etc.)."

iv) **(Section 2.4 of the procedures)**
"Course coordinator should discuss and communicate with the whole teaching team about the SET arrangements (i.e. separate SETs for individual staff members, or one single SET for the whole teaching team) before the commencement of the course. In case that an overall evaluation is adopted for the course/ course group, endorsement from the Head of Department of the course hosting unit should be sought before running the SET. "

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Appendix I

THE EDUCATION UNIVERSITY OF HONG KONG

Guidelines of Pedagogical Devices for General Education Interdisciplinary Courses

1. Background

These guidelines provide some examples/guidelines for collaborative teaching of General Education Interdisciplinary Courses (GEICs) with reference to extant literature. Key concepts of GEIC pedagogy, namely co-planning, co-teaching, co-assessing and co-evaluating, are suggested and explained with literature support in below sections (2-5) and is diagrammatically summarized in the **Annex 1**. The GEIC lecturers-in-charge are responsible for leading and co-ordinating various tasks in co-planning, co-teaching, co-assessing and co-evaluating the courses under their custody in order to ensure the smooth and effective implementation of the courses in line with the quality assurance mechanism as stipulated in the Handbook for GEICs.

2. Co-planning

2.1 Lecturers should understand that it will take time to develop the course before teaching, and that equal levels of commitment must be shared by all faculties involved in ensuring the reification of the essence of inter-disciplinarity (Cruz and Zaragoza, 1998).

2.2 Regular planning meetings are vital to enable lecturers to bandy ideas on the philosophy, objectives (expected learning outcomes), learning and teaching strategies, time allocations, learning and teaching activities, class-room management, assessment tasks and rubrics for the whole course. Planning time is also social time to know more about each other, that is to say, it is necessary to plan everything with teaching partners (Bass, 2004; Leavitt, 2006). A full day faculty workshop and/or faculty training workshop(s) could also be useful for professional development among the lecturers through dialogues that cut across disciplines (Bass, 2004).

2.3 In the co-planning process, the lecturers can work together to substantiate the lesson plans not only with resources (from various disciplines), but also with the concrete plans and or schedule(s) on how interdisciplinary teaching is to be implemented throughout the course. The plans/schedules must be made known and explained to students in order to avoid confusion caused by different modes of delivery that might be necessary for interdisciplinary teaching. More importantly, at the beginning of the semester, students should know which lecturer(s) would be teaching and how (Shibley, 2006).

2.4 In order to make the interdisciplinary design and implementation more comprehensible to students, lecturers are strongly advised to use a concept map to: i) illustrate how different disciplines (concepts) are to be integrated; and ii) illustrate the roles played by different disciplines (lecturers) in the interdisciplinary course.

2.5 The co-planning should combine with necessary refinement through discussion(s) and evidence-based reflections among the teaching team members during the semester. Interim staff-student consultative meeting is helpful in soliciting comments/feedback from various parties in order to make timely improvement in course design and delivery. (See Appendix II for different modes of delivery)

3. Co-teaching

3.1 If possible, lecturers can conduct activities that probe students' prior understanding of related theories/concepts related to the interdisciplinary course(s). This sort of pre-assessment might inform lecturers of the pedagogical content knowledge required. In addition, it is advisable for all co-lecturers to design a concept-map sharing the rationales for and the ways through which different disciplines are integrated.

3.2 Lecturers should make time to meet regularly as a team during the process of co-teaching a course in order to familiarize themselves with the inputs from other related disciplines through inter-disciplinary conversations (Cruz and Zaragoza, 1998). E.g. meeting before the class to confirm plans and respond to current event; after class, lecturers can spend a few minutes recapping/debriefing the class (Richter & Thomas, 2011). Setting up a regular phone time or on-line platform to discuss is also a feasible alternative.

3.3 Each lecturer can have a teaching/course package that is made up of the detailed plans and schedules (with resources) and follow it (while allowing for flexibility for diverse student needs) in order to help lecturers stay on track. (Richter & Thomas, 2011).

3.4 Lecturers involved should try to attend their colleague(s)' lectures, take part in co-presentations if feasible/necessary, refer to teaching partner's ideas in the class, and share authority/expertise in front of students so as to make room for the integration of different disciplines (Leavitt, 2006).

3.5 Lecturer(s)-not-in-charge of certain teaching session(s) can also participate in or interact in class. E.g. as a *"kibitzer"* sitting in the class and offering commentary on the other's presentation or lecture (Leavitt, 2006, p.2); Wentworth & Davis also recommended several roles that lecturers-not-in-charge can take: e.g. "*model learner*" to ask questions and otherwise contribute to discussion; "*observer*" to take notes and gauge student response to the presentation; "*discussion leader*" to facilitate or lead break-out groups; or "*devil's advocate*" to raise provocative or challenging questions in an effort to stimulate class creativity (2002, p.27). They can insert short examples or modules within lectures so as to make a good contribution that fosters integration, while at the same time allowing for coherence within the class period (Jessen-Marshall & Lescinsky, 2011).

3.6 "Jigsaw" discussion can be incorporated into class. The lecturers involved can walk through the room independently and offer students their individual views, but not in a setting that can be constructed as confrontational and confusing. It is important that lecturers share facilitation of the class equally, this is vital to distribute the work-load evenly and to ensure that students recognize lecturers as a team (Richter & Thomas, 2011).

3.7 Apart from collaboration, lecturers can also model debate with teaching partners. Students watch lecturers debate using different methodological approaches, which they can apply in the assignments or other courses. Such professional dialogues and debates can definitely expose students to different disciplinary perspectives that are conducive to disciplinary integration (Leavitt, 2006). However, Fried & McCarthy (1999) also suggested that it should be conducted after students have become comfortable with teaching team and the class.

3.8 For students, it is vital to create a community within the class (Plank, 2011). An activity called "common ground" (Richter & Thomas, 2011, p.70) can help students to see each other's similarities and differences, build an understanding of each other and create a

web of bonds. This sort of dialogic community is instrumental for developing interdisciplinary mindedness with perspective consciousness.

3.9 If necessary, teachers should be able to articulate how their disciplines are relevant and contributive to the holistic picture of the course by using a concept map.

3.10 The co-teaching observation guide developed by Wilson (2005; extracted in **Annex 2**) summarised elements of effective co-teaching under three themes. Namely, (1) Meaningful roles for each teacher, (2) Strategies to promote success for all student, and (3) Evidence of success. These questions provide a basis for reflection and can inform evolution of co-teaching practices.

4. Co-assessing

4.1 Grading anxiety is common and challenging in co/team teaching class. Students might wonder who is in charge of grading, i.e. who is the one to be pleased (Plank, 2011).

4.2 Lecturers should apply common grading standard, and make it clear to students at the beginning that all assessment and evaluation decision will be made by lecturers together.

4.3 Lecturers should reflect on the course and from the assessments as a whole once the course has been completed (Cruz and Zaragoza, 1998) in order to make evidence-based and evidence-informed improvement for course delivery.

4.4 Some co/team-assessing experiences and approaches are suggested below according to literature. Lecturers may make reference to these practices to enhance co-assessment quality depending on feasibility and practical needs:

a) For test/exam: Lecturers should meet and agree early on to a general theme of testing, make it explicit in the testing what course expectation is, who will be writing questions on which subjects, and who will be grading them, and also give student a single handout that has separate parts for the different lecturers' contributions. Lecturers can use pre- and post-tests before and during course development and delivery to look at the impact of the course on students' understanding. Also, a united front and consistent message/standard to students on plagiarism is necessary (Jessen-Marshall & Lescinsky, 2011).

b) For paper writing: Students would be asked to identify the topic for writing/assignment/presentation. While teaching, they would be asked to turn in different parts of the writing before compiling together and adding conclusion for writing/presentation. It is not advisable to assign two lecturers to grade an assignment with each of them focusing on a particular area/field of study. Lecturers are advised to read and grade every writing assignment; so each student will receive at least two sets of comments (in different ink colors) and average of two grades for each writing. In addition, each pair of students are considered to review each other's writing, and lecturers meet together with every student for post-assessment review and /or reflection (Liao & Worth, 2011).

c) Another alternative is: All/both lecturers need to read every student's work, but alternate taking primary responsibility for commenting on the work (i.e. 1st comment, then exchange, and then 2nd comment). Based on the comments/inputs, the lecturer who has taken the prime responsibility can invite another lecturer to double-mark and then come up with the decision on the final grade/mark after negotiation/consultation based on the common rubrics.

d) Lecturers may adopt co-guidance/ co-supervision in students' group works. However, the roles played by different lecturers and the steps to be taken in team-based co-supervision/ co-guidance should be made very clear to all students at the beginning stage.

e) For all assessment tasks, lecturers should draft, discuss and fine-tune the rubrics as a team in order to ensure that there is consensus and consistency on grading policies and criteria. After collecting the assessment tasks/assignments, they can select samples of different bands and conduct trial marking in order to avoid grading/marking inconsistencies and disciplinary fragmentation. All the lecturers' marking should keep a close alignment with the fine-tuned rubrics and lecturers should conduct a standardized grading meeting/moderation *before* massive marking. The rubrics should be made clear to students before and during course implementation.

f) After the completion of grading/marking, lecturers should review the rubrics in consideration of the following issues:
   - whether they are clear, accurate, comprehensive and comprehensible
   - whether they work to enforce interdisciplinary integration
   - whether they are able to help with the achievement of the expected learning outcomes
   - whether students could learn how to make future improvement(s) based on the information of the rubrics

5. Co-evaluating

5.1 At the pilot stage, lecturers can consider either taking students' evaluation of teaching (SET) on individual or collective basis. While the former approach denotes clearly individual accountability, the latter may be more conducive to a holistic evaluation of the selected team-teaching approach. The mode of SET may be changed after piloting, subject to further review and change in the mode(s) of course delivery.

5.2 In accordance with the EdUHK's 'Procedures for Student Evaluation of Teaching (SET)' (as of June 2019), there are two points that GEIC lecturers need to pay heed to:
i) 'the questionnaire should be administered to every course each time it is taught, covering both the course's design and the lecturer's teaching. If the course is taught by more than one lecturer, students are normally required to complete one questionnaire only. And their response should reflect their overall evaluation of the course's teaching. Nonetheless, departments are allowed to set their own policies on evaluation of teaching in co-taught courses as appropriate to cater for their situations and requirements.'
ii) 'the questionnaire should be administered near the end of the teaching of every course, normally in the last or second last session but preferably not in an examination session.'

5.3 If SET is to be taken on individual basis, it is advisable for the team to add in a few more SET questions (in Part C) that focus on the evaluation of the course design (including inter-disciplinarity) and selected team teaching approach.

5.4 Lecturers are strongly encouraged to conduct both interim and end-of-semester staff-student consultative meetings in order to collect data/information and feedback that are useful for evaluating interdisciplinary teaching and learning in a more in-depth way.

5.5 As mentioned above, the data/information and feedback collected from SET and staff-student consultative meetings are necessary for the team to identify issues and problems and then work out remedies that lead to continuous improvement of pedagogical practices and resource repertoire.

6. References

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Appendix II

THE EDUCATION UNIVERSITY OF HONG KONG

Proposed Modes of Delivery for General Education Interdisciplinary Courses

Parallel Mode: Co-planning (with details in the form of unit/lesson plans) and co-development of resources by the whole team so that one lecturer can teach one (whole) group. Several lecturers are therefore teaching the same thing(s) to different groups at the same time. But the team of lecturers should engage in co-assessment through markers' meeting, double-marking and moderation in order to ensure consistency of marking/grading across groups. They will have to engage in co-evaluation of course implementation through interim and end-of-semester meetings for sharing and reflecting.

Rotational Mode or Lecture + Tutorial Mode: While the lecturers concerned are still required to engage in co-planning of lessons, co-development of resources, as well as co-assessment and co-evaluation as afore-mentioned, they can adopt a teaching mode that is made up of a few mass lectures to be followed by tutorials that are to be taken by individual lecturers who have fully understood how dialogues and interaction of disciplines are to be reified via course delivery.

Interactive Mode: While the lecturers concerned are still required to engage in co-planning of lessons, co-development of resources, as well as co-assessment and co-evaluation as afore-mentioned, they can adopt a team teaching mode that is characterized by co-teaching in which 2-3 lecturers will take part in lectures and/or tutorials that demonstrate the interaction and dialogues across disciplines, so that students could benefit from the inputs from various disciplinary lenses at the same time. In this case, each lecture or tutorial will have to be designed very carefully from inter-disciplinary perspectives in order to avoid fragmentation caused by disciplinary specialism(s). Integration of people and disciplines are therefore both vital to this mode of implementation.

There are pros and cons in each of the above-mentioned modes which are proposed only for reference, any other options and alterative are welcomed for discussion. The final decision depends on the discretion of faculties and/ or departments. From the pilot experience, *the interactive mode*, which makes best use of staff's disciplinary expertise, is seen as the best-suited mode for GEIC in terms of promoting inter-disciplinary integration, thoughts and dialogues.

Appendix III

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Other Proposed Topics of General Education Interdisciplinary Course

Topic	***Contributing Faculty***	***Examples of Contribution (Department)***
The Rise of China	FLASS	• Surviving online censorship in China/ Housing policies in China (APS) • Private and public museums in China and its cultural policies (CCA) • Fitness and nutrition in China (HPE) • China's role in global environmental issues (SES) • China's recent financial reforms/ Families and households in China (SSC)
	FEHD	• Education reform/ curriculum organization and change in China (C&I) • International perspectives on China's role in the 21st Century (IELL) • Being Chinese: Insights from cross-cultural psychology/ Chinese moral character in modern China (PS)
	FHM	• Chinese religions and culture/ Film and popular culture in contemporary times (LCS) • Development and use of street and school talks nowadays (ELE) • Confucius education in the technological advancement (CHL)
Youth Policy	FLASS	• Impact of family-friendly policies (APS) • Role of artistic activities in youth socialization (CCA) • Keeping our youth active and fit (HPE) • Bridging the digital divide between teachers and students (MIT) • Students' decision-making about conservation issues (SES) • Youth in ethnic minorities in Hong Kong (SSC)
	FEHD	• Learning motivation and engagement/ Academically at-risk students/ Shadow education/ Positive youth development (C&I) • Prevention of helicopter parenting? (ECE) • Home-school collaboration (EPL) • Learning and teaching in international schools (IELL) • Sleep deprivation in youth (PS) • Supporting youth with special needs (SEC)
	FHM	• "Chinese values" in youth (CHL) • Intercultural communication ability of Hong Kong youth (ELE)
	FLASS	• Measurement of poverty in old age (APS)

Aging Society		• Keeping our senior citizens active and fit (HPE) • Enriching IT knowledge of our senior citizens (MIT)
	FEHD	• A narrative perspective of stories in life (C&I) • Ethics of life and death (IELL) • Mental health issues in elderly (PS) • The role of grandparents in guidance and counselling (SEC)
	FHM	• How the popular media approaches the topic of "old age" (LCS)
Inequality	FLASS	• Uneven growth of a knowledge-based economy and income inequality in Chinese cities (APS) • Inequality in health: the what and why (HPE) • Savings and assets for the poor (APS)
	FEHD	• Teachers working across communities/ Promoting social justice in school (EPL) • Decision-making and issues of diversity (IELL) • Behavioral pattern of power holders (PS)
	FHM	• Language and power/ Understanding linguistic and related barriers in socially disadvantaged children (LML) • Gender and popular culture (LCS)
Harmony in Life (Wellness & Well-being)	FLASS	• Composing music on portable, everyday/ wearable devices (CCA) • Physical activity and sleep quality (HPE)
	FEHD	• Positive emotions as engines of growth/ Perfectionism in Chinese students (C&I) • Mental health in contemporary society (SEC) • Civic, national and moral education (EPL) • Taste of life: the meaning of suffering and hope/ Self: a philosophical inquiry/ Morality and the good life (IELL) • Health psychology/ Coping and resilience (PS)
	FHM	• Concepts and value of life in literature/ Idea of "wellness" in literature (LCS)
Sustainability	FLASS	• Reconciling international justice and the realities of climate change (SSC) • Plastic waste and toxic substances management (SES)
	FEHD	• Geographical and environmental education (C&I) • The future we want: International education for sustainable development (IELL)
	FHM	• The concept of sustainability in modern culture (LCS)

Appendix IV

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Guiding Questions (Points to Ponder) for (Re-) developing GE Interdisciplinary Courses

I. Main theme/ issue

1. What are the main themes/issues selected for the GEIC?
2. How are the related concepts contributing to interdisciplinary integration in the study of the selected themes/ issues?
3. What are the key questions for interdisciplinary inquiry into the selected themes/ issues, using the related conceptual lenses?
4. What interdisciplinary skills and methods would be adopted to help students (re-)construct the interdisciplinary concepts?

II. Rationales

1. Why is an interdisciplinary approach valuable or necessary for this topic/theme?
2. Why and how are the selected disciplinary perspectives inter-related/interacted in promoting cross-disciplinary dialogue(s)?
3. What difference will an interdisciplinary understanding make from such cross-disciplinary dialogue(s)?

III. Integrative Mode(s) and Structure

1. With reference to the GEIC handbook, what mode/model of integration will the course adopt? Why?
2. How is the proposed integration mode/model to be reified in the course?
3. What is/ are the aim(s) of taking this interdisciplinary approach? What are the expected learning outcomes from students taking this mode/model of integration?
4. What are the pedagogical meanings/implications for staff and students?
5. How would co-planning, co-teaching and co-assessing be devised and arranged in order to promote the interdisciplinary approach and understanding? (E.g. a preliminary plan for course implementation is needed in order to embed and reify the pedagogical design in the instructional plan/schedule).

IV. Disciplines to be integrated

1. How do the related disciplines contribute to the interdisciplinary integration?
2. What substantial contribution does each disciplinary perspective make?
3. Can the contributions of the related disciplines be articulated and visualized clearly by a concept map? How?
4. How is the concept map of interdisciplinary integration centrally relevant and illuminating to the issues to be studied (with the related skills)?
5. How does the integration of disciplines help students discover new meanings and different way(s) of knowing (i.e. ontological, epistemological and methodological dimensions)?
6. How does it help students apply the interdisciplinary concepts and skills to the study of emergent/ perennial issues in a changing/ new context?

V. Assessment

1. What kinds of assessment will be included? How would they contribute to students' integration of learning?
2. How would they reflect the characteristics of interdisciplinary learning?
3. What kinds of interdisciplinary concepts, skills and methods would be covered in/through the assessment tasks?
4. What is the mode of co-assessment to be taken by the co-lecturers?
5. Under the mode of co-assessment, what are the roles of individual lecturers? How do these roles contribute to students' interdisciplinary learning?
6. Is the total score allocated to individual assessment task reasonably proportional to students' workload required for interdisciplinary learning? How will it ensure fairness across different groups/ participants?
7. How can the rubrics tally with the objectives of the course while focusing on the nature and features of interdisciplinarity?

VI. Evaluation

1. How do you know that the course can successfully achieve the aims/ objectives?
2. Is the evaluation comprehensive enough to cover the areas of co-planning, co-teaching, and co-assessing?
3. What evaluative tools will be employed to gauge the effectiveness of the above tasks?
4. In terms of co-evaluation, what are the individual lecturers' roles and contributions?
5. How does the course evaluation help the GEIC teams to continuously improve the quality of teaching and enrich or modify the contents of the GEIC Handbook?
6. What major pedagogical know-how/repertoire can be shared with other GEIC lecturers through the CoP meetings?

VII. Which of the following GILOs would have a strong connection with your interdisciplinary course?

	GILO	**Intensity of Connection**			
		Mildly connected	Moderately connected	Strongly connected	Not applicable
1.	Problem Solving Skills				
2.	Critical Thinking Skills				
3.	Creative Thinking Skills				
4a.	Oral Communication Skills				
4b.	Written Communication Skills				
5.	Social Interaction Skills				
6.	Ethical Decision Making				
7.	Global Perspectives				

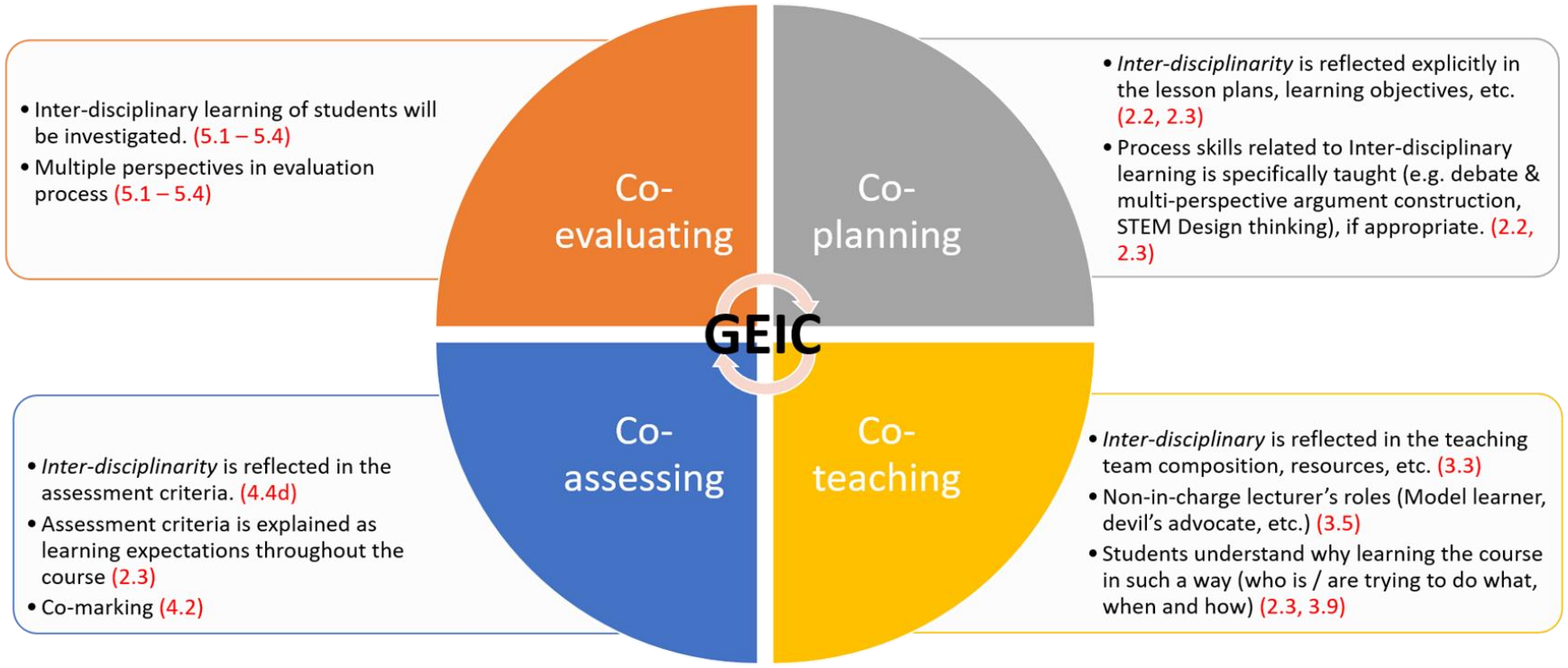
VIII. Which of the following GELOs would have a strong connection with your interdisciplinary course?

	GELO	**Intensity of Connection**			
		Mildly connected	Moderately connected	Strongly connected	Not applicable
1.	Knowledge				
2.	Application				
3.	Judgements				
4.	Expression				
5.	Awareness				
6.	Engagement				

N.B. The above questions and items are meant to be for colleagues' general reference in (re-) developing GEICs. They are by no means prescriptive and exhaustive. Colleagues may feel free to add in missing/necessary items and/or questions for consideration in planning the courses with reference to the contents of the GEIC Handbook.

Annex 1

Key concepts of GEIC Pedagogy



Note: GEICs are to be co-ordinated by lecturers-in-charge who will lead the teaching team in devising, implementing and evaluating the strategies and modes for the various tasks in co-planning, co-teaching, co-assessing and co-evaluating the course.

Annex 2

Co-teaching Observation Guide – Issues and problems to be addressed in co-teaching

I. The Basics: Meaningful Roles for Each Teacher

1. Can the role of each teacher be defined at any given point in the lesson?
2. Is each role meaningful? Does each role enhance the learning process?
3. Do the teachers vary their roles during the course of the lesson?
4. Is each teacher well suited to the role(s) he or she is assuming?
5. Are both teachers comfortable with process and content?
6. Is the special education teacher working with all students?

II. Strategies to Promote Success for All Students

1. What evidence is there that teachers engaged in co-planning the lesson?
2. Are the teachers focusing on process as well as content? Are they reinforcing important skills?
3. Are directions clear?
4. What strategies/ modifications are being employed to assist struggling students?
5. What adaptations were made to materials in order to help struggling students complete tasks?
6. What strategies are being used to actively engage students?
7. How are students being grouped? Does it fit the task? Is it purposeful?
8. What reinforcement strategies are being employed?

III. Evidence of Success

1. Are struggling students answering/ asking questions?
2. Are students engaged in meaningful work throughout the period?
3. How are teachers assessing the learning of each student?
4. What evidence is there that all students have been appropriately challenged?

Note: The questions above are for general reference only and by no means exhaustive. Users may feel free to modify and adapt the contents in accordance with feasibility, necessity and professional judgement.

Source: Wilson, G. L. (2005) This doesn't look familiar: a supervisor's guide for observing co-teachers. *Intervention in School and Clinic.* Vol.40, N0.5 May, pp. 271-276.