Subject Description Form

Subject Code	CSE3S01
Subject Title	Built Environment Enhancement for Underprivileged Communities
Credit Value	3
Level	3
Pre-requisite /Co-requisite/ Exclusion	Nil
Objectives	The objectives of this subject are: 1. To introduce to students the concept and practice of service learning. 2. To raise students' awareness of the problem with the build environment in Hong Kong and educate them on the challenges and needs of the underprivileged communities. 3. To provide students' an opportunity to apply their classroom knowledge in solving real-life problems in local communities. 4. To raise students' awareness of their role as a construction industry professional in society. 5. To enhance students' generic competence of innovative problem solving, communication and teamwork.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. Demonstrate an understanding of how the built environment enhancement improves the welfare of the community b. Propose and evaluate alternative solutions to address the needs of the underprivileged c. Reflect on their role and responsibilities as a professional d. Work effectively in a multi-disciplinary team to solve problems and communicate effectively with clients and stakeholders. e. Demonstrate empathy for the underprivileged and a strong sense of civic responsibility
Subject Synopsis/ Indicative Syllabus	Built environment refers to the man-made space in which people live, work, and recreate on a day-to-day basis. The built environment encompasses places and spaces including buildings and parks, local districts and their supporting infrastructure, such as water and electricity supply, transportation system, and also the ambient environment, such as ventilation, temperature, air quality and noise. It is a multi-disciplinary field that addresses the design, construction, management, and use of these man-made surroundings as well as their relationships with human activities. **This Service-Learning subject serves as a platform for students to work in a multi-disciplinary team to identify and**

	investigate built-environment related problems faced by the underprivileged group with quantitative and qualitative techniques, and devise solutions from a <u>human-centred approach</u>. The topics in the subject syllabus cover three major areas: 1) Concept and Practice of Service-Learning (e-learning module) • Principles, concepts and myths of Service-Learning • Benefits of Service-Learning to students, the university and the community • Ethical issues in Service-Learning • Basic concepts and theories of social problems, developments and justices • Social responsibilities of global citizens as intellectuals and professionals • Proper attitudes and behaviours in service delivery • Developing a service project proposal/ plan • Effective team work and problem solving skills in service-learning projects • Reflection as a tool for learning 2) Discipline-specific contents • Practical issues and problems faced by the underprivileged in the built environment • Impacts of construction and management of the built environment in social, economic and environmental aspects • Developing project proposal • Standards, statutory and international guidelines relevant to the underprivileged, and approval procedures • Data collection, analysis and elementary design knowledge relevant to the built environment and the community service 3) Project-specific contents • Understand the background of the community partner and the beneficiaries • Health, safety and other issues relevant to the service project • Empathy, moral and ethical concerns specific for the project and the beneficiaries
Teaching/Learning Methodology	1. E-learning module The e-learning module is developed and delivered by the Office of Service-Learning (OSL) of PolyU to introduce students to the basic concepts and the practice of Service-Learning. 2. Discipline-specific sessions Lectures/ seminars/ tutorials/ workshops are designed and conducted by CEE staffs, senior practicing engineers to equip students with the

discipline-specific knowledge and skills required for planning and delivery of the Service-Learning project.

3. Project-specific sessions

The project-specific sessions are designed to: (a) develop students' understanding of the community partner, beneficiaries as well as other issues relating to the Service-Learning project, (b) provide training for students in generic skills in planning and delivering the service project. CEE staffs and experts from outside the department, such as OSL, academic staff from other departments, representatives from the community partner and senior practicing engineers will be invited to contribute to some of these sessions as appropriate.

4. Service project

The service project is designed to raise students' awareness of how the built environment impacts the welfare of the underprivileged community through engagement. The objective is to come up with a proposal that will have the potential to be actualized to bring benefits to the community. In this subject, students are expected to:

(i) Identify built-environment related problems that underprivileged people (or communities) are facing with quantitative and qualitative techniques;

(ii) Develop feasible solution(s) to address the problem identified in item (i) together with the beneficiaries;

(iii) Communicate their proposals to a community partner and/or beneficiaries through reports/ exhibition/ talks

Potential projects may include (but are not limited to):
- Age-friendly community
- Indoor or outdoor air quality monitoring and improvement strategies
- Roadside pollutant exposure and health studies
- Investigation on the locations of addition of footbridges or at-grade road crossing facilities
- Walkability survey and walking behavior study and the implications for the provision of public facilities and services
- Public transport affordability and travel pattern the low-income groups

The service project can be divided into three phases: preparation, service delivery and completion.

Preparation phase (Weeks 1 – 5)

Weeks 1 to 3: Students will be equipped with relevant knowledge and skills required through the e-learning module, discipline- and project-specific sessions. Students must complete all of the required tasks in weeks 1 to 3 prior to participation in the service project.

Weeks 4 – 5: students will work in groups to formulate an inception plan in carrying out the problem identification

Service delivery phase (Weeks 6 – 12)

Inception phase (duration: 3 to 4 weeks)

To identify and assess a problem the beneficiaries are facing in the built environments, students will perform (i) interviews with the community partner and the beneficiaries; (ii) shadowing the lives of the beneficiaries in the community; and (iii) quantitative and qualitative measurements.. Students are expected to have sufficient direct contact with the beneficiaries in order to develop empathy toward their needs, and thus the inception effort is expected to be continuous rather than a one-time event.

Project development phase (duration: 3 to 4 weeks)

Students will devise solution(s) to solve or alleviate the problem(s) identified in the inception stage. The proposal will be developed under the guidance of the project supervisors/ course instructors and the beneficiaries will be consulted during the process to ensure the proposal is technically sound and with due consideration of the needs of the beneficiaries.

Completion phase (Week 13)

The final project report will be submitted to the community partner for consideration of implementation/ adoption. Students will communicate their findings and suggestions to the beneficiaries or local residents through an exhibition/a talk. Moreover, there will be a wrap-up session to share the Service-Learning experience among different student groups.

Students need to discuss with the community partner and the beneficiaries on the exact schedule of activities involved in the service project. Students may need to work on the service project in the evenings or weekend.

5. Reflective journals, final reflective report, and wrap-up session
Students are required to write reflective journals during and after service to critically reflect on various stages service delivery. The wrap-up session summarizes students' learning and service experience of the project and it is shared with other student groups.

Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
			a	b	c	d	e
	1. Coursework in e-learning module , discipline-	10%	√		√		√

Assessment	Weighting					
specific and project-specific sessions (individual)						
2. Pre-service case study and inception plan (group)	5%	√			√	√
3. Project report (15%) and presentation (10%) (group)	25%	√	√	√	√	√
4. Performance during service delivery (individual 10% & group 5%)	15%		√	√		√
5. Wrap-up session (group)	5%	√	√	√	√	√
6. Two reflective journals (individual)	40%	√	√	√	√	√
Total	100 %					

Students must attain at least grade D in both coursework and final examination (whenever applicable) in order to attain a passing grade in the overall result.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

1. The e-learning module and discipline-/ project-specific sessions will include assignments and learning tasks that are designed to assess students' ability to link Service-Learning with the academic contents of the subject (ILO a), their empathy for the underprivileged (ILO e) as well as their understanding of their role and responsibilities in society (ILO c).

2. The pre-service case study verifies students' ability to anticipate possible difficulties that may arise during the service delivery (ILO a, d). Students will apply their academic knowledge (ILO a) and work in a team (ILO d) to develop an inception plan on how to gain a thorough understanding on the difficulties faced by and the needs of the underprivileged in association with the built environment (ILO e).

3. Students will compile a project report as the key deliverable of their service project. This project report includes identification and assessment of the problem in the built environment that has adverse impacts on the underprivileged (ILO a), comparison of alternative ways to improve the situation, and a final suggestion (ILO b). The report will be submitted to the community partner for consideration of implementation. The project report will be direct application of the students' academic knowledge and materializing students' empathy to the clients' needs through group work and engagement of the beneficiaries (ILO d, e). Compilation of the report

	also provides opportunities for students to reflect what they have learnt and how their profession may impact on the beneficiaries (ILO c). 4. During the service delivery, students will have close interaction with the community partner as well as the beneficiaries. Students will deliver their findings to the community partner, and present to the beneficiaries and local residents in exhibitions/ talks. Students' attitude and performance during the process of service delivery, their level of engagement with the beneficiaries, collaboration with service partners will be good indications of whether students can demonstrate empathy to the underprivileged (ILO e), effectively address the stakeholders' concerns (ILO b) and communicate well with various parties (ILO d). This part involves instructors' observation, evaluation by the community partner and the beneficiaries. 5. Students will consolidate and reflect on their service project experience and share with other groups. This wrap-up session not only demonstrates effective application of their professional knowledge in solving problems faced by the underprivileged in the built environment (ILO a, b, e), it also serves as an opportunity for students to review their professional role in society (ILO c). Moreover, the success of the project itself and the presentation will be a direct measure of students' teamwork and communication skills (ILO d). 6. Students will write reflective journals during and after the service project to reflection on their learning experience. This assesses their ability to link Service-Learning and the academic contents of the subject (ILO a), their ability to apply their knowledge to the solve real-world problems (ILO b), their empathy for the underprivileged people (ILO e), and their ability to reflect on their roles and responsibilities in the society (ILO c). Students' contribution and performance in team (ILO d) will also be assessed in this assessment component. It should be noted that all reflective journals and the final reflective report are individual assessments.	

		Average hours per week
Student Study Effort Expected		
	e-Learning Module	0.8 Hrs.
	Class contact:	
	▪ Discipline- or project-specific sessions	1 Hrs.
	▪ Project meetings and wrap-up session	1.2 Hrs.
	Other student study effort:	
	▪ Readings, self-study, and planning and preparation for the service project	1.2 Hrs.
	▪ Service delivery	3.1 Hrs.

	Reflection and review	2.2 Hrs.
	Total student study effort	9.5 Hrs.
Reading List and References	Required Readings: 1. World Health Organization. (2007). *Global Age-friendly Cities: A Guide*. 2. World Health Organization. (2015). *Measuring the age-friendliness of cities: a guide to using core indicators.* References: 1. Cress, C.M., Collier, P.J., Reitenauer, V.L., & Associates. (2005). *Learning through serving: A student guidebook for service-learning across the disciplines*. Sterling, Virginia: Stylus Publishing. 2. Adams, M., Blumenfeld, C.R., Castañeda, C.R., Hackman, H.W., Peters, M.L., & Zúñiga, X. (Eds) (2010). *Readings for Diversity and Social Justice,* 3rd ed., UK: Routledge. 3. Johnson, A.G. (2005). *Privilege, Power, and Difference.* McGraw-Hill Higher Education. 4. Sen, A.K. (2009). *The Idea of Justice.* Harvard University Press.