

Subject Description Form

Subject Code	BSE3S02
Subject Title	Living Environment for Low-income Communities in Developing Regions
Credit Value	3
Level	3
Pre-requisite Co-requisite Exclusion	Nil Nil Nil
Objectives	<p>(a) To introduce the concepts and practices of service-learning;</p> <p>(b) To raise students' awareness and knowledge about basic human rights issues concerning indoor living environments and indoor living quality;</p> <p>(c) To raise students' awareness about the reality of living environments of the underprivileged in low-income areas;</p> <p>(d) To educate students on significant issues related to the impact of poor living conditions, including psychological and physiological impact on low-income communities and individuals</p> <p>(e) To acquaint students with knowledge and skills to carry out basic indoor environmental assessments and perform basic environmental improvements</p> <p>(f) To nurture a sense of civic responsibility and engagement in our students through application of their knowledge in improving living conditions of low-income areas.</p>
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <p>(a) Link their service-learning activities and experiences with the academic content of the subject;</p> <p>(b) Demonstrate an understanding about the importance and impact of a healthy indoor living environment, and the linkage with basic human rights issues</p> <p>(c) Articulate the specific challenges related to unsustainable and/or unhealthy living environments faced by low-income communities and individuals;</p> <p>(d) Apply the knowledge and skills they have acquired to carry out basic indoor environmental / living assessments, and recommend / implement basic indoor environmental improvement solutions;</p> <p>(e) Demonstrate empathy for individual in poor living conditions and a strong sense of civic responsibility, and</p> <p>(f) Reflect on their role and responsibilities both as a professional and as a responsible citizen.</p>
Subject Synopsis/ Indicative Syllabus	<p>The lectures and workshops are designed to broaden the knowledge of students in regard to the service learning and indoor environmental / living quality, especially those faced by the service recipients. The syllabus covers:</p> <p>Concept and Practice of Service-Learning:</p> <ul style="list-style-type: none"> • 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 justice • 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 <p>Discipline-specific Concepts, Issues and Skills</p> <p>(a) Basic needs, human rights and indoor environmental / living quality and assessments: Historic perspective of indoor living quality (ILQ) and its health impacts. Linkages between fundamental human rights and living standards. Factors affecting living environment, quality of life, human psychological and physiological aspects for people.</p>

	<p>(b) Survey methods and questionnaire designs: Instrumentations and principle of IEQ measurement techniques; Data collection including objective and subjective response; Basic data analysis and presentation; Descriptive and inferential statistics; t-Tests for correlations.</p> <p>(c) Principles and skills of cost-effective ways of improving indoor living environments. Examples include renovating / constructing / developing electricity generation and networks, fuel gas supply, water pumping network, water filtration system, drilling for water, getting water from air, greywater system, rainwater harvesting system, solar, wind and human power systems, air filtration, space heating and cooling.</p> <p>Project-specific Concepts, Issues and Skills</p> <p>(a) Specific historical, cultural and political/economic background for off-shore sites</p> <p>(b) Specific technical topics and skills relevant to the projects</p> <p>(c) Health, safety and other issues related to the execution of the service project</p> <p>(d) Moral and ethical concerns specific to the project and the community, including cultural sensitivity and handling of personal data</p>
<p>Teaching/Learning Methodology</p>	<p>1. e-Learning Module</p> <p>The e-learning module consists of readings, exercises and assessments that are designed to introduce students to the basic concepts and practices of service-learning. Students are required to successfully complete the module <u>within the first four weeks</u> of the semester in which they are taking the subject.</p> <p>2. Lectures, Seminars, Tutorials and/or Workshops</p> <p>This subject aims to enable students to realize their role and responsibilities being a professional and a civil citizen through community service learning of providing services of addressing basic indoor environmental / living issues of low-income areas. The lectures are focused on providing them with a basic understanding of service-learning, basic indoor environmental / living quality and impact on service recipients' quality of life.</p> <p>Workshops will be used to give students hands-on learning and practice in using instrumentations, conducting surveys, performing basic data analysis techniques and to equip them with necessary skills for renovating / constructing / developing basic facilities to improve living environments.</p> <p>Where appropriate or necessary, guest speakers will be invited to contribute to some of these sessions.</p> <p>3. Service-Learning Projects</p> <p>Students will learn about the basic challenges faced by a community in a low-income area and prepare an integrated project using social survey and basic indoor living assessment to address the expected indoor environmental / living problems. Where possible, they will also be given opportunities to meet representatives from the partnering community organizations to find out in greater details the work and community services that they are expected to perform before they are fully engaged in their service-learning project.</p> <p>In general, students will be asked to prepare an interview survey and conduct basic indoor environmental / living assessment. They will have to consolidate and analyse the information to identify the specific needs of low-income areas, and match these needs with recommendations for the improvements of these areas. Finally, they will also carry out construction / renovation / development of engineering systems (e.g. energy usage, water usage, or other resources) to realize some improvements in living quality.</p> <p>Some projects may necessitate specific selection requirements on participating students. The teaching team will make the final decisions on project allocation. Students may also be asked to shoulder a portion of their incurred costs.</p> <p>4. Review Sessions, Reflective Journals and Report</p> <p>Periodic reflective seminars will be organized to allow students to share with their peers and supervisors their learning experiences, service delivery and learning strategies. The focus of these reflective seminars is to educate students and give them practice in using reflection and observations as a tool for learning. In addition, students are required to submit term papers at specific intervals throughout the service learning project to indicate how they interpret their service-learning experience. Particular emphases on critical appreciation of the associations between indoor environmental / living conditions and the relationship between people's subjective feelings and the objective measurements and statistical analysis. Students can also reflect on recommended solutions of indoor environmental control in the low-income areas by their service-learning experience.</p>

Upon completion of the project, their findings and recommendations will be disseminated in form of oral presentation and an improvement in which students can reflect not only their learning experience, their empathy for the poor living environmental conditions, and their role and responsibilities being a professional and a responsible citizen, in particular, the intended learning outcomes achieved.

Students are expected to devote 40 hours of community service learning. They will be monitored on their teamwork performance and community involvement. In assessing this, their skills in planning, implementing activities, communication and problems solving, as well as their commitments in service-learning will be carefully considered on the basis of their performance assessed by supervisors from the community service organization and feedback from service recipients.

Assessment Methods in Alignment with Intended Learning Outcomes

Students' performance in this subject will be assessed using a letter-grading system in accordance with the University's convention from grade F to A+. The relative weighting of the different assessment components are as follows:

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d	e	f
1. e-Learning Module	Pass-fail for completion, 5% of total grade	√					√
2. Plans/proposals for service	25	√	√	√	√		√
3. Performance in rendering service	40	√	√	√	√	√	√
4. Reflective journal/report/final presentation	30	√	√	√			√
Total	100 %						

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

- The e-learning module and events include assignments and learning tasks that are designed to assess students' ability to link Service-Learning with the academic content of the subject (ILO a) and their understanding of their roles and responsibilities in society (ILO f).
- In the service project preparatory stage, students are required to write project proposals or plans to substantiate their understanding of relevant science concepts in relation to assess living environment and their ability to apply their knowledge in living environment for poor families (ILO a, b, c, d). These proposals or plans may include activity designs, case study and visit, sample deliverables, lesson plans, worksheets, suggested answers, etc. It is required that students work in groups from this stage on to demonstrate their ability to work collaboratively with others (ILO c, d). As project involves making choices that take resource use and energy efficiency into account, students should plan ways that are environmentally responsible (ILO b).
- All journals, reports, presentations and discussions will be used to assess students' abilities to link Service-Learning with the academic content of the subject (ILO a, c, d), to reflect upon the challenges related to poor living environment faced by the underprivileged community (ILO b), reflect upon the challenges facing the service recipients (ILO f).

Student Study Effort Expected

e-Learning Module	10 Hrs.
Class contact:	
▪ Lectures, Seminars, Tutorials and/or Workshops	14 Hrs.
▪ Reflection and review tutorials and session	15 Hrs.
Other student study effort:	

	<ul style="list-style-type: none"> • Readings, self-study, and planning and preparation for the service project 	25 Hrs.
	<ul style="list-style-type: none"> • Direct rendering of service 	40 Hrs.
	<ul style="list-style-type: none"> • Reflection and review 	25 Hrs.
	Total student study effort	129 Hrs.
Reading List and References	<ol style="list-style-type: none"> 1. Cress, C.M., Collier, P.J. & Reitenauer, V.L. (2005). Learning Through Serving: A Student Guidebook for Service-Learning Across the Disciplines. Stylus Publishing. 2. Halliday, S. (2008). Sustainable construction. Butterworth-Heinemann. 	