Updated on 29 Jan 2026

Subject Code	BSE2S01S
Subject Title	Science for Healthy and Sustainable Living Environments
Hosting Department	Department of Building Services Engineering
Level	2
Class Quota	100
Medium of Instruction	English
Subject Duration	Summer Term
Teaching Staff	Ir Prof. LT Wong, Dr Hayley Tsang, Dr Zhang Dadi
Target Students	GUR, open for students from FENG, FCE, FCMS, FHSS, SD, FS and SFT
Pre-requisites	Nil
Selection of students required?	No
Subject Synopsis	*Concepts and Practices of Service Learning:* • 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, justice and development • Social responsibilities of global citizens as intellectuals and professionals • Proper attitudes and behaviours in service delivery • Development of a service project proposal/plan • Effective teamwork and problem solving skills in service learning projects • Reflection as a tool for learning *Discipline-Specific Concepts, Issues and Skills* • Principles of sustainability; concepts of sustainable built environment and green buildings; • Scientific method and inquiry; formulation, hypothesis, prediction and experiment; • Applications of basic scientific methods and scientific thinking to everyday experiences and global concerns in relation to build environments: e.g. quantification of sustainability, consumption, efficiency and conservation of energy, water and other resources, reduction of wastes and disposals • Environmental, financial, cultural and socioeconomic challenges faced by underprivileged people relating to sustainability and living environment, particularly relating to the capability to achieve and maintain sustainable practices or a healthy living environment. *Project-Specific Concepts, Issues and Skills* • Scientific concepts and practices in teaching and demonstrating science and sustainability concepts, including teaching methods, classroom management and communication • Moral and ethical concerns related to working with children and young people in a school setting.

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Service Project

What will students do to serve?	Students will visit grass roots families to learn about their living situation especially with respect to energy efficiency and sustainability in everyday life in Hong Kong. Students may have to conduct interviews and surveys to get a sense of issues such as energy usage, water usage, etc. Student will then use this experience to design learning activities for primary or secondary school students, and will be required to integrate issues of sustainability into their activities and use interactive and learner-centered activities. Our target is to work with primary and secondary schools that serve mostly underprivileged children, so the issues that our students encounter in their preparatory site visit should be familiar to the primary and secondary students. We intend our service to fit into the Other Learning Activities (OLE) component in the primary and secondary school curriculum frameworks. The schools that we will work with lack the extra resources required to support such activities. Students will have to integrate examples from built environment sustainability, organize relevant and meaningful learning activities, demonstrate engineering experiments, design teaching materials and worksheets, etc. The activities for the primary and secondary students will end with a project, in which our students will act as instructors and mentors to the schoolchildren.
Whom will students serve?	
Where will students serve?	☒ Hong Kong — District: Secondary schools in Lam Tin, Tuen Mun or Fanling & PolyU campus ☐ Chinese mainland — Province: City: ☐ Taiwan ☐ Macau ☐ Overseas — Country: City:
When will students serve?	It is compulsory to attend all service activities in June/July to fulfil the 40 service-hour requirements: Ice-breaking day: a half day in June/July 2026 STEM workshops : 3 days in June/July 2026 Project Presentation / Showcase: 1 day in July 2026 (SAT)
Fee payable by students	N/A

Subject and Service Attributes

Teaching and Learning	☐ #OnlineTeaching ☐ #HybridTeaching ☒ #F2FTeaching
Service Mode	☐ #OnlineService ☐ #HybridService
Service Language	☒ #F2FService

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Service Location	☒ #ServiceClient_Cantonese ☐ #ServiceClient_English ☐ #ServiceClient_Putonghua ☐ #ServiceClient_OtherNonEnglish ☒ #Location_HK ☐ #Location_MainlandChina ☐ #Location_Taiwan ☐ #Location_Macau ☐ #Location_Overseas
Enquiry	Ir Prof. L.T. Wong, Tel: 2766 7783, email: ling-tim.wong@polyu.edu.hk

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