

## CBL/CBR Case Study Template for [campusengage.ie](http://campusengage.ie)

Community-based learning and research are academic approaches that seeks to engage and accredit students, within the curriculum, for working in partnership with civic and civil society organisations (CSOs) to act on local societal challenges.

Sustainable Communities and Cities

<b>Project Title:</b>	<b>Engineering for Humanity</b>
<b>Brief overview of project: (60 max)</b>	Students from undergraduate degree programmes in the School of Engineering at NUI Galway are given the opportunity to work in developing countries as part of their academic courses through the Professional Engineering Programme (PEP).
<b>Community Partner(s):</b>	Alan Kerins Projects; Foundation Nepal
<b>Faculty:</b>	School of Engineering, NUI Galway
<b>Brief outline on community-based learning/research activity (800 words max)</b>	<p>The project is divided in three phases:</p> <ul style="list-style-type: none"> <li>(i) Seven weeks on campus completing initial training</li> <li>(ii) Eight to 10 weeks in Zambia or Nepal</li> <li>(iii) Main dissertation in 4<sup>th</sup> year of BE degree on a related topic to their placement.</li> </ul> <p>While on campus, students undertake laboratory-based work and research projects to prepare them for working in the field, as well as receiving courses on cultural awareness, security, child protection, and issues in global development.</p> <p>On the placement in Zambia or Nepal, the students work with the local communities on engineering related projects, as well as developing and running educational engineering and science workshops in schools. These projects range from providing clean drinking water, turning waste into energy, developing and upgrading an orphanage, concept design for multipurpose hall, surveying lands, helping establish micro-businesses, technical study on soil blocks and structural health assessment of existing buildings. The students then complete a more detail research/ design project on returning to college during the final year of their BE degree programme.</p>
<b>Student learning outcomes:</b> <b>please list and detail the various learning outcomes e.g. effective communication, high level cognitive, intercultural, leadership, entrepreneurial agility, analytical and interpersonal skills, (set out in Ireland’s National Skills Strategy 2025).</b>	<p>After completing this programme, students are expected to be able to:</p> <ul style="list-style-type: none"> <li>• Appraise engineering problems in the field with limited resources.</li> <li>• Create high quality technical reports</li> <li>• Effectively communicate engineering problems and solutions to non-professionals, including children and adults in Ireland and developing countries.</li> <li>• Synthesis his/her deeper appreciation of cultural awareness, personal health and security.</li> </ul>

<p><b>Community outcomes (Aims and Objectives): 800 word max</b></p>	<p>Examples of tangible outputs at the Cheshire Home, orphanage, Kaoma, Zambia are:</p> <ul style="list-style-type: none"> <li>• Detail design of a water upgrade for Cheshire Homes orphanage.</li> <li>• Assist in setting up micro-enterprise block making project.</li> <li>• Research into strength and durability of stabilised soil blocks.</li> <li>• Creation of 3D visualisations and animations of projects purposed by AKPs, such as school building in Kaoma and the Kaoma Youth, Training and Recreational Centre.</li> <li>• Condition survey of damage building that accommodates the babies in the orphanage.</li> <li>• Engineering and Science workshops in Kaoma (workshops for over 800 secondary school students in four schools have been run over last three years).</li> <li>• Digital survey of lands and buildings associated with the orphanage in Kaoma.</li> <li>• Feasibility study of a bio-refinery for Boystown, Kaoma, Zambia.</li> <li>• Concept design for new orphanage in Kaoma.</li> </ul>
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<p><b>High quality photo/ logo from project:</b></p>	