



香港城市大學  
City University of Hong Kong

## Facility Layout Planning Lab (FLPL): Uses of Tower Crane & Other Heavy Construction Plants

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### **Abstract:**

A tower crane used on a demolition site in Causeway Bay collapsed suddenly on 10 July 2008, causing the death of two workers and injuries to a number of others. While the causes of the accident are still under appeal, the tragic accident is in fact not the first one related to the use and the location of tower crane. Due to the lack of competences and training, the safe use and the right position of tower crane/ heavy plants in facility layout planning is still in question. In the light of this, the engineering courses offered in BC department aim to strengthen and cultivate our ideal graduates with sound and practical knowledge in the subject matters related to tower crane/ other heavy plants/ equipment in construction sites. However, the traditional teaching methods are mainly relying on the schematic drawings and documented procedures which may not effectively convey the major and critical knowledge about the operations of this usual and typical equipment at Hong Kong construction sites.

All civil, building and construction engineering students pursuing a Bachelor's degree in the Building and Construction (BC) Department are required to take engineering courses related to the Construction Technology, Building Technology and Temporary Works Design. In these courses, the knowledge about the heavy construction plants, such as tower crane's location, erection, climbing and dismantling are the essential and vital subject matters for our students to learn at construction sites. However, the existing teaching and learning materials do not effectively help our students to learn and experience the location, installation and operations of tower crane in-depth. Utilizing digital imaging technologies and multimedia software, the PI will develop a web-based instructional virtual lab designed to allow students in several different disciplines from BC Department to experience and actively gain knowledge about the most concerned operations of tower crane/ other heavy plants in their workplace. By providing for individual learning needs and opportunities to observe students' work, this proposal will help in improving both the effectiveness and the quality of teaching and learning, and hopefully in support of CityU's overall goal to add values to our students in our plan to moving from a 3-year to a 4-year curriculum.