

Project proposal template – Faculty studentships Summer 2014

<i>Project title</i>	Investigation of the behaviour of high-strength concrete (HCS) at elevated temperature	<i>Director of Study</i>	Dr Hsein Kew
<i>Second Supervisor</i>	Dr Ted Donchev	<i>School</i>	Civil Engineering and <input type="button" value="v"/>
<i>Other members of supervisory team</i>	Dr Diana Petkova	<i>Any requirements from applicant (eg degree in specific subject area)</i>	

**Project summary
(max 1,000 characters)**

High strength concrete (HSC) classified as a “state-of-the art material” has been used widely in many types of structures and infrastructures due to its excellent performance and effectiveness. The beneficial conditions for HSC development and its application are the availability of a significant variety of additives and admixtures needed for its production. Due to this, HSC provides many benefits such as high strength, better durability, high modulus of elasticity, reduced deformability and ease of manufacture. However, the HCS structural elements are developing higher temperature stresses under elevated temperature. Currently, studies on the behaviour of HSC under high temperatures and fire resistance are limited. This project investigates the behaviour of HCS materials under various elevated temperature. The outcome of this project will provide potential development in this area when being exposed to high temperature which can be used in high applications such as nuclear power plant stations, in the chemical industry as well as in fire protection structures.