Part-time Lecturer Position

The School of Materials Science and Engineering invites applications for a part-time lecturer to teach a first-year B.Eng course entitled 'Introduction to Computational Thinking' in Semester 2, AY2018/19 (January – May 2019).

Computational thinking (CT) is a problem solving process with the aid of computer; i.e. formulating a problem and expressing its solution in such a way that a computer can effectively carry it out. It includes a number of characteristics, such as breaking a problem into small and repetitive ordered steps, logically ordering and analysing data and creating solutions that can be effectively implemented as algorithms running on computer. As such, computational thinking is essential not only to the Computer Science discipline, it can also be used to support problem solving across all disciplines, including math, science, engineering, business, finance and humanities.

The aim of this course is to take students with no prior experience of thinking in a computational manner to a point where they can derive simple algorithms and code the programs to solve some basic problems in their domain of studies. In addition, the course will include topics to appreciate the internal operations of a processor, and raise awareness of the socio-ethical issues arising from the pervasiveness of computing technology.

Course content would include:


Upon completion of the subject, the student should be able to:

- Describe the internal operation of a basic processor, how a program is executed by a computer and computing trends.
- Code basic programs based on the programming language used in the course.
- Formulate a problem and express its solution in such a way that a computer can effectively carry it out. (i.e. equip you with CT skills).
- Apply the CT concepts on case studies/problem-based scenarios through hands-on practice of the CT processes.

The course will run as 1-2 hour computer lab sessions for 5 groups of students of 40 pax each per week throughout thirteen (13) weeks. All lectures are hosted online for students to view before attending their respective hands-on sessions.

Criteria

Bachelor’s degree with minimum 2 years of working experience in this field. A suitable Masters or PhD in any computing/computer science/computer engineering field will be required. It will be an advantage if the applicant is proficient in the Python programming language and had prior undergraduate teaching experience.

Due to the part time nature of this job, Singaporeans and Singapore Permanent Residents are preferred as candidates will not be able to get a work pass. Foreigners on dependent pass may apply.
To apply

Interested applicants should e-mail their application to fareez.rajaie@ntu.edu.sg by 30 December 2018. Application package should include a detailed CV listing their teaching and industry experience, as well as, student feedback on teaching from previous institutions, where possible.