



香港城市大學
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Books Printed at Microscale: Hands on Laboratory of Micro-technologies in Biomedical Research

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Abstract:

Nowadays, nano-/microtechnologies have been widely used in many areas. Hence, it is very important for engineering students to have a good understanding of the general concepts behind these technologies. In the newly established MBE department, several courses are developed to introduce the nano/micro concept to students and to advance their understanding of the theories, application, capabilities, limitations, and history of nano-/microtechnologies. However, the general principles of these technologies are usually abstract; and it is always challenging to effectively convey such information to students without any concrete examples, especially for students without any previous background in nano/micro. This project aims to develop a highly flexible laboratory module to provide students hands-on experience with contemporary nano-/microtechnologies that are widely used in biomedical engineering related research. The lab module will be a good supplement to existing Bioengineering courses, and can be directly incorporated into MBE3101 (Micro and Nanotechnology for Bioengineering) as a series of lab sessions. In this lab, soft-lithography will be used as a central component and an introductory tool to connect sophisticated nano-/microtechnology with experiences many people encountered since childhood, thus to engage and inspire students, and to enhance the effectiveness and efficiency of learning.