

**THE CHINESE UNIVERSITY OF HONG KONG**

**Micro-Module Courseware Development Grant**

**Scheme 1: Basic Scheme**

**Interim Report (2015-16)**

Report due 30 June 2016.

Please return by email to [mmcd@cuhk.edu.hk](mailto:mmcd@cuhk.edu.hk)

**PART I**

Project title: Using Flipped Classroom To Enhance Interactive Teaching and Learning in Cell and Molecular Biology

Principal supervisor: Dr. Lawrence Chiu and Prof. Liwen Jiang

Department / Unit: School of Life Sciences

Project duration: From January 2016 to December 2016

Date report submitted: 30 June, 2016

**1. Project objectives**

*Is the project on track to meet its objectives?*

*Have the objectives been changed as a result of the experience of working on your MMCDG project?*

The original project objective is to develop micro-modules on the introductory and background topics in protein trafficking. This allows students to self-learn them out-of-class so that the valuable in-class time could be more intensively used for interactive teaching-and-learning.

The project follows its original objectives. Online lectures (a total of 7 videos) regarding introductory and background knowledge in protein trafficking were recorded by Prof. Jiang to meet the objectives. The topics were the same as the original plan and the videos have been uploaded to website for students' self-learning, which will be officially used for teaching in September 2016.

## **2. Progress on process, outcomes or deliverables**

*What have been accomplished so far?*

*Have any obstacles been encountered and what are the remaining tasks to be finished?*

*Is the project still on time for completion (which includes preparation of the final report) on or before the grant expiry date?*

*Provide a listing of project outputs to date.*

During the first half of the project period, a list of videos relating to the introductory and background knowledge of the topics in CMBI4001 Protein Trafficking was recorded by Prof. Jiang.

In the proposal we planned to record the online lectures via the Echo360 system. Nonetheless, the Centre for eLearning Innovation and Technology (ELITE) has recently been established in CUHK to provide advanced support for video recording. Therefore we decided to use the Self-recording Studio of ELITE to create the online lecture videos. Compared to Echo360, it provides a sound-proof recording environment and enable students to see the content of the powerpoint slides included in the video in a clearer way.

We aim to develop five micro-modules on introductory and background topics in protein trafficking. They are:

1. Basic Concept of Protein Trafficking
2. The Secretory Pathway
3. Protein Degradation System
4. COPII Vesicles
5. Autophagy and Autophagosome

In the proposal we planned to produce Micro-modules 1-2 by March 2016 and completed Micro-modules 3-5 by August 2016. By June 30, we have completed modules 1-4. A video is produced for each of the four micro-modules and they were uploaded to our website for students to view before classes. Each of the video is complemented with a set of multiple choice, true or false and discussion questions. The questions are also uploaded to the website. These served as quizzes which students are required to complete after watching the videos. In conclusion, as four out of five micro-modules has been finished, the project should be able to complete on time.

When the course CMB4001 Protein Trafficking begins on September, students' questions about the online lecture will first be discussed at the beginning of each class. Follow-up explanations and discussions using 1-2 related papers recently published in top-ranked international journals will also be achieved in classes. BIO2120 Cell Biology also begins on September and teacher of this course (currently Dr. Lawrence Chiu) will also use some of the

micro-modules so that his in-class lecture time can be saved for other topics.

All online lectures, quizzes and answers are uploaded to the website. The link is:

<http://www.cuhk.edu.hk/centre/ccdb/micro-modules>

### **3. Evaluation Plan**

*Have you altered your evaluation plans?*

*Does your evaluation indicate that you have achieved your objectives?*

We planned to perform two surveys in the first and last lesson respectively to identify students' potential learning problems and to determine whether the problems have been solved by our micro-modules. It will also help us to assess the effectiveness of our micro-modules in achieving the pedagogical goal and to identify areas for further improvement. Academic performance of classes with the micro-modules will also be compared with those of previous classes without.

Our evaluation plans have not been changed and will be carried out when the lectures of CMB4001 Protein Trafficking begin on September 2016.

### **4. Dissemination Activities (reports, websites, video links, products, etc.)**

*Provide a listing of dissemination activities to date.*

Online lectures, quizzes and answers are uploaded to the following website.

The website can also be accessed by non-CUHK teachers and students and the videos can be downloaded freely for teaching or self-learning use.

<http://www.cuhk.edu.hk/centre/ccdb/micro-modules>