

THE CHINESE UNIVERSITY OF HONG KONG

Micro-Module Courseware Development Grant

Scheme 2: Studies in Foundation Courses

Interim Report (2015-16)

Report due 30 June 2016.

Please return by email to mmcd@cuhk.edu.hk

PART I

Project title: **Using Micro-modules and Flipped Classrooms To Standardize the Chemistry and Physics Foundation Knowledge of Year-1 Engineering and Science Students in Biology Courses**

Principal supervisor: **Dr. Lawrence Chiu**

Department / Unit: **School of Life Sciences**

Project duration: From January 2016 to December 2016

Date report submitted: **17 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 objective of this project is to develop micro-modules and to use flipped classrooms to standardize students' foundation Chemistry and Physics knowledge in order to facilitate their Biology learning in my courses.

The above objective remains changed and we are in a good progress of developing the 2 micro-modules: **Essential Physics in Biological Sciences** and **Essential Chemistry in Biological Sciences**.

2. Progress on process, outcomes or deliverables

What have been accomplished so far?

1. An e-learning team was formed with 6 Biochemistry, Biology, and Environmental Science students in early February 2016
2. The first draft of **Essential Physics in Biological Sciences**, including an online presentation with narration and subtitle (*further editing and drawing of figures are required for improving its quality; and is expected to be completed by the end of June*)
3. The PowerPoint slides for **Essential Chemistry in Biological Sciences** (*we are going to re-draw those figures inside and to write its script for recording; and is expected to be completed in early August*)

4. Preliminary ideas about the in-class activities for flipped classrooms, e.g. group assessment with role-playing games, individual assessment with online quizzes, etc. (*another meeting about the details of these assessment activities has already been scheduled on 5 July 2016*)

Have any obstacles been encountered?

1. Since the funding was not enough to hire a full-time staff, I had to form a team with only undergraduate students. In order not to affect their regular studying, I had been doing the planning and preparatory works from February to May so that some of them became free to start implementing those plans and works in late May
2. The noise-insulating quality of the Elite Studio is poor, and we had been waiting for the construction work on the upper floor to stop each time before we could keep on our recording. We intend to use the ITSC Studio next time for recording the narration of **Essential Chemistry in Biological Sciences** or even re-recording that of **Essential Physics in Biological Sciences**
3. Nearly no technical support or even advice had been received from the Elite Studio in our first time of recording. We feel quite disappointed about the missing of the initial purpose of setting up this Studio, i.e. to assist teachers to develop their e-learning materials

What are the remaining tasks to be finished?

1. The first draft of **Essential Physics in Biological Sciences** will be further edited for a number of times to improve its quality and to make it more professional (*it could be completed by the end of June*)
2. The experiences and techniques gained from the **Essential Physics in Biological Sciences** will be used for developing the **Essential Chemistry in Biological Sciences** (*this approach will definitely save us a lot of time so that it could be completed in early August*)
3. Contents and logistics plans of the group and individual assessment activities for flipped classrooms
4. Practices and rehearsals of the above assessment activities before the courses start in September 2016

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

The project will be completed on time, and we have already scheduled the dates for implementing the flipped classrooms on both *13 and 20 September 16*.

The final report will be submitted before the end of *December 16*, after we have completed the courses and obtained students' comments and suggestions from their surveys.

Provide a listing of project outputs to date.

1. The first draft of **Essential Physics in Biological Sciences**, including an online presentation with narration and subtitle
2. The PowerPoint slides for **Essential Chemistry in Biological Sciences**
3. Preliminary ideas about the in-class activities for flipped classrooms, e.g. group assessment with role-playing games, individual assessment with online quizzes, etc.

3. Evaluation Plan

Have you altered your evaluation plans?

First survey will be performed in the first lesson (6 September 16) to identify students' potential learning problems.

Second survey will be carried out in the last lesson (29 November 16) to assess the effectiveness of our micro-modules and flipped classrooms and to determine whether the students' initial learning problems have been addressed or not.

Does your evaluation indicate that you have achieved your objectives?

Before the class starts, all the project outputs to date are now being peer-reviewed by our team members. We all agree that what we have accomplished so far is on the track for achieving our objective.

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

Provide a listing of dissemination activities to date.

We are going to use Blackboard to disseminate our products, and its course account has already been created:

LSCI1001 Basic Concepts in Biological Sciences

https://elearn.cuhk.edu.hk/webapps/blackboard/content/listContentEditable.jsp?content_id= 1644811_1&course_id= 67948_1

(the first draft of the Essential Physics in Biological Sciences has already been uploaded for testing)