Guidelines for Micro-teaching

Why do it?

The primary purpose of micro-teaching is to provide you with an opportunity to consolidate your learning in this course and put it into practice. It is a collegial constructive learning exercise for you to demonstrate your teaching and facilitation skills and receive feedback from your peers.

Another purpose is to get you ready for PDEV 6800 K-N & S, where your teaching will be assessed by faculty in your thrust/program. For this micro-teaching, your group will come up with ideas on how to conduct a tutorial with clear objectives, identifiable outcomes, and meaningful learning activities to support student learning in your class.

What is it?

The micro-teaching comprises effective lesson planning and delivery. Your group must prepare a micro-teaching **lesson plan** in advance for a 50- min tutorial and conduct a **teaching demonstration** of 10 minutes in front of your peers and instructors in this course.

A lesson plan is a step-by-step outline of the **objectives with specific and achievable learning outcomes**. It can be regarded as your roadmap of what students need to learn and how it will be done effectively during class time. Typically, a structured plan should have a beginning, middle, and end with sequences of activities for the lesson.

The teaching demonstration is for you to practice your facilitation skills by teaching **a single concept** to the class. The concept must be taught by adopting an **appropriate active learning strategy**.

How to do it?

In a group, create a **50-min tutorial lesson plan** that mimics one at HKUST(GZ). Your group can decide on the topic to teach. The lesson plan should include:

- Information **about the course**, i.e., discipline, subject, level of study, course type, etc.
- **Two Intended learning outcomes** of the tutorial
- **Rundown** of the tutorial with explicitly defined purposes; what to cover; and how to cover for each time session.

During the 50-min tutorial, your group must incorporate **two active learning strategies** to achieve the ILOs. For the teaching demonstration, your group can decide on each member' s role in the delivery. Each **member must have a well-defined task** for the design and delivery of the teaching demo.

What is this document?

This guideline contains all the information you need to succeed in your micro-teaching. Read them carefully and ask us if you have any questions.

1. Micro-teaching Assessment Rubric
2. Demonstration Micro-teaching Activity Sheet
3. Micro-teaching Lesson Plan Template
4. Micro-teaching Lesson Plan Sample

PDEV6800Y Micro-teaching Assessment Rubric

The Hong Kong University of Science and Technology (Guangzhou)

Criteria		Excellent (E)	Competent (C)	Developing (D)
Lesson Plan	**Course Information and Rundown**	The lesson plan included **all** the **necessary information** about the course and the topic to teach.The **rundown** is **clear** with **explicitly defined** purposes; what to cover; and how to cover for each time session.	The lesson plan included **some information** about the course and the topic to teach. The **rundown** is **somewhat clear** with purposes; what to cover; and how to cover for each time session.	The lesson plan **lacked information** about the course and the topic to teach. The **rundown** is **unclear** about the purposes; what to cover; and how to cover for each time session.
	Intended Learning Outcomes (ILOs)	The lesson plan included **two well-articulated** learning outcomes that **followed** the ABCD model with a **clear structure** of *behavior*, *condition*, and *degree*.	The lesson plan included **one clear** learning outcome that **followed** the ABCD model with the **structure** of *behavior*, *condition,* and *degree*.	The lesson plan included a **vague learning outcome(s)** that **doesn't follow** the ABCD model.
	Active Learning Strategies (ALS)	The lesson plan integrated **two** active learning strategies throughout the lesson. **Both** ALS are **suitable** to achieve the ILOs.	The lesson plan integrated **one** active learning strategy throughout the lesson. The ALS is **suitable** to achieve the ILOs.	The lesson plan integrated active learning strategies throughout the lesson, but the ALS are **not suitable** to achieve the ILOs.
	Constructive Alignment	The learning outcomes, learning activities, and learning assessment are **constructively aligned** for the 50-min tutorial.	The learning outcomes, learning activities, and learning assessment are **somewhat aligned** for the 50-min tutorial.	The learning outcomes, learning activities, and learning assessment are **not aligned** for the 50-min tutorial.
Teaching Demonstration	**Organization**	The goals and instruction of the activity were **clearly articulated** and followed a logical process.	The goals and instruction of the activity were **somewhat explained** and followed a logical process.	The goals and instruction of the activity were **unorganized**.
	Materials/ Tools	The instructor selected and used **appropriate** materials, visuals, equipment, and tools to **successfully deliver** the active learning activity.	The instructor selected and used **somewhat appropriate** materials, visuals, equipment, and tools to **adequately deliver** the active learning activity.	The instructor selected and used materials, visuals, equipment, or tools that **hindered the smooth delivery** of the active learning activity.
	Engagement	The instructor **effectively engaged** the students and provide **appropriate guidance** and keep students on task.	The instructor **somehow engaged** the students and provide **some guidance** and keep students on task.	The instructor **did not engage** the students and did not keep students on task.
	Communication	Demonstrates high **language proficiency**, **clear articulation, and adapts effectively** to various audiences.	Communicates effectively with **good language proficiency**. **Struggles slightly** with complex language structures during presentations.	**Basic communication skills** evident but needs improvement. Language proficiency is **limited,** causing potential misunderstandings. Verbal presentations lack clarity.

Demonstration: Micro-teaching

"50-min Tutorial Lesson Plan"

Activity Brief: Micro Teaching is a consolidation of all the teaching and learning principles, and skills acquired in the first four modules. You need to submit a detailed lesson plan with active learning components and apply teaching and facilitation skills in a teaching demonstration of about 10 minutesin groups. This micro-teaching provides you with the opportunity to practice the theories and skills learned from the online components and F2F sessions. You will also get feedback from your peers and instructors. Remember, "practice makes perfect". Finally, this demonstration playsa vital role in developing your knowledge, skills, and attitudes as an educator.

Submission Requirements:

As a group, you need to:

1. **Create** a 50-min lesson plan. See the sample and use the template as a guide.
2. **Demonstrate** 10 minutes of the 50-min lesson plan that shows an active learning component.
3. **List** the task of each member of the group.

Steps: The core of the micro-teaching, which is the 10 minutes demonstration, will happen on Module 5. Every PDEV 6800Y module was designed to focus on a particular part of your lesson plan and teaching demonstration, you can follow this suggested workflow to help your group to incorporate what you have learned from each module and be able to manage the workload efficiently. You are expected to accomplish each step by the end of each module, don't leave it until the last minute.

Module 1 - Active Learning in Learner-Centered Classroom

1. **Choose** a topic from HKUST(GZ) Undergraduate courses for the teaching demonstration
2. **Write** two intended learning outcomes (ILOs)

Module 3 - Effective Presentation and Facilitation Skills

3. **Design** two active learning strategies in your lesson plan that align with the ILOs
4. **Prepare** your teaching materials
5. **Refine** your learning activities

Module 4 - Constructive and Actionable Feedback

6. **Ask** for feedback from instructor and peers
7. **Refine** your lesson plan

Module 5 - Micro-teaching

8. **Choose** which active learning strategy you will demonstrate
9. **Demonstrate** the active learning component
10. **Write** peer feedback

Micro-teaching Lesson Plan (Template)

Session No., Group No. *(Write your session number and group number here)*

Topic: *Write your chosen topic here, that are from HKUST(GZ) undergraduate courses. You can consider finding a course under Undergraduate courses ensure that your peers can participate during your demonstration.*

Intended Learning Outcomes (ILOs):

1. *Write two learning outcomes here*
2. *Are your outcomes measurable? (Remember to use some of the Action Verbs in Bloom's Taxonomy)*
3. *Stuck at writing learning outcomes? (You can use ABCD method as a reference)*

Materials needed:

- *List all the materials (digital or paper-based) and equipment needed for the tutorial.*

Time	Purpose	Learning Contents What to cover?	Learning Activities How to do it?
50 minutes in total	*This column answers the question "why" or the reason why you need to deliver a particular topic or do a certain activity.*	*This column corresponds to the topic to be covered.*	*This column outlines the learning activities to be performed to deliver the learning content in relation to the purpose. It also highlights specific active learning (AL) strategies to be used.* *ILOs are being covered*

Note: Check the detailed lesson plan below for reference.

Micro-teaching Lesson Plan Sample*

Session xx, Group xx

Topic: Basic Derivatives

COURSE CODE: MATH 1012
COURSE NAME: Calculus IA

Intended Learning Outcomes (ILOs):

1. Students will be able to apply the definition of derivatives to solve at least 2 out of 3 questions correctly.
2. Students will be able to apply the derivative rules including power rule, addition rule, product and quotient rule to solve at least 2 out of 3 questions correctly

Materials needed:

- Computer, Projector, Mic, Visualizer and Pointer
- Basic derivative worksheets and derivative rules worksheets

Time	Purpose	Learning ContentsWhat to cover?	Learning Activities (AL) How to do it?
5 mins	To refresh students' memory of last lecture AND To introduce the concept of derivatives	• Introduce dy/dx $\lim_{h\to 0}\frac{f(x+h)-f(x)}{h}$ • Show examples to find derivatives by using the formula.	Demonstration by tutor: 1. Showcase how to find the slope at a certain point by using Google sheets. 2. Ask students to give a number that is larger than 2 and smaller than or equal to 10. 3. Calculate the function and slope using the Google sheets and show the result on screen.

10 mins	To evaluate students on their understanding	• Practice the basic derivative questions	**Activity 1 - Worksheet:** Students will form groups. Each group will receive a set of 3 questions to find the derivative using the formula. Students can collaborate and TAs will walk around to offer help and identify students' difficulties and common mistakes.
10 mins	To debrief students and highlight the common mistakes TAs observed AND To elaborate by showing different versions of the definition	• Explain different ways to express the definition the derivative Definition: Derivative of $f(x)$ at $x = a$ $f'(a) = \lim_{x \to a} \frac{f(x) - f(a)}{x - a}$, or $f'(a) = \lim_{h \to 0} \frac{f(a+h) - f(a)}{h}$.	Invite students to solve the questions by using visualiser. Point out the common mistakes students made and explain other definitions of derivative.
5 mins	To consolidate students' learningon the usage of derivative rules	• Introduce basic derivative rules: - Power rule - Addition rule - Product rule - Quotient rule	Demonstration by tutor: 1. Show an example that uses all the rules 2. Present the processes by using visualiser
10 mins	To enhance students' understanding of derivative	• Practice the basic derivative rules questions	**Activity 2 – Swap Marking:** Students will work in the same group. Each group will receive a set of three questions to find the derivative. Students need to show how to solve problems step by step. Students then swap worksheets with another group and mark the group work.

			Students can collaborate and TAs will walk around the room to see students' progress and observe common mistakes students have made to sum up later.
10 mins	To debrief students and highlight the common mistakes observed.	• Point out common mistakes when applying derivative rules	Ask students to vote for common mistakes spotted. Explain the common mistakes using visualiser. Use prepared points in case no common mistake can be spotted as a reminder to student.