Peer Review of Teaching

for MECH 364: Mechanical Vibrations

Course Instructor: Srikanth Phani

Reviewer: Peter Ostafichuk

Date: March 22, 2012

About the Course: A large core course for 3rd/4th year Mechanical Engineering students. The course requires development and application of mathematical models to practical vibration problems.

Instructor: The Teaching Perspective Inventory (TPI) score indicate that *Apprenticeship* is the dominant perspective and *Nurturing* is the fall back perspectives of this instructor

Purpose of this review:

1) To provide formative feedback on the lesson plan (notes), course syllabus and learning objectives shared with the reviewer prior to attending the class.

2) To provide formative feedback on three broad aspects of the classroom practice: (a) Nature of the learning environment fostered, (b) Student engagement, (c) Content and delivery.

Specific points to consider (suggestions only):

Q1) Is the lecture well situated in the broader context of the course objectives? Are the learning objectives for this lecture communicated effectively?

- The learning objectives are clearly communicated and easily identified in a box at the top of the lecture slides. It was also particularly effective to include the objectives at the top of the whiteboard (for reference through the lecture)
- There is a clear connection between the lecture topics and the course objectives. This was communicated to the students verbally mid-lecture (I'm not sure all students fully understood what was being communicated at the time).
- The videos, webpage, and discussion at the start of the lecture helped to convey the relevance, and connected to objective 4 (appreciate design trade-offs)

Q2) Did the learning activities correspond to the learning objectives?

- Good discussion areas of vibration isolation (page 4). The interaction helped to foster an appreciation for the topic and why it was important.
- Most of the lecture focused on understanding the working principles (very well done)
- Throughout the class, the instructor referred to SDOF vibration theory and helped to relate that material to practical applications, as well as to past and future course topics.

Q3) What type of learning environment is fostered?

- The learning environment was friendly and supportive. Multiple times in the class the instructor reassured students that he wanted them to learn and he wanted to go at their pace.
- The student response to the instructor was cautious (e.g. shy answering questions), but this was their first class with him and would be expected. After the question on page 4 (isolation situations) students seemed to open up slightly.
- Students were still somewhat reluctant to answer questions at later, but the instructor did absolutely the right thing (in my opinion) and helped to coach them towards the answers rather than giving up on asking the question

Q4) Comment on the student engagement, and suggestions for improvement

- The videos were a great way to engage the students and pique their interest
- The reference to commercial websites was very effective at relating the course material to engineering practice; likewise, having the student report on his co-op experience added relevance to the topic
- All students (100%) seemed to be engaged at all times during the lecture. Each time I looked, everyone was either watching and listening, or taking notes.

Q5) Comment on the content and delivery methods with suggestions for improvement

- The delivery method was familiar to the students (blackboard) and the style was friendly and supportive
- There was some confusion with the dual use of notes and the blackboard (e.g. when the instructor referred to page 3 and worked on the board, many students seemed to be confused whether they were expected to record the notes and where those were supposed to go). Some students wrote notes on the backs of pages, some used the space on page 4 to write notes related to the page 3 material.
- Page 6 question – effective practice to give students "two minutes to think about things" before seeking responses. Perhaps consider more explicit instruction at the beginning, such as: "I am going to give you two minutes to

think about this and then I will ask you for your input. For the first minute, think about it individually, and, when I tell you, I would like you to discuss with a neighbour."

Q6) Any further suggestions/thoughts/comments/observations you made during the lecture

- The F1 inerter example (two-port mass) seemed to be of interest to the students, and it was mentioned that this was an aside. Many students seemed to write this down because it was on the blackboard; I would suggest more strongly emphasizing the aside nature of the materials.
- Excellent to close class by revisiting the learning objectives
- Overall, this was a very effective lecture and it was a great pleasure to attend!