# Social Media for Enhanced Learning and Teaching in Engineering

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| 2 | ***Key words:***<br>Social Media, Twitter Feed, Facebook, UStream, Live Streaming, Posdcasting |
| 3 | ***Overview:***<br>Social media is used to enhance teaching and learning in courses presented as part of the Mechanical Engineering undergraduate degree programme at Heriot-Watt University. This is done, in part, to engage students who increasingly use Facebook and Twitter in their everyday lives, but also to help students at the early stages of their studies to adjust to large class sizes. |
| 4 | ***Background/context:***<br>Social media are very effective and important communication tools in modern-day life. It is therefore, very important that teaching and learning embraces and effectively uses social media for academic enhancement. Social media are powerful tools to engage undergraduates who increasingly perceive the traditional lecture format as old-fashioned and detached. The use of social media is an opportunity for lectures to be interactive, engaging, interesting and fun, thus creating a very positive environment for teaching and learning. |
| 5 | ***Activities/example of practice:***<br>The following events and activities have been trialled:<br>1. Short podcasts which present fundamental science and engineering principles have been developed and can be accessed through Facebook to ensure they reach a wide audience. These have been shown to be very popular with early year undergraduates as an introduction to a topic, but also to the later years as a refreshment/revision aid.<br>2. Events such as the Formula Student Launch have been broadcast live; it is intended that this format will also extend to some lectures at the beginning of the next academic year (2013-14).<br>3. A Twitter feed has been incorporated during Lectures as a means of encouraging student interaction, especially with the large cohorts (in excess of 170 for Mechanical Engineering Science). It was thought that asking questions in a lecture can be intimidating for early stage undergraduates. Social Media such as Twitter has proven to be a very useful tool to help develop an interactive environment. Impressively, this |

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| | format attracted engagement from Alumni, who were able to give direct industrial engineering context to the lecture topic. The online debate was not confined to the lecture hour and continued for hours and even days after the lecture.<br>With limited success, a synergistic combination of Social Media was attempted; this is described here:<br>• The Formula Student Launch Event was promoted on Facebook. It is quite clear that Facebook is a particularly effective means of staff/student communication as a "push feed". The average student checks their Facebook Timeline several times daily, much more frequently than e-mail. The facebook interface also offered the opportunity to "advertise" the event (glossy images/videos etc) whereas blanket e-mailing is more likely to be considered "spam" and deleted without reading.<br>• The event was broadcast live through UStream. This allowed the public, staff and students (even on other campuses) to participate and increase the impact of the event on a wider audience. A twitter #hashtag can be used to encourage a debate amongst those present in the lecture theatre and those watching remotely.<br>• To complete the circle, the live broadcast was recorded and posted on Facebook to be watched at a later date by an even wider audience and Discussion Boards can be used to extend the debate beyond the lecture theatre. |
| 6 | ***Key points including challenges:***<br>There are some key operational issues that have been identified in the use of social media; unless these are addressed, the teaching and learning experience can be jeopardised. An attempt to filter tweets from the twitter feed was difficult and time consuming, a code of conduct however was embraced by the cohort. Prompt replies to tweets/facebook messages are required for good effective discussion; easy access to an iPad/Smartphone was crucial to this end. |
| 7 | ***Sharing good practice:***<br>The whole project was actively disseminated via Social Media. All events were open access and encouraged engagement from outside the immediate target audience. This helped to disseminate the initiatives by means of demonstration. |
| 8 | ***Where to next:***<br>Student feedback has been very positive and qualitative at times. Students, in general are keen to see these initiatives taken up more widely. A key ambition is to engage the Dubai campus. Teaching across campuses via social media will hopefully help to unite the campuses and enhance the student experience. |
| 9 | ***Additional information:***<br><br>Facebook: www.hw.ac.uk/HWUMechEng<br>UStream/Vimeo: http://vimeo.com/69284938 |