Present: Sophie Bolger, Sarah Coughlan, Jacqueline Fossett, R Gunn, Edward Hay, Tom Lucas, Jacob Pedersen. Dr Saiied Aminossadati, Dr Zhongwei Chen, A/Prof Mehmet Kizil, Prof Peter Knights, Dr Christopher Leonardi, Dr Micah Nehring. Ms Katie Gollschewski.

Apologies: Dr Italo Onederra.

1. Terms of Reference and Membership

The School holds student/staff liaison meetings by major area (materials, mechanical, mining) for the Bachelor of Engineering. The main objective for these committees is to contribute to the continual quality improvement of the BE programs contributed by the School. This will be achieved by:

- discussing the relevance of the curriculum,
- acting as a forum for suggestions for modification and improvement to programs and the learning environment,
- highlighting and sharing examples of good practice,
- monitoring workload of students, considering and seeking to resolve academic problems which are of concern to students, and
- making recommendations to other committees and to managers on matters requiring action that the Committee cannot resolve directly.

All current mining and mining and geotechnical students were invited to attend the meeting and the minutes will be circulated to the cohort.

2. Group assessment – individual tasks

Students noted that in courses with group assignments, there is a tendency for group members to continually complete the same section of a report each time. This means that students are not being exposed to different tasks, and one person continually being relied on to complete a time consuming task (e.g. use of mining program). Students noted that staff suggest students take on different roles, and staff noted that group role allocation would be reviewed.

3. Ethics, sustainability and engineering professionalism

Students were asked for feedback on what courses they believe address ethics, sustainability and engineering professionalism. This feedback will be used for validation of competencies for accreditation with Engineers Australia.

Students noted that there are ethics reflections required as assessment items in several courses, however sustainability was not covered as much.

Students queried why MINE3127 (Socio-Environmental Aspects of Mining) was not a compulsory course at UQ when it is at other Mining Education Australia (MEA) universities. It was noted that at UQ there is space in both semesters in year three for an elective course, and that all mining students are encouraged to take MINE3127 as a third year elective course. As many students elect to undertake dual degrees, there is no space in their program for MINE3127.

4. Computer labs

Students noted that they were asked to leave computer lab 43-260 for a timetabled class. This is a busy time of year for mining students as they try to complete their final year thesis. In many cases, if the class is small, the lecturer will allow the mining students to remain in the room as long as they are quiet.

Students also questioned whether this room could be made available with 24 hour access as some programs are only available on lab computers.

The EAIT IT Group will soon implement remote use of computers and this will be advertised to all students when available. This is likely to be in Semester 1, 2015. Remote access to student files is
5. Employment

Students noted that there were difficulties in obtaining professional practice positions and full-time employment on completion of their studies. Staff noted this and agreed to circulate a list of suggestions to the cohort.

6. Year 2

Students noted that there is some repetition in second year courses, and that more detail would be preferred. Staff noted that each course has to cover a lot of information, but that they would look at the depth and breadth of second year courses.

Students questioned why the surveying component of MINE2106 (Resource Geology & Mine Surveying) was compressed into one month. Staff noted that surveying used to be a stand-alone course, changing to 50% of a course, down to the current component of MINE2106. One reason for this was the shortage of staff capable of teaching in the area and that the position would be casual (a full time position could not be justified for surveying alone). Hugh Taylor currently teaches this component and is highly skilled in this area. It should also be noted that there have been changes in technology and this has changed the way surveying is undertaken.

Students noted that MINE2201 (Physical & Chemical Processing of Minerals) seemed to be geared towards students with a metallurgy and chemistry background. Students noted that the course was easier for students who had undertaken CHEM1090 (Introductory Chemistry), which is considered equivalent to high school senior chemistry (with a sound achievement or higher). In the course profile it states that “No specific assumed knowledge is required for this introductory course. However, a sound knowledge of chemistry, mathematics and physics is necessary”.

It should be noted that one entry requirement for the Bachelor of Engineering is “Queensland Year 12 or equivalent English, Mathematics B, plus one of Physics or Chemistry. Both Chemistry and Physics, and Mathematics C are recommended”. Staff noted that a chemical course would not be made compulsory in year one of the program and that the elective spaces would remain for students to choose the course most appropriate for them. Staff noted that this course is undertaken by a range of students and that it is a useful and important course for a mining career. Students suggested adding additional tutorials that cover extra chemical content. One student noted that in 2014 the tutorials were extended from one hour to two, which seemed to help.

Students noted that MECH2410 (Fundamentals of Fluid Mechanics) was very math intensive and that many mining students do not take MATH2000 (Calculus & Linear Algebra II) until later in their program which means they struggle with the content. Staff noted that the math required for MECH2410 was covered by MATH1052 (Multivariate Calculus & Ordinary Differential Equations), which mining students take in year one of the program. Students suggested that it should be standard practice to review the average marks for courses where students from multiple plans enrol.

This review already occurs within the School. Each semester, prior to grade upload, the School holds a School wide examiners meeting. The meeting is chaired by the Head of School and prior to the meeting course coordinators analyse the results for their course and reflect on how the course ran during the semester. At the meeting, each course is considered separately, and statistics for each course are displayed to the meeting. A discussion is held about the assessment components and processes, the results and the performance of the students in the course.

Students noted that MINE2123 (Structural Mechanics for Mining) in 2014 was easier for mining students due to the change of the assignment into a mining context. Students suggested that at the start of each lecture the presenter place the topic into context for mechanical students, and mining students. Students requested that a mining tutor be appointed for this course, and were advised that this was already the case. Students noted that would prefer if the tutorial material could be given in a context that was relevant to mining students.
Staff noted that years one and two of the program will have some mining scope as students build their fundamental knowledge, however students should appreciate that specialisation is irrelevant to understanding fundamental math that is essential for all engineers. University study is not just about training students to be industry ready – the training is also to develop fundamental skills and research readiness.

One student noted that those who have undertaken ENGG1100 (Engineering Design) and ENGG1200 (Engineering Modelling & Problem Solving) have a stronger background in courses with a modelling and problem solving focus which gives them a different perspective on second year courses like MINE2123.

7. Year 3

Students noted that most issues were with second year courses, and that there were no major issues with years three and four.

Student noted that MINE3126 (Underground Mining Systems) and MINE3128 (Surface Mining Systems) were both Advanced Electives in the Mining Engineering course list. Students commented that these courses help students prepare for MINE4124 (Hard Rock Mine Design & Feasibility), and those that complete them in year three find MINE4124 easier.

Students briefly discussed the composition of courses, noting that they wanted more breadth in some courses, like MINE3123 (Mine Planning). Attendees discussed the composition of courses (e.g. separating open pit and scheduling).

8. Year 4

Students discussed the differences between MINE4124 (Hard Rock Mine Design & Feasibility) and MINE4125 (Coal Mine Design and Feasibility), noting there could be more consistency with project descriptions and starting points. Students agreed that a mix of interviews and presentations was beneficial, perhaps commencing with an interview and concluding with presentations. Students also noted that while it is great to obtain industry feedback on presentations, the marking can be harsh and not strictly based on the set criteria.

9. MAMA report

It was noted that metallurgy students comprise a minor percentage of MAMA membership and that there is a feeling within this group of being disconnected (i.e. they are ‘housed’ in the Frank White Annexe and as such are separated from the School of Chemical Engineering). Other students noted that it is clear which School manages the metallurgy program and students are responsible for, and should take the initiative to, seek assistance when required.

10. Accreditation

The mining and geotechnical major in the Bachelor of Engineering at UQ is scheduled to be considered for continuing full accreditation in December 2014.

In Australia, the accreditation of undergraduate engineering programs is the responsibility of Engineers Australia. Accreditation ensures

1. academic institutions consistently meet national and international benchmarks,
2. engineering graduates of an accredited program are eligible for membership of Engineers Australia at the relevant career grade, and
3. the degree is recognized in a large number of countries that are signatories to the Washington Accord so that graduates enjoy reciprocal privileges by equivalent professional bodies overseas.
When a new engineering program or major is introduced, the responsible School seeks provisional accreditation. This would normally occur in the first year of operation, where a sizeable cohort of students has been enrolled. Once the first sizeable cohort of students graduates from the program, then the responsible School can seek full accreditation. Accreditation of engineering education programs is normally carried out every five years.

As part of the accreditation process, a panel of experts from Engineers Australia will visit UQ and meet with various groups, including current students likely to graduate from the mining and geotechnical major of the Bachelor of Engineering. The panel will be visiting the St Lucia campus on Monday 1 December and Tuesday 2 December 2014, and meetings with each student cohort will likely last one hour.

School staff will email students later this semester with details of when the meeting will be held.

The School will be submitting documentation for the panel’s review by 6 October, after which a detailed timetable will be created (the panel undertake a facilities tour, reviews assessment items and interviews various groups).

At the December visit, the panel will be considering the plans –
- Bachelor of Engineering (Civil and Environmental) for full accreditation;
- Bachelor of Engineering (Civil and Geotechnical) for full accreditation;
- Bachelor of Engineering (Mining and Geotechnical) for full accreditation;
- Bachelor of Engineering/Master of Engineering (Chemical, Chemical and Biological, Chemical and Materials) for full accreditation (these plans were provisionally accredited in 2012);
- Bachelor of Engineering/Master of Engineering (Mechanical, Mechanical and Aerospace, Mechanical and Materials) for provisional accreditation.

11. Preferred communication channels

The School was interested to know students preferred method of communication for study related information. At a large meeting with prospective BE/ME students, it was noted that email announcements was the preferred method.