Teaching Support Group Report

**ZEIT8008- Space Systems Design**

Teaching Staff:  **Dr Li (Lily) Qiao**

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## Summary

At the outset of this report, I should thanks to Dr Li (Lily) Qiao and Dr Melrose Brown for their time, particularly when the meeting ran for more than an hour! I should acknowledge the fact that I enjoyed participating in this course review process, and its corresponding discussions. This report has been created solely based on the discussion I have with the course and program convenors, observing the Moodle page for this subject-under-consideration, the course outline for that subject, and the pre-filled self-review document submitted by the course convenor, Li.

We together discussed on all the SEIT teaching goals, their milestones and chalked out a few possible actions to accomplish those goals, in any case, they are yet to meet! While most of my observations correspond to each teaching goals are highlighted underneath of that respective table, here I’m providing some summary observations.

Overall, this course is well-designed and has been well-managed by a diversified team, clearly mentored by Dr Melrose Brown (Space program coordinator). This is a core course in the Space program, and the usually expected student enrolment is around 30. Li has been the sole convenor (and lecturer) for this course since 2018, before which Melrose was the lecturer. Despite the need of a team-teaching practice across all UG and PG courses, this course is still designed for a one-person teaching practice, which is inarguably a vulnerable process, given the job security, holiday and others. One key strength of this course is the luxury of having guest lecturers. There are 6-7 different guest lecturers across industries, consultancy firms and academia, who have been actively involved in every important decision making of this course. To stretch that further, those guest lecturers are also engaged in designing assessment questions and sometimes evaluating them (if needed).

Contents of this course are assumed to be updated every year, which is also reflected in the Moodle page. The course convenor is regular on posting announcements and providing hand-to-hand feedbacks while appropriate. Design and variability of assessments, corresponding marking rubrics, and feedbacks are consistent, although a future action plan is decided to make them more appropriate (those are articulated in the Action plan section). Moodle page is well designed with clear links to read out-of-the-box contents. Given all the strengths and good vibes, there are a few things which can be addressed for the betterment of this course, which are also highlighted in the action plan section.

## SEIT Teaching Goals

1. Appropriate Assessment
2. Rich and Timely Feedback
3. Learning and Teaching Professional Development
4. Quality Learning Materials and Environment
5. Relevance – Content to Profession**QTF Goal One – Appropriate Assessment**

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| **Level**  **4** | * Mentor and assist staff at lower levels of appropriate assessment – leadership opportunity |
| **Level**  **3** | * Provide interconnected assessment, from course to program to profession (relevant to “degree & profession”) * Engage in clear communication between course coordinators-lecturers and lecturers-lecturers * Ensure strong engagement within a program |
| **Level**  **2** | * Provide appropriate assessment in collaboration with guest lecturers and industry partners * Appropriate assessment that addresses difficulty levels; focus on education |
| **Level**  **1** | * Provide clear assessment instructions and requirements (i.e. task description) * Provide relevant assessment and link to CLOs * Provide a solution sheet wherever applicable (tutorials, exams etc.) * Provide assessment weighting reflective of work required * Ensure balance between group and individual assessment; require individual understanding * Review and implement all assessment related aspects of the UNSW Assessment policy, Assessment Design Procedure, Assessment Implementation procedure and UNSW Integrated Curriculum Framework documentation. |

My observations are as follows:

* Assessment instructions and their requirements are clearly articulated in the Moodle page, and the course outline page.
* This course has three online quizzes (16% weightage each) and one final assignment of 52% weightage.
* 4-point marking rubrics are documented in the Moodle page for the whole assignment task (rubric for all questions together-not a task-based decomposition)
* Practice quizzes are also available for students to prepare before the online quizzes
* Feedbacks are provided at the earliest effort
* Students can see (i.e., review) their right and wrong answers once the quiz complete
* Solution sheets are provided
* This course does not have any group assignment component at this stage
* The assessment design procedure and implementation procedure are according to the UNSW assessment policy
* Assessments are appropriate which address difficulty levels; focus on education (level 2)
* The course coordinator is engaging with all guest lecturers, in case she needs to (level 3)
* Contents are updated and recent. However, the program coordinator believes there is a need for content development in the coming year, possibly from 2021.
* Having a ‘reflective journal’ forum can be a good option to accumulate student’s feedback, so that they can see each other’s reflection, if not only the convenor.

Based on the evidence above, the baseline for this teaching goal is **being met** and can be claimed that this one is somehow in-between level 2-3.

**QTF Goal Two – Rich and Timely Feedback**

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| **Level**  **4** | * Utilise interactive tools to provide real-time in class feedback * Utilise a wider range of formative assessments to gauge student understanding and learning * Engage students in providing feedback to self and others |
| **Level**  **3** | * Design class activities that foster student interaction and peer instruction * Implement at least 2 formative feedback approaches |
| **Level**  **2** | * Utilise a range of teaching approaches (i.e Socratic and/or peer instruction) to gauge student understanding * Provide feedback along with marks such that students both understand why the mark was awarded and understand how to improve their performance (i.e. feed-forward) |
| **Level**  **1** | * Provide students their marks with enough feedback so that they understand why that mark was awarded * Review and implement all timely feedback related aspects of the UNSW Assessment policy, Assessment Design Procedure and Assessment Implementation procedure documentation. Some aspects include but are not limited to:   - Providing feedback that informs students about their current level of achievement and supports their future learning;  - Providing feedback in a timely manner; within 10 working days. |

My observations are as follows:

* 4-point marking rubrics are documented in the Moodle page for the whole assignment task (rubric for all questions together-not a task-based decomposition)
* Feedbacks are provided at the earliest effort. Students are aware of what is expected from each task and they are only informed why a mark has been assigned with a good justification.
* Students can see (i.e., review) their right and wrong answers once a quiz complete.
* Solution sheets are provided, and the feedbacks support their future learning too.
* So far, my concern, yes, the course convenor has been consistent in providing the feedback on time. However, realising grades or final marking is also dependent on the PELG marking committee meeting and their agreement.
* Feedback related aspects are according to the UNSW assessment policy
* A feed-forward approach is also visible in the Moodle page (level 2)

Based on the evidence above, the baseline for this teaching goal is **being met** and can be claimed that this one is somehow in-between level 1-2.

**QFT3: Course Organisation and Professional Development.**

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| **Level**  4 | * Teaching is done as a team (collaborative) such that all team members are present and engaged for most classes * Implement innovative approaches to teaching * Staff apply for HEA level 2 Fellowship |
| **Level**  3 | * Teaching staff regularly sit in on each other’s classes * Assessment and presentation is consistent across parts of the course (cooperative teaching) * Staff share teaching and learning experiences nationally and internationally * Staff apply for HEA level 1, Associate Fellowship * Staff engage in industry experience opportunities available to academic staff to better understand industry requirements/needs |
| **Level**  2 | * Teaching staff, including sessionals, meet weekly * Teaching staff sit in on each other’s classes occasionally * There is consultation among the teaching team during preparation of the course outline, assessment plan, etc. * Expectations of students are explicit and consistent across parts of the course * Staff attend local Teaching and Learning events (seminars, workshops etc.) * Review technologies/best practices every year (update yourself) * Engage in Formative Peer review opportunities * Staff share experiences (formally and informally) within school and faculty |
| **Level**  1 | * Teaching team meets regularly * Teaching is sequential but teaching staff are aware of content and assessment across the course * Convener meets regularly with sessional staff * All course materials (eg outline) are prepared to meet Teaching Timeline deadlines. * Complete compulsory FULT for new/young academic staff * Complete FULT refresher/equivalent every 10 years *(requires development)* |

My observations are as follows:

* This course relates to seven guest lecturers, who have been regularly monitoring the course content, casually delivering lectures and are also engaged during the assessment structure & evaluation.
* This course has only one lecturer, despite the needs of a team-teaching practice.
* Usually, this course runs one synchronous online class in each fortnight. Otherwise, most of the contents are delivered asynchronously.
* Class contents are regularly monitored and recorded.
* However, how the course should be organised as per the UNSW 3+plan is an action to be taken
* Enough course materials and external references are visible via Moodle page
* The course convenor has already completed the FULT and she is also a member of the TSG
* All SEIT academic staff are expected to complete FULT, and those who have already completed FULT are encouraged to undertake a FULT refresher (coming soon from LTG). There are many opportunities for professional development, and some of these are listed on the HoS Moodle site and announced in the SEIT newsletter. All SEIT staff are expected to engage in ongoing PD.

Based on the evidence above, the baseline for this teaching goal is **being met** and can be claimed that this one is somehow in-between level 1.

**QTF4: Quality Learning Materials and Environment**

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| **Level**  4 | * Individualised learning * Provide engaging and robust learning materials * Design specialist, dedicated environment, showcase labs * Provide sufficient diversity to drive inclusive environment for minority groups |
| **Level**  3 | * Introduce and use interactive tools; provide more active learning materials * Enable hands-on learning environment * Broader materials to accommodate student diversity and learning preferences (videos, structured lectures etc.) * Provide course documentation that students can use to learn independently from (lecture notes, answers etc.) |
| **Level**  2 | * Provide learning objectives for each topic/module * Ensure diverse learning materials, teaching styles and relevance * Ensure repeatable and reproducible environments |
| **Level**  1 | * Provide relevant content in clear and easily accessible format * Ensure that enough content is available online for easy student access * Provide additional and enough resources provided to deliver content and learning experiences * Use microphone to record all relevant sessions in Echo capable locations * Ensure logical content sequence   (Compliance with UNSW Canberra’s Online Learning Standards for PG courses) |

My observations are as follows:

* The course outline is updated and contains all information relevant
* Moodle site is well-designed, and the contents are a breakdown in two-week structure. Probably, an action task should be to restructure the content in a weekly fashion, so that student may have better control policy of what they are learning in each week.
* This course has only one lecturer, despite the needs of a team-teaching practice.
* Usually, this course runs one synchronous online class in each fortnight. Otherwise, most of the contents are delivered asynchronously.
* Class contents are regularly monitored and recorded.
* However, how the course should be organised as per the UNSW 3+plan is an action to be taken
* Enough course materials and external references are visible via Moodle page
* Leganto course reading link is used via the library page (only for the first 4 chapters—not for the whole course)
* Since this is completely an online mode course, appropriateness of space is not a concern.
* Overall, this course is compliance with online learning standards for PG/online delivery

Based on the evidence above, the baseline for this teaching goal is **being met** and can be claimed that this one is somehow in-between level 1.

**QTF5: Relevance of Content to Profession**

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| **Level**  4 | * Seek work experience opportunities (for non-Engineering disciplines) * Engage industry guest speakers * Support students in creating examples/links/designs (how is content relevant to them and their profession) * Provide opportunities for field trips, site visits, students attending conferences and workshops * Seek to include problems posed by industry partners |
| **Level**  3 | * Focus on skill development as well as content comprehension * Enable problem solving, critical thinking, team work and communication e.g. via hands-on activities, labs, demos, open assignments etc. |
| **Level**  2 | * Provide relevant assessment and feedback * Ensure that lecturers keep up to date and use up to date: examples, applications and techniques (student learning) |
| **Level**  1 | * Align with CLOs and PLOs * Provide relevant and up-to-date content * Provide real-world applications and examples |

My observations are as follows:

* The course outline is updated and contains all information relevant
* Course notes and presentations are available. However, those course notes are not arranged as per the weekly structure, which probably is an action plan
* Moodle site is well-designed, and the contents are a breakdown in two-week structure. Probably, an action task should be to restructure the content in a weekly fashion, so that student may have better control policy of what they are learning in each week.
* Class contents are regularly monitored and recorded.
* Enough course materials and external references are visible via Moodle page
* Leganto course reading link is used via the library page (only for the first 4 chapters—not for the whole course)
* This course has some links to give students an understanding of cutting edge technology and real-world applications related to Space.
* Guest lecturers use to talk ‘Space News’ and also talk about the media related to Space inventions.

Based on the evidence above, the baseline for this teaching goal is **being met** and can be claimed that this one is somehow in-between level 1.

## Action Plan

Based on the discussion with the convenor, program coordinator and my observation to all supporting documents, we decided to put these as future action plans:

1. Implement a team-teaching approach for this course to minimise vulnerability
2. Start thinking about designing the course structure as per the UNSW 3+ plan
3. Incorporate Group assignment (at least one, instead of three online quizzes)
4. Marking rubric can be for each task, instead of the whole assignment context. For each task, if students can see what is expected and how they will be evaluated, I believe, that will give them better traceability. Notably, this course already has a task distribution according to each activity and has a document mentioning what to do for each task, however, a marking rubric for each will add more value.
5. Monitoring the current progress of the space program and then redesigning the course content accordingly can also be a good action plan.
6. Adding one ‘reflective journal’ forum on the Moodle page so that students can see each other reflection and then place comments (e.g., reply) can also be a good option
7. A more collaborative environment along or between the guest lecturers can be another option
8. Designing the course content and lecture notes as per the weekly format will give more visibility and better control.
9. Instead of fortnightly asynchronous classes, if possible, the convenor may start thinking about a weekly online class to put students on the table
10. Please look at my observation in the COPUS feedback. Take action accordingly. Thanks