

NSW First Year in Maths, UNSW Sydney  
Red-Centre room 4082  
18<sup>th</sup> July 2019

09:30 – 10:00	Registration/Tea and coffee
10:00 – 10:20	<b>Laure Helme-Guizon</b> (UNSW) <i>Implications of the new HSC syllabuses: a university perspective</i>
10:20 – 10:40	<b>Ian Whiteway</b> (Aurora College) <i>Implications of the new HSC syllabuses: a high school perspective</i>
10:40 – 11:10	<b>James Franklin</b> (UNSW Sydney) <i>We must teach proof</i>
11:10 – 11:40	Morning Tea
11:40 – 12:10	<b>Thanom Shaw</b> (SCEGGS Darlinghurst) <i>Mathematical argument and proof for all ages</i>
12:10 – 12:40	<b>Nathan Jackson</b> (UNSW) <i>Peer review in an assignment on proof</i>
12:40 – 13:00	<b>Ayse Aysin Bilgin and Tania Prvan</b> (Macquarie University) <i>Teaching statistics with authentic examples to increase the transferability of statistics knowledge to other disciplines</i>
13:00 – 13:40	Lunch
13:40 – 14:10	<b>Thanom Shaw</b> (SCEGGS Darlinghurst) <i>An assignment focusing on mathematical comprehension and communication</i>
14:10 – 14:40	<b>Usha Sridhar</b> (UTS) <i>Mathematical writings of First year students</i>
14:40 – 15:10	<b>Jim Pettigrew</b> (UWS) <i>Perspectives on online tertiary mathematics education</i>
15:10 – 15:30	Afternoon tea
15:30 – 15:50	<b>Mary Ruth Freislich</b> (UNSW) <i>Observable learning outcomes among first year students in a newly introduced blended learning environment</i>
15:50 – 16:20	<b>Benjamin Bui</b> (UNSW) <i>A virtual tutorial in Discrete Mathematics</i>
16:20 – 16:50	<b>Chi Mak</b> (UNSW) <i>On randomisation of questions in e-assessment</i>
16:50 – 17:00	Final wrap up

WiFi signup: <http://bit.ly/2XLzBwP>

Passphrase: FY Maths 2019

*Mathematical writings of First year students*

**Usha Sridhar** (UTS)

If we wish to discover the truth about an educational system, we must look into its assessment procedures," said Derek Rowantree in his book 'Assessing students' ( 1977). One of the traditional methods of assessment of student learning is through their writing standards and approaches. My presentation is concerned about the mathematical writings of first year undergrad students in relation to problem setting and process methodology. The need to allocate sufficient time to understand the mindset of the student is paramount.

*Observable learning outcomes among first year students in a newly introduced blended learning environment*

**Mary Ruth Freislich** (UNSW)

A comparison of learning outcomes in adjacent first year cohorts, the first one being the last cohort to have two face to face tutorials, and the second being the first cohort to have one face to face tutorial replaced by a specially designed online tutorial.

*Authentic problem solving in Business Statistics*

**Ayse Aysin Bilgin and Tania Prvan** (Macquarie University)

Increase the transferability of statistics knowledge to other disciplines within a large first year service unit where lecture attendance is problematic.

Students are often taught statistics without the data context so the learning experience is quite sterile. Numbers do not speak to strangers, the context is very important. Students cannot always transfer their statistics knowledge where it can be applied. Context specific activities, which we aim to provide, should enhance student engagement with statistics, therefore enable them to learn more effectively. In this increasingly quantitative world that we live in, having better statistical knowledge and being able to connected to the real world will better prepare students for their future jobs since the employers are seeking such skills.

We present our strategy for developing online resources based on real problems and data sets that could be sourced from publicly available resources to foster deeper understanding of statistical concepts and application of statistical techniques. These resources could be used within the first year business statistics unit to complement already available learning activities and baseline for online assessments.

*We must teach proof*

**James Franklin** (UNSW)

Mathematics is supposed to "teach you how to think", but proof, the central item in mathematical thinking, is often treated as optional. UNSW has taught a module on how to prove in its first year Discrete Mathematics for 30 years, using Franklin and Dauod's short textbook, Proof in Mathematics: An Introduction. The talk explains how easy it is to teach and examine proof techniques.

*On randomisation of questions in e-assessment*

**Chi Mak** (UNSW)

E-assessment is widely used across all levels of education institutes for programs, courses and subjects. It is welcome by students, staff, institutions for various reasons including flexibility, instant feedback, saving of resources, etc. Unless an e-assessment is run at the same time and same place. For e-exams, the LOFT (linear-on-the-fly testing) model needs to be implemented. LOFT generates a unique version of the examination for each student and all versions should have the same level of difficulty and assessing the same objectives. It is challenging to generating random fields for e-exam questions or generating large number of questions of similar assessment objectives.