

**MINUTES OF THE STATISTICS SUBCOMMITTEE
89TH BCCUPMS MEETING, MAY 17 – 18, 2011**

TUESDAY, MAY 17TH, 2011

Present: Bruce Dunham (UBC); Leslie Corbett (Okanagan College, Kelowna); Dave Murray (Okanagan College); Gabriela Kakushkin (VCC); Paramjit Gill (UBCO); Al Fukushima (NVIT); Ian Affleck (UFV); Veda Abu-Bakare (Langara, TRU-OL); Richard Lockhart (SFU, Stat & Act Sci); Shane Rollans (TRU); Bevan Ferreira (Selkirk). Apologies for absence received from Susan Chen (Camosun).

Chair: Bruce Dunham

Acting Secretary: Richard Lockhart

1. Approval of Agenda

Motion of approval of agenda: Moved: Bevan Ferreira; seconded Dave Murray; carried. **Carried unanimously.**

Note: Draft agenda and final agenda were circulated via Stats mailing list; Geoff Salloum maintains the list at Camosun and relevant parties should be included. Details about the list are at <https://list.camosun.bc.ca/mailman/listinfo/stats>.

2. Approval of minutes of the Statistics Subcommittee Session of the 88th meeting

Motion of approval of minutes: Moved: Al Fukushima; second Gabriela Kakushkin; carried. **Carried unanimously.**

3. Matters arising from minutes

- 1 Software licensing: The province-wide license for Minitab proved to be untenable. Another proposal involving a combined license could not be pursued since Minitab have recently changed their licensing agreements and no longer offer combined licenses.
- 2 Flexible pre-major program: The Chair has been investigating the possibilities of such a program for entry into Statistics majors at UVic, SFU and UBC. Potential problems arise with the existence of requirements imposed by institutions outside of the requirements for the program, and there would be difficulties in “signing off” any pre-major as granting entitlement to enter a relevant institution. The Chair admitted to stalling for other reasons: UBC and SFU are revamping their undergraduate curricula. There will be follow up

with the Mathematics committee to see what is happening with their flexible pre-major.

- 3 Julie Peschke at Athabaska University had been contacted and invited to these meetings. There had been no response.

4. Institutional Reports

Camosun College

Our Elementary Statistics (Math 116) enrolment went down to 3.5 sections from 5 sections in the year of 2010/11 while the enrolment of our other three statistics courses remained the same as the previous year. We are considering a switch of software from Minitab to R for the two calculus based statistics courses, Math 218 and Math 219.

Nicola Valley Institute of Technology

NVIT has no changes in their math course delivery. Business Math, BUSM 200 (Finite), Intro Statistics (BUSM 207), Intro Stats for the Social Sciences (Stat 203) are currently offered. NVIT has a new president Ken Tourand since September 2010.

Okanagan College

The college will be trying to send a Statistics representative to all future meetings. The department is titled the Department of Mathematics & Statistics. Relevant courses carry STAT codes. There are three such courses: introductory courses for social science, business and science students.

Selkirk College

The college offers a few Statistics courses because of cohort programs in, for example, applied GIS (one intro course comprising six weeks of introductory material plus six weeks of spatial statistics). The courses are intense – several hours per day. STAT 291/292 for renewable resources is two hours per week. Programs transfer to Lethbridge. There are two other statistics courses.

Simon Fraser University

- a. Two faculty have left this year: Leilei Zeng and Charmaine Dean. One

- actuary has been hired (Barbara Sanders).
- b. Enrollments are up about 60% since 2008/09. Growth has come from Health Sciences students, and from students taking STAT 100, a course that satisfies both the Quantitative and Breadth components of SFU's WQB system.
 - c. The growth in Health Science has led to the creation of a new course, STAT 305, which is similar to STAT 302 but focused on Health Sciences students.
 - d. A review of our undergraduate program is nearing completion. It is expected to provide a coherent framework for computing in our program. It is not expected to change any course that is currently articulated in BCCAT; the changes should be at the third and fourth year levels.

Thompson Rivers University

Enrollments have been steady. Upper level courses attract 12 to 20 students. External review is nearly complete (Tim Swartz, SFU, for stat rep). There is a new course for aboriginal students. The course is taken in the last year of high school by students spending time at TRU getting both high school and university credit. One Statistics course is involved. Enrollments have been of 12 to 15 from all over the school district.

Thompson Rivers University, Open Learning Division

At TRU-OL the one STAT course, STAT 102 (taught with the De Veaux *et al.*, "Intro Stats" and a graphing calculator) continues to do well.

University of British Columbia, Okanagan

The department offers four introductory courses, aimed at arts & humanities, business, science, and biology respectively. Enrolments have been very healthy: 565, 700 and hoping for 850 next year. Upper level enrollments remain in single digits. Planning is on-going for a BSc in Statistics, with new courses planned. The department has three statisticians, and hires a couple of sessionals every year. Currently the department is searching for another statistician.

University of British Columbia, Vancouver

Another busy year for Statistics at UBC, with plans being finalized for the new Earth Systems Building. The department are expected to move into this new building during Fall 2012.

Graduations from specialist degrees within the department dipped to a recent low, with only 20 students graduating since May 2009. This figure excludes those obtaining a minor in Statistics and also those on the BA Combined Major with Economics. Increased

enrolment in this combined major, and the resulting reduction in those opting for the BSc version, largely accounts for the apparent decrease in graduations. Overall though enrolments on our courses was very healthy, with many sections being full.

Work continued on the re-vamping of our undergraduate curriculum, with some specific proposals agreed for the coming academic year. Historically MATH/STAT 302 have been considered equivalent courses, the code changing depending on which department taught a particular section. The aim now is to teach STAT 302 in a more empirical fashion with the hope of helping students better appreciate the interplay between probabilistic models, data and statistics. Going forward it could be that STAT 302 is replaced by a similar course at 200 level. The course STAT 300 is planned to be revived in 2012/13. This course will in effect be created as new, being a second course in Statistics for non-specialists as well as Statistics majors. It is anticipated that on-going improvements to our courses will be guided and supported over the next two years by the Carl Wieman Science Education Initiative.

The department recently undertook a review of STAT 100. Although enrolment on the course has been healthy, it has failed to attract Science students at the levels hoped for, and nor has the course had any appreciable impact on the number or quality of students opting to specialize in Statistics. No decision about the course was reached apart from that it will be offered during 2011/12.

It has been agreed in principle to change the software in STAT 200 from MS Excel to R. A trial is being run this Summer in which one lab section will use R, the other Excel. In term 2 this year STAT 203 used the MathXL on-line software for student homework.

Over the past three years the department has hosted occasional meetings for those involved in teaching introductory Statistics on the UBC-V campus. The objectives have been to share ideas and disseminate good practice. A wide range of topics have been discussed, including software, learning outcomes and textbooks. Details of the discussions can be found at <https://slate.stat.ubc.ca/slate/Slate/Misc/IntroStats/>

The pilot run of SCIE 300, Communicating Science, was co-taught by faculty from Statistics and the Marine Mammal research unit, along with a lecturer. Only 26 students completed the pilot section. Six sections of SCIE 300 will be offered during 2011/12.

Further details on any of the above can be obtained by either visiting www.stat.ubc.ca or contacting Dr. Bruce Dunham at b.dunham@stat.ubc.ca.

University of Northern British Columbia

Statistics courses now have STAT (rather than MATH) code. The department is now titled the Department of Mathematics and Statistics. There are currently two students in the minor program and two MSc students.

University of The Fraser Valley

The department has been creating a minor in applied statistics. Low enrollments in traditional statistics program prompted the development of the minor pathway, in which students will not held back by a second year calculus “bottleneck”. The minor will require two second-year courses plus 15 upper level credits (5 courses). A new certificate in data analysis is offered, along with a new data mining course. The only on-line course

in the department is a Statistics course.

In total 25 to 30 sections per year are offered in Statistics. There have been difficulties hiring qualified statistics sessionals. One relevant person has been on leave, leading to a need to cover 8 to 10 sections. A finding is that sessionals tend to get poor reviews from students.

Vancouver Community College

The college is currently teaching two Statistics courses, a general introductory course and Health Sciences introduction. Enrolment has rapidly increased. Class sizes have recently risen from 25 to 40, which has had some negative pedagogical consequences.

5. Software issues.

The provincial Minitab license proved not to be viable, and nor were other licensing options available for that software. The Chair instigated a brief discussion about software for Statistics courses, relating his experience the previous summer teaching a preparatory course to MBA students who all had laptops. Despite being informed that all would have MS Excel, in the event about half had Excel, and not all of those had the Analysis Toolpak (which is apparently no longer to be supported in future releases of Excel). Some students had Macs, and many were using OpenOffice software. This left several of the prepared computing activities in the course working less well than had been hoped, and raised questions about the viability of using Excel on introductory courses.

UBC's STAT 200 is to trial moving to R in place of Excel. R can now be run on a "cloud", meaning that computation and data storage are on a distant server. Other software were mentioned briefly: there is an SPSS emulator PSPP; SOFA: Statistics Open For All; gnumeric is a bit like Excel. Those three are all free. Paramjit Gill mentioned a like for Crunchit – now packaged with statistics textbooks. This has no connection to Statcrunch but is similar. Langara uses StatGraphics; expensive but very extensive.

There are lots of on-line applets, many of which can be found via Google. Jumpstart is still free.

The Chair had trialed the on-line homework system Math XL in a recent section of UBC's STAT 203. He found it took over a day's work to set up, much of which was spent reviewing the questions to set. The course required weekly homeworks with twelve deadlines during the term. Overall the students participated well. A downside is that MathXL is not free, though adds only a small amount extra to the price of a new textbook (Deveaux *et al.* in this case, though over a dozen other introductory Statistics books can be used). There followed a discussion on on-line homework tools.

6. Any other business

- a. The Chair had recently been sent a list of outstanding articulation requests. Only one involved a STAT course: College of the Rockies STAT 206 for TRU, TRU-OL. Shane Rollins informed that such requests are dealt with outside his department and by the registrar at TRU.
- b. There was a short discussion on the use of clickers and the Chair volunteered to disseminate an article on his experiences using clickers. Those interested can contact the Chair at b.dunham@stat.ubc.ca.

10. Motion to adjourn

Bevan Ferreira moved to adjourn. Seconded by Al Fukushima. **Carried unanimously.**