

BCCEC Articulation Meeting - May 2, 2019
Hosted by Ben Stephenson, University of Calgary
BCCEC Chair: Mohd A. (Thompson Rivers University)
Minutes Taken by Ed Knorr (UBC-Vancouver)
Last update: May 6, 2019 (minutes awaiting approval)

8:30-9:15 - continental breakfast and networking

9:15 Start of Meeting

- Opened by Mohd
- Around-the-table introductions (name and institution)
- Today's agenda accepted
 - Moved by Mike Zastre
 - Accepted by Jacqueline Shehadeh
- Minutes from the Fall 2018 meeting accepted
 - Moved by Rick Sutcliffe
 - Seconded by David Casperson

9:30 - Ruth Erskine, BCCAT

- Articulation Pilot to make transfer agreements for courses outside the BC transfer system visible outside the institutions
- The idea is that people (esp. International students and students from other provinces) will see which courses will transfer.
- The BC Transfer Guide will still only show the agreements between institutions in BC.
- They're working with UBC (general UBC, not CPSC specifically) to do a pilot study, and onboarding other institutions thereafter
- Working with Mike Winseman
- There are 700,000 individual "agreements" housed within UBC.
- Can a school like UNBC see which courses are transferable to UBC from an institution in Bangladesh, for example? (Yes.) This would give UNBC some guidance.

- Rick S. - origins of the CS articulation committee meeting (CS/Math/some high school) started circa 1978, and the Math group circa 1972
- WCCCE is at the 25-year status, David C. thinks that it grew from BCCEC
- Overview of:
 - BCCAT Spring Update 2019 - 30th anniversary this year
 - 2-page handout, also e-mailed by Mohd
 - Mohd also sent out a list of the outstanding CS articulation requests - each of our institutions should look at this to see what we need to take action on

- BC High School “Curriculum Update: BCCAT Articulation Meetings 2019” document - no real concerns that Ruth has heard about
- “International Transfer Credit Practices”
- “Indigenous Educational Pathways: Access, Mobility, and Persistence in the BC Post-Secondary System”
- English Langara Proficiency Review - in draft format, not approved yet, but it will discuss “What is English language proficiency?” when they transfer institutions. The desire is to have standards so that people can transfer between institutions.
- KPU has a web site (Moodle-based) that we can store articulation documents on
 - See onlinelearning.kpu.ca
 - Login as guest (see the details tagged with *** below)
 - Catherine and Donald worked to set this up - launched in Fall 2018
 - This will provide a repository of reports. Up to now, BCCEC members got an email every time an institution submitted or updated a report, and it was up to each recipient to organize/save them.

10:10 Institutional Reports (please read the individual reports that have been submitted to the BCCEC mailing list)

- Rick Sutcliffe - Trinity Western University
 - Short on CS faculty in part due to Rick’s appointment as Dean of Science (reappointed for 2nd year)
 - Digital Analytics program is starting up
 - Science only at TWU’s Langley campus, but they have other branches in Richmond, Bellingham (USA), and Ottawa
- Larry Maki, College of the Rockies
 - New courses and a new program on the horizon. Some of the students coming into their programs have very little computing skills (they’re great on social media and smartphones, but may have no idea how to save a file, etc.)
- Mike Zastre, University of Victoria
 - PEng’able program in software engineering: Engineers Canada wants to have 30% female students, of all new engineering applicants. Right now, it’s about 17%.
 - They are also trying to get more female faculty members. There’s some national recognition that we need to move ahead with this.
 - Question: How’s the transition to Python going?
 - The transition from CS1 to CS2 is challenging because they have a mix of students: some Java, some Python. But, next year, they can focus more on students having a Python background. CS2 is Java.
 - Question: How’s the combined program in CS and Music going?
 - It’s going well. It’s popular.
- Diversity sidebar: more female students

- Sarah Carruthers (VIU) and Megan O'Connor (Coquitlam) and Catherine Mayden (KPU) concur: these efforts (like what Mike just mentioned, including reducing stereotypes) make a big difference for their students and faculty.
- Rick Sutcliffe (TWU) says that they had more female students in the 1990s. (About 1/3 of their Science faculty members are women.)
- Donald Acton (UBC-V) mentions an international report that says that women tend to outperform men in numerous fields, but when selecting the area they want to work in, they pick the things that they are the best at, and this may not be STEM. In countries where there is not as much freedom for women, they tend to pick STEM fields because it's a way out, that is, to improve their status and employment prospects. The report can be viewed at: <https://journals.sagepub.com/doi/pdf/10.1177/0956797617741719>
- Wilf Zerbe (Fairleigh Dickinson)
 - They're big internationally, and have a Vancouver campus in Yaletown (30,000 square feet); but, they are planning to expand to near Rogers Arena.
 - They're about 100% international, with students from about 70 countries.
 - They're in the process of setting up a Masters program in CS.

10:45-11:20 Break

- Jacqueline Shehadeh (Vancouver Community College)
 - Not a CS person, but CS falls under her umbrella
 - University Transfer Computing pathway allows students to transfer into 2nd year SFU with an assured admission. It used to be 2.75 GPA to get into SFU's software systems (SoSy) program; it has just changed to 3.20 GPA.
 - New two-year computing program starting in September 2019 in new facility in downtown campus, with students sometimes taking 7 courses per term.
 - Most programs require just a high school diploma for admission
 - New VR/AR program in conception with Vancouver Film School
- Ken Chan (Columbia College)
 - Mostly international students
 - About 2000 students
 - Used to be Monday-Friday, now Monday-Saturday and evenings
 - Students are allowed to work up to 20 hours per week.
 - They recently rented 1.5 floors of additional space for the high school program.
 - The largest number of international students at Columbia College come from India; they're double-checking the admissions criteria to enforce some standards.
 - 3 CS labs
 - Each of their CS courses has 5 teaching hours (4 of them are lecture hours).
- Ivan Wong (Douglas College)
 - 29 regular faculty in CS--one of the largest departments at Douglas.

- 69 CS sections are offered in the summer. Some are service courses (e.g., for business students). They also have mobile software applications and software engineering.
- They raised the minimum prereq requirement from C- to C.
- Students must get at least 50% on the exam components to pass the course.
- October 25, 2019: BCCEC Fall articulation meeting to be held at Douglas.
- They have new classrooms/centers in four-floors leased space in Anvil Center (New Westminster, as usual).
- David Casperson (UNBC)
 - David is the only Math/CS founding faculty member left.
 - Much of their teaching is done by sessionals. Experienced members tend to leave (e.g., joining Amazon).
 - Starting to teach Python for non-majors. Majors: Java. In 2nd year and beyond, they tend to be language neutral.
- Sarah Carruthers (Vancouver Island University)
 - Wait list issues for CS
 - Honours program has been approved by Senate, but it's on hold because they don't have the upper-year courses to support it.
 - Diploma and Degree programs--most are diploma
 - Admission: now it's up to a C grade
 - International students: inconsistent quality of the students, with a high failure rate (but their best students are great)
 - Linux-based, programming in C++ on the command line for their introductory course (1-hour lab, 4 lecture hours)
 - Class size: 64 for lower-level courses, 16 for upper-level courses
 - Paper-based final exams
 - Who has done online exams? Abdallah Mohamed at UBC-O asked. He has up to 280 students.
 - Mohd at TRU: no Internet access, and he decides where students sit for an online exam.
 - Larry at COTR: has a lock-down browser which only allows access to limited resources. They catch students who try to come in from other IP addresses. Larry knows that everything is a moving target; so, he just tries to prevent the obvious cases. To avoid having students share passwords and log on to each other's account, he is thinking about using an RSA fob for each student: \$10.
 - Edward at UFV decides where students sit.
 - Same with Jacqueline (VCC) for non-lab exams. The students are sneaky. Not just one or two students, but a whole bunch. They share passwords and log on to each other's account.
- Jon Doyle (Selkirk)

- C, Python, JavaScript, C#, SQL - but if using C, people from other Science fields sometimes get scared of it.
- Patrice Belleville (UBC-V) comments that all UBC Engineering students must take a core course in C, but C doesn't satisfy engineering students who go on to civil, chemical, mechanical, etc.
- Megan O'Connor (Coquitlam College)
 - 575 students in the computer literacy course (17 sections)--this includes students who have zero computing experience
 - 5 sections of intro to programming in Python--2 of these are online, and this is challenging because of the independent nature of studies
 - Megan teaches object-oriented programming in Java
- Patrice Belleville (UBC-V)
 - Some increased government funding for more domestic students, but currently only for Science (BSc) students
 - Second-degree students: Bachelor of Computer Science program is very popular (about 500 applications for 90 spots); Master of Data Science program (last year about 800 applications for about 70 spots--aimed at non-CS and non-STAT prior degrees; lasts 10 months)
- Catherine Maydan (KPU)
 - Some students are ill-prepared when they start.
 - International students: KPU has about 500
 - Lots of overload on faculty time
 - Mandeep has gotten lots of awards and funding; strong students doing interesting application or research-related things
 - C++ as the first programming languages for CS students; Python or Java for non-CS students
 - Many of their 4th year CS students are working at cybersecurity jobs. The City of Surrey has a security hackathon. SFU, UFV, and KPU got the top 3 awards for cybersecurity--and companies are asking Mandeep about potential hires.
 - KPU has an annual Cybersecurity Symposium--recommended. It's usually free, or some very minimal cost. You don't have to be a cybersecurity person to attend.

Break for Lunch (about 12:20-13:40)

13:40 ACAT & BCCEC Joint Meeting:

- We were joined by about a dozen articulators from Alberta. The schools represented include University of Calgary, University of Alberta, Mount Royal University, University of Lethbridge, NAIT, SAIT, Grande Prairie, etc.
- Demo of the new Transfer Credit System software, by Ruth Erskine, BCCAT
- You need to login, but the URL is: <https://bctcs.test.bayleaf.com/Web/Agreement>
- Example: UBC Transfer Search: <https://students.ubc.ca/enrolment/registration/transfer-credits/search-tool>

- Example: We can see UBC transfer credits to the University of Calgary, or vice-versa.
 - Pilot launched today (UBC Transfer Credit Search)
- 700,000 agreements are in the system.
- Before, UBC was only able to show those that were actually on the BCCAT transfer system; now, international transfers, as well as from other provinces. Any agreement with any institution.
- Reminder of “International Transfer Credit Practices”--downloadable from the BCCAT Web site
- Currently, organizations exist (which charge a fee) to do the international qualification assessment (including GPAs); and this is not just for post-secondary institutions.
- Available for the last few months: “Pulling Together: A Guide for Indigenization of Post-secondary Institutions” by Kory Wilson (BC Campus publication)
 - Few indigenous people have entered in CS
 - Charles Hepler of Mount Royal University reports that, for 7 years, Imperial Oil financed an indigenous effort for STEM.
 - Rick Sutcliffe reports the TWU lets indigenous students wear their traditional native garments at their graduation ceremony.
 - It appears that far fewer indigenous students move from high school to post-secondary institutions in Alberta, than one might expect. Some transitional courses are probably needed. It would be great if there were some STEM transition courses, university-wide.
 - Sarah Carruthers (VIU) did some work with Yvonne Coady and Celina Berg at UVic that did outreach to indigenous communities. The goal was not to tell the indigenous folks what to do (in terms of the way we run things), but to encourage them to run their own programs, make their own decisions, do their own teaching, focus on priorities that are important to them, etc.
- Comments about BC K-12 curriculum implementation and its effect on admissions
 - Grade 10 new curriculum is being implemented this year.
 - Next year: Grade 11 ... then Grade 12
 - University of Lethbridge gets some BC students from Cranbrook, Fernie, etc. Larry Maki of COTR says they send many of their students to Alberta as well as westward to other BC post-secondary institutions.
- BCCAT has been experimenting with data and software (possibly Tableau) to figure out where the courses in BC transfer to, in Alberta. The research institutions aren't part of this, unfortunately.
- Mobility: See the BCCAT Web site, see the drop-down features about mobility.
 - About 54% of students in BC have transferred at least once.
 - David Casperson: We did a lot of work on Flexible Pre-Majors. Mike Zastre reports that this report should be on the BCCAT site. He says: in a nutshell, we know that students after the first two years look the same; so, can we direct students better in years 1 and 2?

- There seem to be more unspecified transfer credits these days. Often, these are at the 100- or 200-level, and students often view these as quasi-wasted courses. And the expense adds up. Can we do anything about this? Alberta has a huge variety of courses.
- Patrice Belleville (UBC-V) notes that incoming students have a limit as to how many unspecified CS courses they can count. The reason: avoiding overlap. Some students take multiple introductory versions of programming courses, and such duplication should not be credited.
- Alberta students tend to go where they get the best deal. If there is insufficient transfer credit at institution X, then they go to Y.
- Some institutions are defensive about their courses.
- CS is more fragmented (or diverse in terms of course content) and this makes it more difficult to articulate in any uniform way. Math is a lot easier, for example; but still, some schools divide up their Calculus course topics among several smaller (or longer) courses. A Physics course might not have a lab associated with it, and maybe the incoming school insists on having a lab component. Things like this make transfers tricky, says Rick Sutcliffe. There are limits as to how many courses will transfer. If they need a letter of permission to take a course elsewhere (outside of TWU), there's a maximum of 3 courses allowed.
- Mike Zastre: The purpose of the FPM was to allow for all these differences, with the understanding that academic diversity (in CS courses) was not going to go away.

Break from about 15:05 to 15:30

Institutional reports (continued)

- Abdallah Mohamed (UBC-Okanagan)
 - PhD program in CS is in the process of being approved
 - Java for first-year courses; they're discussing the possibility of Python for first-year non-majors.
- Edward Lo (UFV)
 - \$50K Government funding for a one-year coding program. More than one language can/will be used.
 - UFV "Tech" programs got a total of \$100K.
 - \$900K in total was given by the government for 10 public institutions.
 - Some international students (e.g., from Punjab region) got credit for a first-year programming course that had no hands-on/lab component. Then, they struggle in the year-two programming course.
 - Rick S. says that his programming language course at TWU requires students to use something like 8 different languages and 4 different platforms. TWU uses Python as the first course, and then the instructor's choice for the second--usually Java or C++.
- Diana Cukierman (SFU)

- In the Fall, they're going to increase their class sizes considerably.
- Donald Acton asks if a lot of these students are going to be continuing in CS, and if so what's the plan for that?
 - Mike Zastre: We should think of this (increased class sizes) as a team effort. The students might not have the instructor as a face-to-face contact, but now it may have to be a student-to-TA contact.
 - Diana will probably use Crowdmark to facilitate electronic marking.
 - Donald Acton reports that Gradescope is about \$3 per student. So, 200 students for a school term is \$600. He suggests that all the overhead involved makes this worthwhile if you have at least 40 students, because only then will the curves cross.
- Diana plans on using (or continuing with) peer tutoring.
- She wants to set up TTT: "The Teaching Talks" where faculty members give tips.
- Mohd A. (TRU)
 - TRU is trying to reduce class sizes. The maximum lab size is 40, minus 1 for the instructor.
 - Thus, there will be more sections.
 - Teaching stream: 80% teaching, 20% service
 - Research stream: 40% teaching, 40% research, 20% service
 - They're introducing a light(er) weight programming course: Python.
- Ahmed Malki (Alexander College)
 - Second campus is going to be in Burnaby
 - Enrolments are up, class sizes are full
- Jamie McKee-Scott (Langara College)
 - [This comment is from earlier today.] They run some Saturday classes--often 6 hours on Saturday. Saturdays tend to be popular; they have 20 students on the waiting list. Classes are 36 in size.
 - Enrolment in classes is split 50%-50% in the courses: domestic vs. international. If they allow 100% for international, the domestic students get squeezed too much.
 - Peer-supported learning: a paid tutoring service, run by (or endorsed by) the College. The hiring and screening is not done by the department.
 - They also have a tutoring centre which is staffed by TAs (lab assistants) who are unionized.
- Jim Nastos (Okanagan College)
 - Courses are full (3 sections of programming 1 in Fall term, 1 section in winter term)
 - After 2 years, students can decide to take the diploma, or continue on to complete a degree.
 - There's no room to grow on the Kelowna campus.
 - They're partnering with a private institution (Chandigarh University) in India. Their administrators think it's top notch, and they want to bring in 10-15 students.

- They're having trouble attracting faculty. Last year, a couple of offers were made and accepted, but then the candidate backed out. It might be because of low pay and high cost of living.
- An external review is happening this year.
- They teach Java in Year 1. Employers tend to be Telus, Telus-Health, Interior Health, QHR, etc., and Java seems to be fine. Some students want Python.
- They plan to offer a section of Programming 1 in C for engineering (Sept 2020)
- They cap course enrolment at 25% for international students. Why? Varying international skill levels or a possible language barrier.
 - Their classes are capped at 40; so that means no more than 10 international students per class.
 - Mohd A. adds that another problem is academic integrity. Sometimes students even forget to change the name of the author of the program to their own. Some students try to negotiate their mark from a D to a C.
 - Wilfred Zerbe says we should do more to educate the instructor about these cultural differences. Some cultures accept cheating.
 - Should we tolerate cheating? No. We need to put policies in place, such as, what are the legitimate grounds for an appeal? "I worked really hard", "I'm paying a lot of money", etc., are not valid grounds for appeal.
 - The province wants more international students, but David Casperson says that we need to make sure that some of the money that we take in from international students goes to support those international students.
 - Sarah Carruthers adds that we are experiencing fatigue at dealing with non-negotiable arguments. For example, some students feel that their failure is actually a failure of their family and their community.
 - Jon adds that the people who are recruiting the students need to be more accountable.
 - Mandeep was in the UK from 2007-2013. They don't have the same concerns as we do. We are welcoming everyone, constantly. This is a cheaper way of coming into Canada, some think. The students from India (e.g., Punjab region) supposedly understand, and KPU has sessions on plagiarism; but, the students aren't attending those sessions.
 - Jacqueline adds that they're already maxed out on time; so, they don't really have time in the lectures to explain plagiarism or academic integrity.
 - Wilfred Zerbe has been finding violations, but his own faculty members weren't telling him. He wants faculty to report this to him because they really want to promote integrity. Faculty need to be supported in terms of invigilation. There should be boilerplate write-ups for course outlines, instructions about TurnItIn, MOSS, etc. Students know what they're doing.
- George Kaweesi (College of New Caledonia)

- 75% international students
- They also experience cheating, but during the students' orientation week, the students are informed about the consequences of cheating.
- For online quizzes, he counts the number of students in the class, and double-checks to make sure that the non-attenders get zero, even if they have submitted something.
- Students know that they're cheating.
- Students don't necessarily show up for class, or read the materials, but expect to be bumped by a couple of percent to get to the next letter grade. That's frustrating.
- Lecture sections are capped at 37 students, as per the Faculty Association's rules.
- Summer sections are full.
- Question about paper exams and the use of computers and IDEs on exams: What does your institution do?
 - David Casperson says that students expect an IDE to handle the braces, parentheses, etc.; so should we expect this on paper?
 - Megan O'Connor starts with a regular text editor, not an IDE ... and then later goes to an IDE like Eclipse. (Jim and George also use Eclipse.)

17:10

- Fall 2019: A one-day articulation meeting--is that OK (as opposed to 1.5 days)? Yes. It's at Douglas College on Friday, October 25, 2019.
- Spring 2020: BCCEC and WCCCE at UBC-Vancouver
 - Thursday, May 7 for the BCCEC articulation meeting
 - Friday, May 8 and Saturday, May 9 for WCCCE
- Fall 2020: Wilfred Zerbe is OK with hosting BCCEC at Fairleigh Dickinson in downtown Vancouver.

17:20

- A big "Thank You" to Ben Stephenson for facilitating this meeting.
- Meeting adjourned.

***** To get access to the Moodle course you need to:**

1) If you don't have an account on KPU's online learning site, you will need to create one. (More details below.)

2) After the account has been created and you have confirmed you can login to it, send an email to either (or both):

- Donald Acton <acton@cs.ubc.ca>

- Catherine Maydan <catherine.maydan@kpu.ca>

with your name and the email address you used to create the account and we will add you to the class. Once that happens you should see the BCCAT Computing Education AC class under your courses. Just how things will be organized is still up for discussion, but you should be able to find the institutional reports for the Oct 19th meeting.

Creating an online learning account:

- 1) Go to: <https://onlinelearning.kpu.ca/>
- 2) Click on the "create new account" button.
- 3) You should receive an email from KPU so that you can confirm/verify your account.
- 4) Email Catherine and/or Donald with your name and the email address used when creating your online learning account.

BCCEC Attendees:

A., Mohd (Thompson Rivers University)
Acton, Donald (UBC-Vancouver)
Belleville, Patrice (UBC-Vancouver)
Carruthers, Sarah (Vancouver Island University)
Casperson, David (University of Northern British Columbia)
Chan, Ken (Columbia College)
Cheng, William (Columbia College)
Cukierman, Diana (Simon Fraser University)
Doyle, Jonathan (Selkirk College)
Erskine, Ruth (BCCAT)
Kaweesi, George (College of New Caledonia)
Knorr, Ed (UBC-Vancouver)
Lo, Edward (University of the Fraser Valley)
Maki, Larry (College of the Rockies)
Malki, Ahmed (Alexander College)
Maydan, Catherine (Kwantlen Polytechnic University)
McKee-Scott, Jamie (Langara College)
Mohamed, Abdallah (UBC-Okanagan)
Nastos, Jim (Okanagan College)
O'Connor, Megan (Coquitlam College)
Pannu, Mandeep (Kwantlen Polytechnic University)
Shehadeh, Jacqueline (Vancouver Community College)
Sutcliffe, Rick (Trinity Western University)
Wong, Ivan (Douglas College)
Zastre, Mike (University of Victoria)

Zerbe, Wilfred (Fairleigh Dickinson University-Vancouver)