Articulation Committee Meeting MINUTES
Friday, May 26, 2017
University of Alberta
Saskatchewan Room, Faculty Club
10:00 a.m. to 3:00 p.m.
Chair: Jim Murtagh

1. **Welcome from the University of Alberta**

Paul Lu welcomed all to the University of Alberta and conducted the safety moment.

2. Introductions

Jim Murtagh (Chair)	SAIT
John O'Loughlin	SAIT
Indratmo Indratmo	MacEwan University
Michael Janzen	King's University
Larry Slack	Medicine Hat College
Charles Hepler	Mount Royal University
Paul Lu	University of Alberta
Amos Ngai	Bow Valley College
Nathaly Verwaal	University of Calgary
Clare Ard	Advanced Education (ACAT)

Via Teleconference:

Libero Ficocelli	Grande Prairie Regional College
David Gregg	Grande Prairie Regional College
Howard Cheng	University of Lethbridge

Regrets:

Steve Letkeman	Medicine Hat College

3. **Review and Adoption of Agenda**
   - Cancel BCCAT update, Unable to attend
   - Cancel Alberta Education Update, Unable to attend/person unavailable
   - Motion to send a representative to BCCAT meeting in future

Moved, seconded and carried

4. **Reviewing minutes from 2016**

Moved, seconded and carried

5. **Topics of discussion suggested from last year's meeting:**

Update on your program's activities around Cloud Computing and Big Data

U of C:
   - About to add minor in Data Science – not cloud computing – maybe big data – more manipulating data
   - First year Science (not CS) course on "thinking with data" – no actual programming
       - Joint with CS and Math/Stats
       - Ahead of /gateway to minor

- o Want to create a Major in future

MacEwan
- o Only have a string in databases and interactive visualization – currently have a data mining course
- o Math Statistic department – applied statistics – have expressed an interest in a Data Analytics program

U of A
- o Don't have a major or minor in cloud computing and no plans at the undergraduate level – only at the graduate level. But, there are lots of courses in this broad area.
- o New topics course on Information Retrieval (CMPUT 497)
- o Existing courses in machine learning (associated with Big Data)

U of L
- o Existing 4th year/graduate course in data mining
- o External program review completed last year suggested that we hire a person in the area of data science.
- o Looking for donor money to establish Data Science chair to start a program in Data Science, as internal funding seems unlikely.

SAIT
- o Currently investigating what that looks like
- o Not sure if it can be done in a 2 year diploma program

Mount Royal
- o Expecting to add a third database course to the two course database stream. The added course will have a statistics prerequisite.

Medicine Hat College
- o Worked with cloud data in second year Systems Analysis course in conjunction with a live project (Kinetisense) and also did more REST style web services in our second database course.

King's University
- o No data science course
- o About to have a program review

Bow Valley College
- o Proposal in front of Board for approval to explore a post-diploma certificate, one year format, in Data Analytics and Management - likely a 2019, launch should it be approved

Discussion: Strategy to manage large enrollments

U of C
- o Yes, absolutely an issue
- o Keep having to add more seats to our courses
- o Not much control of enrollment numbers
- o Students shadowing the program, taking courses, but not officially in CS program
- o Next step, to reserve seats for only CS students to help control the number of seats taken

U of A
- o Continue to have a problem
- o Have gone to a staggered (time) access to computer courses via online system
  - o Honour students first (and by year – fourth year first), then Specialization, additional staggered points until August 15 when its fully opened up – but by that time courses are full with very long waiting lists

MacEwan

- o Also have staggered access to courses
  - o 4th years first, then third years, seconds years, and then all students
  - o Done to help ensure students have an opportunity to graduate on time

Mount Royal
- o Courses are locked for students in the programs. A waitlist for students not in the program is maintained by hand.

King's University
- o Applications have almost doubled from last year but not a problem if everyone wants to come they will be able to find them a spot as they have 40-47 applying to enter CS; not all will show up. Usually 12 – 15 start in first semester

SAIT
- o Students are block-booked into program
- o Have early admission, FCFS
- o Then second cohort of admissions on an academically ranked waitlist. These students may not get in/get access.

Bow Valley
- o New Software Diploma – started Fall 2018
- o 65 students applied for 30 seats; waitlists
- o Traditionally, not gated entrance access
- o Do not have international policy, ratio about 70% international, 30% domestic
  - o Looking into putting in an International Policy

U of L
- o Huge growth in last few years; first year courses doubled in size over 4 years
- o Non-quota program
- o Managing increase by finding larger classrooms and adding more lab sections
- o Needing to find more labs (space) and instructors – getting challenging and concerned about handling the higher number of students moving into 2nd, 3rd and 4th year

Grande Prairie
- o Last year was short about 15 students
- o Full this year. Need to add more lab sections.
- o For transfer students (primarily to U of A) – advise them to take the Software Practice Specialization courses

Discussion: Have you made any adjustments to your entry math requirements?

SAIT
- o No, not yet

U of A
- o No changes yet
- o Comment on Elizabeth Patitsas's findings on filters for CS an impact on gender diversity
  - o Cautions on how we use increasing GPAs and other requirements as a way of managing enrollment – can have a negative impact on gender diversity

- - We have to provide multiple pathways into the programs if we care about diversity
  - Filtering with specific courses/higher somewhat arbitrary standards (we know we have great computing science students with a 2.5GPA) have a cumulative negative impact on diversity
  - Papers by Elizabeth at: http://www.cs.utoronto.ca/~patitsas/

King's University
- Undeclared Science students do not need the Math requirement, but can still take computing courses
  - It has been noted of those students the biology and chemistry are having larger numbers of failures
  - Need to have pre-reqs investigated, if not needing requirements is the reason

Grande Prairie
- Have not changed Math requirements. Diploma students are required to take Statistics, Linear Algebra, Discrete Math. Some students struggle, however changing entrance requirements would be detrimental to enrollment issues-maintaining full enrollments.

Mount Royal
- No change, but because of enrollment pressures the average that we accept has gone up slowly from 70% two years ago to 73% this year
- Usually turn away 2/3 to 3/4 of their applicants

Commented anecdotally that English/language skills are best predictors to university success

Discussion: Do you track transfer-student success?

U of L
- No formal tracking
- Because they come into third year and the program is small they do get to know who the transfer students are.
- When they first come in there's some adjustment and particularly if they to pick up math courses in the first year.
- After the first term usually they are not struggling anymore

King's University
- Don't track
- See some students go to King's to bring up grades (were previously at U of A). These students then leave, but King's does not know if they go back to U of A, or go elsewhere

Mount Royal
- There is no effective tracking at present.
- Also cannot track students when they leave MRU.

ACAT
- Only track student mobility using the student's Alberta number for two years out of high school and track how many have graduated
- Has funding ($50,000 for three research projects) one to track how successful are transfer students to those who start and stay in the same institute - starting with larger PSIs in Alberta

- o New learner pathways catalog
- o No focus groups (to understand why students are moving) at this time (perhaps in a next project if funding made available)
    - o Paul Lu – encourages to do additional follow-up with focus groups
- o Perhaps examine the work being done at ONCAT (they are well funded) and work being done at Queens – engineering students study
- o Would like to see, in Alberta, where the students are moving to/from
    - o ACAT is working on updating mobility reports due out summer 2017

Presentation by Clare Ard on Learner Pathways tools, PowerPoint
- o 2014/15 - found people did not know a lot about admissions information going from high school to post-secondary
- o People want information in one interface that can be easily accessed
- o Want to collaborate with other provinces, even though education is a provincial responsibility
- o Trying to minimize administration, creating the multiple data integration points
- o Schematic of the LPS
    - o TCES: Duel credit pathways are being pushed/encourage
- o Implement LPS Data Standards
- o LPS Catalogue
    - o Dashboard gives notifications
    - o New section on high school transitions
        - ▪ Institutes enter what courses from IB and AP they take
    - o Information on Academic Upgrading
        - ▪ Institutes enter their own data
        - ▪ Can compare equivalences with other provinces
    - o SIP Codes (area of studies in programs) – looking to standardize them
    - o Academic Year set September to August
    - o Transfer Credits Awarded
        - ▪ Anticipate to take a few years to get more information as institutes upgrade
        - ▪ Not mandatory in Alberta as in BC
        - ▪ Will email institutes to request if willing to reciprocate the agreement with another institute
- o Lots of discussion on block transfers/credits
    - o Finding not all courses that are used as credit are not a good match
    - o Suggest institutes upload course outlines and learning outcomes
    - o Match three courses to two courses
    - o Want to have block credits
        - ▪ Takes too long to manually process
    - o Internally use PLAR – set agreements
    - o ACAT has a PLAR Articulation committee
        - ▪ Looking to building a PLAR module
        - ▪ Institutes need to inform Student Advisories as students do not have access
        - ▪ Support students exploration with online system
    - o Minimum grade restrictions are not in the search tool itself, but available on the web site
- o Transfer Credit Evaluation Systems (TCES)
    - o Can manually see notifications
    - o Agreements need to be renewed (can set up months ahead of time)
    - o Can upload course outlines

- o Will be adding PLAR and dual-credit
- o Transfer Alberta
  - o Contact tab links to all various forty-one institutes
  - o If an institute wants to have specific information implemented on Comp Sci, contact Clare Ard directly
- o ACAT Website
  - o Provides information on all ACAT council information, Articulation committees and contact person information
  - o Interactive calendar
  - o Contact tab - links to all various forty-one institutes
- o Articulation Committee
  - o Let ACAT know what you want on website
- o Articulation Committee Support
  - o Answers provided to post questions so to be transparent.
  - o Advisors brought on to deal with the volume
  - o Asked for all members to update their own information
- o LPS Tools Next Steps
  - o Working on the PLAR and Dual credit, ACAT Modernizations
  - o Improving the search tools
  - o Communications Toolkit,
  - o Wants feedback on students

Lunch

Institutional updates (refer to attached)

Grande Prairie
- o Higher enrollment than last year
- o Changes made by ACAT have been helpful

Mount Royal
- o Program changes: added 3 courses
  - o Introductory programming class for non-science
  - o Programming II course for Science (not CS students)
  - o Computer Literacy course
- o Proposal for a new computer science degree initiated
- o Looking to hire a professor for security

U of A
- o Challenge with large enrollments
- o Creating a MOOC for course CMPUT 174 planned for April 2018
  - o Python
  - o Exercises are game based
- o In Sept. 2018 will be doing a pilot trial - a Hybrid delivery – offer a 3 credit course by way of MOOC plus a 4 weeks in-class
- o Two new courses – CMPUT 396 and CMPUT 496 (course numbers may change)
  - o Handle up to 200 students
  - o No labs
  - o Minimal pre-requisites
- o Hired three faculty in the past year and have plans to hire an additional three

- o HCI
- o Green computing – study energy consumption
- o The teaching of computer science

U of C
- o Data science minor and associated courses
  - o DATA 201 – thinking with data (Fall 2018)
  - o Visualization and Analytics concentration
- o Just completed a program review
- o Partnership with Beijing University of Technology
  - o 2+2 and a 2+3 program
  - o Graduates receive credentials from both universities

MacEwan

- o July 1, 2017: New gaming, database/visualization/analytics, system and network security streams
- o Removed courses that have not been offered for a long time
- o New hires: one image processing expert

Medicine Hat
- o Information Technology diploma program
  - o Two options
    - Software and Internet Development
    - Technology Support
  - o Common first semester
- o Three graduates transferred to U of L for the post-diploma degree program
- o Students that transfer to U of L seem to be more successful than those who transfer elsewhere (e.g. Mount Royal).

Bow Valley
- o New Software Development diploma program - launching September 2017 with a BYOD model
- o Also have planned, a Software Development post diploma certificate – Fall 2018
  - o Condenses the two years into a one year fast track
- o One of just a few programs at Bow Valley that have a Math entrance requirement
- o Exploring transfer options with some Ontario schools who are having trouble filling seats
- o Some challenges with existing facilities as the rooms are not designed to support laptops (for example access for power plugin)
- o Running virtual machines – VMWare – piloting the K2 GPU to handle 3D – virtualizing the video cards

Side note suggestion (U of A) for BYOD: Cybera's rapid access cloud provides a virtual machine to students – allows the student to obtain a lower end laptop –to do all their computing on the cloud – can continue to run computations even if they close their laptops – e.g. running security simulations/network simulations – and it's free. Rapid access also has GPUs – bottleneck may be the display

King's University

- o Small program - three faculty – one currently on sabbatical
- o Recently Artificial Intelligence course introduced
- o Discontinued forensic course CMPT 355 – had trouble getting the right faculty to teach the course
- o Have started a program review – expecting feedback around modernizing the program
- o Computing Science has room for growth particularly after the first year

SAIT
- o New course in the common first semester
    - o IT foundations course - includes an introduction to Linux and PowerShell. Still teaching Word/MS Office and career exploration to help students solidify the concentration (Software Development, Network Systems, Telecom Systems, and Computers Systems) they will move into as of second semester
- o Continuously updating tweaking of courses – once third semester course has a new course code and name change – CPRG 307 – Database programming and testing to be implemented fall 2017
- o We take in 96 students for Software – this year 18 are international
- o One new fulltime faculty hire last year.
- o BYOD is under consideration – virtual machines is seen as solution – challenges around tuition and fees freeze
- o Running mostly open source software in the program

Section 9: New Questions

Dual credit
U of A
- o Have had discussion on dual credit – but no actions taken so far

King's   University
- o Have talked to two high schools, but no agreements

Mount Royal
- o Have a dual credit arrangement with Bishop Carol High school
- o No computing science dual credit in place

ACAT
- o Dual credit is more established for trades and also for health care aid, license practical nurse, pharmacy technician – very regulated areas
- o Funding to support dual credit had been cut off – and has just been reinstated by Alberta Education – funding should be available for 2018-19 academic year to support this

Discussion:
- o U of A – As a possibility, U of A's CMPUT 174 hybrid (MOOC + Face-to-Face) - High school teacher supports students through the MOOC and then the high school student needs to take only the four weeks at U of A
- o Who's driving dual credit?
    - o Alberta Distance Learning Center (Barrhead, AB), Athabasca University, NorQuest, NAIT – has mobile trailers. These examples are looking at dual credit as mostly a recruitment tool to address enrollment challenges.

- K-12 school system – council of Alberta School Superintendents has two consultants that work on Dual credit and promoting it in the province
- U of C - see it as a way to recruit high performing high school students

Co-curricular records
- Popular in the east – e.g. U of T, Queens
- First Alberta School – U of C
- SAIT implementing in 2017-2018
- MacEwan has it in place
  - Non-credit program – can be a paid or volunteer position – minimum of 20 hours for an activity
- U of A – not in place —— for leadership development - Peter Lougheed leadership college – however, activities translates into credits – not the same
- Kings – currently have 0-credit courses – seems similar to the function of co-curricular

Indigenization/internationalization
SAIT
- Established a campus life group and as part of their work, will be addressing these two areas
- Chinook lodge at SAIT supports our indigenous students
- Workshops (e.g. Indigenous awareness) are being offered

Mount Royal
- Has an indigenous strategic plan
- Have a center for indigenous students – funded by Imperial Oil
- Faculty of Science – built a course that will be running next semester
- In the Faculty of Science, Computing Science has the highest number of indigenous students – though the numbers are low
- Have an indigenous studies program and have in place a Director of Indigenization

King's University
- Could incorporate into foundational courses (e.g. philosophy) – required to be taken by all students; may be happening now, not sure
- Part of the Strategic Plan

U of C
- We should be looking at what we can do to make first nation students feel more welcome – particularly in first year CS courses

U of A
- Observation - Have a group on campus that address gender equity – they make note of "hidden curriculum" things that people assume that everybody knows but not everybody knows. Not only do we make the mistake in assuming that they know, but we also may make them feel bad for not knowing.
- Workshops are offered

Use of the Iverson Exam
U of A
- U of A with partners started the use of this exam.

- o High school students invited to write the exam – if they do well on the exam - this can be used as an entrance requirement - encourages student to study computing in high school

U of C
- o Did use the exam but have stopped doing so this past year
- o High school CS courses can now be used for entrance –reduces the benefit for the Iverson test
- o An additional issues is due an award that is in place – e.g. $1000 for U of C tuition or - $500.00 that could be used for another institute – students were taking the $500.00
- o Looking at the effort and cost to run, and that CS high school courses can now be used for entrance, U. of C has dropped its use

SAIT
- o Perhaps we could look at using Iverson as a selection tool?

Discussion
- o Cautioned not to use the Iverson test as it would likely filter out women applicants - they would select out if this is a requirement
- o Why are computing science courses in high school having a gender equity issues – while other courses are not?
- o Is this a hidden curriculum situation – are we (educators – K to 12 and post-secondary) doing something to discourage women in computing science courses
- o Computing faculty – some schools are not gender equitable – and in some cases the women faculty may be reinforcing - their voice is not as strong as some of the male faculty
- o Some of the assignments may be glorifying geeky male oriented stereotype
- o A good topic for next year

Nomination of Vice Chair
- o Nathaly Verwaal has graciously agreed

Next meeting: Friday, May 25, 2018, hosted by SAIT

Motion to adjourn