

CHEM ARTICULATION MEETING

Friday May 6, 2022

10am-3pm

ATTENDANCE:

- Chair: Todd Stuckless
 - Committee Liaison: Margaret Heldman
 - BCCAT Representative: Rob Fleming

 - Allyson Perrott- Selkirk College
 - Amanda Gronotte- Coquitlam College
 - Bala Viswanathan- Quest University
 - Bruno Cinel- Thompson Rivers University
 - Dave Dick – College of the Rockies
 - David Fenske-University of Fraser Valley
 - Diem Ly Van- Vancouver Community College
 - Duane Friesen- Vancouver Island University
 - Evon Khor- Simon Fraser University
 - Hema Giesbrecht-Columbia College
 - James Zhou- Fraser International College
 - Jason Mirzaei- Alexander College
 - Jay Wickenden- UBC Vancouver
 - Jennifer Wolf- BC Institute of Technology

 - Jimmy Lowe- BC Institute of Technology
 - Kailey Wright- Yukon University
 - Kara Crosina- College of New Caledonia
 - Leonard Lermer- Okanagan College
 - Mahi Aravind-College of New Caledonia
 - Neal Meanwell- Camosun College
 - Patrick Duffy- Kwantlen Polytechnic
 - Paul O'Connor -Douglas College
 - Reto Riesen- Coast Mountain College
 - Shane Durbach- Trinity Western University
 - Sherrie Wang- North Island College
 - Tamara Freeman- UBC Okanagan
 - Taraneh Lajevardi- Columbia College
 - Umesh Parshotam- University of Northern BC
 - Urmila Jangra- Capilano University
 - Violeta Iosub- University of Victoria
 - Vishakha Monga- UBC Vancouver
 - Yanguo Yang- Langara
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10:00 Chair calls the meeting to order (meeting is being held online, via Zoom).

- Approval of last year's minutes (attached).

- Review and approval of agenda (attached)

10:10 Our BCCAT SLP, Margaret Heldman, Langara VP Academic, welcomes the committee and shares information items.

- Musqueam Territorial acknowledgement (*nb: a nice thing about a Zoom meeting is that everyone could and did type into the chat their own school's Territorial Acknowledgement – Todd*)
- Gratitude to instructors everywhere for their hard work during pandemic

- As we leave pandemic protocols, goodbye to the “Return to Campus Guidelines” and back to the standard BC CDC Guidelines for Communicable Disease Control. That manual will have any specific advisories about Covid 19. [Guidance documents \(bccdc.ca\)](https://www.bccdc.ca)
- Provincial Government has begun a formal funding review for post-secondary. Last time this happened was 20 years ago. Will involve consultation with various schools and stake holders. Findings will be made public [Province launches public post-secondary funding review | BC Gov News](#)
- Another ministry initiative: taking the information from the labor outlook report, and looking at what kind of training post-secondary is offering. Regional PSI’s are attending meetings over the next couple of weeks. Will be ready for cabinet in Fall.

10:30 Rob Fleming reports from BCCAT

- BCCAT spring update
- 2021 JAM proceedings available as video: https://www.youtube.com/watch?v=3UGujGYwM_s&list=PLwF7-d6rLJfu4VfC0IJkWjOer3keEvIR9
- Nominations invited for the 2022 transfer awards: <https://www.bccat.ca/spotlight/2022TransferAwards>
- Math & Stats will have 100th meeting this year
- Joint Annual Meeting – open registration planned for on-line component of hybrid meeting. All information available on YouTube site. Topics include contract cheating, academic integrity, program credentials etc.
- Discussion of “reverse transfer”
- Staffing front – changeover on BCCAT – research and admission director retired, looking for new research officer
- On technology front, have refreshed BC Transfer Guide to include Adult Basic Education.
- Expanded guide by 20 thousand courses.
- What goes into BC transfer guide? Examining what should be in or moved out
- New research looking at EDI, admissions policies and practices. Share knowledge across system, best approaches for data use.
- Taking a look at “stranded credit”. Not being able to access credits because of probation, loss of scholarship. Affects least advantaged people in society
- Looking at BCCAT membership policy. What is the criteria
- Want more indigenous institutions to be part of the BC transfer system
- Pathway partnerships between indigenous and public institutions
- New initiative for digital learning, experts helping to build framework guidelines for supporting digital learning

Todd - if there’s new continuing online instruction, will exam invigilation be part of transfer agreement?

Rob - agreements are based on measurements and outcomes of curriculum.

Allyson thanks BCCAT and receiving schools for their efforts in sustaining transfer agreements.

10:50 Updates from the major receivers (SFU, UBC-O, UBC-V, UNBC and UVic), especially regarding curriculum and admissions.

Evon Khor SFU

- Enrollment has increased this year. The Fall and Spring saw return to campus, and all chemistry courses are now in person, no online courses. SFU does allow an option for blended learning, 1/3 of a course can be offered online
- During the pandemic courses were split into separate lecture and lab components, as labs were not delivered on-line. Regular lecture+lab combined courses have now been reintroduced.
- There have been program changes, will contact regarding internal admissions, update agreements.
- Some institutional changes, new Dean of Science, will be announced in coming weeks
- New Chair in Chemistry

Tamara Freeman UBC-O

- Slightly higher enrollment this year, causing some complications
- Did entire Fall face-to-face, January moved online because covid numbers were going up, came back face-to-face in February. Winter term was challenging overall. Labs were held in person throughout entire year.
- Enrollment – last year complained about scheduling and tight space concerns. This year more students and more courses, but less spaces. Teaching day has been expanded to evenings, not good time for students or teachers
- Lots of turnover, especially in admin staff.
- Articulations are unchanged.

Dave Dick – with classes in evening, any talk about student success?

Tamara Freeman– not sure how it will effect students

Patrick Duffy– anyone in department who wants to go back online?

Tamara Freeman- in terms of Chemistry I don't think anyone wants to stay online. Trying to alternate weeks online and in person. Some lab developments have stayed online. Computer science wants more and more online classes, which makes sense because they are working on computers. Getting more and more requests from students for online option

Vishakha Monga UBC-V

- During pandemic, UBC had lecture and lab courses split for first year. Now back to teaching everything in person, labs & lectures, and have reintroduced combined courses.
- Similar to what Tamara mentioned from UBC-O. Plan for future is to return things to pre-pandemic conditions.
- New course is being proposed CHEM 141 – same as CHEM 121 but with an improved lab experience. Targeting select students to promote interest in physical science

Sherry Wang – Chem 141 question, how do you take the previous articulated courses?

Vishakha Monga – will just be an enhanced 121 course. No new articulation.

Jimmy Lowe – Chem 154, going to keep virtual labs?

Vishakha Monga – that's been going on for 2 years, they have no intention to go back in person

Jason Mirzaie – question about Chem 154 lab, what type of activities are you offering in these virtual labs

Vishakha Monga – they have pre-lab work, and something to submit at end of every lecture. Still a work in development.

Jason Mirzaie – Lab simulations from commercial vendor?

Vishakha Monga – tried last year but it backfired, too many students

Urmila Jangra – question about 154, is there a concern for us teaching 154 with standard labs? Can we keep doing it that way?

Vishakha Monga – don't think you need to change anything.

Umesh Parshotam UNBC

- 1st-year general chem course enrollment was up from last year, but lower than previous years
- Face-to-face labs from the Fall semester. Starting in January lecture courses were online but labs ran normally. General chemistry returned back to the classroom after two weeks.

Jay Wickenden - UBCV had increased enrolment for 1st year. Biology was oversubscribed and those students often move to chemistry instead

Violeta Iosub UVIC-

- UVIC went to in-person starting September, though moved online in December. Some courses had to write exams online. Labs stayed in-person.
- Department wants to stay in person as much as possible. Two courses had to move online because of instructor health issues. There is a move to recording in-person lectures.
- In terms of enrollment, it seems to have increased during covid. Scheduling issues because of that
- Chem 260, new course, lab course, took organic & inorganic lab from 2nd year and combined. 1.5 units
- 213 course was basically cancelled, components divided into organic & inorganic

Allyson Perrott- rational for combining organic and inorganic labs? Problem for our students, we don't offer inorganic chemistry.

Violeta Iosub- rational for changes is need for students to graduate in 4 years, eliminated prerequisites, convenient to us during pandemic to have lecture courses and lab courses.

Kailey W – having coupled inorganic and organic chemistry, any plans to separate them?

Violeta Iosub- no. Where I think changes might be made is in the organic portion. I don't think a separation will happen

Kailey W- is there anything offered at UVIC for pre-med that don't need the inorganic?

Violeta Iosub – still think they have to do it. Will get back to you on that

12:00 Lunch break. Zoom remains open, with breakout rooms.

1:00 Discussion Forum items:

1) Call for nominations for committee chair, discussion of selection process and term, vote?

- Chair Todd Stuckless (Langara College) asks if anyone would like to volunteer to take over as Chair. Suggests it could be set as only a fixed term. Doesn't work.
- By acclamation, Todd Stuckless is re-elected to the position.

2) Next year's meeting, location and format. In person?

- Motion: Next year's meeting be traditional on-campus f2f Articulation Meeting. Carried.
- Hybrid option? Don't want it to be an excuse for not funding travel.
- Will consider hybrid for specific concerns
- Dave Dick at COTR is prepared to host.
- **Next year's meeting at College of the Rockies Date is Thursday May 4th for prof dev, May 5th Articulation briefings.**

3) 2022 C3 meeting

- 2022 College Chemistry Conference (on-line)
- Jimmy Lowe places registration link in Zoom chat. Notes that conference participation is free.
- Regular conference style presentations and also "Furious 5" mini-presentations (slides optional).
- After each set of presenters, breakout rooms for people to discuss the session.

4) Approaches to refreshing our articulation agreements.

- There is discussion around significance of learning outcome revisions and when that should trigger re-articulation.
- Concern is expressed regarding labs, and how detailed should be their learning outcomes. The importance of labs to chemistry should be stressed.

Reto - right now don't have labs specified in the LO's, other than that the course has labs and that hands-on experience.

Leonard - It took a lot of effort for us to make a list of detailed learning outcomes for the labs. Also notes that OC strictly limits how many labs a student can miss.

Taraneh – A few years ago we went through DQAB review, had to separate learning outcomes for labs & lectures. Had to list specifically learning outcomes in each lab

Umesh- We have separate lab and lectures but specific learning outcomes for each experiment are not listed

Jay - At UBC we write learning objectives for experiments. But too much detail for articulation purposes, where we just want to see a list of the experiments.

Dave - I think it's a really good idea to articulate learning outcomes for the labs

Jason - Could maybe do combined learning outcomes for lectures and labs

Violeta - We have program goals for labs. Using these goals to evaluate implementation of new curriculum. To articulate a course I don't think they would look at learning outcomes, they would look at content. We have course goals for every course.

Urmilla - our transfer office is swamped. Our office would not welcome re-articulation. Every 5 years is a good time to look over the course outlines and pick the few that need to be worked on.

5) What's still on-line? Invigilation of Exams

- Is there concern with final exam process? Effectiveness of learning?

Sherrie - We had all labs f2f and lectures online. We do invigilated exam. The only way to maintain integrity of exam.

Urmilla - struggling with this at Cap also. Huge push from arts areas that want to stay online. No more than 10 percent of courses in each area can be online. Synchronous on-line courses can be quite disruptive to attendance in other courses in-person on campus. If we to do synchronous online, it is to be out of prime-time hours. Certain departments are pushing the limits on this, but this is not something supported by collective agreement. Want everyone back on campus.

Todd - We are going to have a hard time deciding who gets to teach the online course

Jennifer - We teach practical skills at BCIT, should be in person as much as possible. Exams should be in person to help maintain academic integrity. Chemistry won't move back to online exams

Umesh - Most of our instructors are in favor of in-person classes and exams. I would not go online for anything. For some students internet connectivity could be a problem.

Kailey – On-line learning and hybrid courses are important for serving remote communities. Though our polling at YukonU showed student preference for f2f.

Evon - Our chemistry courses are scheduled in co-ordination with math & physics. If one of those was to move online, would cause a lot of problems to our students.

Sherrie Wang- Our college default is f2f, courses to be delivered on-line are asynchronous. College also has "high flex" (in-class lecture that is on-line at the same time) which they are heavily promoting, but it is very demanding on instructors.

Reto – I had to teach high flex one semester. Even students who could come to campus showed low attendance, as other pressures such as employment demanded their time. Students agreed though that the on-campus experience was better.

Umesh – I studied the viewing statistics for videos I posted. Found 50-60% watched the videos, and those people only watched about 50% of the video. I would not go back to posting videos because they don't watch it.

Todd - Langara will likely continue with 2 or 3 sections each semester of on-line lectures but on-campus labs and exams, for introductory level courses.

Evon - SFU will have an online summer course

Umesh - UNBC has just one course scheduled online, at the request of students with scheduling issues.

Leonard- OC does Distance Education. There is a Chemistry course with lectures on-line where students have to come to campus on weekends to do the labs (over 3 weekends in the summer). Finals are in person. We will have one high flex forensics course.

Patrick – KPU would like to do only f2f on-campus instruction. Open to idea of blended instruction, but mostly prefer in person teaching. Students seem to prefer it too

6) What's a PAC?

- Public Advisory Committee

Kara - Two weeks ago, our administration at CNC spoke to forming Public Advisory Committees. No one in our department had experience with this. Has anyone here had experience forming a public advisory committee?

Jimmy - Can have a large effect on curriculum. Example, for a chemistry course in our food technology program, the last PAC group suggested those skills not critical and we lost that course.

Urmila - something we also may have mandated. Will be primarily industry people. Concern with number of small programs we have. Indigenous representation is also sought on these committees. Something a lot of the institutions are looking for now.

Leonard- we have PACs but only for technology programs, not university transfer. All industry based. Some positive things. But any curriculum revisions have to also go through the PAC, making it even slower.

7) Are high school graduates demonstrating recent K-12 curriculum changes, and will that require us to offer more prep for gen chem?

- Student outcomes have been unsettled during the pandemic. How much though may be due to the ever evolving K-12 curriculum?
- Are fewer students taking high school sciences? At one high-school, of 300 students only 3 are taking physics 12.

Sherrie - Have never seen so many drop outs in the first few weeks, almost 50%. Might be curriculum change, but on-line teaching in high schools may be the issue.

Patrick – Chem 1110, in one section had 19 people registered. By the end only had about 5 people showing up regularly. Unprecedented.

Urmila - Students not retaining what they're learning. Content learning in high school faced issues. Math skills not good

Umesh - General skills not great, like problem solving, time management, study skills, note taking etc.

Duane - 1st and 2nd year were overall weak, though upper-level students were quite strong. Maybe covid effect. Interested in knowing from institutions that offer prep level courses, are any of you looking at making adjustments to those courses due to the weaker students coming in?

Urmila - Hard to get the students to opt to choose the prep course. Would really benefit them to take prep course. Especially international students because of the cost

Jason Mirzaie – Covid has effected international and domestic students. Lack of proper foundation for academic study. Various forms of stress. What are strategies for international students who are not academically prepared?

Evon – Study skill “courses” and “learning centers” are becoming more important:

<https://www.lib.sfu.ca/about/branches-depts/slc>

Jimmy - Also <https://www.bcit.ca/outlines/20221073190/>

Umesh - Getting students to use the resources is a challenge.

Round Table

Patrick - Some institutions are requiring lab coats with elastic cuff. Is anyone requiring these? Who?

Jennifer - We are wondering about requiring lab coats period. Book store was out of stock. Some students only have 1 class that needs them. Thinking about loaning them out.

Bala - Institutionally we don't require them, up to instructor

Umesh - at UNBC we require lab coats. There is also a set in the lab that students can check out with student id.

Jay - We rent them \$2 an experiment. Perhaps not really needed for 1st year labs, reagents are mild.

Kailey – We find a big attitude change in the lab when students are wearing the lab coats

Evon – Our grad caucus orders a lot of lab coats and sells them at beginning of semester to 1st and 2nd year courses. Couple extra they can rent as well.

Chat discussion around laundry costs.

Jason - What mandatory course components (exam weight etc) do departments enforce?

Jay – Any such need to be in the syllabus day 1

Leonard – Students are required to pass both lecture and lab, minimum 40 percent on final for first year.

Violeta - 2 midterms and 1 final, 50 percent weighted average

Bruno - Need to pass midterms and final

Urmila – 50% minimum in each of lab and lecture.

Allyson – Must pass each of lab and lecture.

Paul – Same at Douglas.

Urmila – I have a question about calculators. We require a graphing calculator. Didn't use to be an issue but students are not buying these in high school anymore. Curious how other institutions do this. Do you let them use computer graphing? Require students to have a graphing calculator?

Reto - more versatile the calculator, the less they need to know how to do manually

Urmilla - we are in the opposite direction, want to use the technology.

Todd - Langara has no policy on calculators. My personal policy is a simple calculator only (no graphing). Concern that devices may be able to store or transmit text.

Jennifer - Apple watches can receive messages!

Paul - No graphing calculators.

Umesh – No cell phones!

Jason – No graphing calculators.

Paul - Any mandates for sustainability and environmental issues in your course material?

Bruno - Across a program, not per class

Jimmy - At BCIT we have the Green Institute, with courses tied into UN sustainability goals

3:00 Adjournment