



# BCCUPMS

Institutional Reports 2020

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Reports from Institutional Representatives to the British Columbia Committee on the  
Undergraduate Program in Mathematics and Statistics – June 2020

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## Acsenda School of Management (ASM)

**Representative providing this report:** Partha Banerjee, BBA Full Time Faculty of Mathematics

Additional participants: Dr. Chehra Aboukinane, Dean, BBA; Dr. Zahra Mahyari, Math & Statistics instructor.

**Email address of representative providing this report:** [partha.banerjee@Acsenda.com](mailto:partha.banerjee@Acsenda.com)

### 1. New hires or retirements

Partha Banerjee was hired as a full time instructor in the BBA Faculty in June 2019. He teaches Business Math & Basic Math and is also the co-ordinator of Math Diagnostic Test held at the beginning of each semester to assess the level of math knowledge of all new students.

### 2. Enrollment changes this year or in the coming year

Not yet, but there could be a possible decrease in the new international enrollments in Fall 2020 due to travel restrictions caused by the COVID-19 pandemic.

### 3. New or significantly revised programs or courses

ASM intends to include BADM 311 Business Analytics & Decision Making starting T4-2020.

ASM has started offering COMP 101 Computation for Business which enhances students' competency and skill set for the BADM 221 Fundamentals of Economics & Business Statistics.

ASM continues to offer a Math Diagnostic Test to all incoming students and place them in either a Business Math or Basic Math course based on the results achieved in the Math Diagnostic Test.

### 4. Concerns or issues related to articulation

Nothing significant to report here.

### 5. Open access resources that you've found to be particularly effective

Olivier, J.P. (2018). *Business Math: A Step-by-Step Handbook*.

Textbook is free and can be accessible at: <https://open.bccampus.ca/find-open-textbooks/>

Holmes, A., Illowsky, B., & Dean, S. (2017). *Introductory business statistics*. Huston, TX: OpenStax. Retrived from <http://openstax.org/details/books/introductory-business-statistics>

Wang, M. (2018). Key Concepts of Intermediate Level Math. Textbook can be accessible at: <https://open.bccampus.ca/find-open-textbooks>

Khan Academy <https://www.khanacademy.org/> [Free online resource]

Desmos classroom activities <https://teacher.desmos.com/> [Free online resource]

**6. Efforts towards Indigenization**

Work/Discussion in progress.

**7. Outreach initiatives**

Nothing to report at this time.

**8. Other news**

All Term 2 classes were conducted remotely due to the COVID-19 pandemic. Term 3 will also be delivered online. No major issues were experienced in the delivery of online instruction during the transition. ASM faculty received intensive training on the use of various teaching strategies skills via zoom and Big Blue Button prior and throughout the duration of the term.

## Alexander College

**Representative providing this report:** [Krishna Subedi](#)

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**Is this the only report which your institution will provide, or will there be another, or others, submitted by a representative for another discipline – Math, Stats, or Math Ed?**

[Yes, this is the only one.](#)

**1. Do you have any announcements of new hires or retirements that you'd like to share?**

[We have hired Dr. Prince John as a part time, sessional instructor in Fall 2019 and he has been with us since then.](#)

**2. Has your institution or department seen significant enrollment changes this year (domestic, international, or overall), or are significant changes expected in the coming year?**

[Alexander College continued to experience growth in students' number, setting institutional records for Spring 2019 \(2162\), Fall 2018 \(2675\), and Winter 2019 \(2860\). As such, the number of course offerings each term continues to increase to accommodate our enrolment growth. With regards to mathematics courses, there is no significant change in enrollment this year. Since student body of Alexander college comprised of mostly international students and due to COVID-19, we are expecting that the enrollment for upcoming academic year will be down.](#)

**3. Are there any new or significantly revised programs or courses at your institution that you'd like to let the BCcupms community know about?**

[A number of new courses have been developed and articulated in other departments and subject areas in the past year but there is no changes to the current courses in mathematics department that require articulation activity.](#)

**4. Are there any concerns or issues related to articulation that you'd like to share?**

[There isn't any concern or issue related to articulation but there is a concern related to the academic readiness of our students, particularly those from India. Multiple research and data analysis projects are underway to determine how we can mitigate this complex issue, and some initiatives have already been implemented \(e.g. capping of applications for admission, priority registration\).](#)

**5. Are there any open access resources (texts or homework systems) that your department is using, particularly in first- and second-year transferable courses, that you've found to be particularly effective?**

We are using the following open access resources for the last few semesters and I have not heard any complaints from the instructors so far:

Math 104 (Diff. Calculus with Applications to Commerce and Social Sciences): One of the sections of Math 104 used OpenStax, Calculus volume 1 by Strang et al.

Math 100 (Precalculus): OpenStax, Precalculus by Jay Abramson

Math 99 (Fundamentals of Algebra with Trigonometry): OpenStax, Algebra and Trigonometry by Jay Abramson et al.

**6. Are there any efforts towards Indigenization that have been made in your department, or at your institution, that you'd like to report?**

There are some initiatives taken by some faculty members in humanities and social sciences department to include indigenous materials in their curriculum but there is nothing particular to the mathematics department.

**7. Are there any outreach initiatives that have been made in your department, or at your institution, that you'd like to report?**

The discussion is going on about this topic in the college management team, but I have nothing to report here at this moment.

**8. Do you have any other news that you'd like to share about your department or institution?**

a) We have acquired a new facility for our Burnaby location. The new location is approx. 30k+ ft<sup>2</sup>, significantly larger than the current location. The location will have 13 additional classrooms and increased space allocated for academic department heads and faculty.

b) With the emergence of the COVID-19 in BC in early January, Alexander College began preparing contingency plans which included preparations in the event that in-person instruction became unsafe. On March 13, 2020, Alexander College's leadership team decided to move all courses online via synchronous video conferencing and Canvas LMS for the remainder of the Winter 2020 term. The college later decided to continue offering virtual synchronous classes using Zoom and Canvas LMS for Spring 2020 term, Intensive Summer (2020) term and Fall 2020 term. Due to the early preparation of the contingency plan and the online teaching training provided to all faculty members early in March 2020, the transition from face to face to virtual classes became smooth and no major issues were experienced.

## British Columbia Institute of Technology (BCIT)

**Representative providing this report:** [Andrew McConnell](#)

**Email address of representative providing this report:** [andrew\\_mcconnell@bcit.ca](mailto:andrew_mcconnell@bcit.ca)

### **1. New hires or retirements**

Long time Faculty Member Erika Crema is retiring this Fall and will be greatly missed.

Maryam Heshmatzadeh and Kambiz Hajikolaei became regular faculty during the past year.

### **2. Enrollment changes this year or in the coming year**

Likely see a reduction of international students.

### **3. New or significantly revised programs or courses**

No

### **4. Concerns or issues related to articulation**

No

### **5. Open access resources that you've found to be particularly effective**

Two of our faculty have been using WebWorks.

### **6. Efforts towards Indigenization**

No

### **7. Outreach initiatives**

No

### **8. Other news**

No

# Camosun College

**Representative providing this report:** [Patrick Montgomery, Department Chair](#)

**Email address of representative providing this report:** [montgomeryp@camosun.bc.ca](mailto:montgomeryp@camosun.bc.ca)

## **1. New hires or retirements**

We had a new hire (Chedo Barone) for a 100% continuing position that started in September, 2019. The position was approved as a result of sustained growth in teaching needs.

## **2. Enrollment changes this year or in the coming year**

A sharp reversal in enrollment was observed this year, with a drop of approximately 9.6% in enrollment overall (from May 2019 – April 2020). This drop was observed mostly in the support to teaching in the technical programs as well as academic upgrading. The coming year I expect a reduction in the number of sections offered due to the enrollment drop as well as the reduction in international students attending the college.

## **3. New or significantly revised programs or courses**

There have been no major revisions this year that will impact course articulation.

## **4. Concerns or issues related to articulation**

No concerns noted.

## **5. Open access resources that you've found to be particularly effective**

We are using a mix of open resources, and exploring the effectiveness of each. At this point, nothing has stood out as being an outstanding teaching support resource.

## **6. Efforts towards Indigenization**

Individual faculty members have been able to enroll in a college course that introduces Indigenization and related topics. The process of curriculum approval now contains a section on Indigenization.

## **7. Outreach initiatives**

Support to Math Challengers continues to grow, as that volunteer activity is attracting an increasing number of students.

## **8. Other news**

Nothing significant.

# Capilano University (CapU)

**Representative providing this report:** [Paul Ottaway](#)

**Email address of representative providing this report:** [paulottaway@capilanou.ca](mailto:paulottaway@capilanou.ca)

## 1. New hires or retirements

Two new hires last summer: Amir Amiraslani (Regular, Full Time) and Peter Sinclair (1 year contract to replace Deanna Baxter's leave). We expect to hire a new Regular, Part Time faculty member this coming summer as part of regularization.

## 2. Enrollment changes this year or in the coming year

The proportion of international students continues to increase with last summer having more international than domestic students enrolled. Current events will no doubt have an impact on this and early numbers regarding applications to Capilano University for the 2020-21 academic year are reported as being down by 45%. It was noted, however, that the way they count applications has been changed and that many students are only applying for a single program rather than multiple (which would be counted multiple times). This figure is institutional and we expect the effect to be less pronounced in STEM though we expect a significant enough drop in our engineering program that some sections of multi-section courses may need to be cancelled in the coming year.

## 3. New or significantly revised programs or courses

No significant changes. In the near future, we may aim to revitalize our dual streams of calculus I and II to meet the differing needs of engineers and general science students.

## 4. Concerns or issues related to articulation

No.

## 5. Open access resources that you've found to be particularly effective

In fall 2019 we started using the open access textbook "OpenIntro Statistics (by David Diez et al.)" for our first year statistics course. The textbook has several useful resources such as electronic lecture notes, useful videos for each section and hands-on lab instructions designed in R, Python and etc. We are glad that we switched to this online and open access textbook as it also suites our online teaching platform during the current crisis.

We continue to explore various open access texts and resources but don't have any other specific recommendations at this time.

## 6. Efforts towards Indigenization

Very little has changed in mathematics classes with respect to Indigenization but many faculty are active in learning how to incorporate recommendations as well as taking courses in teaching indigenous students.

## 7. Outreach initiatives

We held our annual SNAP Math Fairs in November and February where grade 4 and 5 classes visited campus to participate in activities produced by the students in our Math for Elementary Teachers class. It's expected, of course, that these initiatives will need to be cancelled for the coming year.

## 8. Other news

In person classes were cancelled on March 16<sup>th</sup> for 48 hours and we resumed with online instruction March 18<sup>th</sup>. It was a challenging process given the very quick turn around but went as smoothly as one can expect. Faculty relied largely on eLearn (Moodle) for course content and delivered classes synchronously, including final exams. We had a significant increase in cases of academic misconduct which we are still processing despite efforts to use randomized questions, questions with wildcards, timed exams, and even live video of students writing. We have made changes to course outlines to decrease the weight of final exams for the summer which is being delivered entirely online and will be considering other measures for the fall given the likelihood that we will again be teaching online.

## College of New Caledonia (CNC)

**Representative providing this report:** [Tracy Wall](#)

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### **1. New hires or retirements**

We have hired Vincent Glavine as a full-time Sessional Instructor for Intersession and Fall semesters.

### **2. Enrollment changes this year or in the coming year**

No significant change. International enrolment could be down in the coming year due to COVID.

### **3. New or significantly revised programs or courses**

Our Math 180 and Math 185, Mathematics for Civil Engineering Technology begins in the Fall. We have another new course, Math 123, Mathematics for the Liberal Arts, which will begin in the Fall semester.

### **4. Concerns or issues related to articulation**

No.

### **5. Open access resources that you've found to be particularly effective**

Not at this time.

### **6. Efforts towards Indigenization**

There have been events or seminars/meetings but no applications to our department at this time.

### **7. Outreach initiatives**

No. There were events planned at the College in the Spring in connection with our 50<sup>th</sup> Anniversary which had to be cancelled.

### **8. Other news**

We all have concerns after the end of last semester with academic dishonesty in our online courses and are interested in what other institutions experienced and how it was handled or how it is planned to be handled in the future.

## College of the Rockies (COTR)

**Representative providing this report:** [Andrea Hyde](#)

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### 1. New hires or retirements

No

### 2. Enrollment changes this year or in the coming year

2019 was flat year over year in first-year Math and Statistics courses, modestly up in second-year math (primarily Math 221 – Elementary Lin Alg), and down a little in business math due to lower international student enrollment. We have enrollment of 4 or 5 students in Calc 3&4 and Differential Equations for the 2020/2021 year. This is the first time we have run differential equations in several years and the highest calc 3&4 numbers seen in that time frame.

### 3. New or significantly revised programs or courses

We are offering Math 100 – Pre-Calculus for the first time in a long time. We often find that students struggle and fail or withdraw from Calc 1 and we wanted a course to address that situation that fell within the University Studies program instead of the Adult Upgrading program. The intention is for the course to run in a somewhat flipped classroom where the emphasis is on skill mastery. Students would have to demonstrate mastery of each topic before moving on to the next one. The online format is being developed.

Math 105 and 107 – Math for Teachers 1&2 were successfully implemented this year. The new arrangement of the learning objectives was well received by the students. There was more time for groupwork and the use of manipulatives in Math 105 and students self-reported higher levels of confidence with their mathematical abilities at the end of the course as compared to the start. The Math 107 class had only 8 students and they all reported continued increases in their confidence in the material and their ability to learn and teach math. The Math 107 final exam was exchanged for a final project where students created their own final exam, complete with solutions, grading schemes, and justifications using both the learning objectives and the First People’s Principles of Learning

### 4. Concerns or issues related to articulation

Math 107 – Final Exam vs. final project. As described in the previous section, the Math for teachers 2 course had a final project this semester instead of a final exam. I believe that it was a better evaluation of their learning than a traditional final exam would have been and am considering making the change permanent. Our primary transfer for this course is UVIC but I would be interested to hear the opinions of other people who teach this course.

### 5. Open access resources that you’ve found to be particularly effective

We make use of Lyryx for Calc 1&2 and our intro Stats course. We've found it to be easy for students to use. Lyryx has been available for free on the college computers and students have only had to pay if they wanted to use it on their home computers. After the transition to remote learning, Lyryx made access free for all of our students on their personal computers for the rest of the semester. The platform includes both the textbook and pre-written questions that the instructor can choose from to create assignments. We used Lyryx for the intro Stats second midterm and final exam with moderate results.

I would be interested to hear if anyone is successfully using an open access resource for their differential equations course.

## **6. Efforts towards Indigenization**

The primary courses working on Indigenization are the previously mentioned Math 105 and 107 – Math for Teachers 1&2. In both courses we made use of a fur trader game that was presented by Karen Smith, our Director of Indigenous Strategy & Reconciliation. The game is representative of a trading post that might have existed in the Ktunaxa territory. In the game, the students hunt for furs using dice and then trade the furs for goods at the trading post. The mathematical skills can be adapted to any level – from addition and subtraction, to fractions and ratios, to probability and statistics. Karen began the game with a small cultural lesson about the values of the Ktunaxa people to help students understand what goods were most desirable and why. The game ends when students have finished trading. Then they explain the motivation behind their choices and discuss successes and challenges in the game.

These courses also incorporate the First People's Principles of Learning in multiple places – both in explicit and implicit ways. Students were given choices about their learning and allowed to prioritize certain topics. Students were asked to consider and explain the Principles in multiple activities.

## **7. Outreach initiatives**

Not this year.

## **8. Other news**

A note from Leslie Molnar regarding her gamified Calc 1 & 2

"I've found the Moodle add-in "Stash" really helpful for gamification. I'm going to change my Math 103/104 online away from the Quest story (not enough real choices) and instead use more "Stash" items. Stash is simply a way for students to collect and trade items. With the Quest story, I had students collect weapons, potions, etc. There were places in the actual activities where these items were located, and students had to "pick them up". Then, they had to, for example, trade a potion they had picked up earlier in order to get a different item (protection against a sickness). Not only can you set up trades (for example, trade 5 gold coins for a sword), you can then restrict access to certain activities based on what they have in their "Stash". For online learning, this is really helpful, because students have to go in and explore the learning resources in the course to find the items to "pick up". When you set up trades or access restrictions, they have to go back and find those things (which is often good review)."

## Columbia College

**Representative providing this report:** [Ana Culibrk](#)

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### 1. New hires or retirements

There are no new regular instructors. Dr. Kim Chew retired on May 1<sup>st</sup> 2020.

### 2. Enrollment changes this year or in the coming year

No.

### 3. New or significantly revised programs or courses

No.

### 4. Concerns or issues related to articulation

1. All Columbia College university transfer Math courses are articulated with between 40% and 50 % of the total course grade assigned to the final exam. Having in mind that we are all in the online teaching mode, can we reduce this percentage, and if so, how much?
2. Can the Articulation Group also include the sending institutions to the Flexible Pre-Major list? Other disciplines in BC (Anthropology, Biology, Economics, English, Psychology, and Sociology) have both sending and receiving institutions included in their Flexible Pre-Major agreements.

### 5. Open access resources that you've found to be particularly effective

We started to use the WebWork in January 2020. In the Winter semester two courses used it: Linear Algebra and Probability. In the Summer semester we will use it additionally in the three sections of Calculus I for Social Sciences.

We use 3 open access textbooks:

- Differential Equations for Engineers by Jiri Lebl
- Calculus I for Social Sciences – open source book adapted by SFU
- Introduction to Real Analysis by Jiri Lebl

### 6. Efforts towards Indigenization

Indigenization became a part of the Columbia College Academic Plan. Some of the Social Science faculty members have incorporated the indigenous materials into their course syllabuses.

**7. Outreach initiatives**

No, but the College has just conducted a survey to collect the ideas for possible community outreach program(s).

**8. Other news**

No.

## Coquitlam College

**Representative providing this report:** [Gera Belchev](#)

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**1. New hires or retirements**

[No](#)

**2. Enrollment changes this year or in the coming year**

[Enrolment was stable and based on the summer term we hope it will remain so](#)

**3. New or significantly revised programs or courses**

[We articulated a new course “Mathematics for Everyday Life” to accommodate South-Asian students](#)

**4. Concerns or issues related to articulation**

[No](#)

**5. Open access resources that you’ve found to be particularly effective**

[MyOpenMath](#)

**6. Efforts towards Indigenization**

[The college offers a course “Selected Topics in Indigenous Studies” which is very popular](#)

**7. Outreach initiatives**

[No](#)

**8. Other news**

[No](#)

# Douglas College

**Representative providing this report:** [Natasha Davidson](#)

**Email address of representative providing this report:** [davidsonn@douglascollege.ca](mailto:davidsonn@douglascollege.ca)

## 1. New hires or retirements

We are likely to be doing a hire this summer. It would be for a 75% to 100% position that may be on-going but that would be for at least one year with work beginning in the Fall semester. We may also be hiring for some sessional part-time contracts.

## 2. Enrollment changes this year or in the coming year

Our enrollments for math courses have been strong and the numbers do not appear to have been negatively impacted for at least the summer semester. However, our VP Academic sent out a message saying that we had a reduction of revenue of about 4 million dollars for the summer semester – which I think would be a result of significant drop in international registrations. I think that the most likely thing to happen is that we are on-line with travel restrictions for another year and so, I believe, that eventually the drop in international enrolments will impact our enrolments negatively.

## 3. New or significantly revised programs or courses

Although it is not a new program – an update on the Engineering program at Douglas. Enrolments are holding steady – we have added an applied Linear Algebra class to support the program – Math 2210 – which is intended to transfer as a standard, non-proofs based linear algebra course. It has officially received credit from SFU as Math 232 and unofficially from UBC as Math 152 (for APSE students) or Math 221 (for Science students) and UVic has given it Math 110 credit. The first offering is planned for Winter 2021. Allan Majdanac is investigating text for the course and is wanting to adopt a free text like the Nicholson text that Langara is using. If anyone has any information on such text, please feel free to share that with Allan.

## 4. Concerns or issues related to articulation

This isn't really an articulation concern but there is some discomfort with results obtained on-line due to our general inexperience in doing on-line assessment. There is also some concern from members of the department around the math preparation that the incoming students high school students will have if they had completed their mathematics courses on-line or partially on-line. I think that we will be looking to adjust and provide support as necessary, for the Fall and beyond. There is also some concern about our own continuing students in terms of whether or not final grades for this past semester are fully reflective of performance due to concerns around cheating on on-line assessments.

I am not sure that we want to spend a lot of energy envisioning our students in negative ways but I do think we need to spend a great deal of energy to develop meaningful formative and summative assessments that are compatible with being delivered on-line.

## 5. Open access resources that you've found to be particularly effective

We are using a number of different free on-line text – in particular:

Math 1101 – our Basic Algebra – we are using the Openstax Intermediate Algebra – the level of the questions is homogenous and therefore we need to supplement with more difficult questions to adequately prepare students for subsequent courses – however the text itself has improved over time and we will continue to use it.

Math 1105 – our Algebra and Trigonometry – we are using the Openstax of the same name – I am not aware of how effective it is or isn't.

For some sections of Math 1234 – our Math for Liberal Arts Students – an open text “Math in Society” by David Lippman has been used and the instructor who used it said it was a good text and that he liked it.

The Differential Equations open source texts are Diffy Qs (by Lebl) and Differential Equations (by Trench).

We have tried and rejected the Openstax text on Statistics and have looked at PreCalculus open text and have not yet found one that replaces our current adoption of Stewart.

Members of the department are looking primarily at text to see if the material we want is there and presented well – we have come to the conclusion that we will need to tailor the OER materials to our courses and that this will have to include augmenting exercise sets. We would like to engage in this with our colleagues from across the province so that we aren't all busy reinventing wheels.

## 6. Efforts towards Indigenization

I am not sure what is happening in terms of the College as a whole. In the department there has not been any move to change content though some individuals are using flipped classrooms and other instructional strategies that move things a bit forwards in terms of aboriginal ways of knowing.

## 7. Outreach initiatives

This year I did a Math Mania event at a middle school – which involved 24 post-secondary student volunteers and had an attendance of about 80 students and parents – it was very successful and it reminded me that many students have had little exposure to math in a recreational, or even just fun, context. Another planned event had to be canceled as a result of restrictions on large gatherings. I also did a lot of outreach to the elementary schools through the SIS program that Scienceworld runs – they are continuing the outreach in an online format but I have not yet done that.

The outreach to secondary school students has mostly been done through the math contest – which didn't run this year. Given the unpredictability of what may be allowed in the near future – it would be great if we could continue with the math contest in some sort of online capacity.

## 8. Other news

The approach to on-line instruction and evaluation is very individual at Douglas currently – we are all trying to figure out how to do so that it is manageable and effective. We are all preparing to deliver all math courses on-line for the Fall.

## Fraser International College (FIC)

**Representative providing this report:** [Navid Alaei](#)

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### 1. New hires or retirements

No

### 2. Enrollment changes this year or in the coming year

FIC only accepts international students. While our enrolment has remained stable over the past number of years COVID-19 is expected to have impacts on enrolment over the coming 12-18 months.

### 3. New or significantly revised programs or courses

No

### 4. Concerns or issues related to articulation

With high school programs being disrupted globally a discussion on supporting students with potentially incomplete high school experiences is warranted.

With the move to online a discussion on alternate assessments in Math, building online community, group work options etc would be valuable. Academic integrity and new ways of assessing learning outcomes is going to be vital over the coming year.

### 5. Open access resources that you've found to be particularly effective

No.

### 6. Efforts towards Indigenization

There isn't anything particular to the Math department to report although FIC students in general are drawn to First Nations courses and units across the rest of the campus.

### 7. Outreach initiatives

We have begun participating in recruitment support activities to help international students and their families understand both the rigours and expectations of Math based programs in Canada.

### 8. Other news

Our curriculum is overseen by SFU at FIC and we are working closely with the SFU Math department to ensure a supportive environment for students as we continue with online delivery this summer.

## Kwantlen Polytechnic University (KPU)

**Representative providing this report:** [Michael Nyenhuis](#)

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### **1. New hires or retirements**

Not yet, though there may be some this summer.

### **2. Enrollment changes this year or in the coming year**

No. We still have a large number of international enrolments, and there have been efforts to reduce the number because relying on them is not sustainable, and because international students require certain resources, which are now stretched.

### **3. New or significantly revised programs or courses**

No

### **4. Concerns or issues related to articulation**

No

### **5. Open access resources that you've found to be particularly effective**

Those who are using WebWork are very happy with it. We have been using Abramson for MATH 1102 (Precalculus Algebra) and MATH 1112 (Precalculus). I do not hear complaints about it.

### **6. Efforts towards Indigenization**

No

### **7. Outreach initiatives**

No

### **8. Other news**

The B.Sc. in Applications of Mathematics is doing well. As I recall, we have about 25 students in the program, and are graduating students regularly. We have new co-chairs: Daniel Anvari and myself. The faculty of Academic and Career Preparation (ACP) is being dissolved, with the ACP math instructors joining the math department in September. It is likely the department of computer science will leave the Faculty of Business and join the math department some time in the future.

# Langara College

**Representative providing this report:** [Eugene Belchev \(Math\)](#) and [Michael Lo \(Stats\)](#)

**Email address of representative providing this report:** [ebelchev@langara.ca](mailto:ebelchev@langara.ca) and [mlo@langara.ca](mailto:mlo@langara.ca)

## 1. New hires or retirements

Math and Stats – None

Data Analytics – Two new faculty members are recently hired

## 2. Enrollment changes this year or in the coming year

No significant change

## 3. New or significantly revised programs or courses

Math – Two new courses, MATH 1175 and MATH 1275 (Calculus I and II for Life Sciences) were approved by EdCo; also, after a long hiatus, MATH 1162 (Finite Math) was offered this Spring

Stats – None

Data Analytics – a part-time Post-Degree Certificate program was launched in January 2020 with domestic students as the main target audience

## 4. Concerns or issues related to articulation

Math – MATH 1175/1275 will be submitted for articulation

Stats – None

## 5. Open access resources that you've found to be particularly effective

Math – Finite Mathematics by Pichmony Anhaouy for MATH 1162;

College Algebra, Corrected Edition by Carl Stitz and MyOpenMath homework system for MATH 1152;

Linear Algebra with Applications by W. Keith Nicholson and online homework through Lyryx for MATH 1252 (Linear Systems) - the textbook is the open version of an established textbook, and we are fairly happy with it, although the order in which topics are presented is that of a typical Linear Algebra course, which differs from how we deliver the course.

Stats – None

## 6. Efforts towards Indigenization

Nora Franzova and Sonoko Nakano have been involved with Indigenous upgrading math program at the Musqueam

## 7. Outreach initiatives

Over the past few years, we have been hosting AMC events for students who do not have a high school to host them. Interest has increased even though we have not advertised/marketed these events. For example, the AMC 8 brought in 22, 40, and then 108 students for the years 2017, 2018, and 2019, respectively. Anyone interested can go to the following site: <https://amc-reg.maa.org/>. Note that these events are now on hold due to current pandemic situation.

These events brought keen math students onto our campus. They were then also invited to come back for the annual BCSSMC in May.

**8. Other news**

None

## North Island College (NIC)

**Representative providing this report:** [Jeannie Cameron](#)

**Email address of representative providing this report:** [Jeannie.cameron@nic.bc.ca](mailto:Jeannie.cameron@nic.bc.ca)

### 1. New hires or retirements

No.

### 2. Enrollment changes this year or in the coming year

STA 115 Introduction to Statistics and MAT 151 Finite Math have large IE student enrollments and waitlists. OGE (Office of Global Engagement) financed an additional offering of STA 115 during the 2020 Spring/Summer term.

For the Fall and Winter 2020/21 terms, NIC expects to experience significantly reduced domestic and international student enrolments compared to last year.

### 3. New or significantly revised programs or courses

The new one-year Computer Information Systems (CIS) certificate was to be offered on the Campbell River campus starting in Fall 2020. The certificate includes a new course MAT 155 *Applied Math for Computing* and the current STA 115 *Introduction to Statistics*. This program will be delayed for a year.

### 4. Concerns or issues related to articulation

Nothing to report here.

### 5. Open access resources that you've found to be particularly effective

MAT 181/182/210/214 (Calculus I/II/III/IV) plan to switch to CLP Calculus Textbooks from UBC for Fall 2020 <http://www.math.ubc.ca/~CLP/> in addition to *Diffy Qs: Differential Equations for Engineers* <https://www.jirka.org/diffyqs/> for Calculus IV.

STA 115 Introduction to Statistics (Algebra-based) *OpenIntro Statistics* <https://www.openintro.org/book/os/>

MAT 122 Logic and Foundations *Book of Proof* <https://www.people.vcu.edu/~rhammack/BookOfProof/>

WeBWorK is used with MAT 181/182/210/214 (Calculus I/II/III/IV), MAT 102 Calculus for the Life Sciences, MAT 151 Finite Math, STA 115 Introduction to Statistics.

### 6. Efforts towards Indigenization

N/A

### 7. Outreach initiatives

N/A

## **8. Other news**

Over the week of March 16 to 20, North Island College transitioned from face-to-face learning and instruction to online delivery. All 2020 Spring/Summer math and statistics courses are also offered online with plans to continue online delivery for the 2020-2021 academic year. The transition has been stressful and busy for both faculty and students but does provide opportunities for professional development around quality online teaching practices.

## Northern Lights College (NLC)

**Representative providing this report:** [Hongbin Cui](#)

**Email address of representative providing this report:** [hcui@nlc.bc.ca](mailto:hcui@nlc.bc.ca)

**1. New hires or retirements**

No

**2. Enrollment changes this year or in the coming year**

No

**3. New or significantly revised programs or courses**

No

**4. Concerns or issues related to articulation**

No

**5. Open access resources that you've found to be particularly effective**

Below are all listed at <https://open.bccampus.ca/>.

Calculus I and II: David Guichard. *Calculus: Early Transcendentals*

Intro. Linear Algebra: Ken Kuttler. *A First Course in Linear Algebra*

Intro. Statistics: Douglas S. Shafer & Zhiyi Zhang. *Introductory Statistics*

**6. Efforts towards Indigenization**

No

**7. Outreach initiatives**

No

**8. Other news**

All math courses have been delivered electronically using Bluejeans since March 18. Exams have been either done as timed assignments or invigilated via Bluejeans. (Although I found a way to display any exam on D2L (Desire to Learn) using Respondus Lockdown Browser and Monitor so that each student's webcam can be recorded during the exam, it was not allowed by the administration due to many concerns.)

## Okanagan College (OC)

**Representative providing this report:** [Joe Hobart](#)

**Email address of representative providing this report:** [jhobart@okanagan.bc.ca](mailto:jhobart@okanagan.bc.ca)

### 1. New hires or retirements

We have been looking to hire for 7 positions this year. One is a sabbatical replacement and the others are 1 year term positions. At OC, once a faculty member teaches for the equivalent of 1 full time year, the faculty member receives Right Of Accrual (ROA) after which they no longer need to apply and will receive first right of refusal to any work that the department has for the upcoming year (this continues until the faculty member goes 2 full years without any work). In addition to the 7 hires, we have 1 ROA member who is likely to convert into a continuing position.

### 2. Enrollment changes this year or in the coming year

Our enrollments continue to increase both due to an increase in UT enrollments and service course enrollments. Our new Post Bacc Diploma in Marketing and Data Analytics has provided the equivalent of 2 full time faculty positions. We will be taking in 2 intakes for this program in the upcoming year. Overall science enrollments for 2020/ 2021 are down while enrollments to the College in general are largely unchanged (other than trades) so based on our service work for other departments, we may not be looking to reduce the overall number of sections we offer.

### 3. New or significantly revised programs or courses

We are taking our second intake into our Post Bacc in Marketing and Data Analytics this year and plan to take a new Post Bacc in Health Analytics through Ed Council in the fall.

### 4. Concerns or issues related to articulation

I/ We are generally concerned about the common belief from non-statistics departments that they can teach their own statistics courses and that receiving institutions will take those courses as transfer credit in place of statistics courses offered by the statistics department. My belief is that taking a course once (for example, in a nursing program) does not qualify you to teach stats for that discipline. (An MSc in Nursing does not qualify you to teach Nursing Stats).

### 5. Open access resources that you've found to be particularly effective

Webassign has been pretty good for us. But, most of our resources are internally created for Moodle.

### 6. Efforts towards Indigenization

Nothing substantive at this point – though, I believe we will have something in the near future.

### 7. Outreach initiatives

Due to COVID-19 (perhaps you've heard of it), we've had to cancel the majority of these initiatives.

## 8. Other news

Our spring/ summer offerings have moved online. I get the impression that we are moving the fall online and that we may be receiving a directive to that effect by the end of May. We have been allowed to hire up to the point of offers which I am led to believe many institutions have not been allowed to do. I am cautiously optimistic that we could hire by Mid-May.

One thing I would like to see discussed during the meeting is what institutions that use MAPLE for calculus labs intend to do for the upcoming year in the event that we are working remotely.

As for remote delivery at OC, I am cautiously optimistic that the College will not have us increase capacity in existing courses in order to cancel sections. For perspective, we offer 14 sections of Business Mathematics across our 4 main campuses during the fall semester. We have been talking internally about how we could justify this many sections when students don't need to be on campuses physically. One idea we've been working through involves offering multiple section courses in such a way that there are never 2 sections online at the same time and that every section taught on a particular day discusses the same topic. Thus, a student can access a live lecture at every hour of the working day.

## Quest University

**Representative providing this report:** [Asia Matthews](#)

**Email address of representative providing this report:** [asia.matthews@questu.ca](mailto:asia.matthews@questu.ca)

### **1. New hires or retirements**

Two of our three math faculty members, Glen Van Brummelen and Richard Hoshino, have moved on to other institutions.

### **2. Enrollment changes this year or in the coming year**

Quest is currently in CCAA (Companies' Creditors Arrangement Act) working out a new business plan with partners. This uncertainty, and that of Covid19, has caused a large drop in enrollment.

### **3. New or significantly revised programs or courses**

We will offer a modeling course which highlights the process over the techniques of modeling.

### **4. Concerns or issues related to articulation**

Quest is working out a transfer agreement with Arizona College.

### **5. Open access resources that you've found to be particularly effective**

<https://activecalculus.org>

### **6. Efforts towards Indigenization**

We have a full-time employee from the Sq'a7mish nation who is an advisor to all faculty.

### **7. Outreach initiatives**

Asia ran a PD day for local teachers in February, and a Family Math Night (like a Math Circle) in March.

### **8. Other news**

Everything is in flux at the moment.

# Selkirk College

**Representative providing this report:** [Doug Henderson](#)

**Email address of representative providing this report:** [dhenderson@selkirk.ca](mailto:dhenderson@selkirk.ca)

## 1. New hires or retirements

Hiring of a new part-time math tutor (~10 hours/week) but no new instructors. David Feldman, who had been a math instructor for ~10 years before becoming a chair, then a dean, has retired.

## 2. Enrollment changes this year or in the coming year

Numbers were slightly up this year (basically correcting for a bit of a dip last year). Large increases in linear algebra (mainly due to a full cohort of engineers) and intro calc-based stats (from 6 students when I last taught the course 2 years ago to 25 this year). We are not counting on any new international students next year, which will mean large drops in our business programme (affecting enrolments for a business math course, and algebra-based stats).

## 3. New or significantly revised programs or courses

No

## 4. Concerns or issues related to articulation

No

## 5. Open access resources that you've found to be particularly effective

Some moderate success with "Introductory Statistics" by Illowsky and Dean through OpenStax.

## 6. Efforts towards Indigenization

Many instructor have attended seminars/courses on indigenization in general, but no changes in actual courses.

## 7. Outreach initiatives

One of our instructors had organized a Kangaroo contest for March that had to be cancelled.

## 8. Other news

The same general concerns most other institutions have had with the academic integrity of the last month of the just-completed semester. There is a lot of apprehension going forward into this coming school year as well.

## Simon Fraser University (SFU) – Math Report

**Representative providing this report:** [Justin Gray](#)

**Email address of representative providing this report:** [jgray@math.sfu.ca](mailto:jgray@math.sfu.ca)

### 1. New hires or retirements

This past year we hired two new faculty, Jake Levinson and Katrina Honigs, in the area of Algebraic Geometry.

Malgorzata Dubiel retired last year. A nice tribute by Veselin Jungic can be found here:

[http://www.sfu.ca/math/news---events/news-list/2019-newes-stories/Malgorzata\\_Dubiel\\_Retires.html](http://www.sfu.ca/math/news---events/news-list/2019-newes-stories/Malgorzata_Dubiel_Retires.html)

### 2. Enrollment changes this year or in the coming year

Overall enrollments at SFU for 2019/2020 are virtually the same as the year prior, as measured by annualized activity full-time equivalents ((# of units) x (# of undergraduate students enrolled) / 30).

Overall enrollment in math courses is down about 5% from the previous year. The number of students enrolled in a math major/honors program (252) has not changed from the previous year.

### 3. New or significantly revised programs or courses

There were very few changes in the past year. MATH 310 Introduction to Ordinary Differential Equations has been renumbered MATH 260 but the course content has not changed.

### 4. Concerns or issues related to articulation

None.

### 5. Open access resources that you've found to be particularly effective

We have adapted open textbooks for MATH 154/155 (Calculus for the Biological Sciences) and MATH 157/158 (Calculus for the Social Sciences). Feel free to contact me for more information if interested.

### 6. Efforts towards Indigenization

Efforts toward indigenization at the course level in my department have been primarily focused on integrating indigenous pedagogical approaches. Our MATH 190 Principles of Mathematics for Elementary Teachers also incorporates indigenous knowledge. (See

[https://www.sfu.ca/cee/news/can-it-be-done-a-math-instructor-attempts-to-indigenize-her-course.html?utm\\_source=Email\\_marketing&utm\\_campaign=LTTM\\_October\\_2019&cmp=1&utm\\_medium=HTMLEmail](https://www.sfu.ca/cee/news/can-it-be-done-a-math-instructor-attempts-to-indigenize-her-course.html?utm_source=Email_marketing&utm_campaign=LTTM_October_2019&cmp=1&utm_medium=HTMLEmail) )

The mandate of the SFU Aboriginal Reconciliation Council (ARC), established in 2017, is to develop a proposal and implementation plan for funding the Aboriginal Strategic Initiative (ASI), which will draw upon \$9M in one-time funds to build SFU's capacity to recruit, educate, and support Aboriginal students

to be successful in their programs, lives, and careers. Some of these funds are now distributed through faculty inquiry grants for decolonizing and indigenizing curricula.

## **7. Outreach initiatives**

There are numerous ongoing outreach initiatives, though many of these were cancelled this year due to the current pandemic.

### Elementary School Outreach

Math Catcher

### High School Outreach

Academic Summer Camp for Aboriginal Students

Math Ambassadors

SFU Math Camp for High School Students

### Teacher Outreach

SFU Math Camp for Teachers

Changing the Culture Conference

See <http://www.sfu.ca/math/k-12/k-12-outreach-programs.html> for more details.

## **8. Other news**

None.

## Simon Fraser University (SFU) – Stats Report

**Representative providing this report:** [Harsha Perera](#)

**Email address of representative providing this report:** [gperera@sfu.ca](mailto:gperera@sfu.ca)

### 1. New hires or retirements

We had two new hires late last year. Prof. Don Estep joined as the new scientific director of the Canadian Statistical Sciences Institute (CANSSI) and Dr. David Stenning joined as an assistant professor. This year hiring is still in progress. We are expecting four new assistant professors to join before end of this year.

### 2. Enrollment changes this year or in the coming year

Demand is always continuing to increase with Department of Statistics and Actuarial Science.

### 3. New or significantly revised programs or courses

No

### 4. Concerns or issues related to articulation

No

### 5. Open access resources that you've found to be particularly effective

WeBWorK has used for some of our Statistics workshop courses: STAT 100 – Chance and Data Analysis, STAT 201 - Statistics for the Life Science, and STAT 203 – Introduction to Statistics for the Social Sciences to give online quizzes during the term. This summer we are planning to use WeBWorK to deliver midterm and final exams as well.

### 6. Efforts towards Indigenization

Department of Statistics and Actuarial Science organized the inaugural “Statistics and Data Science Day” during the SFU Indigenous High School Math Camp last Summer.

### 7. Outreach initiatives

We have participated in both Science Spooktacular and Science rendezvous events last year. Unfortunately, most of the outreach events have already cancelled/postponed this summer due to the pandemic.

### 8. Other news

Professor Richard Lockhart was named a Fellow of the Royal Society of Canada (RSC). Fellowship in the RSC is very prestigious with fewer than 20 statisticians named within the last 50 years

# Thompson Rivers University (TRU)

**Representative providing this report:** [Suzanne Feldberg](#)

**Email address of representative providing this report:** [sfeldberg@tru.ca](mailto:sfeldberg@tru.ca)

## 1. New hires or retirements

Mateen Shaikh will be the new Stats rep ([mshaikh@tru.ca](mailto:mshaikh@tru.ca)), as Shane Rollans is retiring this summer 😞.

Last summer we hired Shirin Boroushaki (Math) to a tenure-track position. In the Winter we hired Becky Lin (Data Science) for a tenure track position effective this summer, to replace Shane Rollans. We also moved a long-time Sessional, Fatma Mahmoud, to tenure track.

## 2. Enrollment changes this year or in the coming year

We had increasing/ strong enrollments, particularly from international students this past year. We have strong summer enrollments this summer, but the Fall is a big question mark (especially international enrollments) due to COVID 19.

## 3. New or significantly revised programs or courses

Our Master in Data Science program is expected to launch this Fall 2020.

## 4. Concerns or issues related to articulation

Nothing significant to report here.

## 5. Open access resources that you've found to be particularly effective

Shirin Boroushaki worked with BCCampus to investigate WebWork and IMathAS. She should be reporting to the BCCUPMS group about what she found.

## 6. Efforts towards Indigenization

No.

## 7. Outreach initiatives

Our main outreach is the BC Secondary School Math Contest, which was canceled this year due to COVID-19.

Saeed Rahmati has been giving guest talks at some high schools, and Mateen Shaikh gave a public talk on interpreting the curves of COVID19

## 8. Other news

We stopped classroom activities as of March 16, and had a week to re-calibrate before resuming our courses online. Almost all faculty used Moodle in all sorts of new ways. Academic Integrity was more of a concern as usual. I am setting up surveys on online delivery and Academic Integrity that will be sent to the BCCUPMS group soon!

## Thompson Rivers University Open Learning (TRU-OL)

**Representative providing this report:** [Iain Pardoe](#)

**Email address of representative providing this report:** [ipardoe@tru.ca](mailto:ipardoe@tru.ca)

### **1. New hires or retirements**

New Hire: [Christian Amponsah](#), MATH 1091 Business Mathematics.

Retirement: [Bob Verner](#).

### **2. Enrollment changes this year or in the coming year**

TRU Open Learning enrolments are up 6.3% over last year. Math/Stat enrolments likely reflect this increase as they are among the higher enrolment courses.

### **3. New or significantly revised programs or courses**

[BIOL 4001 Biostatistics](#) is to undergo major revision in the coming year.

### **4. Concerns or issues related to articulation**

None.

### **5. Open access resources that you've found to be particularly effective**

Open access resources are to be considered for the major course revision for [BIOL 4001 Biostatistics](#).

### **6. Efforts towards Indigenization**

Following up on the Truth and Reconciliation Commission's recommendations, TRU is taking steps to make the university as inclusive and welcoming to Indigenous people as possible. There are Elders on campus in Kamloops and Williams Lake, mentoring programs and gathering places. The Coyote Project is a two-year campus wide effort to enhance and accelerate indigenization in ways that have meaningful impact.

### **7. Outreach initiatives**

No.

### **8. Other news**

TRU Open Learning has a completely revamped course registration system, which has been met with rave reviews from students.

## Trinity Western University (TWU)

**Representative providing this report:** [Sam Pimentel](#)

**Email address of representative providing this report:** [sam.pimentel@twu.ca](mailto:sam.pimentel@twu.ca)

### 1. New hires or retirements

We have hired Dr. Glen Van Brummelen who will take up the position of Dean of the Faculty of Natural and Applied Sciences in June 2020, and will teach within the Mathematical Sciences department.

### 2. Enrollment changes this year or in the coming year

No, although given COVID-19 there is significant uncertainty for the coming year.

### 3. New or significantly revised programs or courses

No

### 4. Concerns or issues related to articulation

No

### 5. Open access resources that you've found to be particularly effective

We are using WeBWork for online homework assignments for many of our courses. In pre-calculus we use the open textbook by Stitz and Zeager <https://www.stitz-zeager.com/>. In our calculus sequence students are given the option to use the Apex open source textbooks <http://www.apexcalculus.com/>, although we are considering switching to <https://openstax.org/subjects/math> for next year.

### 6. Efforts towards Indigenization

None, specifically aimed at mathematics.

### 7. Outreach initiatives

None, especially aimed at mathematics.

### 8. Other news

No

## UBC Vancouver (UBC-V) – Math Report

Representative providing this report: [Wayne Nagata](#)

Email address of representative providing this report: [nagata@math.ubc.ca](mailto:nagata@math.ubc.ca)

### 1. New hires or retirements

No

### 2. Enrollment changes this year or in the coming year

No, but changes due to the pandemic, similar for everyone, are expected in the coming year

### 3. New or significantly revised programs or courses

None for Mathematics, but the Faculty of Science has revised requirements for B.Sc. (new breadth requirement, revised laboratory requirement, etc.). See requirements for a Major in Mathematics, <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,215,410,429> and follow the links in footnote 6. These changes do not affect a Major in Mathematics very much.

### 4. Concerns or issues related to articulation

No

### 5. Open access resources that you've found to be particularly effective

We use open access CLP textbooks for Calc I-IV <http://www.math.ubc.ca/~CLP/> and Webwork. Also the open access Diffy Qs textbook for introductory differential equations [Error! Hyperlink reference not valid.](#)

We use a web version of Matlab for introductory linear algebra and differential equations but this is not open access (seems effective though).

### 6. Efforts towards Indigenization

Not in the department, but the institution makes efforts.

### 7. Outreach initiatives

Not in the department (except for the ongoing course MATH 414), but department members participate in PIMS outreach initiatives.

### 8. Other news

No

## UBC Vancouver (UBC-V) – Stats Report

**Representative providing this report:** [Bruce Dunham](#)

**Email address of representative providing this report:** [b.dunham@stat.ubc.ca](mailto:b.dunham@stat.ubc.ca)

### 1. New hires or retirements

The hiring process this year was disrupted by the pandemic, so at the time of writing we await details of the new faculty to join the department. It is expected that three new colleagues will join in the educational leadership stream and one new assistant professor. Sara Mostafavi is leaving the department to take up a position at Washington.

### 2. Enrollment changes this year or in the coming year

Demand for courses and programs in statistics and data science continues to increase at UBC-V. Over 500 undergraduate students are taking a specialisation involving statistics, with around a further sixty enrolled on the minor. To accommodate some students who are unable to access a specialisation in statistics, capacity on entry from year one Science students is expected to increase from 120 to 140 per year.

### 3. New or significantly revised programs or courses

A new minor in data science is in the process of being developed, with a proposed start during the 2021/22 academic year. In addition to DSCI 100, the minor includes a new second-year course, STAT 201: Statistical inference for data science, which was approved this year and will run for the first time in 2020/21. The new course has DSCI 100 as a pre-requisite, and approaches key ideas in statistical inference from computational and data-driven directions. Computation in STAT 201 is mainly in R, via the “tidyverse” package.

### 4. Concerns or issues related to articulation

**Data science courses:** It is expected that other institutions are offering, or planning to offer, courses similar to DSCI 100 (and perhaps also STAT 201). Articulation requests for such courses are most welcome.

**Block/linked transfers:** Students transferring to UBC with unassigned STAT credits often hit snags. Where possible, it would be best for students to obtain assigned credit. In some cases this can work if combinations of courses are linked together in a transfer request, as groups (most often pairs) of courses may be very similar to groups of UBC-V STAT courses while no individual course transfers directly. Departments are invited to explore whether combining courses in an articulation request could improve transfer agreements for their statistics courses.

### 5. Open access resources that you’ve found to be particularly effective

The department makes much use of free online resources for its teaching. These include: WeBWorK(iR): A free online homework system for mathematics and statistics, incorporating R. See [webwork.maa.org](http://webwork.maa.org) and <https://wiki.ubc.ca/Documentation:WeBWorK> for more details.

StatSpace: An online repository for teaching resources in statistical sciences is available at <https://statspace.elearning.ubc.ca>. Colleagues are invited to explore and review existing resources, and can also register as an instructor in order to see instructor-only materials and submit their own resources.

Free online textbooks used, notably for DSCI 100 and STAT 201, include:

Modern Dive: Statistical Inference via Data Science (at [moderndive.com](http://moderndive.com)) developed by Chester Ismay and Albert Kim.

OpenIntro Statistics (at [www.openintro.org](http://www.openintro.org))

Introduction to Data Science (at <https://rafalab.github.io>) by Rafael A. Irizarry.

## 6. Efforts towards Indigenization

Little progress at present, although the department will become involved in a student diversity initiative in the Faculty of Science (see [skylight.science.ubc.ca/projects/sdi](http://skylight.science.ubc.ca/projects/sdi) for details).

## 7. Outreach initiatives

Further efforts have been made to support high school teachers working on Statistics 12, including the running of a workshop at the BCAMT annual conference in October, 2019. Aligned to teacher outreach, but also useful to any educator in statistics, is the SSC educators' forum:

Signup Link: [piazza.com/statistical\\_society\\_of\\_canada/other/forum](https://piazza.com/statistical_society_of_canada/other/forum)

Institution: Statistical Society of Canada

Class name: SSC Educators' Forum

Class number: Forum

Please note that all forum members subscribe with a “student” status. The access code is SSCforum. The forum is not intended for student use, so please do not distribute the access code to anyone not involved in teaching statistics. Colleagues may find a (rather lengthy) discussion of a recent online examination of interest.

## 8. Other news

Former head of department and emeritus professor, Jim Zidek, was recently appointed as an Officer of the Order of Canada. Prof Nancy Heckman is now the Associate Scientific Director of the Canadian Statistical Sciences Institute (CANSSI).

UBC plans to continue hosting the Calc Challenge Exam.

## University Canada West (UCW)

**Representative providing this report:** [Nam Phuong Le](#)

**Email address of representative providing this report:** [nam.le@ucanwest.ca](mailto:nam.le@ucanwest.ca)

### 1. New hires or retirements

In the last academic year, UCW hired 6 more faculty in the Math department.

### 2. Enrollment changes this year or in the coming year

Our enrollment increased but is smaller since the start of COVID-19 in early 2020. We expect the situation will continue toward the end of 2020.

Table 1. Total enrollments in UCW Math courses in the past one year

Course	2019-04-01	2019-07-01	2019-09-30	2020-01-06	Grand Total
MATH 101	42	65	103	122	332
MATH 200	5	3	15	5	28
<b>Grand Total</b>	<b>47</b>	<b>68</b>	<b>118</b>	<b>127</b>	<b>360</b>

### 3. New or significantly revised programs or courses

We revised our MATH 101 so that it will focus on business mathematics (topics will include mathematics of merchandising, CVP analysis, breakeven analysis and financial math). We are also in the process of developing a new course MATH 105 Precalculus that we hope will be transferable to other institutions in BC. This MATH 105 will provide a solid mathematical foundation for students to further their studies in both business and science.

### 4. Concerns or issues related to articulation

Calculus - MATH 110 and MATH 120 will be submitted for articulation.

### 5. Open access resources that you've found to be particularly effective

At the moment, all of our undergraduate math courses (MATH 101, MATH 200 and MATH 105 - under development) are using open textbooks from the BC Open Textbook project. Our institution is encouraging instructors to adapt open textbook to other courses as well.

### 6. Efforts towards Indigenization

No, not at the moment

### 7. Outreach initiatives

No, we don't have any outreach initiatives program

## **8. Other news**

UCW has moved all of our classes online since the end of March until now. Since UCW already has experience in delivery online courses; the transition was smooth without major issues.

# University of the Fraser Valley (UFV)

**Representative providing this report:** [Ian Affleck](#)

**Email address of representative providing this report:** [ian.affleck@ufv.ca](mailto:ian.affleck@ufv.ca)

## 1. New hires or retirements

No. We posted a new position in Stats, and completed the process, but our offer has had to be postponed by a year due to the budgetary uncertainty caused by the COVID-19 pandemic.

## 2. Enrollment changes this year or in the coming year

Not yet, but we expect to see decreased new international enrollments in Fall 2020 due to travel restrictions caused by the COVID-19 pandemic.

## 3. New or significantly revised programs or courses

We are working on merging our Math minor programs – currently different in each of Science, Arts, and Computer Information Systems – into a single Math minor. We did this a few years ago to consolidate our Math majors into one.

## 4. Concerns or issues related to articulation

Nothing significant to report here.

## 5. Open access resources that you've found to be particularly effective

We are using WeBWorK as an online homework assessment platform for our Precalculus (MATH 110), Calculus I (MATH 111) and II (MATH 112 or 118), and Discrete Math (MATH 125) courses.

Our MATH 118 (Calculus II for Life Sciences) uses an open source textbook developed by Leah Keshet at UBC, and has found it to be an excellent resource for that material.

Other than that, our first- and second-year transferable courses typically use commercially available textbooks, some as e-texts. We are always interested in hearing of open access resources that other institutions have found to be effective.

## 6. Efforts towards Indigenization

On February 29, 2020, UFV hosted its second annual Fraser Valley Math Education Sq'ép. ("Sq'ép" is a Stó:lō word pronounced like "skup", and loosely translates as "a meeting" or "a gathering".)

This one-day gathering included a keynote address by Mohawk mathematician Dr. Ed Doolittle of First Nations University, and workshops facilitated by Kori Czuy (U of C), Janice Nowakowski (Richmond School District), Cynthia Nicol (UBC), Christine Youngusband (UNBC), Fok-Shuen Leung (UBC) and Veselin Jungic (SFU).

It was wonderful to see several BCcupms regulars there. We felt that the event went very well, and we look forward to planning next year's gathering. More information is available here:

<https://www.ufv.ca/math/fraser-valley-mathematics-education-sqep/>

## **7. Outreach initiatives**

We delivered two *Math Mania* events (October and January), but the third, scheduled for June, had to be cancelled due to the school closures.

We ran the Fraser Valley Regional Competition of Math Challengers in February, with roughly 175 students attending from 12 schools.

## **8. Other news**

Beginning on March 16, all in-person classes at UFV were suspended for one week due to the COVID-19 pandemic, then resumed for the balance of the semester (3 weeks) via online delivery. By and large, things went reasonably well, and we all learned some valuable remote instruction skills – simply because we had to. There was an increase in the number of cases of academic misconduct, due to assessments having to run online, but we didn't find the problem to be widespread. I'll share more in the forthcoming surveys on *Transition to Online* and *Online Academic Integrity Issues*.

# University of Northern British Columbia (UNBC)

**Representative providing this report:** [Erin Beveridge](#)

**Email address of representative providing this report:** [erin.beveridge@unbc.ca](mailto:erin.beveridge@unbc.ca)

## 1. New hires or retirements

Sam Walters will be retiring as of July 1 2020.

Mohammad El Smailey joins us as an Associate Professor in Mathematics.

Jennifer Hyndman has returned from her leave.

## 2. Enrollment changes this year or in the coming year

No.

## 3. New or significantly revised programs or courses

We are in the process of making changes to the majority of our courses. Some are minor like increasing and updating HS course prerequisites for first year courses. We have made topic changes to MATH 320 – survey of Algebra, MATH 230 – ODEs and Boundary Value Problems , and MATH 335 – Intro to Numerical Methods. We have unparked MATH 435 – Numerical Analysis II, and created some new courses including MATH 481 – Analytic Number Theory and MATH 436 – Partial Differential Equations 1. Not all of these changes have made it through Senate approval yet but we expect that to occur next month.

**4. Concerns or issues related to articulation** No.

## 5. Open access resources that you've found to be particularly effective

For MATH 115 – Precalculus we have been using OpenStax Algebra and Trigonometry, by Jay Abramson. For the most part happy with this.

For MATH 100 – Calculus 1 we are planning to use an OpenStax, Calculus Volume 1, Strang and Herman.

## 6. Efforts towards Indigenization

The department has not been doing anything at this point. UNBC is working on decolonization and indigenization as a whole.

## 7. Outreach initiatives

Unfortunately not.

## 8. Other news

UNBC is in the process of academic restructuring. One of the major changes is a new groupings of programs. The current plan is for Mathematics and Statistics to be grouped with Chemistry and Biochemistry, Computer Science, Engineering, and Physics. The governance of this new faculty has not been fully settled on.

## University of Victoria (UVic)

**Representative providing this report:** [Gary MacGillivray](#)

**Email address of representative providing this report:** [gmacgill@uvic.ca](mailto:gmacgill@uvic.ca)

**1. New hires or retirements**

[We hired 2 people this year: Natasha Morrison and Jon Noel.](#)

**2. Enrollment changes this year or in the coming year**

[No. Everyone should expect significant changes next year.](#)

**3. New or significantly revised programs or courses**

[No](#)

**4. Concerns or issues related to articulation**

[No](#)

**5. Open access resources that you've found to be particularly effective**

[None that have not been reported on before](#)

**6. Efforts towards Indigenization**

[Maybe in the next year](#)

**7. Outreach initiatives**

[No](#)

**8. Other news**

[No](#)

## Vancouver Community College (VCC)

**Representative providing this report:** [Costa Karavas](#)

**Email address of representative providing this report:** [ckaravas@vcc.ca](mailto:ckaravas@vcc.ca)

### **1. New hires or retirements**

[No new hires.](#)

### **2. Enrollment changes this year or in the coming year**

[No significant changes in enrolment. Anticipated reduced enrolment in the fall depending on COVID 19 developments,](#)

### **3. New or significantly revised programs or courses**

[Development in progress for a new course Discrete Mathematics II. This course will serve as a requirement for transfer to computing science programs.](#)

### **4. Concerns or issues related to articulation**

[No concerns or issues.](#)

### **5. Open access resources that you've found to be particularly effective**

[OpenStax has occasionally been used for Precalculus and Calculus.](#)

### **6. Efforts towards Indigenization**

[Clayton Munro has joined VCC as the college's new Dean of Indigenous Initiatives. This position was newly created to advance Indigenization of VCC's academy, space, people, and culture. No specific actions to report from the Mathematics department.](#)

### **7. Outreach initiatives**

[Info sessions about our programs have transitioned to an online format. Our annual Engineering Fair held on campus showcased student projects.](#)

### **8. Other news**

[VCC was going to host the 27th Adults Learning Mathematics Conference in July 6-9, 2020. The theme of the conference was \*Embracing Diversity and Inclusion: Adults learning mathematics in a changing world\*. The conference got postponed until next year due to COVID-19. The new dates and location will be announced in the ALM Bulletin as soon as they are available.](#)

# Vancouver Island University (VIU)

**Representative providing this report:** [David Bigelow](#)

**Email address of representative providing this report:** [david.bigelow@viu.ca](mailto:david.bigelow@viu.ca)

## 1. New hires or retirements

No

## 2. Enrollment changes this year or in the coming year

Enrollment was up slightly this year in almost all Math courses. We are offering Calc I and Calc II online this summer and numbers are solid. Fingers are crossed that we will also have relatively healthy numbers as we move into an online teaching environment in September. Time will tell.

## 3. New or significantly revised programs or courses

No

## 4. Concerns or issues related to articulation

We would like to see a discussion about how we should deal with what potentially could be a weaker group of incoming first year students than normal. The concern is that if a greater number of students than usual are lacking certain basic skills, there will be a need for some kind of upgrading in order help them be successful in courses like Calculus. It's possible that weaknesses will be even more pronounced in lower level courses that only require Math 11 as a prerequisite.

Our biggest concern, without question, is how to maintain academic integrity in an online environment. We had a number of issues in the spring and there were likely many we don't know about. Our department is trying to make an overall plan to deal with cheating and a province wide discussion would be helpful. We are hoping that we will be able to have final exams written on campus where possible but we don't yet know if this is feasible. In such cases we would probably make the final exam worth at least 50% and students would be required to pass the final to pass the course. It obviously won't be possible for many students (International students for example) to come to campus so we would need a separate way to deal those students.

## 5. Open access resources that you've found to be particularly effective

Some faculty have been experimenting with WebWork and are enjoying it and finding it useful. We have been experimenting with Open Source materials with different degrees of success and satisfaction.

## 6. Efforts towards Indigenization

Overall VIU has been quite proactive in indigenization efforts but there isn't anything particular to the Math department to report.

## 7. Outreach initiatives

We participated in one internal event for high school students – more of a meet and greet than anything but we had various puzzles and games on display. I had planned to give a public lecture on Mathematics and Magic for our Science and Technology Lecture Series. Unfortunately it was scheduled for April and was cancelled. As everyone knows, the Math competition has been cancelled which is, of course, disappointing.

### **8. Other news**

Being thrown into a situation where we suddenly had to move courses online was a bit chaotic but people really rose to the challenge. I think most members of the department felt that they gained a lot of useful skills that will be useful once we are back to face to face education. Overall, faculty, students and admin rose to the challenge as best they could. We are hoping that with the experience gained from two summer online courses and having several months to prepare, being online in the fall will be significantly smoother.

## Yukon University (YukonU)

**Representative providing this report:** [Jaclyn Semple](#)

**Email address of representative providing this report:** [jsemple@yukoncollege.yk.ca](mailto:jsemple@yukoncollege.yk.ca)

### 1. New hires or retirements

No

### 2. Enrollment changes this year or in the coming year

Not yet

### 3. New or significantly revised programs or courses

We are working on offering a higher-level Stats course specifically for science majors. I'm also pushing for a Linear Algebra course so that YukonU can join in on the Engineering Transfer Agreement.

### 4. Concerns or issues related to articulation

No

### 5. Open access resources that you've found to be particularly effective

Not yet, but we are exploring both CLP Calculus and OpenStax for Calculus I (MATH 100) and II (MATH 101). Hoping to adopt one of these starting in the fall. It would be great to hear suggestions for online homework systems that have worked well.

### 6. Efforts towards Indigenization

We continue to make Indigenization a priority across the entire institution, and it is one of the three niche areas of programming and research at YukonU (see item #8 for more on this).

### 7. Outreach initiatives

No new initiatives to report

### 8. Other news

It's been a long journey, and as of May we are officially Yukon University! What this means for us:

#### **The Model**

Yukon University will be a hybrid university – a flexible, post-secondary institution that includes a place and a pathway for every learner.

We will provide greater opportunities for students to be grounded in research and education relevant to the North.

Our thirteen campuses will continue to play a critical role in delivering education to the communities of the Yukon, while inviting students from across Canada and internationally to come study with us and learn more about Canada's north.

Yukon University will grow and be responsive to our values as a northern institution; we will prioritize the uniqueness of the North as a driving factor in all that we do. View the [Indigenizing University Governance report](#), as one such example.

### Northern Focused

Yukon University will stand apart from those in the South. It will reflect our own cultures and identities. It will be borne from our own experiences. It will contain our own ideas and aspirations.

### Niche Programming

Yukon University will be known for focusing on education and research relevant to populations in the North, contributing to a responsive, resilient and versatile economy and society.

With this in mind, YukonU will build on our existing strengths. We'll be known for unique, relevant, niche programming and research in the following areas:

- **Climate change - society and environment:**

The climate is rapidly changing in the North and affecting our landscapes and lives. Yukon College has been recognized as a leader in climate change research for decades. This research spans community health and well-being, impacts on traditional culture and practices, infrastructure and economy, policy implications, community and individual resiliency and food security. The College builds on this strong foundation in climate change research to ensure its programs provide a holistic, interdisciplinary approach to the study of a changing planet.



- **Indigenous self-determination and governance:**

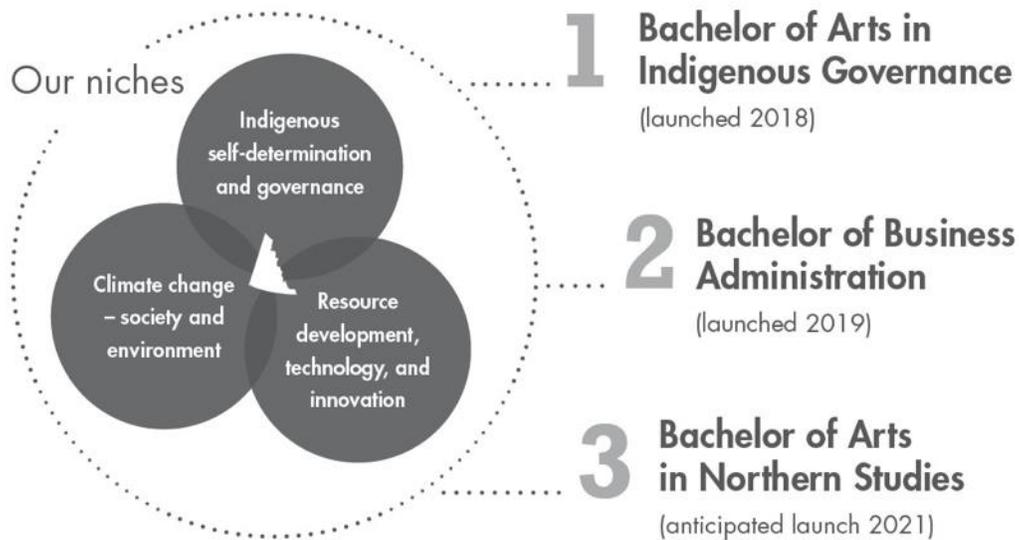
The College has had strong partnerships with Yukon First Nations for many years, working closely with FN governments to share knowledge and build reciprocity between Indigenous and non-Indigenous traditions. In 2014, we won the inaugural gold award from Colleges and Institutes Canada (CICan) for Indigenous Education Excellence. The College has a history of taking seriously the role of education in reconciliation, a position now strengthened by the report of the Truth and Reconciliation Commission. Building on this history and the strengths, experience and knowledge of decades of First Nations self-governance in the Yukon, the College will continue to work in partnership with First Nations to provide programming that supports capacity development and self-determination.

- **Sustainable resource development, technology and innovation**

Through education, training, research and innovation, Yukon College supports the sustainable development and stewardship of Yukon resources – the land, wildlife, water and minerals. For over five decades Yukon College has successfully delivered a wide range of apprenticeship, trades and technology training across the territory. As the College evolves, it will continue to play this role while also expanding training opportunities, connecting training more closely to research and emphasizing sustainable practices.

Current research in mine reclamation and bioremediation, alternative energy and cold climate and technology innovation offers many opportunities to align training with research and scholarship. Yukon College researchers work constantly to innovate and diversify resource development in the North, in areas such as renewable energy and agriculture, with a focus on sustainability and environmental stewardship.

### The first three proposed degrees of YukonU are:



## Appendix I : BCcupms Institutional Report Template 2020

Institution: [XXXXX](#)

Representative providing this report: [XXXXX](#)

Email address of representative providing this report: [XXXXX](#)

Is this the only report which your institution will provide, or will there be another, or others, submitted by a representative for another discipline – Math, Stats, or Math Ed?

[XXXXX](#)

1. Do you have any announcements of new hires or retirements that you'd like to share?

[XXXXX](#)

2. Has your institution or department seen significant enrollment changes this year (domestic, international, or overall), or are significant changes expected in the coming year?

[XXXXX](#)

3. Are there any new or significantly revised programs or courses at your institution that you'd like to let the BCcupms community know about?

[XXXXX](#)

4. Are there any concerns or issues related to articulation that you'd like to share?

[XXXXX](#)

5. Are there any open access resources (texts or homework systems) that your department is using, particularly in first- and second-year transferable courses, that you've found to be particularly effective?

[XXXXX](#)

6. Are there any efforts towards Indigenization that have been made in your department, or at your institution, that you'd like to report?

[XXXXX](#)

7. Are there any outreach initiatives that have been made in your department, or at your institution, that you'd like to report?

[XXXXX](#)

8. Do you have any other news that you'd like to share about your department or institution?

[XXXXX](#)