Physics and Astronomy
Articulation Committee Minutes

British Columbia Council on Admissions and Transfers (BCCAT)

Room C408, Langara College

100 West 49th Avenue, Vancouver, BC V5Y 2Z6

May 3, 2024

Contents

Agenda

Time	Topic	Presenter
8:30 - 9:30	Continental Breakfast, Meet & Greet	
9:30 - 10:00	Welcome and Call to Order Land Acknowledgement Institutional Greeting • Elizabeth Barbeau, Dean of Social Sciences and Community Programs and Acting Dean of Faculty of Science Attendance	
10:00 - 10:10	Approval of Agenda and Any Additional Items Approval of Previous Minutes (May 5, 2023) Business Arising from Previous Minutes	
10:10 - 10:30	BCCAT Report: Pathways Projects	Rob Fleming and Irene Kuo
10:30 - 10:45	SLP Report	Brian Chapell
10:45 - 11:00	Morning Break	
11:00 - 12:15	Presentation of Institutional Reports	
12:15 - 12:45	Lunch Break	
12:45 - 2:00	Discussion Items: Students • Decrease in mathematics abilities of students • Absenteeism in lectures • Academic Integrity • Lab and Exam Accommodations Courses • Algebra vs. Calculus Physics Courses • Integration of Computation into Physics Courses • Relativity/Modern Physics in First Year Artificial Intelligence	
2:00 - 2:15	Afternoon Break	
2:15 - 2:45	Discussion Items Continued: Indigenization Equity, Diversity, Inclusion Open Education Resources Moodle	
2:45 - 3:00	Election/Re-Election of Chair Election/Re-Election of SLP Next Meeting: CNC, Prince George; Friday, May 2, 2025	

Meeting Minutes

Attendance

Member	Institution	E-mail	In-Person / Online / Regrets
Kelly Cheung	Alexander College	k.cheung@alexandercollege.ca	In-person
James Brewer	BCIT	james_brewer@bcit.ca	In-person
Stephanie Ingraham	Camosun College	ingrahams@camosun.ca	Online
Susan Chen	Camosun College	chen@camosun.ca	-
Lauren Moffatt	Capilano University	laurenmoffatt@capilanou.ca	In-person
Regan Sibbald	Coast Mountain College	rsibbald@coastmountaincollege.ca	Online
Barbara Rudecki	College of New Caledonia	rudecki@cnc.bc.ca	In-person
Ben Tippett	College of the Rockies	btippett@cotr.bc.ca	Online
Kanika Pasrija	Columbia College	kpasrija@columbiacollege.ca	In-person
Vladan Jovovic	Columbia College	vjovovic@columbiacollege.ca	-
Saeed Faraji	Coquitlam College	sfaraji@coquitlamcollege.com	Online
Alain Prat	Corpus Christi College	alainprat@corpuschristi.ca	Regrets
Will Gunton	Douglas College	guntonw@douglascollege.ca	In-person
Jennifer Kirkey	Douglas College	kirkeyj@douglascollege.ca	In-person
Peter Smith	Fraser International College	smip@learning.fraseric.ca	In-person
Michael Poon	Kwantlen Polytechnic University	michael.poon@kpu.ca	In-person
Takashi Sato	Kwantlen Polytechnic University	takashi.sato@kpu.ca	In-person
Tyron Tsui	Langara College	ttsui@langara.ca	In-person
Charles Cue	LaSalle College	ccue@lasallecollegevancouver.com	Regrets
Dennis Lightfoot	North Island College	dennis.lightfoot@nic.bc.ca	Online
Jennifer Fallis Starhunter	North Island College	jennifer.fallisstarhunter@nic.bc.ca	In-person
Morteza Ghadirian	Northern Lights College	mghadirian@nlc.bc.ca	-
Terry Bridges	Okanagan College	tbridges@okanagan.bc.ca	In-person
Jason Nickel	Selkirk College	jnickel@selkirk.ca	-
Jeffrey McGuirk	Simon Fraser University	jmcguirk@sfu.ca	In-person
Robin Kleiv	Thompson Rivers University	rkleiv@tru.ca	Online
Arnold Sikkema	Trinity Western University	arnold.sikkema@twu.ca	In-person
Zahra Mahyari	University Canada West	zahra.mahyari@ucanwest.ca	In-person
Tom Mattison	University of British Columbia	mattison@physics.ubc.ca	Online
Reza Khanbabaie	University of British Columbia - Okanagan	reza.khan@ubc.ca	Online
George Jones	University of Northern British Columbia	george.jones@unbc.ca	Online
Erik Jensen	University of Northern British Columbia	erik.jensen@unbc.ca	-
Peter Mulhern	University of the Fraser Valley	peter.mulhern@ufv.ca	Online
Jeff Chizma	University of the Fraser Valley	jeff.chizma@ufv.ca	-

Trevor Beugeling	University of the Fraser Valley	trevor.beugeling@ufv.ca	In-person
Carmen Herman	University of the Fraser Valley	carmen.herman@ufv.ca	In-person
Mark Laidlaw	University of Victoria	laidlaw@uvic.ca	Online
Nafiseh Tohidi	Vancouver Community College	ntohidi@vcc.ca	In-person
Josie Olszewski	Vancouver Island University	josie.olszewski@viu.ca	In-person
Nicole Prent	Vancouver Island University	nicole.prent@viu.ca	In-person
Brian Dick	Vancouver Island University	brian.dick@viu.ca	In-person
Jaclyn Semple	Yukon University	jsemple@yukonu.ca	-

Jennifer Talman	BCIT	jennifer_talman@bcit.ca	Regrets
Brian Chapell	Douglas College	bchapell@douglascollege.ca	Online
Robert Fleming	BCCAT	rfleming@bccat.ca	In-person
Irene Kuo	BCCAT	ikuo@bccat.ca	Online

Welcome and Call to Order

- The meeting officially started at 9:31 am.
- Elizabeth Barbeau, Dean of Social Sciences and Community Programs and Acting Dean of Faculty of Science delivered the welcome speech.
- Elizabeth stated that articulation season is the time for planning and dreaming and wished everyone a good teaching term in the summer. She also acknowledged Kelly and Tyron being in the meeting.
- Kelly delivered the land acknowledgement.

Approval of Agenda and Any Additional Items

- The agenda is approved and there is no addition to the agenda.

Approval of Previous Minutes

- The meeting minutes are approved and there are no corrections noted.

BCCAT Reports: Pathway Projects – Irene Kuo, Pathway Coordinator

Report Highlights

- The presentation slides are available for everyone to review (BCCAT Spring 2024 Updates.pdf)
- The report contains updated online resources on how to articulate and provides newer guides for articulation meetings.
- BCCAT does not cover the cost of the articulation meeting.
- Angus Graeme, President of Selkirk College, formerly president of Selkirk College, is the new Council Co-Chair appointed in November 2023.
- For the BCCAT Technology update, the three-year strategic plan for technology is being worked on. BCCAT is rebuilding the TCS platform in partnership with ONCAT to deploy the TCS in Ontario.
- Irene stated that she was hired to support the Pathway Project which started in summer 2022 led by the Associate Director, Jennifer Cook. The project goal is to leverage the existing course-to-course articulation agreement that is already in place and is hoping to use it to enable institutions to identify and create program pathway articulations.
- There are two modules for the Pathway Project: Program and Pathway. Program module is the prerequisite to the Pathway module because there is a need to understand each program's course requirements before it can be compared to pathway building potentials.
- If interested in learning more about this project, check the links:
    - https://www.bccat.ca/technology/pathways/
    - https://www.bccat.ca/resources/MeetTCSPathways.pdf
- The Pathway project led BCCAT to a big project opportunity which is the healthcare economy. Ministry of Labour prioritizes the need for healthcare area. BCCAT met with the ministry representative in March to discuss how to increase pathways between healthcare programs.
- There are more research projects coming up.
- BCCAT is celebrating its 35th anniversary this year. We are thankful for the work everyone did in making the system better. BCCAT is also commemorating the 10th year anniversary of the awards program this year which is open for nomination of people who have good contribution to the articulation committee.
- It is also the 15th anniversary of JAM. Please save the dates November 7 and 8. The first day will be fully online and the 2nd day is a hybrid meeting.
- BCCAT has a joint conference with ARUCC in Calgary, AB on June 24-27.
- The proposal's due dates are May 13 and 15. You can visit the website if you have more questions or contact Anna: https://www.bccat.ca/research/call/
    - Exploring Interprovincial Student Mobility with Statistics Canada Data
    - Policies and Practices of Course Syllabi Distribution This study aims to assess the timing of syllabi distribution
    - Delivery Mode Preferences: An Overview of Students' Surveys and Institutional Responses
    - Students' Affordability Considerations for Post-Secondary Access

SLP Report – Brian Chapell

Report Highlights

- This will be Brian's last meeting with Physics and Astronomy articulation. Jennifer Talman, Associate Dean of BCIT, who has a physics background will be the SLP next year.
- Brian has great respect for what the articulation meeting brings and the value of the results of articulation. Our transfer system is robust and among the best in the world. He also mentions the tremendous job BCCAT does in providing information and resources on the website.
- There is a recent development in articulation which is the adoption of the transfer platform by Ontario transfer system. It will be good to have a cross Canada platform for transferring between institutions.
- Brian thanked everyone for welcoming him for the past few years.

Institutional Reports Highlights

Vancouver Island University

- The enrolment number is steady, a little bit higher in some cases from previous years but the number is steady.
- Labs are being revised which has so far been well received.
- The college is offering for the first time an Algebra-based Physics course. It is well received by the students in spring and will try to do it again in the Fall and next year.

Vancouver Community College

- The enrolment number is almost the same compared to last year.
- The college is offering Physics 1100 every year and there are two versions, one is hybrid, and one is fully online.
- Enrolment numbers on Physics 1110 on the course are increasing.
- Offered Mechanics for Engineers fully online.

University of Victoria

- There is a dramatic increase in the enrolment number and the number of students requiring academic accommodation.
- There is a pilot program to schedule midterms in the spring.

University of Northern British Columbia

- Photons are not necessary to explain the photoelectric effect. Purchased equipment for demonstrations and labs that establish the existence of photons.

University of the Fraser Valley

- There is a significant increase in calculus physics, while a small decrease in algebra physics.

University Canada West

- There is not much of a change in enrolment.
- The college only offered one Physics course.
- There have been changes to the administration team.
- The college is exploring the possibility of offering new courses for the students.

UBC Vancouver

- Enrolment is stable.
- This year Physics 101 and 102 will be removed as courses in the calendar.
- The college is hoping that people have already updated their articulations: https://phas.ubc.ca/additional-info-first-year-guide
- The college is in the process of changing its registration system; running old and new systems in parallel. The hope is that the old system will vanish a year from now.

UBC Okanagan

- The number of students in physics majors is increasing (19 students).
- The college has two categories of courses; 111 and 121 are for Physical Sciences and 112 and 122 are for Lab Sciences.
- 68% of students are in the Life Sciences.
- Physics and Math as a combined major have been introduced.
- Have hands-on physics projects to apply their first and second term physics concepts. There is a one-day presentation to explain their projects to visitors.

Trinity Western University

- Physics is thinking of separating courses into separate lecture and lab courses similar to their biology and chemistry courses; there are some computation and articulation issues.
- All faculty need to have policies about AI, one policy is a total ban of AI.

Thompson Rivers University

- Enrolment is low but the numbers are stable.
- After a program review a couple of years ago, there was an overhaul of physics 2nd year curriculum. This is the first run through of students is on the 2nd year of the new program. The idea behind the change is to ensure that students have a proper mathematical background before entering upper physics courses.

- Mathematical physics is now taught at the college and is offered every other year.

Simon Fraser University

- There is an increase in all calculus physics and engineering physics.
- Big growth is expected due to federally funded positions with 28 grants across Canada. There is an institutional commitment to for more hires to support these positions.
- Medical school is coming online in a couple of years but will not be allowed to advertise unless it's accredited.
- Any research will be more community focused.
- Including more computation in traditional physics courses.

Okanagan College

- Physics numbers are increasing and now offering out of sequence first year physics courses.
- The college is hoping to offer a 2nd year physics lab course. For anyone who teaches this course, get in touch with Terry.

North Island College

- There was a change made to the Engineering Certificate. Students can register for the engineering certificate and do their physics or chemistry upgrading at the same time.

Langara College

- There is a small amount of money for developing open source resources with a few students working on it during the summer term.
- Enrolment is a bit down.
- Had a group to gather eclipse data (even though the weather did not cooperate).

Kwantlen Polytechnic University

- There will be 5 graduates of Physics modern technology degree next month.

Fraser International College

- Homework in 140, 141 were redesigned last year and in the process of improving.
- Enrolment is slowly rebounding, hoping to be back on track in the Fall.

Douglas College

- Enrolment is very stable in calculus-based course.
- Algebra based courses have been decreasing for a couple of years. The decrease in the first

semester was around 20% and 6% in the 2nd semester.

Columbia College

- The college has been offering high school physics courses.
- Enrolment for Physics courses 100 and 110 is okay.
- The college went from online to in-person; enrolment has declined a bit.

College of the Rockies

- Enrolment this year is about the same for university studies as it was in previous years.
- There are different 3D models used in the class to help explain things and they went well. They are Ben's designs, and he is willing discuss and share the files.
- One example is a 3D model of solenoids to open as a sample for students to better understand the concept.

College of New Caledonia

- There is a trend of having an increase in algebra and calculus-based physics, no final data yet but the numbers will be updated.
- There are between 6 and 10 students in each class, and new courses are being added to the curriculum. Biomechanics will be available in January.
- Equipment at the lab has been updated.
- CNC is hosting physics articulation next year, by May 2nd.

Coast Mountain College

- Renovations were completed shortly after hosting last year's articulation system.
- The college has a new sensor system, very powerful laptops, a new video conferencing system with an array of microphones and cameras in the room.
- Enrolment goes up and down.
- More International students attending which has led to some challenges.

Capilano University

- The staff union went on strike last summer; there was a full lockout for about a month.
- Purchased Quest University.

Camosun College

- Looking at delivering second year courses in partnership with other small institutions through online or hybrid delivery models. Contact Stephanie Ingraham ingrahams@camosun.ca and

Chris Avis avisc@camosun.ca

BCIT

- Asking institutions to verify whether the transfer tables in their institution report are correct.

Discussion Items

Concerns regarding Mathematics Skills

- Higher percentage of students receiving grades of D, W, F due to low mathematics skills.
- It was found that students perform better when they took the math co-requisite the term before physics rather than during the same term (one full point grade better at SFU across Engineering, Chemistry, Physics, and Life Sciences). This result may be due to students having a term of experience at a post-secondary institution and/or students who did not pass their math course may not return for the next term to take physics.
- SFU examining runs workshops in the Fall as they can't require students to do Math before Physics as it won't work with a lot of program schedules. As well, they are looking at administering math assessment tests and to offer students extra tutorials/support or tutoring focused on how to use math in physics. Another option is having a math assessment quiz where students can make up marks lost in the quiz through tutorial attendance or homework.
- Assessments completed before or at the beginning of the term can demoralize students.
- One idea is to spend the first three weeks of on vectors and statics to give students time to learn calculus before needing it in physics courses.
- In College of the Rockies, physics and math are taught together in the same room such that math can be taught before it is used in physics (students must be taking both in the same term).

Absenteeism in Lectures

- Some institutions require instructors to take attendance and this can be difficult if students do not stay for the entire lab.
- As well, other institutions allow instructors to not pass students that miss more than 30% of a class.
- Can provide in-class assignments (individual or group) for submission each class possibly in addition to a pre-class assignment.
- Clickers don't work as students give their clickers to other students to use.
- Unclear whether flipped classrooms improve student learning as some students attend but do not participate in class.

Academic Integrity

- Pursuing academic integrity issues can be time consuming. Smart watches have been

used for cheating.

- Consider higher weight on tests so assignments are worth 15-20% of final grade.
- Some institutions will expel students who have been found guilty of three academic integrity violations.

Lab and Exam Accommodations

- More students are applying for lab and exam accommodations.
- Institutions have a centre for accessible learning that investigates students' issues and documentation and provides a room for students to take the exam. Students can be given more time to write their test.
- Formula sheets can be provided to students or students can be permitted to bring their own formula sheet to exams to address memory accommodation needs.
- Some institutions do not provide students with more time or memory aids if that is the skill that is being assessed.
- Instructors can ask students to take notes for the class. This helps if a student requires a note taker.

Algebra vs. Calculus Physics Courses

- Challenging to offer a single course to meet the needs of life sciences and engineering students and have good transferability to other institutions.
- Many physics courses for life science students are algebra based.

Integration of Computation into Physics Courses

- Python is a popular choice especially for data analysis in labs (initially used Excel). For first year, students only need to enter the inputs, and in second year, they need to be able to enter formulas and change numbers. Upper level courses will require students to write entire programs.
- Can solve problems that cannot be done in the lab.
- Some institutions run Python workshops for faculty.
- Can generate Python code using AI.

Relativity/Modern Physics in First Year

- Very little modern physics is taught in first year. Typically varies between none to three weeks at the end of physics 2.

Artificial Intelligence

- Suggested line in course outlines: "While students are encouraged to work collaboratively, all individual work submitted must be each student's own thoughts and

words".

- Ethical use of AI in Education: https://edintegrity.biomedcentral.com/articles/10.1007/s40979-023-00133-4
- AI use on FCI: https://arxiv.org/abs/2303.01067
- Some institutions may state that artificial intelligence cannot be totally banned while others can in some courses.
- Instructors need to specify in their course outline whether usage of AI is permitted and when.
- Some students may not know they are using AI when they are going to the internet for help on assignments.
- Can ask students to have a physics discussion (individually or in groups) with AI and indicate issues.
- AI tends to give broad and vague answers and references may not be true.

Indigenization of Curriculum

- Virtual Workshop: Indigenous Perspectives in Chemistry and Physics August 8th, 15th, 22nd @ 5:00pm CST
    - https://www.lightsource.ca/public/ed/programs/upcoming-professional-development.php
- Not just about curriculum; want to integrate values of relationality, accountability, and circles of conversation into classes.

Equity, Diversity and Inclusion

- An institution created a document regarding the challenges in the physics lab with students that have mental health issues.

Open Educational Resources

- Mechanics Map with WebWork problems can be used instead of Hibbeler:
    - http://mechanicsmap.psu.edu/
    - https://github.com/ubc-mech2/OER-mechanics-webwork/tree/master/OER%20Mechanics%20WeBWorK%20Current%20Problems
- Cording errors in Webwork problems are being sorted out.

Moodle

- Peter created resources for online homework assignments that he can share with others.

BCCAT Moodle

- Kelly will get administrator access to the BCCAT web page so that not anyone can access the page. Resources from this meeting can be uploaded onto that site.
- Details to create an account and access (need to create an account): https://moodle.bccat.ca/

Election/Re-Election of Chair & SLP, Next Meeting

- It was a unanimous decision for Kelly to remain as the meeting chair for next year. Jennifer Tolman volunteered to be the SLP for next year.
- Tyron has agreed to provide a tour of Langara for the meeting participants.
- Next meeting is scheduled at CNC Prince George on Friday, May 2nd, 2025.

Meeting is adjourned at 2:48 pm

Institution Reports

Alexander College

Institution

Alexander College is a private college that focuses primarily on foreign students who cannot get into the regular Provincial universities due to a lack of language and cultural skills. Enrollment has been increasing the past year.

Spring 2023 (Apr-Jul)	Fall 2023 (Sep-Dec)	Winter 2024 (Jan-Apr)
384 unique course sections offered • 373 for-credit/university-level • 3 ESL/EAL level • 8 preparatory level (099)	427 unique course sections offered • 415 for-credit/university-level • 3 ESL/EAL level • 9 preparatory level (099)	500 unique course sections offered • 485 for-credit/university-level • 4 ESL/EAL level • 11 preparatory level (099)
Total headcount: 4275	Total headcount: 4735	Total headcount: 5478

Several new processes were introduced by the Federal government (specifically Immigration, Refugees and Citizenship Canada-IRCC) which impact admissions, including the implementation of a daily requirement to verify letters of acceptance submitted to IRCC using a dedicated portal (implemented December 2023) and a daily requirement to allocate the issue provincial attestation letters using another dedicated portal (implemented March 2024).

Our general aim is to offer students a palette of first- and second-year courses along with intensive language training and small classes, where a large amount of personal attention is possible.

Students can enroll in two-year Associate degrees in Arts and Science, all of which include laboratory science requirements. The number of graduates the past few terms are below:

Completion Term	Associate of Arts (all concentrations)	Associate of Science (all concentrations)
Spring 2023	178	16
Summer Intensive 2023	115	4
Fall 2023	195	18
Winter 2024		

One new Associate degree concentrations were established in 2023-2024:

- Associate of Arts (Pre-Social Work) degree

Program/Course

The lecture components of our classes can have up to 35 students, and our on-campus physics labs hold a maximum of 18 students to give students the opportunity to work with the concepts actively in class through interactions with the instructor and students. Most of the enrollment in physics courses is at the introductory level.

Sp23		F23		W24	
Courses	**Students**	**Courses**	**Students**	**Courses**	**Students**
PHYS 100	35	PHYS 100A	35	PHYS 100A	34
PHYS 191	34	PHYS 100B	35	PHYS 100B	35
		PHYS 141	17	PHYS 142	7
Total # of sections	**Total # of students**	**Total # of sections**	**Total # of students**	**Total # of sections**	**Total # of students**
2	**69**	**3**	**87**	**3**	**76**

Physics 100: Introduction to Physics:

- Text: Urone and Hinrichs, *College Physics*

Physics 141-142-143: Engineering Physics I, II, III

- I: Mechanics and Modern Physics
  - Text: Knight, *Physics for Scientists and Engineers*
- II: Electricity and Magnetism, Optics
  - Text: Knight, *Physics for Scientists and Engineers*
- III: Engineering Mechanics
  - Text: Hibbeler, *Engineering Mechanics: Static and Dynamics*

Physics 191: Introduction to Astronomy

- Text: Franknoi, Morrison, and Wolff, *Astronomy*

Kelly Cheung

BCIT British Columbia Institute of Technology

The BCIT Physics Department has 10.5 full time faculty members, 2.5 technicians, and teaches around 1000 students in 17 different technologies.

As with other BC post-secondary institutes, we are facing budgetary cuts and are likely to lose 65 positions in the FSA bargaining unit, including 13 direct layoffs.

Of more concern to the Physics Department than budgetary cuts is Policy 5401 which aims to reduce the number of credits required for certificate, diploma, and degree programs. The rationale behind this is that BCIT requires more credits for these qualifications than other post-secondary institutes. However, BCIT also counts credits and class hours differently to other institutes and so the comparison is questionable. I have attached a letter sent by our department concerning this issue. This may affect the Physics Department as, being a service department, our courses are more easily cut or merged. Policy 5401 has recently been voted on and implemented but has a 2 year review cycle. Stay tuned for updates!

Also attached is our internal transfer guide and would appreciate it if readers would let me know of any errors or missing information regarding their institutes.

James Brewer

Re Proposed changes to BCIT Policy 5401 - Program Development and Credentials

We are writing to seek clarification and give preliminary comments about the proposed changes to BCIT Policy 5401.

We are especially concerned about proposed reduction to the minimum program credits for certificate programs (from 45 to 30), diploma programs (from 110 to 75) and consequently for degree programs (from 170 to 135). The impact of these changes depends on the relationship between credits and class hours given in Policy 5012. However, since this policy is also currently under review, we are unable to evaluate Policy 5401 until the content of the Policy 5012 revisions has been revealed.

1. We therefore request that the approval process for Policy 5401 be delayed until after Policy 5012 is in its final form awaiting community comment and approval.

We are also seeking clear, official communication of the details and goals of the proposed changes. The "BACKGROUND AND RATIONALE" given in the "Community Review Summary Note" dated Oct 24, 2023, does not describe how the proposed reduction in credits would meet the stated objectives of improving student success and well-being while maintaining program quality. Nevertheless, the proposed policy changes would have an enormous impact on many BCIT programs and our community.

2. We therefore request that the approval process for Policy 5401 be delayed until after the BCIT community is given a clear explanation of the details and goals of the proposed changes. The community also needs adequate time to analyze these goals before the approval process resumes.

Informal communications with management have signaled that the objectives may be to reduce student workload and improve student mental health. As frontline faculty, we know the financial, living conditions and workload challenges our students face. We note that students are working more outside of class, reducing their time for course work. We fully support appropriate measures to help them.

However, we believe that if the end goal of the proposed policy changes is to improve the quality of life of BCIT students by simply reducing course credits to reduce class hours, it is misguided. We believe that it is likely to have negative consequences, not only for the quality of education at BCIT, but also for our students, graduates, and the communities of practice and industries we serve. Ultimately, it may be harmful to the health of BC's economy and its citizens.

We feel that simply reducing credits and class hours is problematic for students for several reasons:

1. If class hours are reduced, but program quality is to be maintained, programs would likely elect to increase the required course work outside of class hours which could have a negative impact on student well being.

2. Increasing required course work outside of class hours would be closer to the university model and BCIT could lose its distinct "hands-on" learning character and reputation.

3. If program quality is not somehow maintained, BCIT students would graduate with less job-related knowledge and learning experiences. They will be less capable, and less employable, than previous graduates or graduates from other institutions.

We are concerned that reducing credits and class hours will also have negative consequences for BCIT:

1. Incoming BCIT students will rightly expect reduced tuition costs.

2. Reducing course credits would require many programs to undertake a new process of external accreditation. There are no guarantees that a reduction in credits is possible, and this could lead to BCIT exposed to credentialing issues that could undermine important programs.

3. External perceptions of reduced program quality will degrade BCIT's reputation, making it a less desirable option for potential students, possible adversely impacting enrollment.

3. We therefore request that the approval process for Policy 5401 be delayed until after completion of a detailed analysis of the potential downstream impact on the BCIT community and its graduates.

We believe there are several ways to improve students' success and well being, without reducing the quality of BCIT programs. For example,

1. Effectively lobby the Ministry of Post-Secondary Education and Future Skills to allow BCIT to extend programs to reduce student workload (e.g., increase diploma programs from 2 to 3 yrs).

2. Lower student tuition to reduce the students' financial burden and lobby the Ministry for increased student aid.

3. Increase the availability of BCIT residences and other affordable housing near BCIT, so that students BCIT have options to reduce the stress and financial burden of long commuting times.

As BCIT instructors we care deeply about our students and are committed to protect the quality of the education we provide. We hope, trust, and believe that EdCo are committed to the same goals.

Since the published timeline for community input is short, we request a prompt response and a clear answer to our three requests. We look forward to hearing from you soon.

BCIT Physics' Course Credit Transfer Guide

- See Table 4 for Grade 11/12 equivalencies.
- For BCIT programs with a Physics 11 or Physics 12 prerequisite, an equal grade in any single post-secondary "general" physics course will be considered as equivalent (see: https://www.bcit.ca/admission/entrancerequirements/equivalencies/post-secondary/). Physics 12/C is considered equivalent to Physics 11/C+.
- Only transfer credits for the current term will be considered.
- Find your BCIT physics course in Table 1, if in section B look in Table 2 for BC equivalents, if in section C, look in Table 3 for BC equivalents. Courses that are not listed in this guide will be considered on an individual basis.
- Comments/questions? Please contact James Brewer (jbrewer@bcit.ca).

Table 1: Physics Department's Courses.

A: Credit Granted Only with Instructor Consent		
Technology	**Courses**	
Biomedical Engineering	P1178[1]	
Diagnostic Medical Sonography	1073, 2073, 3073	
Electro Neurophysiology	1280, 2280	
Food Technology	2112	
Geomatics	1151/2151[2]	
Nuclear Medicine	1274, 2274, 3274, 4274	
Radiation Therapy	5103	
Technology Entry	0311[3], 0312	
B: Credit Granted with a "General" Post-Secondary Course (see Table 2)[4]		
Technology	**Term 1**	**Term 2**
Architectural and Building Engineering	1140	2148[5]
Chemical and Environmental Technology	1181	2181
Electrical and Computer Engineering	1143	2143
Mechanical Engineering	N/A	2149
Mining and Mineral Exploration	1147	2147
Occupational Health and Safety	1288	2288
Mechatronics and Robotics	1164	2164
C: Credit granted with a calculus-based post-secondary course (see Table 3)[3]		
Technology	**Term 1**	**Term 2**
Civil Engineering	1192	2192
D: Credit Granted with a Passing Grade in a Similar Post-Sec. Course within 10 Years		
Astronomy	A3600	A7000
Modern Physics	8400	

Table 1 Footnotes:

1. Students must have covered optics and waves.
2. PHYS 2151 has no labs – applications to use this in place of other Term 2 courses will be assessed on an individual basis.
3. An exemption will be considered for students who have taken PHYS 0309.
4. Recency requirement: Course(s) taken within the last 5 years (exceptions will be considered).
5. PHYS 2148 has insufficient course credits to be used in place of other Term 2 courses.

Table 2: BC Equivalents for Courses in Table 1, Section B.

Institute	Term 1 Equivalent General Post-Sec. Course	Term 2 Equivalent General Post-Sec. Course	Minimum Grade
BCIT	1301, Table 1: Term 1 Courses in B&C	2301, Table 1: Term 2 Courses in B&C, except 2148, and possibly 2151	P/50%
Alexander College	141	142	C+/67%
Athabasca University	200	201	C+/67%
Camosun College	104,114,140	105, 115, (140&141)	C+/67%
Capilano University	110, 114	111, 115	C+/67%
College of New Caledonia	101, 105	102, 106	C+/67%
College of the Rockies	103	104	C+/67%
Columbia College	110	120	C+/67%
Coquitlam College	101	102	C+/67%
Douglas College	1107, 1110	1207, 1210	C+/67%
Fraser Intl. College	See SFU	See SFU	
Kwantlen P. University	1101, 1120, 1170	1102, 1220	C+/67%
Langara College	1101, 1125, (1219&2309)	1225	C+/67%
North Island College	100, 120	101, 121	C+/67%
Northern Lights College	103	104	C+/67%
Coast Mtn. College	101, 121	102, 122	C+/67%
Okanagan College	111, 112	121, 122	C+/67%
Selkirk College	102, 104	103, 105	C+/67%
SFU (before 2016)	(101&130), (120&131), 140	(102&130), (121&131), 141	C+/67%
SFU (2016 onward)	(101&132), (120&132), (125&132), 140	(102&133), (121&133), (126&133), 141	C+/67%
Thompson Rivers Uni.	1100, 1150	1200, 1250	C+/67%
TRU: Open Learning	(1103&1105)	(1203&1205)	C+/67%
Trinity Western Uni.	111	112	C+/67%
UBC, Vancouver	(107&109), (117&119), (170&119)	(108&109), (118&119), (158&159)	C+/67%
UBC, Okanagan	111, 112	121,122	C+/67%
Uni. of Fraser Valley	101, 111	105, 112	C+/67%
Uni. of Northern BC	100, 110	101, 111	C+/67%
Uni. of Victoria	102[1],102a, 110, 120	102[1],102b, 216	C+/67%
Van. Comm. College	1100	1200	C+/67%
Van. Island University	111, 121	112, 122	C+/67%
Yukon College	101	102	C+/67%

Table 2 Notes:

- Students must apply for course credit and each application is subject to Institute approval.
- When both a letter grade and a % grade are given, the more favourable grade will be considered.
- Notation: (x&y) means courses x and y are both required, while x, y means either course x or course y is required.
- Grade 11/12 physics is insufficient for courses requiring a “general” post-secondary course.
- Courses from online colleges, such as Sophia, will not be accepted.

Table 2 Footnotes:

1. As of 2018, this course was split into 102a and 102b.

Table 3: BC Equivalents for Courses in Table 1, Section C.

Institute	PHYS 1192: Equivalent Calculus Post-Sec. Course	PHYS 2192: Equivalent Calculus Post-Sec. Course	Minimum Grade
Camosun College	140	(140&141)	C+/67%
Capilano University	114	(115&116)	C+/67%
Douglas College	1110	(1110&1210)	C+/67%
Kwantlen P. University	1120	See Table 4	C+/67%
Langara College	1125	(1125&1225)	C+/67%
North Island College	120	(120&121)	C+/67%
Simon Fraser University	(120 or 125 & Lab)[1], 140	See Table 4	C+/67%
Thompson Rivers Uni.	PHYS 1150, EPHY 1150	See Footnote 2	C+/67%
UBC (Pre-2018)	(153&170)	(153&170)	C+/67%
UBC (2018 onward)	TBD	(157&158&159)	C+/67%
Uni. of Fraser Valley	111	(111&112)	C+/67%
Uni. of Northern BC	TBD	111, See Footnote 3	C+/67%
Uni. of Victoria (Pre-2019)	102	102	C+/67%
Uni. of Victoria (2019 onward)	110, 120	See Table 4	C+/67%
Van. Community College	1100	(1100&1200)	C+/67%
Van. Island University	121	(121&122)	C+/67%
Advanced Placement Physics	AP-C (Mechanics)	-	C+/67%

Table 3 Notes:

- Students must apply for course credit and each application is subject to Institute approval.
- When both a letter grade and a % grade are given, the more favourable grade will be considered.
- Notation: (x&y) means courses x and y are both required, while x, y means either course x or course y is required.
- PHYS 1192 covers kinematics, dynamics, equilibrium, stress, strain, work and energy, conservation of energy, linear momentum and collisions, rotational motion, and simple machines.
- PHYS 2192 covers fluids at rest and in motion, viscosity, calorimetry, thermal expansion and stresses, simple and damped harmonic motion, standing waves, resonance, electric field and potential, DC circuits, magnetism, induction, and AC circuits.
- Fluids and heat are treated differently in chemistry courses, and these courses cannot be used for transfer credits.

Table 3 Footnotes:

1. SFU Phys 120 & 125 have no lab, need 131 or 132, or other lab course.
2. TRU PHYS 1250 and EPHY 1250 will be considered on a case-by-case basis (no fluid dynamics).
3. UNBC PHYS 111 covers fluids and heat (not stated on web description).

Table 4: Unsuitable Courses for P1192/P2192

Institute	Notes
Capilano University	PHYS 110 and PHYS 111 are insufficient.
Kwantlen P. University	PHYS 1220 has an insufficient overlap with PHYS 2192.
Simon Fraser University	PHYS 101 &102 are not calculus-based and have no labs.
Simon Fraser University	PHYS 121 & 126 both have an insufficient overlap with PHYS 2192.
Sophia College	Online College courses will not be accepted

Table 4: Physics 11/12: Acceptable Courses.

- For programs with a Physics 11 or Physics 12 prerequisite, BCIT may accept 3.0 credits of post-secondary education (100 or 1000 level course) with an equal grade from a recognized institute in the same subject. Note that the ERIC database contains only a list of anomalies.
- Recency and grade requirements: as given by program area.
- A Physics 12/C is considered equivalent to Physics 11/C+
- For provincial equivalencies, see: https://www.bctransferguide.ca/search/abe
- Add info from internal notes to this table!

Institute	Equivalent Grade 11 Course	Equivalent Grade 12 Course	Minimum Grade
BCIT	0309, 0311	0312	Check w/BCIT Program
Okanagan College			[as above]
New West Online Learning[1]			[as above]
Vancouver Learning Network[1]			[as above]

Table 4 Footnotes:

1. Available via correspondence

Physics Course Credit Applications

All applications must be submitted directly to student information and enrollment services (SW1, first floor). Only applications for the current term will be considered.

Details and application forms are available at URL: https://www.bcit.ca/admission/transfer/

Camosun College

The Department of Physics and Astronomy at Camosun College is in Greater Victoria on the traditional territories of the Lekwungen and W̱SÁNEĆ people. Our department currently consists of four continuing faculty, one lab technician, one instructional assistant, and two sessional instructors. In the past year we have had two continuing faculty retire. We have one posting up now that closes May 12th for a full-time continuing Astronomy and Physics Instructor, and we may be hiring again over the next year.

Our Lansdowne courses generally serve the needs of academic upgrading and university transfer students and include:

- PHYS 070- a 0-level ABE Physics 11 course
- PHYS 090- a 0-level ABE Physics 12 course
- PHYS 101- a college prep Physics course which can also serve as a pre-requisite in lieu of Physics 11
- PHYS 104/105- Parts 1 and 2 of first year algebra-based Physics
- PHYS 140/141- Parts 1 and 2 of first year calculus-based Physics
- ASTR 101- Astronomy- Night sky, solar system, and planets
- ASTR 102- Astronomy- Stars and Galaxies

Courses offered at our Interurban Campus are in service of diploma programs for various engineering streams as well as athletics and exercise therapy and health science. Along with reserved sections of PHYS 101 and 104, the following courses are restricted to students in engineering programs at the Interurban campus:

- PHYS 157 - A first year Physics course focused on topics relevant to electronics and computer engineering students.
- PHYS 210 - Electricity and Magnetism
- PHYS 272 - Energy and Sustainability
- PHYS 295 - A Physics course for Engineering Bridge students focused on Waves, Optics, Electricity and Magnetism

Service courses for other career programs include:

- PHYS 160 - Biomechanics - A service course for PISE (Pacific Institute for Sport Excellence)
- AHLT 165 - Physics of Medical Imaging and Radiation Therapy. This course services the Medical Radiography and Sonography programs.

The second-year courses at our Lansdowne campus (PHYS 200, 210, 214, and 215) have remained closed since 2010 owing to low enrollments. Second-year UT courses are struggling throughout the School of Arts and Science, and it seems unlikely that these courses will be revived anytime soon. Last year at Articulations, Chris Avis brought up the idea of delivering second year courses in partnership with other small institutions through online or hybrid delivery models. There was interest in this from four other institutions and we met with representatives to discuss this in the

Fall. One idea was to potentially collaborate on second year Electromagnetism. We will continue discussions around this- please reach out if you'd like to be included!

Our enrollment numbers are comparable to last year, though this remains lower than before the pandemic due to many possible factors. There is concern regarding the new restrictions of international students and there is a focus on increasing domestic enrolment across the college. Due to a last-minute instructor change as well as low enrolment, we only ran one section of Astronomy (ASTR 101) in the Winter term this year. We hope to build this back up to two sections per term in 2024-2025.

Other departmental news:

- PHYS 070 and 090 have moved to the School of Access due to a college realignment of 0-level Science courses, resulting in the transfer of 1 FTE from Arts and Science to Access.
- Most of our Physics and Astronomy courses are now Zero Textbook Cost with many using instructor-generated resources and, in the case of our Astronomy course, OpenStax.
- We are continuing delivery of sections of our PHYS 104 at local high schools through our South Island Partnership Program.
- We again offered blended sections of PHYS 070, 090, 101 and 104 with lecture content being delivered asynchronously online and labs and tests delivered in person. We are still considering how to balance the increased student demand for these types of courses with the, at times, lower success rates than our in-person courses.
- We are participating in discussions with The Engineering Transfer Program regarding how to align our Physics offerings with the Engineering Common Core while still maintaining our important transfer relationships with UVic.
- We are running a new Fall section of PHYS 295 specifically to support the new Civil Engineering Bridge to UVic program.
- Our science courses were changed to 3 credits instead of 4 credits as of Fall 2022. This is still being updated in our course syllabi and will soon be corrected through BCCAT/TCS.

Course	Total Students 2022-23 Academic Year	Total Students 2023-24 Academic Year
ASTR-101	36	27
ASTR-102	26	0
PHYS-070	40	48
PHYS-090	32	28
PHYS-101	53	52
PHYS-104	146	157
PHYS-105	35	53
PHYS-140	54	49
PHYS-141	42	47
PHYS-157	42	28
PHYS-160	26	27
PHYS-165	15	15
PHYS-210	39	29
PHYS-272	28	43

PHYS-295	35	23

Stephanie Ingraham

Capilano University

Most notably, Capilano University purchased the campus of the form Quest University. Programs and curriculum for the Squamish campus will include some Sciences courses, of relevance, Astronomy 107 (Lecture + Lab) will be offered in Fall 2024 at the Squamish Campus.

Registration numbers were stable for most courses, and our overall registration numbers were comparable to last year. One additional section of Phys 113 (Physics for Life Sciences) was added to account for the increased number of international students.

Despite the cap on international students being admitted to Canada this trend is continuing. The department of Strategic Enrolment Management (SEM) has requested that the Physics department offer an additional section of Phys 112 and 113 to account for the increase in international students.

For 2024-2025, we will be able to offer a similar course offering as 2022-2023 with a few modifications. The changes are summarized in the table below:

	2023	2024			2024	2025
	Summer	Fall	Spring	Summer	Fall	Spring
Astr 106	2	1	1		1	1
Astr 142		1	0		1	0
Astr 300		0	1		0	1
Phys 104		2	2		2	2
Phys 112		1	0		2	0
Phys 113		0	2		0	2
Phys 114		1	1		1	1
Phys 115		1	1		1	1
Phys 116		1	1		1	1
Phys 310		0	1		0	1
Astr 107					1 (Squamish)	

We are continuing to offer Physics 310: Energy Technologies Lab as this was again successfully run as a lab science offering for the BSc General. We had moderately low enrolment (7), and while we had low numbers, the students were incredibly engaged with course, and the students themselves have been encouraging other students to take Phys 310 in the future. We consider this course a success.

Overall, our university is still pushing towards having more degrees, our BSc General was soft-launched and we now have upper year students working through their degree. The Applied Clean Technology degree is at Stage II of development, and our higher level course offerings are being chosen to support both the BSc General and the future Applied Clean Technology students. The addition of the BSc General has put higher demands on our technician and currently we do not

have enough technician support to maintain the proposed offerings for 2024/2025 – we are working with our Dean to secure more technician support.

One additional comment is that we have noticed a critically high rate of absenteeism in our courses, and some instructors have reported a higher level of apathy in our students. Some courses with 35 students registered were having only 5-10 students regularly coming to class. This is in contrast to the lab components of the course (which are mandatory) and had near 100% attendance. Performance in these courses is as expected – grades on components of the course that are individual assessments are lower than all other components of the course. Our department is considering different ways to encourage students to come to lecture.

Lauren Moffatt

Coast Mountain College

Coast Mountain College (CMTN) serves the rich and diverse communities and learners of BC's beautiful northwest region including Terrace, Kitimat, Smithers, Prince Rupert, and Haida Gwaii. Physics enrolments for 2022/23 and 2023/24 were as follows.

Course	2022/23	2023/24
Physics 101 – Introduction to Physics I	16	11
Physics 102 - Introduction to Physics II	13	5
Physics 121 – Advanced Physics I	15	10
Physics 122 – Advanced Physics II	11	2
Physics 135 – Engineering Mechanics - Dynamics	9	2

We continue to run algebra-based physics 101/102 (introduction to physics) in Prince Rupert which is video-conferenced to Terrace, and calculus-based physics 121/122 (advanced physics). Lectures are video conferenced to other campuses and there are face-to-face lab sections in each campus. The maximum number of students permitted in our labs is 18. Both courses have 3 hours of lecture and 3 hours of lab each week for fourteen weeks and then one week for final exams in each term (Fall and Winter). To satisfy the requirements of the engineering program we are running Physics 135 (engineering mechanics – dynamics) which is also video conferenced to other campuses. Most of our advanced physics students continue in an engineering program at another institution.

We will continue to use OpenStax textbooks for Phys 101/102/121/122, and Hibbler, Statics and Dynamics, for phys 135. Our Physical Sciences Program (one-year certificate) is outlined on our website at the following link. https://catalogue.coastmountaincollege.ca/programs/physical-sciences/#programoutline

This was the first year to use our newly renovated labs with updated physics lab equipment, a 3D printer, and tools. We have a CNC plasma cutter available for use in cooperation with our trades department, ALCAN has donated a robotic arm for our ENGR program, and we have a new 3d virtual learning environment. I have obtained funding for us to host a Solar Home Competition which will take place June 8th at 1:15 pm. Information can be found here CMTN Engineering and Physical Sciences Department Invites Submissions for Solar Home Competition (coastmountaincollege.ca).

I am interested in offering second year physics and/or mathematics courses in partnership with another institution.

Regan Sibbald

Physics and Mathematics Professor

CMTN Terrace

College of New Caledonia
CNC

College of New Caledonia

All physics courses at CNC were delivered in-person over the past year.

CNC offers UT calculus-based (PHYS 101, PHYS 102, PHYS 204) and algebra-based physics (PHYS 105, PHYS 106). They are part of the curriculum of Applied Science (Engineering) transfer program and general science transfer programs.

A new course, PHYS 110 – Biomechanics and Instrumentation, was developed and approved by CNC Educational Council. It might be offered in Spring 2025 pending sufficient interest. As per proposed CNC Calendar description 'this course is an introduction to biomechanics, with emphasis on underlying physics and experimental instrumentation. Kinematics and inverse dynamics are used to quantify human motion, including planar gait analysis. Biomechanical data are analyzed with appropriate calculations and digital signal processing. Additional topics include relevant anatomy, muscle modelling, motion capture, electromyography, and impulse forces. Computations are restricted to 2D, though 3D generalizations are also presented.'

Additionally, the Physics Department offers two physics courses for the Medical Radiography Program: PHYS 115 - Medical Radiography 1 and PHYS 225 - Medical Radiography 2. The maximum enrolment in these courses is based on cohort admission, which is currently 16 students.

Physics Department also delivers three physics courses for the Sonography Program: PHYS 170 – Physics for Sonography I, PHYS 173 – Physics for Sonography II and PHYS 175 – Physics for Sonography III. The maximum enrolment in these courses is based on the cohort admission, which is currently 16 students.

Barbara Rudecki, P.Eng.

Department of Physics & Applied Science

College of the Rockies

College Of The Rockies (COTR) is a community college which serves six communities in the East Kootenay region. COTR is located in the unceded territory of the Ktunaxa people and the Kinbasket people. The main campus is located in Cranbrook. The physics/astronomy department consists of one instructor for university level courses, one instructor for adult upgrading courses, and a technician. There are no staffing changes to report.

The 2023-2024 academic year saw stable first year enrollment, comparable to recent years. We did not run any second year physics courses this year.

Enrolment Report:

- Physics 080 4 students
- Physics 090 4 students enrolled, 2 completed
- Physics 103, Newtonian Mechanics, 22 enrolled, 20 completed
- Physics 104, Intro to Electromagnetism, 15 enrolled, 15 completed
- Astronomy 100, Introduction to Astronomy, 18 enrolled, 16 completed

We adopted new textbooks for all physics courses.

- Phys 103 adopted Openstax “University Physics volume 1.”
- Phys 104 adopted OpenStax “University Physics Volume 2.”
- Astro 100 adopted Foundations of Astronomy (2019) by Seeds, Backman

There are no infrastructure changes to report.

Ben Tippett

Columbia College

Institutional Update

- Columbia College is operating in its own building in Vancouver. The College is also renting some additional space in the neighborhood, especially for its high school program.

- Regarding facilities and equipment, the Physics Department of the College has excellent conditions for work. Besides the modern classrooms, the College has a well-equipped Physics lab, which is used for both UT and high school Physics courses.

- The enrolment in Physics courses at Columbia College, for the 2023/2024 academic year, was like this:

  Summer 2023:
  Physics 100 - 34
  Physics 110 - 16
  Physics 120 - 3
  Physics 11 – 11
  Physics 12 – 11

  Fall 2023:
  Physics 100 - 13
  Physics 110 - 15
  Physics 120 - 3
  Physics 12 - 21

  Winter 2024:
  Physics 100 - 9
  Physics 110 - 23
  Physics 118 - 7
  Physics 120 - 1
  Physics 11 - 17
  Physics 12 – 21

- As usual, the enrollment was satisfactory in high school Physics courses (both in Physics 11 and Physics 12), as well as in Physics 100 and Physics 110. The enrollment was rather low in the rest of first year UT Physics courses for science and engineering majors (Physics 120 and Physics 118). For the first time in last 15 years, there was no interest in our second year Physics courses.

- The Physics Department at the College has two tenured, full-time instructors, and two sessional instructors.

- Regarding Open Education Resources, the College is using OpenStax University Physics volumes 1-3, as supplemental lecture textbooks.

Program/Course Update

- The College will develop and articulate a new, algebra-based course in General Physics, for students without high-school Physics 12. There is also a plan to develop an Associate Degree in Physics program.

Vladan Jovovic

Coquitlam College

No report received.

Corpus Christi College

Founded in 1990, Corpus Christi College is a non-profit private Catholic liberal arts college located on the UBC campus.

Enrolment at the college is approximately 400 students. Student registrations were up by 22% this year compared to last year. International students comprised 30% of our total student body.

The college recently conducted an internal review of all math and science course offerings, with a report scheduled for June 2024.

Current physics and astronomy course offerings, along with typical registration numbers, are shown below.

Course	Title	Year First Offered	Credits	Typical enrollment	Course resources/textbooks
PHYS 100	Introductory Physics: Mechanics and Heat	2020	3	5-10 students*	Openstax College Physics
PHYS 101	Energy and Waves	2010	3	10-30 students	Openstax College Physics
PHYS 119	Experimental Physics Lab I	2023	1	5-10 students	Microsoft Excel
ASTR 210	Exploring the Universe – The Solar System	2016	3	5-15 students*	Openstax Astronomy

* = these courses are offered every other year

Alain Prat

Douglas College

Institutional Update

Over the last year, we continued to offer our full selection of courses. However, we made several adjustments to the number of sections to try and match demand. We shifted PHYS 1207 (the second term algebra-based physics) to only one offering in the Winter semester (down from offering one section of the course in both the Fall and Winter semesters). We also added a section of PHYS 1110 (first term calculus-based physics) in the Fall semester and PHYS 1170 (mechanics for engineers) in the Winter semester in anticipation of increased demand from our Engineering program.

Course	Sections S|F|W	Students S|F|W	Change From Previous Year	Textbook
PHYS 1104	1|1|1	27|25|36	-7 (-7%)	OpenStax College Physics - Custom Edition
PHYS 1107	2|2|1	25|55|35	-19 (-14%)	OpenStax College Physics - Custom Edition
PHYS 1207	0|0|1	0|0|8	-17 (-68%)	OpenStax College Physics - Custom Edition
PHYS 1110	0|3|1	0|68|33	-8 (-7%)	OpenStax University Physics
PHYS 1210	1|0|2	16|0|34	-4 (-7%)	OpenStax University Physics
PHYS 1170	0|0|2	0|0|39	+2 (+5%)	Mechanics Map Digital Textbook
ASTR 1105	0|2|2	0|59|70	0 (0%)	OpenStax Astronomy - Custom Edition

**S|F|W = Summer 2023 Semester (May-Aug) | Fall 2023 Semester (Sept-Dec) | Winter 2024 Semester (Jan-Apr)*
The capacity of one section is 36 students.

Across all courses, we have had a decrease in enrolment of about 10% (down to 530 students from 583 students). The majority of this decrease has been in our algebra-based courses (PHYS 1104, PHYS 1107, and PHYS 1207). The follows a similar decrease in our algebra-based courses from the 2022/23 academic year.

Although registration for Summer 2024 is ongoing, we have seen a small increase in enrolment for our summer offerings: PHYS 1104 (34 students in 1 section), PHYS 1107 (27 students in 1 section) and PHYS 1210 (23 students in 1 section). Based on demand over the last two summers, we have reduced the number of sections of PHYS 1107 down to one section from two.

We also offered PHYS 2250 (Introduction to Modern Physics) as a guided study course in the Winter semester for 2 students.

Program/Course Update

We taught our calculus-based physical science stream courses (PHYS 1110 and PHYS 1210) using updated curriculum guidelines for the first time this year. These curriculum guidelines were updated last year to match the common first-year engineering curriculum more closely.

We have also updated our PHYS 2211 (Intermediate Classical Mechanics) curriculum guidelines. The major changes include making Calculus 3 and Linear Algebra prerequisites and Differential Equations a corequisite. We have also updated the course content and learning outcomes to remove Hamiltonian mechanics and to clarify the level (and depth) of Lagrangian mechanics covered in the course. These updated prerequisites match SFU PHYS 211 and also better match what we felt was necessary for students to be successful in the course. We plan on offering this course for the first time in many years as a guided study in Winter 2024.

The largest issue facing our department is the decline in enrolment in our algebra-based physics courses (in particular, PHYS 1107 and PHYS 1207) over the last several years. This decline may be, in part, connected to a decrease in students in Biology programs at Douglas College. However, we have also found that our course offering may not provide students with a convenient transfer to meet the physics requirements for many programs at receiving institutions. In particular, to meet the requirement for 3 credits of physics (with no lab), our students need to take 10 credits of physics at Douglas College. That is, students need to take both PHYS 1107 and PHYS 1207 (and both of these courses include a lab).

We are starting to consider some changes to our physics offerings to better match the physics requirements for programs at receiving institutions like UBC and SFU. Broadly, this would leave PHYS 1107 as an algebra-based course that acts as an equivalent to (for example) UBC PHYS 100 or SFU PHYS 100 and we would develop a new calculus-based course to more closely align with the first-year physics requirement for many non-physical science programs, which includes courses like UBC PHYS 131 and SFU PHYS 101. With these changes, PHYS 1207 may no longer be offered. We are also interested in hearing how other institutions are handling similar courses.

Will Gunton

Physics and Astronomy Department Chair

Fraser International College

Institutional Update

- General: FIC offers international students a direct pathway to 2nd year at SFU. Fall 2023 and Spring 2024 continued to see a slight growth in enrolment semester over semester. With the gap in student visa processing between Jan and Mar, we will see a drop in new students for Summer 2024, but expect the numbers to rebound for Fall 2024.
- Budgets/Facilities: No significant changes to facilities. Over the 2024 calendar year, we'll see projectors and technology upgrades in all classrooms. Each semester will see a third of the classrooms completed. We continue to maintain safety guidelines under the FIC Communicable Diseases Plan as required, including enhanced cleaning protocols and providing PPE as requested.
- Students/Enrollment: Enrolment has remained fairly consistent year-over-year with approximately 320 students registered into Physics courses from Summer 2023 through Spring 2024.
- Staffing: The physics courses continued with 2 continuing contract instructors.
- Instruction/Open Education Resources:
    - PHYS 100: *OpenStax College Physics 2e* + Moodle-based online homework
    - PHYS 140: *OpenStax University Physics Vol. 1* + *ExpertTA*
    - PHYS 141: *OpenStax University Physics Vols. 2 and 3* + *ExpertTA*

Program/Course Update

- Course Offerings: Current course offerings include the following courses:
    - PHYS100: Introduction to Physics (enrolment down 9%)
    - PHYS140: Mechanics and Modern Physics (up over 10%)
    - PHYS141: Optics, Electricity and Magnetism (down over 10%)
    - PHYS1141: Optics, Electricity and Magnetism Lab (as above)

  There were no courses cancelled during the period of this update.
- Curriculum Developments: No major changes occurred over the last year to any physics courses taught at FIC.
- Transfer Credit Applications or Alterations: FIC has primarily been a sending institution but has taken steps over the 2023/24 academic year to increase articulation as a receiving institution.
- Issues: Pass rates overall dropped slightly, falling by 6% across all courses on average. Notably, pass rates were lower in PHYS140 & 141 but higher in PHYS100.
- Research/Projects: Instructors at FIC continue to collaborate with the physics department at SFU on designing course materials and refining teaching methods for the courses taught within both departments. Instructors at FIC continue to collaborate with the Media and Makers Commons at SFU on way to design novel and engaging projects within the physics courses taught at FIC.

Other Items of Interest

- Immigration delays and student mobility restrictions continue to affect enrolment trends and the return to pre-pandemic numbers continues at a slow pace.
- Student wellness issues continue to be more prevalent. Academic accommodation as well, has increased. Absenteeism increased as the semester progressed (due to illness).
- FIC has maintained a Learning and Teaching team to support instructors with course modification and design in Moodle, and to provide professional development workshops on key topics notable this reporting period - student wellness, reconciliation, academic integrity, and AI in the classroom.

Peter Smith

Kwantlen Polytechnic University

KPU KWANTLEN POLYTECHNIC UNIVERSITY

Kwantlen Polytechnic University has campuses in Richmond, Surrey, Cloverdale, Surrey Civic Plaza, and Langley. The Physics Department operates on three of them with 10 faculty and 7 support staff, augmented by part time and temporary personnel, as needed. At Langley Campus, PHYS 1400 & 1401 run as part of the long-standing Environmental Protection Technology two-year program. At Surrey and Richmond Campuses, we run our complement of first year courses in physics (calculus-based physical science stream and calculus-based life science stream) and engineering transfer, as well as courses in astronomy for non-majors. In addition, Richmond Campus is home to the 2nd, 3rd and 4th year courses for the B.Sc. Physics for Modern Technology.

The first year of this degree curriculum is a familiar mix of science courses but due to the very applied nature of this program, courses become specific for our degree from second year onwards. We welcome students to transfer into our degree after (and during) first year and such transfers are fairly seamless. Those arriving with some second and third year credits are seeing some glitches, as one normally would when changing majors mid-stream, even within the same university. However, the department takes care of all incoming majors.

Since our last report (May 2023), we ran our usual offerings for Summer, Fall and Spring* semesters. While some departments at the University still maintain a large online mode, the physics department is back to offering a full complement of in-person classes and labs.

I. In addition to in-person sections, we do continue to run online sections of PHYS 1100 (since before the pandemic) and ASTR 1100 each with online lab options.
II. PHYS 1101 (life science stream) offers some lab sections online.
III. The B. Sc. major in Physics for Modern Technology has completed a program review. The follow-up, Quality Assurance Plan is currently being executed, with most tasks to be completed in 2024.
IV. Due to administration's plans on campus space, our student workshop has been reallocated to a new department and is no longer available for Physics students for their projects. Our School of Design is graciously sharing some of its facilities but a permanent solution for project space is being sought.
V. A new lab space has now been completed (April 2024) to house the work and display space for the CloudLab, which provides remote access to lab equipment. This is the continuation of the work started in collaboration with North Island College.

In addition, major outreach events were held on Richmond campus on October 14, 2023 and again on April 8, 2024, for the solar eclipses. Despite the poor weather on both occasions, my colleague Laura Flinn drew a good turn-out, including TV and radio coverage.

Takashi Sato

*at KPU, "spring" semester runs January to April.

Langara College

Institutional Update

Over this past year, our offerings included first and second year university transfer physics, an engineering mechanics class, courses for students who do not have grade 11 or grade 12 physics, and two semesters of first-year astronomy courses for science students and a set for non-science students. In total, we ran 43 sections with just under 900 students enrolled. This is roughly the same as last year, but still down from 1200 in the years before that. Fortunately, a strong group of roughly 10 students progressed through our second-year courses this past year. Our registration caps have been set at 50/50 domestic/international students. We have 8 faculty and 4 lab staff.

Program/Course Update

We are starting the process of curriculum mapping which was an action item from our recent Program Review.

This past year our department joined a team with 80+ groups from across North America to collectively take white light solar observations of the annular eclipse in October and the solar eclipse in April. The teams were scattered along the eclipse paths and were all set up with the same equipment. Unfortunately, both observation days were cloudy in Vancouver, but we trained over 20 students to set up the telescope and observing equipment as well as acquire and upload our data in sync with the 80+ other groups.

Tyron Tsui

LaSalle College

No report received.

North Island College

Institutional Update

General:

- NIC underwent our Quality Assurance Process Audit in November of 2023. The report was generally favorable, but we are still expecting some change in policies and an institutional wide review of program learning outcomes.

Budgets/Facilities:

- The biology and chemistry labs at the Comox Valley Campus are getting a much needed renovation over the summer. Unfortunately the physics labs couldn't be included due to the budget constraints. We are getting an update to our storage room and are looking forward to inheriting some of the old lab stools.
- The NIC board of governors just approved a balanced budget for next year, the first since the start of the pandemic.
- The first ever NIC student residence is under construction at the Comox Valley Campus. Students can begin applying next fall for a Fall 2025 move-in date.

Students/Enrollment

- Domestic enrollment is pretty much flat across the college. International student numbers are returning to pre-pandemic levels but that doesn't typically affect the Math-Science department much.
- We did see a large increase in enrollment in the Engineering Certificate this year. There were some changes made to the admissions requirements that allowed students to register in the program while completing upgrading in physics or chemistry if required, but that doesn't seem to be the sole reason for the increase.
- Physics and astronomy numbers:
    - Algebra based physics (PHY 100/101) enrollments were steady but low. We are hoping to see an increase over time as the Island Pre-Health Program gets underway (PHY 100 and 101 are required as part of that program and typically taken in a student's second year).
    - There was a large increase in enrollment in the calculus based physics courses (PHY 120/121) that matched the increase in Engineering Certificate students.
    - The fall term astronomy course (SSA 100) was full as it has been for the past few years.
    - The winter term astronomy course (SSA 101) was doubled in size to accommodate the needs of a large group of Associate of Arts students who were in their last term and still needed another lab-science credit.

Staffing: No changes

Instruction/Open Education Resources:

- We are continuing to use Open Stax textbooks in PHY 120/121 and SSA 100/101

- We are exploring the possibility of incorporating WeBWork activities into PHY 120/121

Program/Course Update

Program Review Status:

- Our department is currently working through action plan items identified as part of our program reviews. Most of the physics and astronomy courses fall into the Associate of Science program review, however the calculus based PHY 120/121 are also part of the Engineering program review. This spring we will be finalizing our department's vision, mission and goals, writing/updating program learning outcomes, and doing curriculum mapping exercises.

Curriculum Developments:

- We are currently looking into changes to the calculus based PHY 120/121 for next year. The only students from NIC who have ever taken the calculus based physics courses and then gone on to UBC have been engineering students. Now that there is transfer available to UBC through the Common First Year Engineering Curriculum (CFYEC) we are planning to reduce some of the content in those courses that is only covered at UBC and not at UVic (where the majority of our students transfer) and is not required for the CFYEC. With the reduction in the length of our teaching term in place since 2020/21, the changes to the high school curriculum a few years back, and the lingering effects on the incoming students' math skills from the COVID high school experience we've noticed that students are struggling far more than they used to. A reduction in course content to be more comparable to what is covered at a single university would allow us to spend more time working through problems in groups.

Transfer Credit Applications or Alterations: None for this year

Issues: see the reasons for planned curriculum development

Jennifer Fallis Starhunter

Northern Lights College

No report received.

Okanagan College

Okanagan College has four main campuses: Salmon Arm, Vernon, Kelowna, and Penticton. Kelowna is our largest campus, accounting for ~65% of Arts & Science students. The Physics & Astronomy Department has 7 full-time faculty members, one of whom shares an appointment with the Mathematics & Statistics Department. We had two term instructors teaching with us this academic year, one instructor who converted to a Continuing position in Kelowna, and we hired a new Continuing instructor in Vernon.

Our department falls under the Science and Technology portfolio, which had a new Dean in the spring of 2023.

Recent enrollment history at OC for the Associate of Science degree across all OC Campuses:

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-2024
Applied	1005	928	827	636	582	661	542
Enrolled	417	348	333	232	217	254	273

Enrolment notes:

- Our enrolment numbers are steadily increasing after Covid but are still down from the numbers before Covid. We see steady second year registrations in PHYS & ASTR courses.

Course/Enrolment Updates:

- Our courses offered at Okanagan College were the same as last year:

	2019-20	2020-21	2021-22	2022-23	2023-2024
PHYS112/122 – Algebra-based Physics I & II	229	179	132	149	179
PHYS111/121 – Calculus-based Physics I & II	95	80	75	52	73
PHYS126 – Physics for Electronic Engineering	22	21	16	14	22
PHYS200 – Relativity and Modern Physics	7	7	7	6	5
PHYS215 – Thermodynamics	38	27	26	11	9
PHYS202 – Engineering Mechanics I	13	9	8	11	13
PHYS240 – Biophysics	Not offered	8	4	2	3
ASTR110/111/112/120/121/122 – Astro I & II	74	90	50	93	77
ASTR220 – Astrobiology	32	28	29	14	34
ASTR230 – History of the Universe	34	46	30	25	30

- Comments on 2023-2024 courses and enrolments:
    - It's gratifying to see the increase in our first-year physics enrolments, as well as for our second-year astronomy courses.
    - Our ASTR 11X/12X courses were offered in-person on the Vernon campus this year.
    - We offered a new out-of-sequence PHYS 122 section in Fall 2023, with an enrolment of 9 students. We continued to offer an out-of-sequence PHYS 112 course in the winter semester, which had a strong enrolment of 34 students.

    - We offered the following courses online this year: ASTR 11X/12X (one section in Penticton), ASTR 220, ASTR 230, PHYS 112 (one section Fall 2023), PHYS 122 (one section Winter 2024), and PHYS 240.

Prospects for 2024-2025:

- As of the end of March, application numbers for new Associate of Science students were down by ~20% In Kelowna compared to 2023-2024, but similar or higher for our other campuses.
- We plan to hire two Term instructors for 2024-2025.
- We will be offering PHYS 228 (Classical Mechanics) in Winter 2025. This is not a new course for us, but it hasn't been taught in many years.

New courses post 2024-2025:

- ASTR 210, Fall 2025: this is a second-year astrophysics course, based on UBCO's course. This course will be taught in alternating years at UBCO and OC.
- We hope to offer a new second-year physics lab course sometime in the next few years.

Other Things:

- Our first-year courses don't use publisher textbooks, but rather OER or instructor-generated resources.
- Several of our instructors are using MyOkanaganMath, which is based on IMathAS, for physics homework (https://imathas.okanagan.bc.ca/)
- We now have a Combined PHYS/MATH Emphasis as part of our Associate of Science degree.
- Each semester we take OC and UBCO students to the Dominion Radio Astrophysical Observatory outside Penticton, and these are always very enjoyable events.
- Terry Bridges and Kevin Douglas successfully observed the April solar eclipse, in Ontario and Texas.
- Terry Bridges and Ryan Ransom were given "Friend of the RASC-Okanagan Centre" awards for their contributions to the RASC over the past several years.

Terry Bridges (Dept Chair)

Selkirk College

No report received.

Simon Fraser University

Institutional Update

- SFU is undergoing the same belt-tightening that many institutions are due to the dual pressures of inflation and reduced international students. There is a hiring freeze for administrative positions, but not for faculty or TA positions.
- Science enrollment is robust, though, and the Faculty of Science was the first Faculty to reach its target international enrollment numbers.
- Lower division Physics enrollments are near historical maxima, but upper division enrollments are anomalously small, likely due to a propagating COVID fluctuation.
- Two new Canada Excellence Research Chairs (CERC) joined SFU Physics, in quantum information and astroparticle physics, out of 34 total Chairs across all subjects in Canada. Our faculty complement currently is 33 (28 tenure-track, 5 teaching).
- SFU is commencing recertification of all courses that satisfy its broad-based education requirements (WQB – writing, quantitative and breadth). This will reduce the amount of Q and B-Science courses being taught outside of STEM departments and will likely help enrollments in Science classes such as PHYS 190 Intro to Astronomy.
- SFU Medical School is anticipating opening in 2026 with a focus on family and community-oriented medicine.

Program/Course Update

- We are in the middle of an initiative to increase integration of computation with all our physics courses ("pythonization" of our courses). Students start using computers for simulation, visualization, analysis, and modeling in 1st year and continue in in a scaffolded way.
- Due to budgetary constraints, we have reduced the number of upper division breadth electives offered by taking several to every-other-year rotations.
- We have seen several programs reduce their reliance on Physics in recent years, including several life science and mechatronics programs.
- First-year Textbook Summary:
    - Physics 100 (physics 12): OpenStax College Physics
    - Physics 101/102 (life sciences): Freedman et al., College Physics
        - Physics 120/121 (physical sciences/eng.): Achieve for Physics for Scientists and Engineers
    - Physics 140/141 (studio, primarily engineers): OpenStax University Physics
    - Physics 125/126 (enriched): Halliday, Resnick and Krane or Chabay and Sherwood, depending on instructor

Jeff McGuirk

Thompson Rivers University

Institutional Update

- Enrollment continues to be low, but numbers are stable.
- Dr. Abedin Abedin hired as lab coordinator to replace George Weremczuk, who retired in 2023. Dr. Abedin also teaches some sections of first-year astronomy.
- First-year PHYS courses are using OpenStax College Physics (1100/1200 – algebra based) and OpenStax University Physics (1150/1250 – calculus based). Individual instructors follow each text to varying degrees.

Program/Course Update

- First year of new physics curriculum. Students in second year now take the following courses:
  a. Fall: PHYS 2000 – Relativity & Quanta, MATH 2110 – Calculus 3, MATH 2120 – Linear Algebra 1, MATH 2240 – Differential Equations 1, elective.
  b. Winter: PHYS 2200 – Mechanics, PHYS 2590 – Physics of Materials, PHYS 3120 – Mathematical Physics (cross-listed as MATH 3160 – Differential Equations 2), MATH 3170 – Calculus 4, elective.
- Anecdotal feedback from students: the course load is challenging, but doable. They understand the value of learning the mathematics before applying it in upper-level physics courses such as electromagnetism, optics, quantum mechanics, etc.
- Note that PHYS 2250 – Intermediate Electromagnetism, which was previously offered annually as a second-year course, has been removed from the second-year curriculum. It has been changed to PHYS 3830, which is a third-year course that is offered in the fall semester in alternating years.
- PHYS 3120 – Mathematical Physics is now taught by physics department faculty (RK) and is offered annually. Previously the equivalent MATH 3160 was taught by math faculty and offered in alternating years, which caused difficulties for upper-level physics course delivery.
- Upper-level labs have been decoupled from lecture courses (e.g., PHYS 3800 – Optics does not include a lab, but PHYS 4090 is an optics lab, and both are required courses).
- Required courses include PHYS 3090 - analog electronics lab (Diodes, BJT, FET, OP Amp, PID control), PHYS 3590 - digital electronics lab (digital gates, microcontrollers, DAQ, motor control), PHYS 4090 - Optics Laboratory (Basic elements, Fourier Optics, Double slit/single photon, Interferometry, Spectroscopy, Fibre Optics). Optional course: PHYS 4590 - Advanced Laboratory (Various Options).
- Learning outcomes of 4000 level lab courses include communication and research methods. In winter 2024, students completed a final formal lab report which underwent a peer review process. The reports are being compiled in a journal (Physical Review EH!) which is presented to students.

- Two selected-topics courses offered: PHYS 3500 (Selected Topics) –Particle Physics in fall 2023 and PHYS 3500 (Selected Topics) - General Relativity & Cosmology in winter 2024. Both were successful with healthy enrollments.
- Proposed new course PHYS 4150 – Particle Physics has been approved (draws from Introduction to Particle Physics by David Griffiths and Modern Particle Physics by Mark Thomson). Will be offered as an upper-level elective in alternating years.
- Plans are to offer two additional selected topics courses in 2024-2025: Geophysics (fall) and Nanotechnology (winter).
- We are working on introducing more computation into our curriculum. Python is now being used in PHYS 1150 – Mechanics and Waves, PHYS 2200 – Mechanics, and may be used in future offerings of PHYS 3160 - Thermodynamics. Mathematica is being used in PHYS 3120 – Mathematical Physics and will be used in future offerings of PHYS 3400 – Introduction to Quantum Mechanics, PHYS 4400 – Advanced Quantum Mechanics, PHYS 3830 – Intermediate Electromagnetism, and PHYS 4150 – Particle Physics.

Other Items of Interest

- We have observed a trend (starting before COVID) of increasing enrollment in the algebra-based first year physics stream (PHYS 1100/1200) and decreasing enrollment in the calculus-based first-year physics stream (PHYS 1150/1250).
- This poses a challenge because we draw about 2 – 3 times more physics majors from 1150/1250 than from 1100/1200.
- We are considering merging the streams but are only at the brainstorming stage.
- Department consensus is that if this is done, the resulting course will utilize calculus. The majority of the students in our 1100/1200 are biology majors who are required to take calculus 1 and 2, anyway.
- We are curious about variations in first-year physics course content at other universities. For instance, do any BC institutions include modern physics (relativity/quantum) material in first-year?

Robin Kleiv

Trinity Western University

- TWU Physics mainly serves our B.Sc. programs in Biology, Chemistry, Mathematics, and Computing Science, as well as our pre-engineering/engineering transfer options. Physics I also is one option among 16 for our required liberal-arts and -sciences core curriculum in our "scientific method & lab research" category.
- Physics is part of our Department of Mathematical Sciences, which includes math, computing science, physics, pre-engineering, data science, and statistics.
- The only 200+ level courses that remain, after intake to our concentration and minor were suspended effective January 2022, are those used as options in the chemistry and mathematics programs: 220 (mechanics), 230 (electricity & magnetism, with lab), 240 (thermodynamics, with lab), 321 (differential equations), 341 (quantum chemistry).
- Courses offered in 2023-24, with enrolments:
    - 111: Fundamentals of Physics I, with lab: 45 (2 failed)
    - 112: Fundamentals of Physics II, with lab: 30
    - 220: Mechanics: 6
- For Physics 111/112, we used Randall D. Knight, Physics for Scientists and Engineers: A strategic approach, 5th edition (Pearson, 2022), with MasteringPhysics. I continue to use a semi-flipped model, delivering short lectures via video before class and holding fully interactive class meetings for demonstrations, clicker-type questions, with peer-instruction, and solving problems.
- For Physics 220, we used G.R. Fowles & G.L. Cassiday, Analytical Mechanics, 7th edition (Thomson Brooks/Cole, 2005).
- During 2023-24, I instituted collaborative group work (in Physics 111/112) in four forms:
    - short unannounced quizzes (in-class)
    - traditional written solution to a problem
    - video-recording of introduction to and solution to a problem
    - interaction with AI-bots making errors on conceptual physics questions.

  In each case, groups were self-selected, and students could opt to do these as solo work for a maximum possible score of 60%, work in pairs for a maximum score of 80%, or in groups of three or four for a possible 100%.
- Our Senate approved a policy requiring all syllabi (starting May 2024) to include a custom faculty-written policy regarding the use generative AI in each course: limited, partial, or full use (a total ban is not permitted). The use of automated AI checking software is not supported, and guidelines are provided, including general principles and sample syllabus statements.

Arnold E. Sikkema, PhD

Professor of Physics; Chair of the Mathematical Sciences Department; Chair of Senate

University of British Columbia - Okanagan

At UBC Okanagan, we offer two streams of first-year physics. The PHYS 111/121 stream in for students interested in the physical sciences (40% of students) and the PHYS 112/122 stream is intended for students planning to enter programs within the life sciences (60% of students). Both streams are calculus-based. In both streams, students that have not completed grade 12 physics are required to enrol in a tutorial section.

The PHYS 112/122 stream uses University Physics for the Life Sciences first edition by Knight, Jones and Field.

The PHYS 111/121 stream uses the OpenStax University Physics textbooks (volumes 1 and 2, respectively).

All first-year physics classes are using Prairielearn homework system for their assignments.

This year we introduced an honours stream to the combined major in math and physics program.

Graduation this year: 6 honours majors in physics, and 5 majors in physics, with no one in the combined major.

Last year we had 676 students in the first term of first year physics and no summer first year physics courses offered.

This year we had 653 students in the first term of first year physics and have 55 students enrolled in the summer 2024 term.

Last year we had 375 students in the second term of first year physics (after classes ended), this year 404.... both Phys 121 and Phys 122 were slightly up, as we offered an extra section of Phys 122 this year. We have 50 students enrolled in the summer 2024 term 2.

Across 5 required second year physics courses and one elective second year course we had an average enrollment of 20.7.

Across four required third year physics classes, one elective physics course, 2 elective medical physics courses and one elective astrophysics course we had an average enrollment of 12.75.

Across six fourth year courses (three required by honours majors) we had an average enrollment of 8.66.... Phys 401 had 21 students.

Currently we have:

Year 4 : 19 phys majors, 2 honours phys majors, 3 combined math and physics majors, 2 physics minors (both doing cosc degrees)

Year 3: 19 physics majors, 5 combined math and physics majors, 1 double major in biochem & physics, 1 double major in psych & physics, 3 minors (majoring in cosc, biochem, math)

Year 2: 12 physics majors, 4 combined math and physics majors, 1 minor (cosc major). So about 66 majors if we include combined majors.

We offer MSc and PhD programs in Medical Physics and currently have 15 students, combined, in these programs.

At UBC Okanagan, physics is in the Department of Computer Science, Mathematics, Physics, and Statistics.

Reza Khanbabaie

University of British Columbia - Vancouver

There are currently 113 students in Physics or Astronomy degree programs in 4th year (or above), compared to 104 (2023), 112 (2022), 125 (2021), 124 (2020), 137 (2019), 135 (2018), 96 (2017), 92 (2016), 69 (2015), 93 (2014), 93 (2013), and 79 (2012). They are: 47 majors physics, 6 majors astronomy, 9 combined-honours astronomy & physics, 14 honours physics, 6 combined honours biophysics, 11 combined-major physics & computer science, 9 combined-honours physics & computer science, 9 combined-honours physics and math, and 2 combined-honours physics & chemistry.

There are 68 students who have applied to graduate this year, compared to 73 (2023), 84 (2022), 82 (2021), 80 (2020), 85 (2019), 73 (2018), 60 (2017), 57 (2016), 46 (2015), 70 (2014), 57 (2013), and 49 (2012). These numbers are smaller than the number of students in 4th year or above because many students take more than 4 years to complete their degree.

There are 66 students applying for graduation in engineering-physics this year, compared to 48 (2023), 74 (2022), 56 (2021), 35 (2020), 70 (2019), 65 (2018).

First year physics and astronomy students take PHYS 117 (mechanics), PHYS 118 (E&M), and PHYS 119 (1-credit lab). The enriched track is PHYS 106 (mechanics), PHYS 108 (E&M), and PHYS 119 (1-credit lab). Physics and astronomy degree students are encouraged but not required to take the PHYS 129 lab. Other science students usually take PHYS 131 (a range of topics). Engineering students take PHYS 157 (thermal physics and waves), PHYS 158 (E&M), PHYS 159 (1-credit lab), and PHYS 170 (engineering statics and dynamics).

Mechanics courses should not normally be articulated to PHYS 131. Mechanics lecture courses with no lab component should articulate to PHYS 117. E&M lecture courses should articulate to PHYS 118. If both terms of physics have a lab component, that should map to PHYS 119, as well as lecture courses. A separate lab course should map to PHYS 119.

Articulating to PHYS 101 is deprecated, because it doesn't count toward a physics degree, and is discontinued and will be removed from the Calendar in the Fall. Articulating to PHYS 102 is deprecated, because it has been discontinued and replaced by PHYS 118 and will be removed from the Calendar in the Fall.

UBC-Vancouver is in the process of changing our student registration system software. This will likely impact transfer credits for a year or two.

Tom Mattison

University Canada West

General

UCW is pleased to share several updates since the 2023 report:

- Dr. Bashir Makhoul was instated as the new University President and Vice-Chancellor in October 2023.
- UCW is proud to be celebrating its 20th anniversary this year.
- UCW's MBA Games team finished 1st place in both the BC MBA Games (December 2023) and in the national MBA Games (January 2024).
    - First team in the history of the competition to hold both the provincial and national trophies.
    - As the competition winners, UCW will be hosting both the BC MBA Games and the national MBA Games this year.
- Recently partnered with 4stay to launch an off-campus housing initiative including 2 locations: downtown Vancouver and Main Street.
- Transitioned from Moodle Learning Management System (LMS) to Brightspace (D2L) LMS in September 2023.
- Established an Office of Research and Scholarship.
    - Developed new scholarly collaboration resources for faculty including faculty research interest directory, conference and association lists, and biweekly research seminar series.
    - New financial support resources for faculty research and scholarly activity through faculty research grants, student RA pool, GUS fellowship, and open access publishing grant.
- Established an Office of Academic Integrity and an Academic Integrity Review Committee.
    - Published an institutional statement on ethical and responsible use of Generative Artificial Intelligence (Gen AI).

Students/Enrollment

- Diversity:
    - Our student body currently represents over 110 nationalities with the top percentage of students coming from India (59.6%), Nigeria (5.42%), Sri Lanka (5.12%).
    - Other nationalities represented (up to 5%) include Nepal, Columbia, Bangladesh, Philippines, and Mexico.
- Enrollments:
    - Approximately 2400 new students joined UCW in the Winter 2024 term with approximately 15,000 students enrolled in total.
    - Approximately 14,500 students are registered for the upcoming Spring 2024 term, which includes approximately 1980 new students.
- Please see the student enrollment details in Table 1 below (enrollment figures include new starters and continuing students).

Table 1: Student Enrollments

Programs	Summer term 2023	Fall term 2023	Winter term 2024	Spring term 2024
MBA	9617	10701	10415	9568*
BCom	674	711	703	669*
BABC	228	243	225	276*
AA	2906	3278	3671	3975*
Total	**13425**	**14933**	**15014**	**14488***

**Final numbers are still subject to changes.*

Staffing

- There have been several high-level staffing changes within the university, which include both newly hired and internally promoted staff.
- Each department continues to expand support staff to increase services offered to students.
- Please see the staffing updates in Table 2 below and the UCW staff numbers in Table 3.

Table 2: Staffing Updates

Name of employees	Job Title	Start Date
Bashir Makhoul	President & Vice-Chancellor	Oct-23
Mazi Shirvani	Interim VP, Academic	Mar-24
Komil Mamajanov	VP, Strategic Development	Nov-23
Jenny Shickele	Associate VP, Finance	Oct-23
Annette O'Hara	Ombudsperson	May-23
Stewart Fast	Director, Office of Research & Scholarship	Aug-23
Susanna Wai Yun Chow	Director, Institutional Risk & Compliance	Nov-23
Heidi Rolfe	Director, Institutional Risk & Compliance (on leave)	Nov-23
Amy Hua	Director, Partnership & Pathways	Mar-24
Abrar Ahamed	Director, Digital Transformation	Feb-24
Brenda Mathenia	University Librarian	Oct-23
Eileen Wang	Associate Director, Career Development Centre	Feb-24
Shalini Vats Rajpal	HR Director	Feb-24

Table 3: UCW Staff Numbers

Department	Apr-23	Mar-24
Academic Affairs	54	60
Administration	11	10
BD - Recruitment	13	14
Finance	29	29
Human Resources	22	23
Health & Safety	n/a	2

Library & Learning Commons	12	23
IT	12	32
Facilities and Building Operations	n/a	6
Marketing & Communications	18	21
Office of the President	10	18
Registrar's Office	56	64
Student Affairs & Services	44	55
UAP Instructors	22	28
Faculty	416	657

Teaching & Learning Updates

- Faculty-Focused Programs and Services
    - Launched a Certificate Course "Teaching Excellence" providing faculty with in-depth training on influential learning theories, inclusive teaching practices, online delivery models, instructional design frameworks, assessment principles, and portfolio refinement.
    - Continuous workshops and micro credentials including but not limited to effective utilization of the LMS (Brightspace), addressing diversity through UDL, enhancing assessment validity and reliability, facilitating Online Guided Learning, and designing courses and instructional resources.
- Student-focused Programs and Services
    - 20 Learning for Success Workshops addressing students' academic needs.
    - One-on-one appointments with Learning Strategists for personalized support.
    - Launched re-designed Writing Coach Program with 1-1 academic writing support.

Library & Open Education Resources (OER) Updates

- Launched UCW's institutional repository, "UCW Wise".
    - UCW Wise is a digital portal for showcasing the work of UCW students, faculty, and staff.
    - The collections currently available include select coursework showcasing students' final research paper for MBAR 661 and 2 seasons of the Innovation Fuel podcast.
- The OER Committee:
    - Collaborated with the Associate of Arts (AA) program to increase the use and adoption of OERs and library licensed content across the program. As of March 2023, nearly 41% of AA courses use OER in at least one section.
    - Developed updated training materials for faculty interested in learning more about OERs including new promotional materials and videos in partnership with our Marketing / Communications team.
    - Working with BC Campus and BCOEL to highlight the work UCW is doing to adopt open access resources within our institution as well as support the growing OER community. UCW has recently been added to the Post-Secondary Directory providing a chance to showcase some of our initiatives as well as highlight UCW faculty's contributions to OER textbooks. The addition of UCW to this directory

helps to elevate our profile within the province and acts to spur interest in OER adoption.

- The Library, Office of Research and Scholarship, and the OER Committee are collaborating on efforts to incentivise and support faculty publication in green and open access journal. The recently launched Article Process Charges Pilot Fund and the hiring of a Scholarly Communications and Copyright Librarian are associated with these efforts.

Curriculum & Course Development Updates

- CPA PROFESSIONAL EDUCATION PROGRAM (CPA PEP) articulation has been received, and all courses have been articulated. CPA website has UCW BCOM listed as having all the courses articulated.
- New specializations are under consideration for UCW's BCOM degree.
- University Access Program (UAP) is piloting Associate of Arts (AA) specific course sections to better address students' academic needs.
- UAP is conducting an internal self-study review with an external review to occur in June 2024.

New Program Update

- UCW is currently working on new program development within our graduate area**.** Two proposals have been put through to the Degree Quality Assessment Board (DQAB) for consideration.
    - Master of Entrepreneurship – currently up for consideration by the DQAB Board.
    - Master of Marketing – pending scheduling of the DQAB-appointed Expert Review Panel.

Zahra Lotfi Mahyari

University of the Fraser Valley

The Physics Department at University of the Fraser Valley offers Physics Honours, Major, and Minor programs within the BSc.

Enrolments:

	2022-2023	2023-2024
1st year calculus-based, Engineering/Physics stream (Phys 111 Mechanics, Phys 112 E&M)	226	305
1st year algebra-based, Service courses (Phys 101 Mechanics/Fluid, Phys 105 Heat/Waves/Wave)	124	116
ASTR 101 Solar System, ASTR 103 Astronomy (solar system)	70	86
2nd year (Phys 221 Intermediate Mechanics, Phys 225 Waves and Introductory Optics, Phys 231 Thermodynamics)	46	25
3rd/4th year physics courses	128	166

Graduates: 11 physics majors, 1 physics minor.

1st year texts:

- OpenStax texts are used in all our 1st year service courses (so all non-calculus based).
- Young and Freeman "University Physics" is still used in our mainstream calculus-based courses (PHYS 111/112), but it won't be for much longer. The department has started to consider open-source alternatives for all first-year course offerings.

Other notes:

- Due to the (continuous) shortage of instructors, we are still not able to offer ASTR 104 Stars/Galaxies/Cosmos or PHYS 100 Introductory Physics I.
- We have recently started to build back our permanent faculty capacity. We hired 1 physics faculty replacement and 1 new engineering faculty in 2023. This year we are in the process of hiring 1 full-time permanent lab instructor replacement, and 1 engineering faculty replacement. This will bring us up to 8 permanent faculty members, 2 of which are dedicated lab instructors.

Lin Long

University of Northern British Columbia

UNBC offers a full physics program. No major curriculum changes in first-year and second-year were made during 2023 – 2024.

Modern Physics textbooks notwithstanding, photons are not necessary to explain the photoelectric effect. UNBC has purchased equipment for demonstrations and labs that more firmly establish the existence of photons.

Lectures and labs in summer PHYS 115 (grade 12 equivalent) will be in-person this summer.

Entering math skills continue to be problematic, even for students in calculus-based physics.

OpenStax texts were used for calculus-based first-year physics, and for one semester of astronomy.

Enrolment

PHYS 115 (physics 12)	2021	2022	2023
Summer	19	16	24
Fall	42	26	30

PHYS 100	2021-2022	2022-2023	2023-2024
Fall	59	79	64
Winter	31	32	37

PHYS 101	2022	2023	2024
Winter	31	26	38

PHYS 110	2021	2022	2023
Fall	64	55	63

PHYS 111	2022	2023	2024
Winter	41	24	29

PHYS 202	2021	2022	2023
Fall	5	5	4

PHYS 200	2022	2023	2024
Winter	4	6	4

PHYS 205	2021	2022	2023
Fall	6	8	3

PHYS 206	2022	2023	2024
Winter	2	6	4

ASTR 120	W2022	F2022	F2023
	64	54	69

ASTR 121	F2021	W2023	W2024
	49	50	48

Textbooks

	2021-2022	2022-2023	2023-2024
Physics 115 (physics 12)	*Physics*, Cutnell and Johnson	*Physics*, Cutnell and Johnson	*Physics*, Cutnell and Johnson
Physics 110/111 (calculus-based)	OpenStax	OpenStax	OpenStax
Physics 100/101 (algebra-based)	*College Physics*, Serway and Vuille	*College Physics*, Freedman, Ruskell, Keston, and Tauck	*College Physics*, Freedman, Ruskell, Keston, and Tauck (100); *College Physics*, Serway and Vuille (101)
ASTR 120/121 (Astronomy)	*Universe*, Geller, Freedman, Kaufmann (120); OpenStax (121)	*Universe*, Geller, Freedman, Kaufmann (120); OpenStax (121)	*Universe*, Geller, Freedman, Kaufmann (121); OpenStax (120)

George Jones

University Context:

UVic's domestic enrolment is at target. International enrolment is below what was centrally budgeted, so there has been a second year of base budget cuts (another ~4%, but differentially imposed between units). The faculty complement is being "pruned", primarily through inducements for early retirement. There is a moderately serious attempt to slightly increase minimum class sizes. Also, our processes around academic accommodations have been in flux because of significantly increased demand post-pandemic. This has resulted in large impacts on our first-year courses.

We are slowly moving on our comprehensive curriculum refresh. We have designed a 3rd year lab course to bridge between our 2nd year and honours offerings. Tentative first offering next summer. We expect to be decoupling labs from our 2nd and 3rd year courses and creating "Lab in [Topic]" courses. We also expect to be doing a 10-15% redesign and topic shuffling of our core theory courses (Classical, E&M, Quantum, and Themal/Statistical) to improve the integration of computational work into our curriculum.

1st year PHYS:

Our overall enrolment returned to immediate pre-pandemic levels in both the algebra-based and calculus-based streams, with a bit of algebra-based softness this year. UVic's international enrolments have been lower over the past two years, and this means a smaller incoming cohort for Engineering. We are seeing systematically higher attrition and poorer performance in the first course of the calculus-based stream, but things look more-or-less normal in the second course. We're interpreting this as reflecting the preparation of the incoming student cohort, and that the difficulty of the first course is unchanged.

Courses offered:

- PHYS 102A (first term) and 102B (second term) – An algebra-based survey of physics.
    - Normally offered Sept-April. Formerly a two-term course PHYS 102.
  - Primary Audience: Biology students
  - Text: Serway (algebra based, latest edition)
  - Enrolment: Initially around 500.
  - Final enrolment PHYS 102A:
    - Fall 2023: 481 ('22: 533, '21: 645, '20: 563, '19: 510, '18: 519)
  - Final enrolment PHYS 102B:
    - Spring 2024: 378 ('23: 428, '22: 499, '21: 465, '20: 403, '19: 377)
  - Topics: Mechanics and energetics, oscillatory and wave motion, fluids, thermodynamics, electricity and magnetism, optics, modern physics
- PHYS 110 (first term) and 111 (second term) – A calculus-based survey of physics
    - PHYS 110 offered Fall (Sept) and Spring (Jan)
    - PHYS 111 offered Spring (Jan) and Summer (May)
  - Primary Audience: Natural Science and Engineering students
  - Text: UVic locally-written text and supplements.

    - Enrolment: Initial (fall) enrolment peaks at 700-750
    - Final enrolment PHYS 110:
        - Fall 2023: 551 (22: 510, 21: 525, 20: 438, 19: 493,18: 498, 17: 556, 16: 599)
        - Spring 2024: 162 (23: 191, 22: 202, 21: 196, 20: 144, 19: 144, 18: 156, 17: 162)
    - Final enrolment PHYS 111:
        - Spring 2024: 460 (23: 404, 22: 334, 21: 297, 20: 406, 19: 420, 18: 490, 17: 448)
        - Summer 2024: 89* (23: 66, 22: 72, 21: 87, 20: 68, 19: 61, '18: 77, '17: 71)
        - Past off-schedule offerings Fall 2021: 87
    - Topics: As for 102, with limited content on fluids and electromagnetism
    - 110 – Mechanics, conservation laws, electric and magnetic forces
    - 111 – Thermodynamics, oscillatory and wave motion, optics, modern physics
- PHYS 120 (first term) and 130 (second term) – Physics for Physicists and Astronomers
        - Normally offered Fall (120) and Spring (130)
    - Primary Audience: Prospective major/honours students
    - Text: Young and Freedman – University Physics with Modern Physics (latest edition)
    - Enrollment: Used to peak near 100
    - P120 enrolment 2023: 70 (22: 73, 21: 66, 20: 76, 19: 67, 18: 62, 17: 57, 16: 74)
    - P130 enrolment 2024: 49 (23: 47, 22: 47, 21: 57, 20: 57. 19: 48, 18: 42, 17: 49)
    - Topics: As for 102 omitting Electricity and Magnetism and Thermodynamics
    - 120 – mechanics and special relativity
    - 130 – rotational motion, oscillatory motion, waves, modern physics

2nd year PHYS:

The University of Victoria offers a number of second year Physics courses, four of which are common to all our undergraduate programs. Enrollment have been relatively stable for the past years.

We are currently piloting two courses at the second year level

- Introduction to Medical Physics (2nd year offering)
- Introduction to Quantum Computing (1st year offering)

The change in instruction method in March means that it's hard to draw lessons about their success.

Courses offered:

- PHYS 210 (also EOS 210) – Geophysics
        - Normally offered in the fall.
    - Primary Audience: PHYS/EOS combined program students
    - Text: Selections from several books, including Lillie – Whole Earth Geophysics
    - Enrolment: About 60 (20 as PHYS, 40 as EOS).
    - Enrolment: 2023: 35 (22: 29, 21: 43, 20: 47, 19: 65, 18: 56, 17: 62, 16: 32)

- PHYS 215 – Introductory Quantum Physics
    - Normally offered in the spring.
  - Primary Audience: PHYS and ASTR major and honours students
  - Text: Varies depending on instructor, usually Thornton and Rex
  - Enrolment 2024: 50 (23: 44, 22: 44, 21: 65, 20: 52, 19: 57, 18: 49, 17: 42, 16: 46)
- PHYS 216 – Introductory Electricity and Magnetism
    - Normally offered in the fall – offered again this summer in compressed form.
  - Primary Audience: PHYS and ASTR major and honours students, and Engineers
  - Text: Excerpts from Young and Freedman – we are looking for a better text.
  - Enrolment 2023: 55 (22: 55, 21: 37, 20: 58, 19: 57, 18: 75, 17: 72, 16: 64, 15: 67)
- PHYS 223 – Introductory Quantum Computing
  - Enrolment 2024: 20 (23: 11, 22: 9, 21: 10)
- PHYS 229 – Introductory Laboratory
  - Enrolment 2023: 44 (22: 39, 21: 46, 20: 48, 19: 52, 18: 48, 17: 47)
- PHYS 232 – Introductory Biomedical Physics
  - Enrolment 2024: 17 (23: 14, 22: 9, 21: 11, 20: 9, 19: 15)
- PHYS 248 – Computer Programming in Math and Physics
    - Normally offered in the spring.
  - Primary Audience: PHYS, ASTR, and MATH major and honours students
  - Text: None standardized
  - The course was previously cross-listed with MATH, and because of different program needs that coupling has been dissolved.
  - Enrolment 2024: 49 (23: 50, 22: 62, 21: 48, 20: 43, 19: 57, 18: 32, 17: 5)

1st year ASTR:

The University of Victoria offers three 1st year Astronomy courses, two intended for non-majors and one that is the first course in our ASTR progression.

The number of sections of ASTR 101 and 102 offered changed in response to the 2017 retirement of a long-serving staff member.

In the fall and spring terms this year the ASTR 101 instructor experimented offering a small (24 cap) fully online synchronous version of the course, including online labs. The lecture to the in-person cohort was simultaneously broadcast for the online students. All assessment was online.

The instructor reports being happy with the experiment.

Courses offered:

- ASTR 101 and 102 – Astronomy for non specialists (101-Solar System, 102-Cosmology/Stars)
    - Primary Audience: General interest
  - Text: Varies depending on instructor
  - Enrolment: About 150-180/term in ASTR 101; About 100-120/term in ASTR 102.
  - Summer offering about 60-80.

- ASTR 150 – Concepts in Astronomy
    - Primary Audience: Astronomy major/honours students
  - Text: Varies depending on instructor
  - Normally offered in the spring.
  - Enrollment 2024: 59 (23: 47, 22: 52, 21: 60, 20: 57, 19: 62, 18: 50, 17: 61, 16: 72)

2nd year ASTR:

The University of Victoria offers three second-year Astronomy courses, one intended for general interest, and two that form part of our ASTR program.

Courses offered:

- ASTR 201 – Search for Life in the Universe
    - Primary Audience: General interest
  - Text: Readings
  - Enrolment: 50-70.
  - Offered for the first time since 2019 in fall 2023, enrolment 47.
- ASTR 250 – Introductory Astrophysics
    - Primary Audience: ASTR major/honours students
  - Text: Freedman and Kaufman - Universe
  - Enrolment: 2023: 18 (22: 28, 21: 32, 20: 25, 19: 28, 18: 30, 17: 27, 16: 24, 15: 33)
  - Normally offered in the fall.
- ASTR 255 – Planetary Science
    - Primary Audience: ASTR major/honours students
  - Text: Varies depending on instructor
  - Enrollment: 2024: 15 (23: 14, 22: 22, 21: 22, 20: 13, 19: 18, 18: 9, 17: 15, 16: 11)
  - Normally offered in the spring.
  - This course is now being taught by a new faculty member specializing in exoplanets; there may be changes to this course reflecting his research interest.

Mark Laidlaw

Vancouver Community College

Program/Course Update:
Enrolments have overall seen to be almost the same in university transfer in science at VCC. We ran two sections of the first half of our calculus-based 1st year physics (PHYS 1100) in fall 2023; a fully in-person version and a hybrid version (for the hybrid version, lectures are online but labs are in-person).

In the subsequent winter term of 2024, a single hybrid section of the second half of the physics course (PHYS 1200) was offered.

We also ran an online section of PHYS 1170, our Mechanics course for engineers.

For the third time we ran a section of Introduction to Astronomy (PHYS 1110), which is aimed at non-science students. This course, delivered in a hybrid format, experienced an increase in enrollment compared to the previous year.

Course	Winter 2023	Fall 2023	Winter 2024
PHYS 1100 (fully in-person)	N/A	12	N/A
PHYS 1100 (Hybrid)	N/A	8	N/A
PHYS 1200 (fully in-person)	8	N/A	N/A
PHYS 1200 (Hybrid)	11	N/A	7
PHYS1170 (online)	10	N/A	5
PHYS1110 (Hybrid)	7	N/A	14

Nafiseh Tohidi

Vancouver Island University

Vancouver Island University is located on the traditional, ancestral, and unceded territory of the Snuneymuxw, Quw'utsun, Tla'Amin, Snaw-naw-as, and Qualicum First Nations.

Course	2023/24	2022/23	2021/22	2020/21	2019/20
PHYS 111 (F)	65	67	68	76	75
PHYS 111 (S)	20	-	-	-	-
PHYS 112	46	53	35	61	50
PHYS 121	58	49	51	57	47
PHYS 122	42	34	37	45	24
ASTR 111/112/311/312	93	92	122	130	115

General Activities

- Recent contract negotiations adjusted the workload cap in each department (with some nuance) applicable from 2024/25 onwards.
- On-going internal discussion with respect to applying credit to incoming courses for students transferring onwards, and how best to provide advice such that students are both receptive and understanding of implications (i.e. credit transfer is subject to evaluation at the ultimate receiving institution).
- Lecture and lab activities continues to be split within most first-year Biology and Chemistry courses at VIU; on-going internal discussion as to whether Physics streams (life sciences and/or physical sciences) should follow this action.

"Stream" Activities

Astronomy

- Students are using OpenStax astronomy as a resource.
- Observing nights have continued with positive feedback.

Physics

- PHYS 111 instance offered in the Spring term with general success. Will continued to be scheduled in the Spring for 2024/25. Goal is to provide more than one opportunity / year for students to complete program/curricular requirements.
- OpenStax used for both PHYS 111/112 & PHYS 121/122,
- On-going issues with student practicing problems and pre-reading,
- Students generally are proving resilience and perseverance during their lab settings.
- Online material provided (generally) for the purposes of accommodation; felt impact on attendance overall.

Brian Dick

Yukon University

No report received.