Bachelor of Science in Health Science (Honors, Major, Minor)
Program Review
Self-Study Report Appendices

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Appendix A - Career Pathways Map

Sector	Possible Careers	Credential/Skills
Research and Academia	• Lecturer or Professor • Research Associate, Coordinator, Consultant • University Administrator • Wellness Specialist	MA, MSc, or PhD (Health Related Field)
Population and Public Health	• Epidemiologist • Health Educator • Biostatistician • Global Health Worker	BA/BSc MA, MSc, or PhD
Health Administration and Management	• Hospital Administrator • Healthcare Manager • Health Policy Analyst • Quality Assurance Lead	BA/BSc MA, MSc, or PhD
Biotechnology and Pharmaceuticals	• Bioinformatician • Health Product Sales • Product Development • Pharmaceutical Representative	BSc or related field MA, MSc, or PhD
K-12 Education	• Science Teacher • Health Teacher • School Administrator	BA/BSc BC Teaching Certificate Graduate Diploma in Education, MA or MEd

Professional Career Options for HSCI Program Graduates					
Profession	**Description**	**Practice Settings**	**Minimum Education**	**Practicum[1]**	**National Exam[2]**
Audiologists	Identify, diagnose, and manage individuals with hearing-related and balance problems. Also engaged in the prevention of, counseling for and research into hearing-related disorders.	Hospitals, public health units, community health centres, nursing homes, schools, private practices, industrial settings, hearing-aid manufacturers, universities and professional associations	Master's	√	√
Chiropractors	Diagnose and treat health problems associated with muscular, nervous and skeletal systems, particularly the spine.	Mostly work in private practice.	Professional Doctorate	√	√
Dentists	Diagnose, prevent and treat diseases, conditions and disorders of the teeth, mouth and surrounding tissues and structures to contribute to oral health and general well-being.	Private-practice clinics, hospitals, universities and public health facilities.	Professional Doctorate	√	√
Dietitians	Plan, implement and manage nutrition and food service programs that are directed at encouraging healthy nutrition outcomes and the prevention of nutritional disorders. Dietitians provide treatment of nutrition-related diseases and conditions.	Educational institutions, hospitals, long-term care facilities, public and community health services, private practice, government and industry.	Bachelor's	√	√
Environmental Public Health Professionals (EPHPs)	Include the working titles of both public health inspector and environmental health officer. Safeguard the environment and health of Canadians by providing health protection services in a variety of regulated and non-regulated areas.	Government agencies on inter-disciplinary public health teams. Some work in the private sector as technical consultants or as workplace safety and health professionals and in the fields of academics, public policy, executive management, research, and information management.	Bachelor's	√	√

Profession	Description	Practice Settings	Minimum Education	Practicum[1]	National Exam[2]
Health Information Management (HIM) Specialists	Experts in the science and technology of health information management. Possess a blend of knowledge and skills encompassing biomedical sciences, information science and technology, the legal aspects of health information management, and the integration of clinical and financial information. They provide services in all aspects of health information lifecycle management, including data collection and quality management, decision support, standards, access and disclosure, coding, disposition and privacy of health information.	Acute care, community health clinics, mental health and outreach programs, nursing homes and long-term care facilities, government agencies, privacy commissioners' offices, educational institutions, IT/IS vendors, pharmaceutical companies and workers' compensation offices. They perform detailed analyses of information in health records to facilitate health care decisions.	Bachelor's	√	√
Medical Physicist	Specialized training in the medical applications of physics, which involves the use of physical agents, including X-rays, particle beams, radioactive materials, ultrasound, magnetic and electric fields, heat and light in medical diagnosis and therapy.	Cancer-treatment facilities, hospital diagnostic imaging departments or hospital-based research establishments. Others work in universities, government and industry.	Master's or Doctorate		
Midwives	Primary health care providers who offer comprehensive care to women and their babies during pregnancy, labour, birth and the postnatal period.	Home, community, hospitals, clinics, birth centres and health units. Midwives offer choice of birth place; most have hospital privileges.	Bachelor's	√	√
Occupational Therapists (OTs)	Promote health and well-being by enabling individuals, groups and communities to participate in occupations that give meaning and purpose to their lives including self care, play, work, study, volunteerism and leisure.	Community agencies, hospitals, chronic care facilities, rehabilitation centres and clinics; schools; social agencies; industry; or are self-employed. Some specialize in working with a specific age group or conditions such as arthritis.	Master's	√	√
Optometrists	Frequently serve as the entry point into the eye health care system. They examine patients' eyes, diagnose vision and ocular health problems and prescribe treatments to conserve, improve and correct vision and ocular health disorders.	Optometrists work in private practice, clinics and community health centres.	Professional Doctorate	√	√

Profession	Description	Practice Settings	Minimum Education	Practicum[1]	National Exam[2]
Pharmacists	Assist clients with medications in order to safely achieve desired health outcomes at home, in the community and in hospitals. They conduct research and work with other health care providers to deliver optimal health care through effective use of health care products and services. Their practice emphasizes drug therapy management of diseases and symptoms and the promotion of wellness and disease prevention.	Work as community, institutional or industrial pharmacists. Community pharmacists own and/or practice in community pharmacies, while institutional pharmacists practice in hospitals, long-term care facilities and other such health care institutions. Industrial pharmacists participate in the research, development, manufacturing and sales of pharmaceutical products. Other settings include academics, government and regulatory organizations.	Bachelor's	√	√
Physicians	Prevent, diagnose and treat human illness, and assist in rehabilitation and palliation after the onset of disease or injury.	Community-based clinics and doctors' offices, hospitals, academic health centres and other institutional health care settings, such as nursing homes, laboratories, universities and government.	MD Plus Residency	√	√
Physio-therapists or physical therapists	Prevent, assess and treat the impact of injury, disease and/or disorders in movement and function. They work on improving, restoring and maintaining functional independence and physical performance; preventing and managing pain, physical impairments, disabilities and limits to participation; and promoting wellness.	Private and public settings including private physiotherapy clinics, public out-patient clinics, hospitals, rehabilitation centres, sport facilities, home-care programs, schools, long-term care facilities, community health centres, industry, government, universities and research facilities. Many are self-employed.	Master's	√	√
Psychologists	Study the biological, cognitive, emotional, social, cultural and environmental determinants of behaviour. Psychologists are licensed provincially and territorially to assess, diagnose and treat psychological problems and mental disorders.	Hospitals, community clinics, private practices, universities, schools, criminal-justice settings, social-welfare agencies, workplace employee-assistance programs, rehabilitation programs and workers' compensation boards. Services range from prevention to rehabilitation).	Doctorate	√	√

Profession	Description	Practice Settings	Minimum Education	Practicum[1]	National Exam[2]
Registered Nurses	Coordinate health care, deliver direct services and support clients in their self-care decisions and actions in situations of health.	Institution and community-based environments such as hospitals, care facilities, rehabilitation centres, clinics, community health centres, home-care agencies, education and research facilities, companies, government and doctors' offices. May be self-employed.	Bachelor's	√	√
Respiratory Therapists (RTs)	Provide direct patient care by evaluating, treating and maintaining cardiopulmonary function.	Hospitals settings including critical care, NICU, operating room, emergency; home care, clinics, teaching, research, rehabilitation and diagnostic clinics and sleep-disorder laboratories, medical equipment sales and services and chronic disease and primary care networks.	Diploma or Bachelor's	√	√
Speech–Language Pathologists (SLPs)	Engaged in prevention, identification, assessment, treatment, counseling, research into, management of and education about communication and swallowing disorders.	Work in hospitals, rehabilitation centres, mental health facilities, community health centres, nursing homes, child-care facilities, early intervention programs, schools, universities, research facilities, private and group homes and private practice.	Master's	√	√

[1]Internship or clinical practicum; [2]For non-regulated professions, the national exam is not necessarily a requirement to work/practice in Canada; however, could be an employer requirement; √Indicates that an internship/clinical practicum and a national exam exist and are required in most provinces/territories. Source: Health Personnel Database, Canadian Institute for Health Information

Appendix B – Curriculum Map

PROGRAM CURRICULUM MAP - Bachelor of Science (Honours), Major in Health Science

PROGRAM COURSES WITH COURSE LEARNING OUTCOMES	PROGRAM LEARNING OUTCOMES															
	PLO#1	PLO#2	PLO#3	PLO#4	PLO#5	PLO#6	PLO#7	PLO#8	PLO#9	PLO#10	PLO#11	PLO#12	PLO#13	PLO#14	PLO#15	PLO#16
	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	Develop an awareness of the different components of health science and their inter-relationships.	Develop a critical understanding of health issues.	Assess how health information is presented, interpreted, and applied.	Develop critical knowledge of health information and technologies.	Develop facility with the research techniques appropriate to effectively explore health information.	Internalize an efficient approach to being well-informed about health information and issues.	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.
Calendar link to Bachelor of Science (Honours), Major in Health Science																
For each CLO, the PLO(s) it satisfies are indicated, and at which level. The three levels are:																
Introduced [I]: Course learning outcomes that concentrate on knowledge or skills related to the program outcomes at a basic level or skills at an entry-level of complexity.																
Developing [D]: Course level outcomes that demonstrate learning at an increasing level of proficiency of the program level outcome as well expanding complexity.																
Advanced [A]: Course level outcomes that demonstrate learning related to the program level outcome with an increasing level of independence, expertise and sophistication or integrate the use of content or skills in multiple levels of complexity.																
Year 1																
BIOL 1110 Introductory Biology I																
Describe the current system of biological taxonomy and explain why it is changing	I															
Describe the key features of major groups of organisms	I															
Explain how organisms have evolved by natural selection	I															
Describe and explain nutrient cycling and energy flow in ecosystems	I	I														
Recognize and differentiate a range of interspecific interactions in communities	I															
Relate the structure of plant tissues to their functions	I															
Compare and contrast a range of morphological and physiological systems in selected organisms	I															
Carry out basic laboratory procedures, including the use of compound and dissecting microscopes, preparation of material for observation with a microscope, and construction of biological drawings											I				I	
Apply the scientific method to conduct and report on experimental investigations						I					I					
Cooperate with group members to complete tasks in a shared learning environment																
BIOL 1210 Introductory Biology II																
Compare and contrast the processes of mitosis and meiosis and explain the role of these processes in living organisms	I															
Explain basic concepts and patterns of Mendelian and non-Mendelian inheritance	I															
Apply concepts of inheritance to solve genetics problems	I			I												
Describe the structure and functions of the major classes of biological molecules (carbohydrates, lipids, proteins, nucleic acids)	I	I														
Apply the concepts of fitness, mutations, adaptation and speciation to explain how organisms evolve by natural selection	I															
Relate the structure of cells and their organelles to their functions	I															
Explain biological processes associated with cell organelles and discuss their significance	I															
Compare and contrast patterns and mechanisms of embryological development in animals and plants and discuss the significance of different stages	I															
Demonstrate competence in conducting a range of laboratory procedures, including the use of compound and dissecting microscopes, preparation of materials for observation with a microscope, and construction of biological drawings											I				I	
Apply research skills to gather relevant information and integrate with existing knowledge											I				I	
Apply the scientific method to conduct and report on experimental investigations				I		I					I				I	
CHEM 1110 The Structure of Matter																
Solve a variety of stoichiometric and gas law problems		I														
Solve problems based on the Bohr model of the atom, other 1-electron atomic systems and the photoelectric effect		I														
Use quantum theory to discuss orbital shapes, energies and electron configurations of atoms and ions		I														
Describe and explain trends in atomic and ionic radii, ionization energies, electron affinities, and electronegativities with reference to the Periodic Table of Elements		I														
Describe ionic and covalent bonding and explain trends in physical properties based on type of bonding	I	I														
Use Lewis structures and resonance to describe bonding and Valence Shell Electron Pair Repulsion (VSEPR) Theory to predict shapes of covalent species		I														
Use Valence Bond Theory and Molecular Orbital Theory to rationalize shapes, stabilities and magnetic properties of covalent species		I														
Describe the different intermolecular forces and explain effects of intermolecular forces on physical properties of covalent compounds	I	I														
Name a variety of organic compounds containing different functional groups	I	I														
Describe and illustrate different types of isomerism possible in organic compounds	I	I														
Predict the products of simple reactions involving organic compounds	I	I														
Discuss the common types of radioactivity and their uses		I														
Solve problems based on the rates of radioactive decay, binding energies of nuclei and energy associated with nuclear reactions		I														
CHEM 1210 Chemical Energetics and Dynamics																
Solve problems in electrochemistry, chemical kinetics, thermodynamics, equilibria involving gases, acids and bases, ionic compounds, liquids and solids, solutions		I														
Write reports based on observations and data obtained in the laboratory for each of the experiments performed						I										
Perform lab techniques learned throughout the semester by successfully performing experiments as well as a final practical lab exam											I					
ENGL 1100 Introduction to University Writing																
Read, annotate, and summarize a variety of academic and non-academic works												I				
Understand audience, purpose, and occasion																
Analyze and evaluate structure, logic, style, and evidence																
Explore and refine ideas through discussion and debate																
Think and respond critically to a broad range of texts and cultural products																
Engage in a writing process that includes brainstorming, outlining, drafting, and revising strategies to produce university-level writing																
Apply principles of unity, development, and coherence in writing																
Produce clear, grammatical, and logical written work independently																
Write essays that assert and support clear thesis statements																
Research and assess secondary-source material using university-level methods and resources									I			I				
Integrate sources effectively into written work using quotation, paraphrase, and summary																
Document source material and format essays using MLA and/or APA citation methods to uphold the principles of academic integrity																
Recognize and correct errors in their own writing																
HSCI 1115 Introduction to Health Science																
Describe the Canadian health system including historical developments, current structure (e.g., financing, delivery), strengths and weaknesses, and future trends					I		I	I		I		I	I		I	
Discuss concepts of health science from a range of perspectives including clinical, cultural, environmental, political, socioeconomic, and global					I	I	I	I	I	I		I	I		I	
Relate the determinants of health to both individual and population health	I				I	I	I	I								I
Define the core terminology and strategies used to measure health	I	I		I	I	I	I	I		I	I	I	I		I	I
Discuss theories and interventions designed to promote health behaviour change		I														I
Explain how common health behaviours contribute to infectious and chronic diseases	I				I		I	I		I		I	I		I	
Describe prevalent health conditions and diseases: prevalence, incidence, characteristics, risk factors, prevention, and treatment	I	I		I	I	I	I	I	I	I		I	I		I	
Apply literature search skills to conduct and report on health behaviours and/or conditions					I	I	I	I	I	I	I	I	I		I	
Cooperate with group members to complete tasks in a shared learning environment					I	I	I	I	I	I		I	I		I	
HSCI 2220 Medical Terminology																
Understand the basic Latin and Greek constructs underlying the language of health and biomedical sciences	I	I			I				I							
Identify and use abbreviations, prefixes, and suffixes common to the health and biomedical literature	I	I			I				I							
Use the basic Latin and Greek constructs of health and biomedical sciences to deconstruct technical written and s	I	I			I				I							
Apply technical health and biomedical terminology into various contexts and settings	I	I			I				I							
Evaluate the relevance and accuracy of health and biomedical language used in the media	I	I			I				I							
MATH 1120 Differential Calculus																
State and apply the concepts of differential calculus, including the limit, the derivative, both as the slope of a tangent line and as a rate of change, and the geometry of derivatives				I												
Compute, in simple cases, derivatives from the definition				I												
Demonstrate and apply the basic skills of calculus (finding limits, differentiation, graphing) for algebraic and elementary transcendental functions				I												
Apply these skills to solve applied problems				I							I					
Use a computer algebra system to solve problems related to differential calculus				I												
OR MATH 1130 Calculus for Life Sciences I																
Understand and state the basic concepts of differential calculus				I												
Find limits of, differentiate, and graph algebraic and elementary transcendental functions				I												
Apply the above concepts and skills to the solution of applied problems, especially those of biological sciences				I							I					
MATH 1230 Calculus for Life Sciences II																
Evaluate both definite and indefinite integrals				I												
Solve applied problems requiring integration (area between curves, volume of rotation, optional: probability density functions)				I												
Solve first order differential equations and analyze them qualitatively				I												
Use calculus to model biological systems				I							D					
Select one of the following:																
INDG 1100 Introduction to Indigenous Studies																
Recognize the diversity of Indigenous people's histories, cultures, and traditions in North America												I				
Describe traditional cultures of various Indigenous peoples in Canada																
Identify the impact of past, current, and ongoing colonialism on Indigenous peoples								I				I	I			
Explain the legacy of colonial oppression in Canada								I				I	I			
Describe and critically assess colonial assumptions												I				
Recognize Eurocentric and colonial bias												I				
Critique political, social, and economic motives behind the creation of cultural stereotypes												I				
Identify key Indigenous events in histories																
Explain the significance of Indigenous languages, cultures, worldviews and their impact on humanity																
Write meaningful responses to questions about Indigenous histories and cultures																
Research and apply Indigenous traditional knowledge and scholarship																
MATH 1135 Problems and Concepts																
Call on prior knowledge and experience to address novel mathematical problems by choosing relevant information, making conjectures, devising plans and testing solutions				I												
Formulate, analyze, and model mathematical problems and communicate solutions				I												
Distinguish between deductive and inductive inferences				I												
Work with the basic concepts of deductive logic				I												
Apply deductive logic to construct simple proofs and solve problems in set theory and other areas of mathematics (such as sequences and series, geometry or trigonometry)				I												
Think critically about mathematics				I												
Use software to typeset documents including mathematical notation				I												
PHIL 1145 Critical Thinking																
Define and distinguish different types of arguments												I				
Identify premises and conclusions found in argumentative writing																
Evaluate the strength of arguments found in a variety of contexts									I			I				
Construct clear and directed objections to weak arguments												I				
Identify the use of rhetorical devises																
Recognize ambiguity, vagueness, and the use of jargon in writing									I			I				
Recognize common errors in reasoning												I				
Present strong, well-organized arguments both written and oral																
PHIL 1155 Introduction to Scientific Reasoning																
Analyze and evaluate inductive arguments						I						I				
Analyze and evaluate scientific hypotheses at an elementary level						I						I				
Describe the difference between a pseudo-scientific hypothesis and a real scientific hypothesis						I						I				
Critically assess the production of well-reasoned arguments						I			I			I				
Analyze and evaluate the arguments of others						I			I			I				
SOCI 1125 Introduction to Society: Processes and Structures																
Describe and apply the "sociological imagination"																
Describe the basic elements of social structure at the macro-sociological level																
Explain social processes that occur at the micro-sociological level																
Analyze the dynamics between macro level structures and micro level social processes																
Apply fundamental sociological concepts and major theoretical orientations to a critical analysis of various social phenomena and issues												I				
Evaluate social issues in terms of their relevance to their own social context and the larger society								I				I	I			
Compare and contrast cultures, groups, organizations, and social institutions in local, national, transnational and global contexts								I				I	I			
Analyze social inequalities Learn from diverse and marginalized ways of knowing								I				I	I			
Produce sociological reports																
Year 2																
BIOL 2320 Genetics																
Solve problems in applied genetics using classical genetic techniques	I			D							D					
Understand and apply recombinant DNA technologies and techniques in classroom and laboratory environments	D										D				D	
Perform laboratory experiments, critically analyze and present data using current formats				D		D					D					
Discuss and evaluate the ethics of current topics in genetics																
Compare and contrast the molecular structure of genes and chromosomes in prokaryotes and eukaryotes, and how information is transmitted from genotype to phenotype	D															
Describe mutations at genome, chromosome, and gene levels and use this knowledge to solve genetics problems	D															
Demonstrate competence using current laboratory and computational techniques in genetics						D					D				D	
BIOL 2321 Cell Biology																
Describe the structure, function, and subcellular location of a variety of organelles, and compare and contrast them in cells with different specializations	D															
Explain the structure and function of the eukaryotic plasma membrane and how this membrane relates to the internal endomembrane system	D															
Differentiate between methods of transporting materials across membranes	D															
Explain the processes of transcription and translation required to form a nascent protein, and trafficking the nascent protein to its destination	D	D														
Compare and contrast the structures and functions of different cytoskeletal components	D															
Explain basic paradigms of cell signaling and how signaling is used to regulate progression of the cell through the cell cycle	D															
Discuss methods of intercellular communication, cell adhesion, and cell motility	D															
Interpret microscopy images and demonstrate the microscopy techniques required to view specimens at up to 1000x total magnification											D				D	
Perform experimental procedures outlined in a lab manual and analyze experimental results based on an understanding of cellular structures and processes						D					D				D	
Compose a laboratory report of an experiment (completed by the student) using scientific language and format						D					D					
BIOL 2421 Cellular Biochemistry																
Describe the properties of aqueous biological systems	D	D														
Describe the biochemical properties of amino acids and proteins using myoglobin and hemoglobin as examples	D	D														
Describe the mechanism of serine protease enzymes	D	D														
Interpret data and solve problems regarding the rates of enzymes that display Michaelis-Menten kinetics	D	D														
Describe the structure, nomenclature, chemical properties and biochemical function of carbohydrates	D	D														
Describe key pathways of carbohydrate metabolism and the regulation of carbohydrate metabolism	D	D														
Understand and summarize scientific data and/or literature related to class content						D										
CHEM 2320 Organic Chemistry I																
Recognize and name a variety of organic compounds using the IUPAC system of nomenclature	D	D														
Explain the effects of intermolecular forces on the physical properties of organic compounds	D	D														
Solve a variety of problems dealing with the structural basis of organic chemistry	D	D														
Describe the conditions and products formed in the important organic reactions	D	D														
Describe the mechanisms of the important organic reactions using the correct conventions to represent the movement of electrons	D	D														
Determine the identity of organic compounds based upon spectroscopic evidence	D	D														
Solve a variety of synthetic problems in which simple organic compounds are converted into more complex compounds	D	D														
CHEM 2420 Organic Chemistry II																
Recognize and name a variety of organic compounds using the IUPAC system of nomenclature	D	D														
Use molecular orbital theory to understand the concept of aromaticity	D	D														
Describe the conditions and products formed in the important organic reactions	D	D														
Describe the mechanisms of the important organic reactions using the correct conventions to represent the movement of electrons	D	D														
Determine the identity of organic compounds based upon spectroscopic evidence	D	D														
Solve a variety of synthetic problems in which simple organic compounds are converted into more complex compounds	D	D														

PROGRAM COURSES WITH COURSE LEARNING OUTCOMES	PROGRAM LEARNING OUTCOMES															
	PLO#1	PLO#2	PLO#3	PLO#4	PLO#5	PLO#6	PLO#7	PLO#8	PLO#9	PLO#10	PLO#11	PLO#12	PLO#13	PLO#14	PLO#15	PLO#16
	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	Develop an awareness of the different components of health science and their inter-relationships.	Develop a critical understanding of health issues.	Assess how health information is presented, interpreted, and applied.	Develop critical knowledge of health information and technologies.	Develop facility with the research techniques appropriate to effectively explore health information.	Internalize an efficient approach to being well-informed about health information and issues.	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.
Describe the chemistry of fats, carbohydrates and proteins as further examples of the chemistry of the functional groups already studied	D	D														
PHYS 1101 Physics for Life Sciences I																
Explain the concepts of vectors and their use in mechanics problems	I		I													
Apply Newton's laws of motion to point particles as well as extended objects	I		I													
Apply the concepts of work and energy to mechanics problems	I		I													
Apply the conservation laws to systems of particles	I		I													
Explain the basic concepts in simple harmonic motion, waves, sound, fluids and heat	I		I													
Use computers in the laboratory for the collection and analysis of data and in the presentation of results			I	D		I					I					
SOCI 2280 Sociology of Health, Disability, and Society																
Explain health, disability, and medicine from sociological and interdisciplinary perspectives							D	D	D			D	D			
Explain and evaluate various models of health, healthcare, and healthcare delivery						D	D	D	D			D	D			
Trace the social history, construction, and rise in power of biomedical medicine							D	D	D			D	D			
Identify and explain the primary determinants of health, wellness, and disability							D	D				D	D			
Explain the relationship between social structure and health							D	D	D			D	D			
Explain the relationship between social support and health							D	D	D			D	D			
Identify the roles of healthcare practitioners and service providers							D	D	D			D	D			
Analyze the institutional context of health, wellness, and disability						D	D	D	D			D	D			
Compare different contexts of healthcare delivery							D	D	D			D	D			
Analyze current health issues						D	D	D	D			D	D			
Elective At the 1100 level or higher																
Select one of the following:																
ANTH 1100 Social & Cultural Anthropology																
Explain the concept of culture																
Recognize and describe cross-cultural diversity												I				
Interpret the interrelationships among culture, society, and the individual												I				
Apply the concepts of social and cultural anthropology to ethnographic case studies																
Describe and analyze the research methods used by cultural anthropologists, including participant-observation, ethnographic research and advocacy as associated with applied anthropology											I					
Understand the impact of globalization on local cultures												I				
Identify and explain terms, concepts and phenomena important to the study of anthropology, including ethnocentrism and critical cultural relativism												I				
Identify quantitative and qualitative approaches in anthropological research											I					
Attend to, and critically engage with, the perspectives of others												I				
Present and defend well-organized arguments																
Distinguish anthropology from other disciplines																
Develop an informed and critical understanding of the history and context of contemporary Indigenous cultures in Canada												I				
Develop an informed and critical understanding of human cultural diversity												I				
Attend to intercultural communication and skills related to its development												I				
ENVI 2305 Environmental Toxicology																
Explain some of the common biological mechanisms negatively impacted by environmental contaminants	D	D														
Recognize the variety of toxic impacts that environmental contaminants have on organisms and ecosystems	D						D	D								
Describe the common tests used to measure toxicity, including field and laboratory procedures							D		D	D	D					
Evaluate data obtained from common toxicological tests				D		D	D		D	D	D		D			
Identify and discuss various issues related to toxicology, such as legislative and ethical considerations							D	D	D				D			
PSYC 1100 Introduction to Psychology: Basic Processes																
Read and critically evaluate current peer-reviewed research in the field of psychology						I										
Describe basic psychological processes such as perception, attention, learning and memory	I															
Apply rudimentary research and statistical methods to describe and interpret research Write clearly and concisely about psychological concepts				I		I					I					
Identify how basic psychological processes have contributed to the oppression of Indigenous peoples' and other marginalized groups												I				
Use critical thinking skills through discussion and analysis of psychological issues												I				
Apply psychology theories and concepts to real life scenarios, case studies, or challenges																
PHYS 1102 Physics for Life Sciences II																
Explain the concepts of currents, charges and electric fields in electrostatic and circuit problems	I		I													
Explain the concepts involving moving charges in magnetic fields	I		I													
Solve simple problems in finding magnetic fields produced by moving charges	I		I													
Explain electromagnetic induction	I		I													
Solve both geometric and physical optics problems			I	I				I								
Explain some of the basic concepts of nuclear physics and radioactivity	I		I													
Use computers in the laboratory for the collection and analysis of data and in the presentation of results			I	I							I					
Discuss applications of course topics to the life sciences			I													
PHIL 1145 Critical Thinking																
Define and distinguish different types of arguments												I				
Identify premises and conclusions found in argumentative writing												I				
Evaluate the strength of arguments found in a variety of contexts												I				
Construct clear and directed objections to weak arguments												I				
Identify the use of rhetorical devises																
Recognize ambiguity, vagueness, and the use of jargon in writing												I				
Recognize common errors in reasoning												I				
Present strong, well-organized arguments both written and oral												I				
Year 3																
BIOL 2330 Microbiology																
Describe the historical contributions of key scientists in the field of microbiology																
Contrast between prokaryotic microorganisms, eukaryotic microorganisms and acellular entities studied by microbiologists in terms of structure, biological role and taxonomy	D															
Describe the nutritional requirements and uptake mechanisms of bacteria	D															
Illustrate the effect of various environmental factors on microbial growth	D															
Classify physical and chemical methods of microbial control	D	D														
Recall the effects of chemotherapeutic agents on bacteria and how bacteria may develop resistance against such agents	D						D	D								
Illustrate mechanisms of genetic variation	D															
Summarize the key steps in the success of a bacterial pathogen and the host's response to pathogens	D						D	D								
Perform standard microbiological procedures using aseptic technique						D	D	D		D	D				D	
Communicate a knowledge and understanding of current topics in the field of microbiology	D						D	D	D				D			
BIOL 3130 Foundations of Human Anatomy & Physiology																
Acquire knowledge of anatomical and histological procedures, language, concepts and principles for study of complex human organ systems	D						D	D			D					
Develop microscope and biological drawing skills									D	D	D					
Outline the key physiological and anatomical aspects of the nervous and endocrine system directly related to homeostatic mechanisms	D						D	D								
Use microscopic techniques to identify histologic characteristics and correlate the characteristics with functional properties of the tissue							D	D	D		D				D	
Analyze and explain how bone, joint, and motor units interact to produce movement at synovial joints	D						D	D								
Analyze the relationship between the histological characteristics of the immune system and the physiology of the immune system	D						D	D								
Select and perform appropriate anatomical image & dissection techniques and models in the lab environment to analyze organ structure and function and correlate with medical images	D						D	D	D	D	D					
Use observation and documentation skills to record histological characteristics of muscle, skin, bones, joints, and components of the immune system from microscope slides	D						D	D	D		D					
Use data acquisition software to collect and analyze physiological data				D		D	D		D	D	D					
BIOL 3180 Life Science Research Methods																
Write scientifically by synthesizing ideas and citing existing peer-reviewed literature					A	A			A		A					
Use iterative revision to prepare multiple drafts of scientific writing, incorporating feedback from the instructor and peers					A				A		A					
Critique scientific writing and provide constructive feedback to peers					A				A		A	A	A			
Write reports using lay- or scientific language, depending on the audience					A	A			A				A			
Research topics in the biological and health sciences, using appropriate resources	A				A	A	A	A	A		A	A	A		A	
Incorporate the appropriate sampling, measurement, data collection and data analysis strategies into a research design				A		A					A					
Interpret and design quantitative, qualitative and mixed-method studies					A	A	A		A		A					
Design studies wherein participant inclusion, research design and research ethics conform to contemporary professional expectations	A				A	A	A		A		A			A	A	
Analyze and critique quantitative, qualitative and mixed-method studies	A			A	A	A	A	A	A		A	A	A			
BIOL 3321 Advanced Cell and Molecular Biology																
Describe transcriptional and posttranscriptional control of gene expression in Bacteria and in Eukaryotes	A															
Discuss signal transduction and G protein coupled receptors	A															
Give examples of signalling pathways that control gene expression	A															
Outline the signalling pathways associated with cell migration	A															
Discuss the regulation of the cell cycle, with emphasis on Go and G1	A															
Explain the signalling relationship between cells	A															
Explain the signalling relationship between cells and the extracellular matrix	A															
Differentiate between embryonic and adult stem cells	A															
Describe signalling pathways that result in cell differentiation	A															
Summarize the mechanisms involved in cell death	A															
Differentiate between humoral and cell-mediated immunity	A						A	A								
Discuss the Major Histocompatibility Complex (MHC) and antigen presentation	A						A	A								
Describe cell signalling in T cell and B cell activation	A						A	A								
Differentiate between tumour cells and healthy cells	A						A	A								
Discuss the aberrations in signalling pathways associated with cancer	A						A	A								
Interpret and evaluate current literature in the area of cell signalling	A							A	A		A	A	A			
Use advanced laboratory techniques to design and carry out investigations in the area of cell biology									A	A	A				A	
BIOL 4230 Human Gastrointestinal, Excretory, and Reproductive Systems																
Construct an outline of the anatomical characteristics of the gastrointestinal, excretory and reproductive systems, including regional anatomy and specializations of organ/tissue anatomy and histology	A						A	A								
Use histological concepts and knowledge of tissue types to develop descriptions of organ and organ system functions and physiology	A						A	A								
Build physiological descriptions of each organ and cell type that relate structure to function and homeostatic mechanisms to appropriate organ and cell activity	A						A	A								
Apply concepts of cell signaling, cell signal transduction, electrophysiology and negative feedback to assess and explain specialized, appropriate functions of cells and tissues	A						A	A								
Study the maternal, embryonic, and newborn structural and physiological changes associated with perinatal development	A						A	A								
Communicate scientific information in appropriate formats							A	A	A							
MATH 2335 Statistics for Life Sciences																
Summarize data using appropriate tables, summary statistics and plots				D							D					
Interpret and use descriptive statistics				D					D		D					
Work with and apply elementary probability theory				D												
Apply discrete and continuous random variables and probability distributions				D							D					
Apply sampling distributions				D							D					
Apply point estimation				D												
Construct confidence intervals for mean, proportion, variance, difference between means, and difference between proportions				D					D		D					
Perform tests of means, proportions, standard deviations, differences between means, differences between proportions				D					D		D					
Apply elementary probability theory and statistics to problems in life sciences				D							D					
Perform regression analyses				D					D		D					
Use statistical software such as EXCEL				D					D		D					
PHIL 3010 Health Care Ethics																
State in precise terms the problems surrounding the topic(s) studied in the course							A	A	A	A		A	A			
Discuss the various proposed solutions to these problems, including their motivation and shortcomings							A	A	A	A		A	A			
Identify significant connections that may exist between the topic(s) and relevant individuals, groups, cultures, institutions, practices, policies, and norms							A	A	A	A		A	A			
Construct clear and direct objections to weak philosophical arguments												A				
Present and analyze strong, well-organized philosophical arguments, both written and oral												A				
Select two of the following:																
BIOL 3320 Molecular Genetics																
Produce solutions to genetics problems related to course content	A			A												
Distinguish between various mechanisms of gene regulation	A															
Distinguish between various mechanisms of DNA repair	A	A														
Conduct experiments using proper lab techniques in molecular biology including polymerase chain reaction, work with bacteria and plasmids, gel electrophoresis, etc.		A				A	A		A	A	A				A	
Investigate the effects of RNA interference on gene expression using model species	A															
Investigate the mutagenicity of chemical substances	D	A					A	A								
Analyze DNA sequence data to deduce and categorize mutations	A					A				A						
Prepare and deliver presentation(s) on topic(s) related to course content															A	
HSCI 3110 Applications of Health Science																
Use data from aptitude assessment tools to make informed decisions about the objectives of their 6-week practicum							D		D							D
Demonstrate safe work practices in the practicum setting							D		D							D
Apply theory, knowledge, and skills obtained from their academic courses to their learning experience in the job setting							D		D				D		D	D
Identify the relevance of their studies to the work carried out by their host organization							D		D							D
Identify possible areas of further study that would contribute to success in a career relevant to their practicum							D		D							D
Self-reflect and develop a portfolio that includes the assessment of their work experience in relation to their expectations and to the results of their aptitudes test							D		D							D
Prepare an effective job application that includes a cover letter and resume							D		D							D
Demonstrate professionalism by showing behaviours such as empathy, integrity, time management skills, appropriate delivery of service, diplomacy, respect, and advocacy							D		D							D
Develop professional identity based on self-reflection of practicum experience							D		D							D
HSCI 3215 Complementary Medicine																
Describe and critically assess the different types of complementary medicine modalities reviewed in the course including their: -History -Uses and benefits -Safety, contraindications, and interactions -Evidence base -Regulatory bodies where applicable					D		D		I				I			
Compare conventional medicine to complementary approaches					D		D	I	I				I			
Critically evaluate and summarize research findings					D		D		I				I			
Evaluate therapies using evidence based approaches					D		D		I				I			
Prepare a written summary of the modalities in complementary medicine, including relevant details, to treat a specific medical condition					D		D		I				I			
Write a critical appraisal of the evidence that evaluates a selected modality in complementary medicine					D		D		I				I			
HSCI 3225 Nutrition																
Comprehend concepts of normal nutrition and how environmental factors influence nutritional processes	D	I			D	D			D							
Describe functions, structure, classes, key features and metabolic processes of macronutrients and micronutrient	D	I		I	D	D	I		D							
Understand the role of nutrition in human functioning and disease	D	I		I	D	D		I	D	D			D			
Describe nutritional requirements and outline their differences at various stages of the life cycle	D	I		I	D	D		D	D				D	D		
Critically review current issues in nutrition, including those within the global context	D	I			D	D	I	D	D			I	D	D	D	
HSCI 4130 Pharmacology																
Describe the fundamental principles of pharmacokinetics and pharmacodynamics	A	A		D	D	I	D									
Distinguish between drugs, over-the-counter (OTC) medications, and natural health products (NHPs), and their regulatory bodies	I	I			D	I	D		A							
Examine sources of new drugs, global distribution of drugs, and disposal of drugs	A	A			D	I	D									
Explain the essential elements of clinical trials in bringing a new drug to market	A	A		D	D	I	D									
Identify the role of molecular genetics and genomic principles in pharmacotherapeutics and personalized medicine	A	A			A	I	D			D						
Examine selected major classes of drugs, and critically assess the risks and benefits in relation to the organ systems they affect, and the disorders for which they are used therapeutically	A	A			A	I	D	A	A				D		D	
Describe the mechanism of action and physiological effects of select classes of drugs to be able to summarize the reason(s) for their toxicity or abuse in society	A	A			A	I	D						D		D	
Re-create and interpret drug monographs	I	I			I	I	D		A							
Year 4																
BIOL 3421 Molecular Biochemistry																
Outline and describe the intermediary metabolic pathways of the cell, focusing on bioenergetics and including metabolism of lipids, steroids, amino acids and nucleotides	A	A					A	A								
Describe the integration and regulation of lipid, amino acid and nucleotide metabolism	A	A					A	A								
Describe the structure and function of genes and chromosomes to include a description of DNA replication and repair, transcription and translation	A	A														
BIOL 4130 The Human Cardiovascular, Respiratory and Nervous Systems																
Construct an outline of the anatomical characteristics of the cardiovascular, respiratory, and nervous systems, including regional anatomy and specializations of organ/tissue anatomy and physiology	A						A	A								

PROGRAM COURSES WITH COURSE LEARNING OUTCOMES	PROGRAM LEARNING OUTCOMES															
	PLO#1	PLO#2	PLO#3	PLO#4	PLO#5	PLO#6	PLO#7	PLO#8	PLO#9	PLO#10	PLO#11	PLO#12	PLO#13	PLO#14	PLO#15	PLO#16
	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	Develop an awareness of the different components of health science and their inter-relationships.	Develop a critical understanding of health issues.	Assess how health information is presented, interpreted, and applied.	Develop critical knowledge of health information and technologies.	Develop facility with the research techniques appropriate to effectively explore health information.	Internalize an efficient approach to being well-informed about health information and issues.	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.
Use histological concepts and knowledge of tissue types to develop descriptions of organ and organ system functions and physiology	A						A	A								
Build physiological descriptions of each organ that relate structure to function and homeostatic mechanisms to appropriate organ activity	A						A	A								
Apply concepts of cell signaling, cell signal transduction, electrophysiology and negative feedback to assess and explain specialized, appropriate functions of cells and tissues	A						A	A								
Demonstrate competence in anatomical imaging and dissection procedures, data acquisition using computer software, and representative diagnostic tools							A		A							
Analyze measured physiological data from cardiovascular, respiratory and nervous systems in the lab.	A			A		A	A		A	A	A					
Explain basic concepts of anatomy and physiology related to cardiovascular, respiratory, and nervous systems	D						A	A								
Communicate scientific information in appropriate formats							A		A							
HSCI 4380 Critical Evaluation																
Critique the scientific literature including content about health decision making				D		D	D		A		A	A	A			
Evaluate the implications of decision theory and analysis related to a range of health issues				D		D	D		A		A	A	A			
Interpret the main psychometric properties of health measurement scales and assess their utility				D		D	D		A		A	A	A			
Apply methodological frameworks of decision making to address health problems				D		D	D		A		A	A	A			
Evaluate the relative merits of alternative approaches to policy analysis						D	D		A		A	A	A			A
Examine case studies of current health issues where various forms of decision analyses have been applied						D	D		A		A	A	A			A
HSCI 4990 Honours Thesis Project I																
Formulate a testable research hypothesis or research question.						A			A	A	A				A	
Conduct a systematic review of the literature.						A			A						A	
Describe an appropriate methodology to test the research hypothesis or answer the research question.						A			A						A	
Explain, in detail, the specific physiological, metabolic, biomechanical, and/or theoretical system(s) relevant to the research area.						A			A						A	
Competently operate any equipment required for the project (e.g., complete all safety training requirements).						A			A	A	A				A	
Conduct pilot test work (e.g., feasibility analysis of protocols, questionnaire design testing) to help formulate a research proposal.						A			A	A	A				A	
Write and present a research proposal selected for the Honours Thesis that contains: A systematic review of the literature -A statement of hypothesis or research question -An overview of proposed research project in scientific and layman language -A description of the planned methods including a data analysis plan -Project timelines and budget -A description of how the project will advance health science -A knowledge dissemination plan						A			A						A	
Provide oral and written progress reports on project status.						A			A						A	
Conduct peer review of research proposals.						A			A						A	
Respond to and integrate relevant feedback from peers in their research proposals.						A			A						A	
Determine and complete the necessary training requirements to conduct their research.						A			A						A	
Show an understanding of the ethical issues surrounding the collection and reporting of research data.				A		A			A						A	
Submit an application to the institutional Research Ethics Board as required.						A			A						A	
Explain how different contextual factors may influence choice of research topics and methods.						A			A						A	
HSCI 4995 Honours Thesis Project 2																
Carry out the applied research project selected for the Honours Thesis						A			A						A	
Problem-solve and trouble-shoot research procedures						A			A	A	A				A	
Assess relevant research data at an advanced level				A		A			A	A	A				A	
Present and defend the research results						A			A						A	
Clearly articulate implications of research findings within the context of the field						A			A						A	
Critique original project proposal in light of research findings						A			A						A	
Evaluate research outcomes to discern potential errors, alternate interpretations				A		A			A						A	
Clearly identify and articulate avenues for future research hypotheses				D		A			A						A	
Select two of the following:																
BIOL 3330 Microbiology II																
Describe the use of Bergey's Manual in prokaryotic taxonomy	A															
Summarize the role of microorganisms in the carbon, nitrogen, phosphorus, sulfur, iron and manganese cycles	A	A														
Survey microorganisms found in marine, freshwater and terrestrial ecosystems	A															
Give examples of the types of interactions with other organisms that microbes participate in	A															
Choose a technique (culturing, staining, molecular) that would be the most appropriate for assessing microbial numbers, identity or diversity from an environmental sample	A					A			A	A	A					
Interpret the microscopy, culture, biochemical, molecular and immunological assays used to identify microorganisms from a patient's specimen		A				A	A	A	A	A	A				A	
Describe the factors that influence food spoilage and the approaches used to preserve food	A						A	A								
Communicate the origin and consequences of a food intoxication event	A						A	A								
Explain how microorganisms are used in industrial microbiology	A						A	A								
Assess the role of antibiotic production by microorganisms in nature	A						A	A					A			
Investigate the phenotypic diversity of soil Streptomycetes and evaluate the efficacy of antibiotic production by an isolated microorganism	A						A	A								
BIOL 4320 Human Genetics																
Distinguish between several modes of inheritance of human genetic traits	A															
Compare and contrast different types of research methods used in human genetics						A			A	A	A	A				
Relate the use of different research methods in human genetics to the research context						A				A	A	A				
Analyze, interpret and present results of research on human genetics topics from scientific literature				A		A			A		A	A	A			
Debate issues regarding ethical, social and legal implications of research in human genetics												A	A			
Lead class discussions												A				
BIOL 4245 Developmental Biology																
Describe the key stages of development in a range of organisms and explain the significance of these stages	A															
Compare and contrast patterns of development in a range of vertebrate and invertebrate organisms and discuss reasons for the differences observed	A															
Apply concepts in developmental biology to animal anatomy and physiology	A															
Critically evaluate current literature in developmental biology through discussions and oral presentations						A			A		A	A				
Perform classical experiments in the field of developmental biology	A					A				A	A					
Collect, analyze, interpret and present results of novel laboratory investigations pertaining to the development of an invertebrate model organism	A			A		A				A	A					
Communicating an understanding of content and procedures in written format through quizzes, problem sets, assignments and reports																
BIOL 4255 Bioinformatics																
Describe the role of Bioinformatics in basic science research, health science research and health practice							A		A	A	A					
Describe the application of Bioinformatic algorithms and software as a biological tool										A	A					
Compare and contrast current online biological databases										A	A	A				
Utilize biological databases for analytical and predictive purposes using DNA, RNA and protein sequences	A	A				A				A	A		A			
Apply sequence information toward phylogenetic analysis	A			A		A				A	A					
Describe the process of creating bioinformatic algorithms using current Bioinformatics programmable software										A	A					
Access online biological databases to collect and analyze data						A			A	A	A				A	
Utilize bioinformatic algorithms/software for Biology and Health Science applications				A		A	A			A	A			A	A	
Create bioinformatic algorithms using current Bioinformatics programmable software				A		A				A	A				A	
HSCI 4170 Human Pathology																
Apply the concepts of pathophysiology in the diagnosis and treatment of disease.	A				A	A		A		A						
Describe the common cellular changes underlying disease processes.	A	A			A	A		A		A						
Explain the mechanism, types, and effects of inflammation andrecognize key characteristics in specific pathologies	A	A			A	A		A		A						
Describe the healing process in general and identify hallmarks of this process in specific tissue and organs	A	A			A	A		A								
Compare the etiopathology, manifestations and treatment of selected pathologies	A				A	A		A		A						
Interpret results of laboratory tests used to measure physiological processes.	A				A	A		A		A						
Apply a knowledge and understandingof the structure and the function of a specific organ system to manifestations of pathology in that system	A				A	A		A		A						
Identify specific pathologies based on the interpretation of clinical lab results, in conjunction with morphologic and histologic changes	A				A	A		A		A						
Interpret data related to disease onset, progression and prognosis	A				A	A		A		A						
Identify major risk factors associated with specific disorders and disease processes	A				A	A		A		A						
Recognize major signs and symptoms related to specific disorders and disease processes	A				A	A		A		A			A			
Explain the effects of environmental change and globalization on the emergence and reemergence of infectious diseases	A				A	D		A	A				A			
Conduct literature research on current issues in pathology or on specific pathologic processes and present this research to peers	A				A	D		A	A				A			
Select two of the following:																
HSCI 4110 Health Program Planning and Evaluation																
Analyze the determinants of health in relation to health program planning					A	A	A	A	A							
Apply the phases of the PRECEDE-PROCEED Model to a health behaviour/outcome						A	A	A	A				A		A	
Utilize theory in developing the program plan						A	A		A						A	
Write goals and objectives that connect with the health promotion program plan						A	A		A						A	
Develop a logic model that aligns with the health promotion program plan						A	A		A						A	A
Construct or analyze an evaluation plan to assess the effectiveness of a health promotion program						A	A		A						A	A
Prepare and deliver a professional presentation on the final health program and evaluation plan					D	A	A		A						A	A
HSCI 4140 Health and Aging																
Evaluate the major theories of aging	A	A			D	D		I	I							
Interpret and debate the research on slowing and reversing the effects of aging	A	A			D	D		I	I							
Analyze the impact of age-related changes on body systems and relate the effects of these changes on one's ability to interact with his/her environment	A	A			D	D		D	I							
Recommend ways in which the environment can be modified to help accommodate the physiological changes experienced in older adults	I				D	D		D								
Analyze the multidisciplinary nature of health and aging issues at the individual, population, and communal level	D				D	D	A	A	A				A			
Evaluate the determinants of health and aging including the intersections of individual functional ability and society's ability to foster the health of an aging population	D				D	D	A	A	A				A	A		
Engage in critical reflection and community service learning to examine how determinants of the aging process influence the needs of older adults, health providers and the health system	A				D	D	A	A	A				A	A		
HSCI 4245 Populations and Policy																
Describe the Canadian health system including historical developments, current structure (e.g., financing, delivery), strengths and weaknesses, and future trends					D	D	D	D	A				A			
Explain the steps required for a bill to pass into law in British Columbia and Canada					D	D	D	D	A				A		I	
Explain the major models of health policy development, implementation, and evaluation					D	D	D	D	A				A			
Discuss instruments used to advance policy, identify opportunities and risks for each option, and explain when each might be more or less appropriate for use					D	D	D	D	A				A			
Define policy stakeholders, communities, and networks and explain their roles, perspectives, and influence on various health policy issues					D	D	D	D	A				A			
Evaluate current health policies and discuss their historical evolution in Canada					D	D	D	D	A				A			
Identify Canadian health policy issues and critically analyse the proposed policy solutions					D	D	D	D	A				A		A	
Prepare a written health policy brief that explains the health issue, provides background content, describes realistic solutions, and discusses implementation concerns					A	D	D	D	A				A	A	A	A
Compare Canadian health system characteristics, challenges, and policies with those of other nations (e.g., United States of America, Germany, Great Britain, Sweden)					I	D	D	D	A				A			A
Cooperate with group members to complete tasks in a shared learning environment					D	D	D	D	A				A			A
HSCI 4250 Health Business																
Explore entrepreneurism and its evolutionary development and role in economic growth.							A		A							A
Examine the entrepreneurial mindset, including characteristics and ethics.							A		A							A
Develop opportunity recognition, idea generation, and creative process.							A		A							A
Examine business opportunities within the health science sector.							A		A							A
Evaluate health business models and plans based on feasibility studies.							A		A							A
Formulate an execution strategy for a proposed health-related venture suitable for attracting external investment.							A		A							A
Investigate different financial and legal structures and other resources available for the development of health businesses and assess the implications of each approach.							A		A							A

Appendix C – Alumni Survey Tabular Results and Comments

Health Science Program Review - Alumni Survey Results

The alumni survey was sent to 77 Health Science alumni. A total of 20 alumni responded. The response rate is 26%.

Note: The data includes open-ended comments. In order to preserve integrity and objectivity, OPA does not do value-judgment editing (i.e. we do not fix spelling errors, syntax issues, punctuation, etc.). Comments are included verbatim – with one exception: if individuals or courses are named, OPA redacts the name of the instructor or course. This rule applies to whether the comment is good, bad or indifferent.

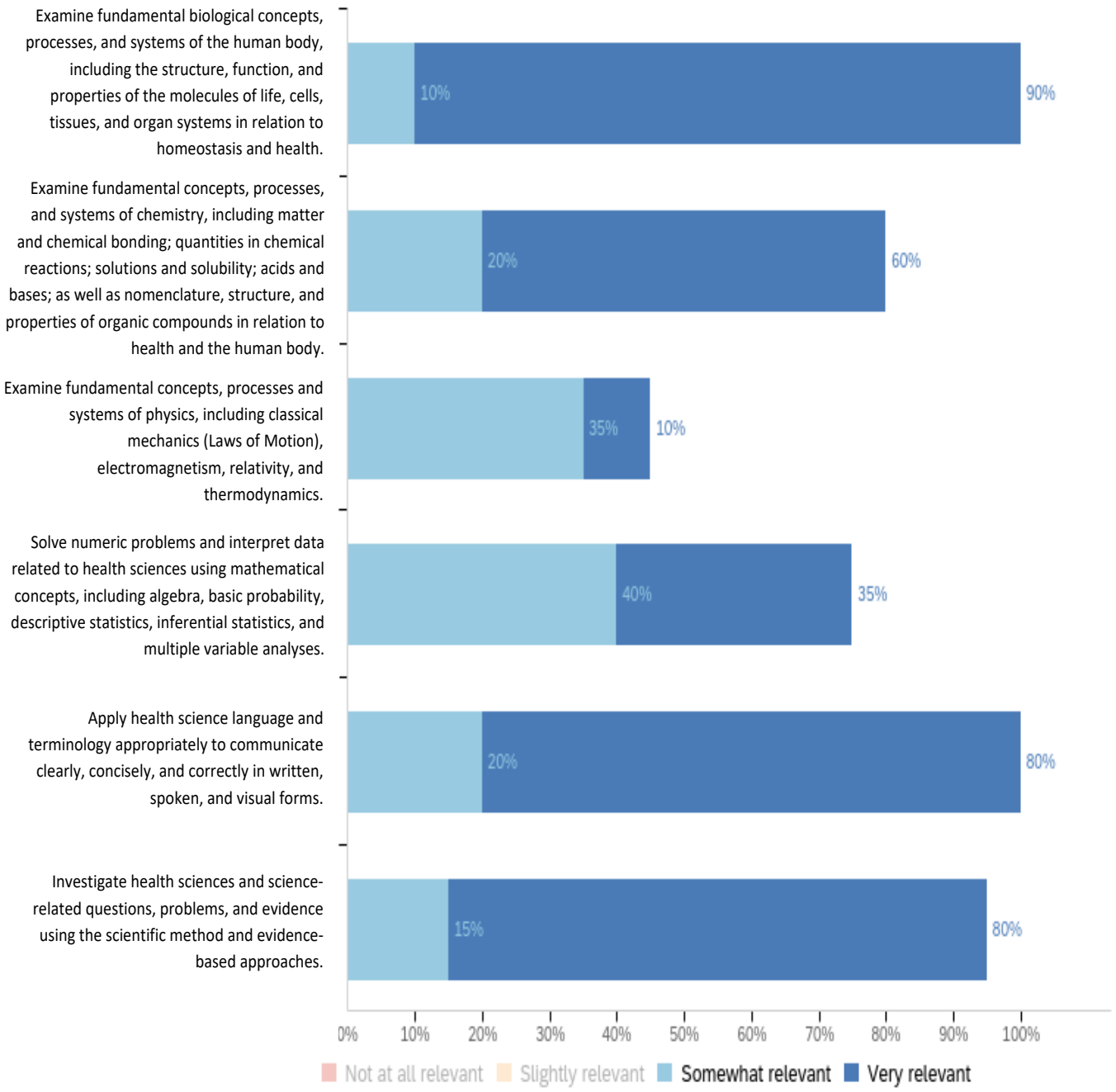
1. What is the highest credential you have earned in KPU's Health Science degree program?

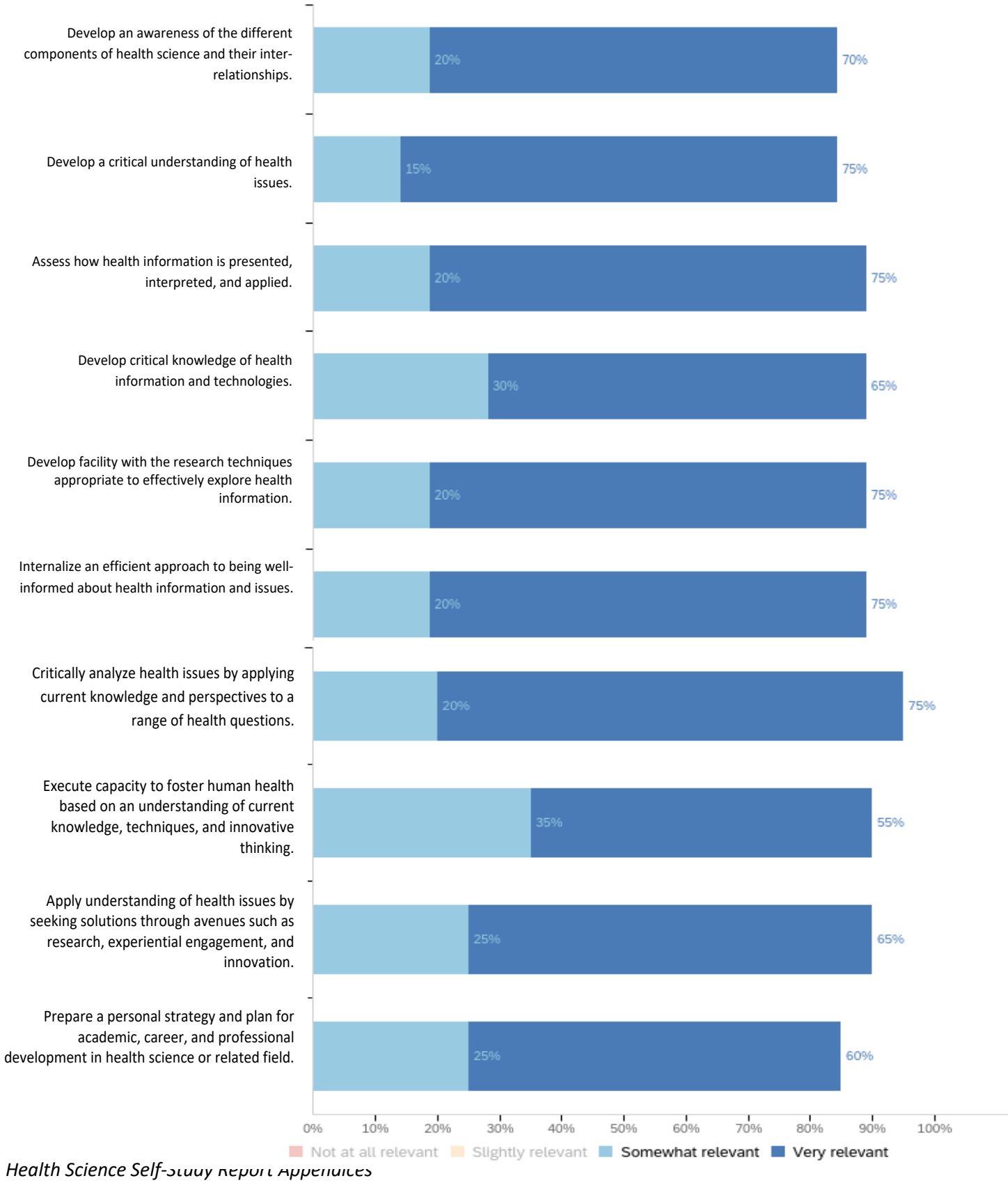
#	What is the highest credential you have earned in KPU's Health Science degree program?	Percentage
1	Bachelor of Science (Honours), Major in Health Science	30%
2	Bachelor of Science, Major in Health Science	70%
3	Minor in Health Science	0%
	Total number of respondents	20

2. When did you complete this credential?

#	When did you complete this credential?	Percentage
1	2024	20%
2	2023	45%
3	2022	15%
4	2021	10%
5	2020	5%
6	2019	0%
7	2018	5%
	Total number of respondents	20

3. Program Learning Outcomes are statements that describe the knowledge and skills students will have upon completion of a program. Please indicate how relevant each of the following Program Learning Outcomes was to your career goals.

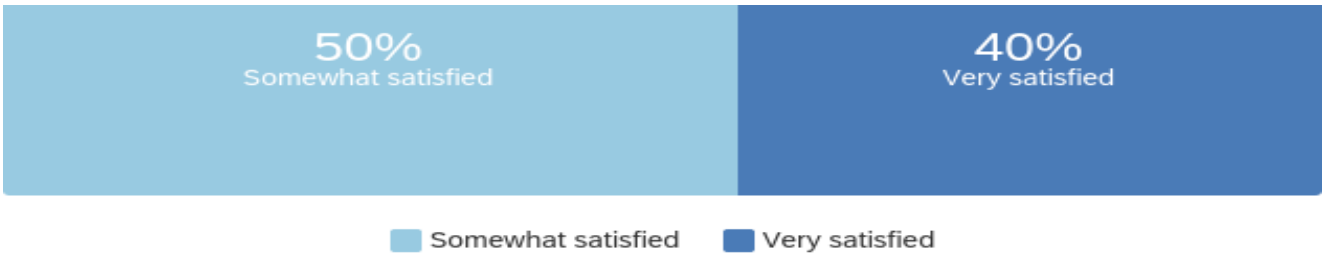

Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.
10%
90%
Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic compounds in relation to health and the human body.
20%
60%
Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.
35%
10%
Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.
40%
35%
Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.
20%
80%
Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.
15%
80%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Not at all relevant
Slightly relevant
Somewhat relevant
Very relevant


Develop an awareness of the different components of health science and their inter-relationships.
20%
70%
Develop a critical understanding of health issues.
15%
75%
Assess how health information is presented, interpreted, and applied.
20%
75%
Develop critical knowledge of health information and technologies.
30%
65%
Develop facility with the research techniques appropriate to effectively explore health information.
20%
75%
Internalize an efficient approach to being well-informed about health information and issues.
20%
75%
Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.
20%
75%
Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.
35%
55%
Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.
25%
65%
Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.
25%
60%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Not at all relevant
Slightly relevant
Somewhat relevant
Very relevant

Note that “not at all relevant” and “slightly relevant” categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the “not at all relevant” and “slightly relevant” categories.

#	Question	Not at all relevant	Slightly relevant	Somewhat relevant	Very relevant	Total
1	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	0%	0%	10%	90%	20
2	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic compounds in relation to health and the human body.	5%	15%	20%	60%	20
3	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.	15%	40%	35%	10%	20
4	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	0%	25%	40%	35%	20
5	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	0%	0%	20%	80%	20
6	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	0%	5%	15%	80%	20
7	Develop an awareness of the different components of health science and their inter-relationships.	0%	10%	20%	70%	20
8	Develop a critical understanding of health issues.	0%	10%	15%	75%	20
9	Assess how health information is presented, interpreted, and applied.	0%	5%	20%	75%	20
10	Develop critical knowledge of health information and technologies.	0%	5%	30%	65%	20
11	Develop facility with the research techniques appropriate to effectively explore health information.	0%	5%	20%	75%	20
12	Internalize an efficient approach to being well-informed about health information and issues.	0%	5%	20%	75%	20
13	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	0%	5%	20%	75%	20
14	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	0%	10%	35%	55%	20
15	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	0%	10%	25%	65%	20
16	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.	5%	10%	25%	60%	20

4. The program curriculum is the academic content taught in a specific program. Overall, how satisfied are you with the curriculum of KPU's Health Science degree program?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	The program curriculum is the academic content taught in a specific program. Overall, how satisfied are you with the curriculum of KPU's Health Science degree program?	Percentage
1	Very dissatisfied	0%
2	Somewhat dissatisfied	5%
3	Neither satisfied nor dissatisfied	5%
4	Somewhat satisfied	50%
5	Very satisfied	40%
	Total number of respondents	20

5. Thinking of KPU's Health Science degree program's curriculum as a whole, please indicate the strengths of the program.

- hands on experience with labs - small classroom size - approachable instructors
Significant lab components including the possibility of doing the thesis project, which I believe was a key experience in helping me decide my career trajectory. Breadth of topics covered - I do appreciate the sociological and policy-based portions of the degree program.
-Transferability to other institution is great. - Prepares you for higher education.
The program, when I attended, had a good diversity of classes. I found the professors more often available when time outside class was needed. Concerning my career goals, the program was quite helpful.
It equips the student with the knowledge that is viable for the health field. The degree covers a broad range of subjects that I find helpful for further education.
Smaller classroom size allows for connection with peers and instructors
Courses that were given were relevant to my career goal of working in the field of medicine, many of the courses had labs which gave the students opportunities to practice hands-on skills
a lot of knowledge and focus on human anatomy; biochemistry knowledge applicable in my another degree now
Good preparation for pharmacy school, cannot say about the appropriateness of other advanced health professions
exposure to many biology courses, having a strong foundation in biology and chemistry, conducting discussions with teachers and other students about current issues in healthcare such as the healthcare provider shortage. the Special Topics course is also a highlight of the program

One of the strengths of the program is how comprehensive it is when it comes to learning about Science. You go through the basics in Biology, Chemistry, Physics, and Mathematics, and this gives you a great foundation and knowledge.
Strength wise I feel like the program gives students a very well-rounded view of the field of health science. From policy to research and real-world applications. Most health science courses did a great job relating class material to real world.
A variety of elective courses to choose from

6. Thinking of KPU's Health Science degree program's curriculum as a whole, please provide any suggestions you have for improvement.

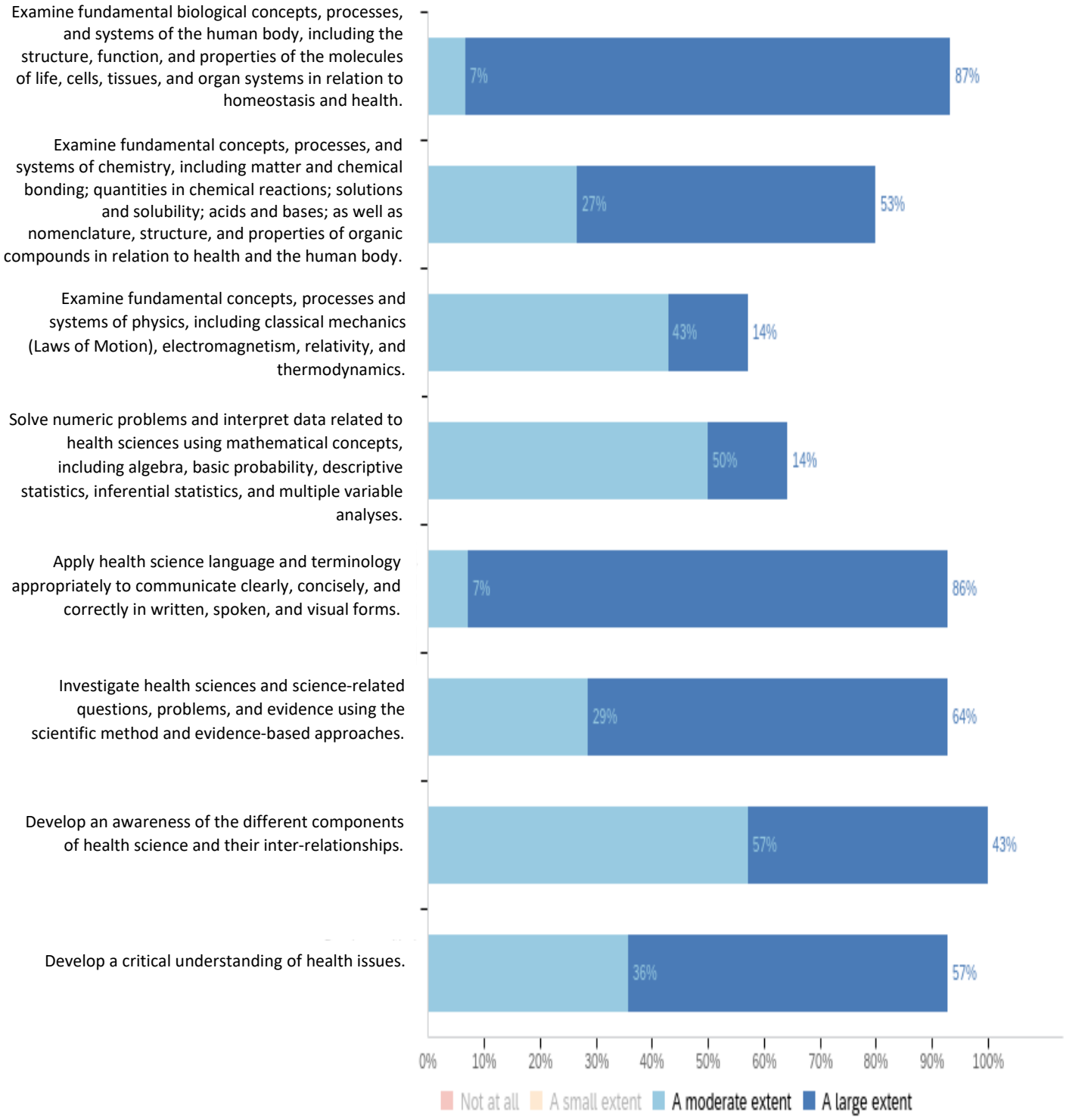
- offer courses throughout the year (not semester-based)
More focus on contemporary methods and approaches, perhaps in the form of journal club as part of a course. Would help keep disscussion of some of the topics more up-to-date.
Physics is a great for foundational knowledge but not so much for progression especially if the student does not require it for higher education.
For the students who are invested in the Biological Sciences, the program was great. I think more business-related options (Healthcare administration, sector management within a hospital or government entity) would be highly beneficial to those who are not expecting to go into graduate programs or spend their futures in a laboratory setting.
I'm not too sure where **[Course Name Redacted]** would be helpful in the field. Moreover, a class or a workshop that provides future career options or goals would help such as answering the question, "What job can I apply for with this degree?". I find that Health Science is not as known in the health field, and the degree feels more like a base needed for continuing studies or graduate studies.
Not enough classes offered in a timely manner, not a variety of courses offered. Very fixed schedule
Wish there were more opportunities like health related seminars or conferences, or field trips in health/research related facilities. Also if the electives are made available ahead of time (especially if the courses were being alternated with other ones like for example with pathology, nutrition, etc..)
The biggest problem I had that delayed my graduation was too small of class sizes. I had to take a lab section later as there weren't enough for 2 sections but too many for 1
not sure if this is what the question is asking, but would appreciate more opportunities for integrating and putting into practice things students have learned, more opportunities for students to transfer theory to real life/impacts in the community
I wish there were more health science classes that were offered. Looking at between this program and the Biology program, there weren't that many differences in the courses. I hoped that it was more public health and life sciences focused instead of being more Biology/Science heavy. I took around 8 health science courses, which I think should be more, considering I chose this program instead of Biology.
I believe more focus on stats would benefit students. Specifically looking at literature and discussing the types of statistics and models they used. I feel that now that I am trying to perform analysis in my day-to-day job, I know the tools available but not when I might apply them.

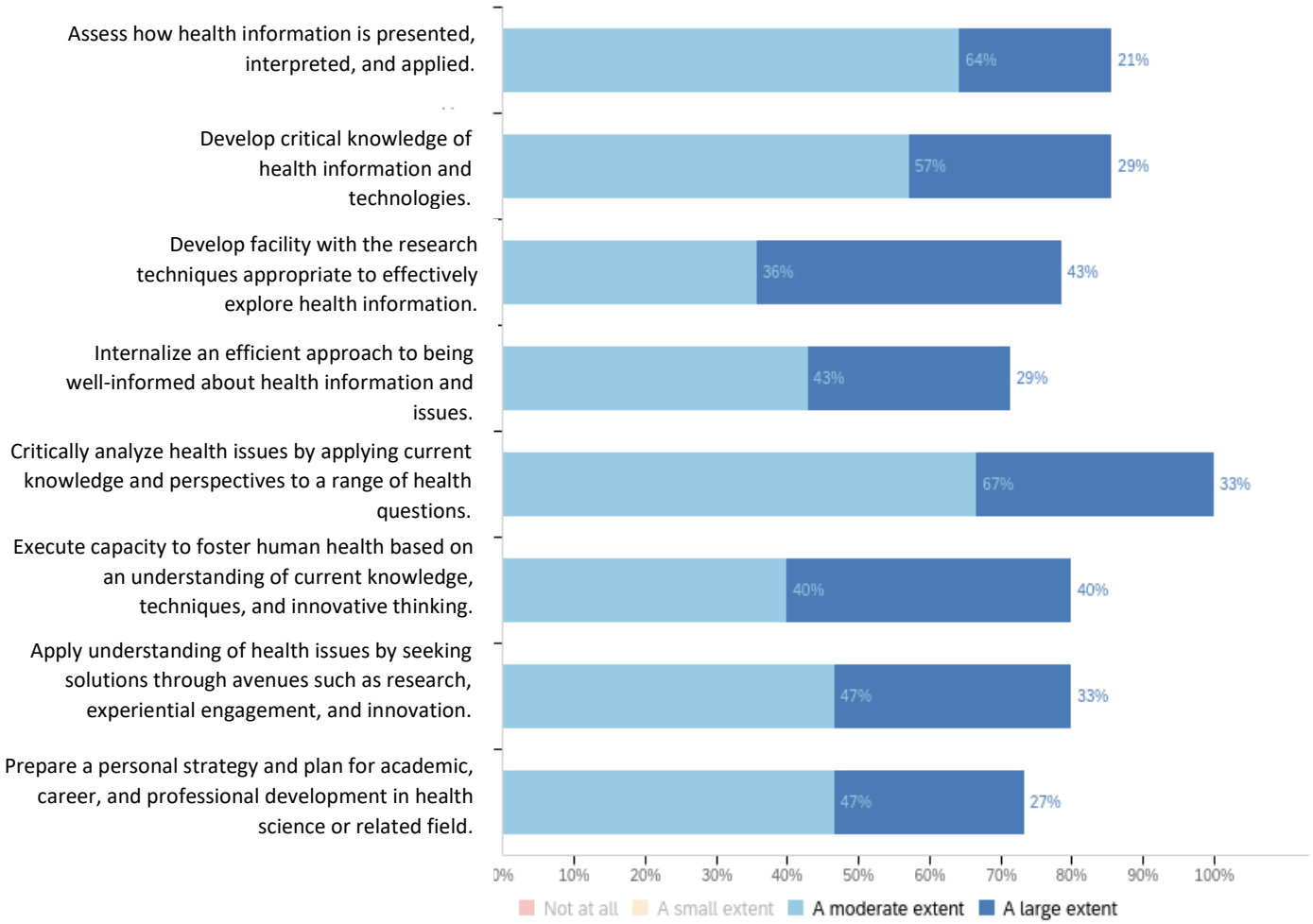
7. What topics, if any, were missing from the program?

N/A
Lacking in teaching statistical analysis in the context of health science, which is critical skill to have. We cover some of it in **[Course Name Redacted]** but I think there needs to be a dedicated course for those that are interested in pursuing this topic as part of their upper-year electives.
Business relations for healthcare settings.
N/A
More about health programs, how health programs are created, health project
Immunology, medical genetics

integration of LGBTQ+ voices and perspectives, disabled and neurodivergent voices and perspectives, and also Indigenous knowledge and wisdom. would have really benefited from that
More options for classes such as data analysis, biostatistics, health ethics, health systems, mental health and illnesses, infectious diseases, metabolic diseases, and in general, more public health courses. I wished we'd studied more in-depth these topics instead of cell biology and biochemistry.
I think a topic or course that should be heavily focused on is epigenetics. There is the molecular genetics course that has an epigenetics component, as well as the human genetics class. However, I feel that epigenetics is a large and complex topic that should have its own course. It also ties health science and biology together closely given that environmental factors are typically responsible for epigenetic alterations. Typing that environmental factor to human health and biological processes more would be a benefit as a 4th year course since it would tie a lot of previous course material together. Even if it was offered as a seminar with rotating instructors. You could have someone teach on epigenetic mechanisms, epigenetics in developmental biology, epigenetic mechanisms in response to nutrition/the gut microbiome, etc... And all of that would tie together developmental biology, molecular biology, biochemistry, and microbiology under the umbrella and understanding of health science and human health.

8. To what extent did KPU's Health Science degree program help you develop each of the following Program Learning Outcomes?



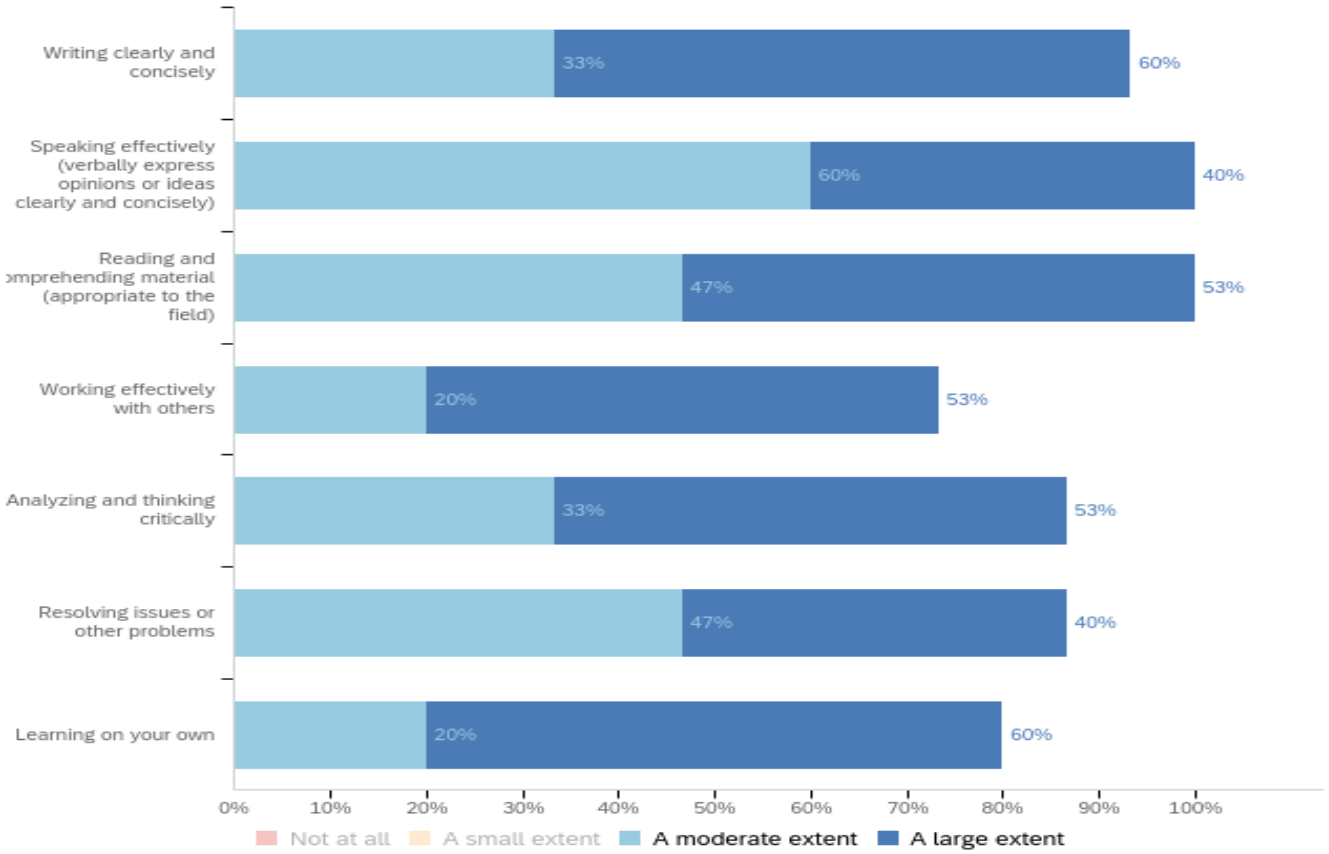


Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	0%	7%	7%	87%	15
2	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic compounds in relation to health and the human body.	0%	20%	27%	53%	15
3	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.	7%	36%	43%	14%	14
4	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	0%	36%	50%	14%	14

5	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	0%	7%	7%	86%	14
6	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	0%	7%	29%	64%	14
7	Develop an awareness of the different components of health science and their inter-relationships.	0%	0%	57%	43%	14
8	Develop a critical understanding of health issues.	0%	7%	36%	57%	14
9	Assess how health information is presented, interpreted, and applied.	0%	14%	64%	21%	14
10	Develop critical knowledge of health information and technologies.	0%	14%	57%	29%	14
11	Develop facility with the research techniques appropriate to effectively explore health information.	0%	21%	36%	43%	14
12	Internalize an efficient approach to being well-informed about health information and issues.	0%	29%	43%	29%	14
13	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	0%	0%	67%	33%	15
14	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	0%	20%	40%	40%	15
15	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	0%	20%	47%	33%	15
16	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.	0%	27%	47%	27%	15

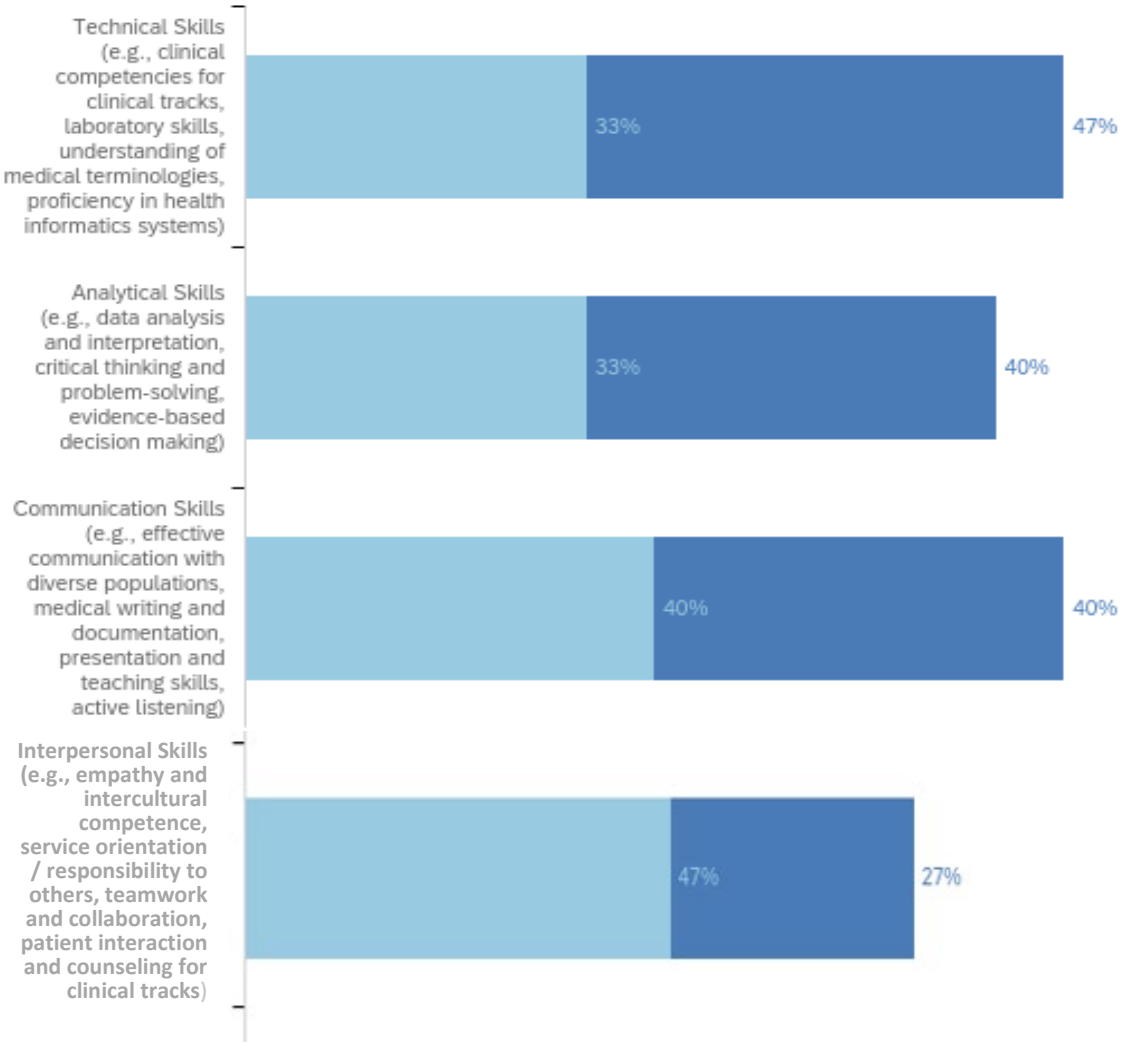
9. To what extent did KPU's Health Science degree program help you develop each of the following essential skills?

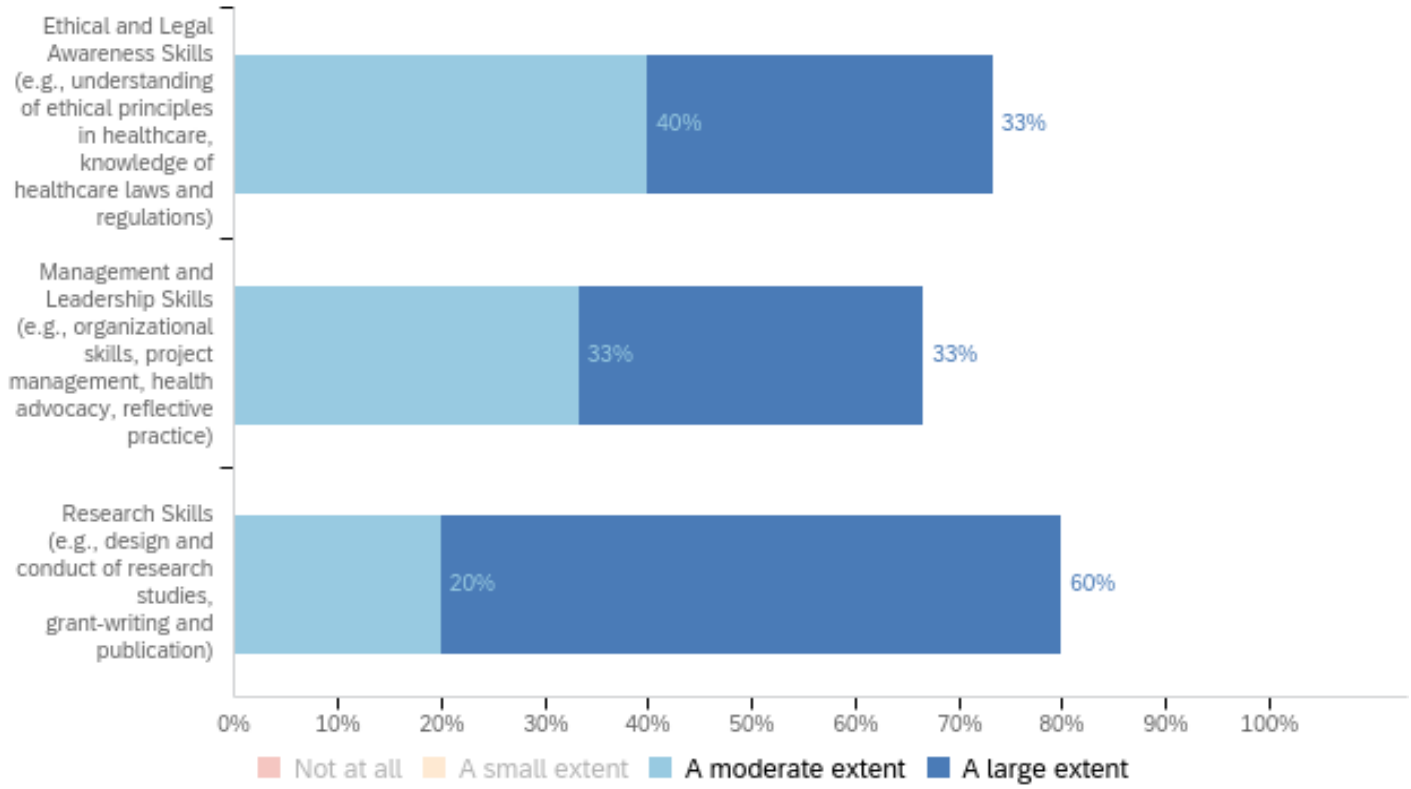


Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Writing clearly and concisely	0%	7%	33%	60%	15
2	Speaking effectively (verbally express opinions or ideas clearly and concisely)	0%	0%	60%	40%	15
3	Reading and comprehending material (appropriate to the field)	0%	0%	47%	53%	15
4	Working effectively with others	0%	27%	20%	53%	15
5	Analyzing and thinking critically	0%	13%	33%	53%	15
6	Resolving issues or other problems	0%	13%	47%	40%	15
7	Learning on your own	0%	20%	20%	60%	15

10. To what extent did KPU's Health Science degree program help you develop each of the following program-specific skills?





Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Technical Skills (e.g., clinical competencies for clinical tracks, laboratory skills, understanding of medical terminologies, proficiency in health informatics systems)	0%	20%	33%	47%	15
2	Analytical Skills (e.g., data analysis and interpretation, critical thinking and problem-solving, evidence-based decision making)	0%	27%	33%	40%	15
3	Communication Skills (e.g., effective communication with diverse populations, medical writing and documentation, presentation and teaching skills, active listening)	0%	20%	40%	40%	15
4	Interpersonal Skills (e.g., empathy and intercultural competence, service orientation / responsibility to others, teamwork and collaboration, patient interaction and counseling for clinical tracks)	0%	27%	47%	27%	15
5	Ethical and Legal Awareness Skills (e.g., understanding of ethical principles in healthcare, knowledge of healthcare laws and regulations)	0%	27%	40%	33%	15
6	Management and Leadership Skills (e.g., organizational skills, project management, health advocacy, reflective practice)	0%	33%	33%	33%	15
7	Research Skills (e.g., design and conduct of research studies, grant-writing and publication)	0%	20%	20%	60%	15

11. To what extent do you agree that you had sufficient opportunities in the program to reinforce your learning through practical application of this learning?

Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

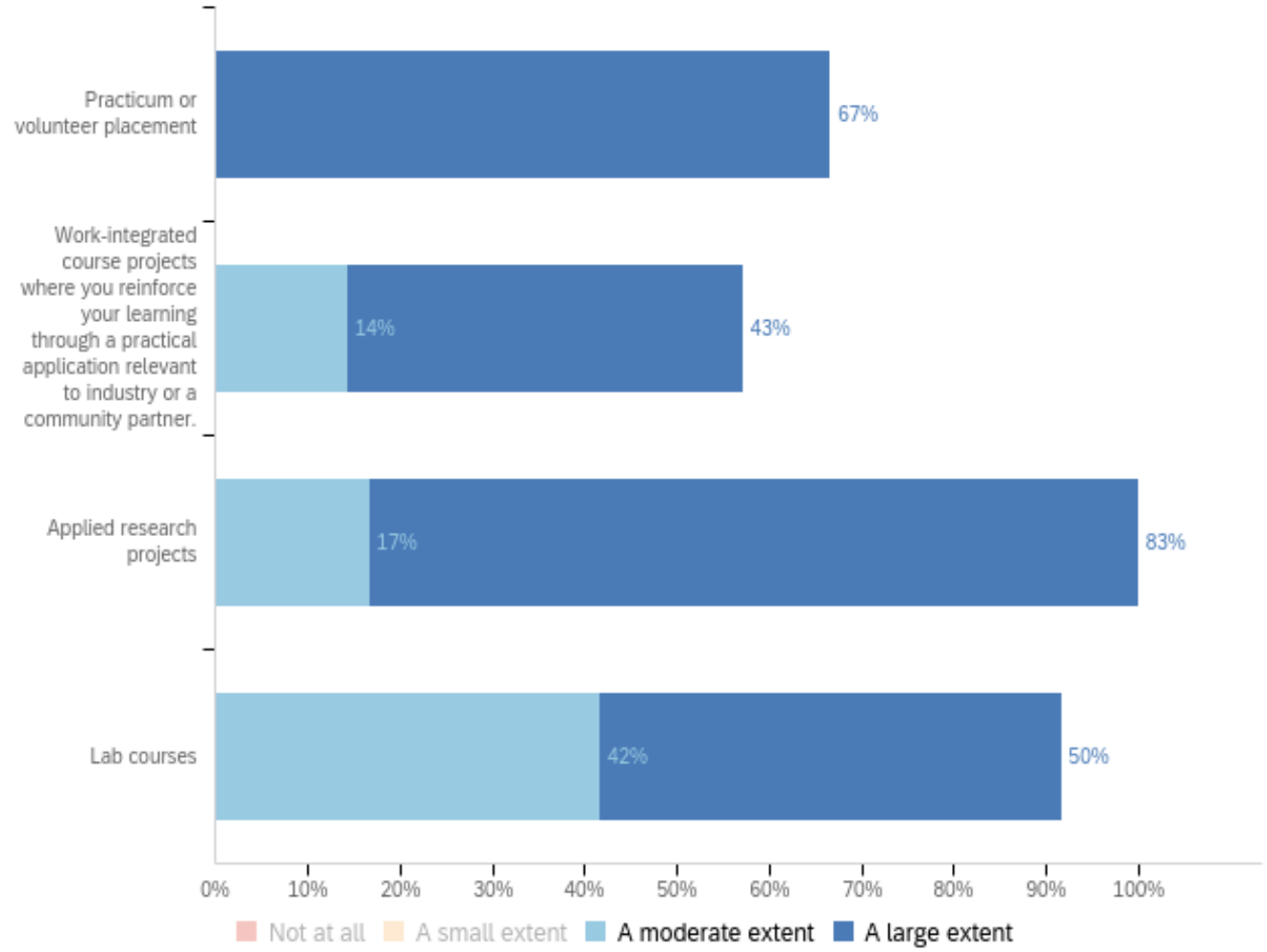
#	To what extent do you agree that you had sufficient opportunities in the program to reinforce your learning through practical application of this learning?	Percentage
1	Strongly disagree	0%
2	Somewhat disagree	13%
3	Neither agree nor disagree	13%
4	Somewhat agree	20%
5	Strongly agree	53%
	Total number of respondents	15

12. Were you involved in any of the following work-integrated and/or community-engaged learning opportunities? Select all that apply.

#	Answer	%	Count
1	Practicum or volunteer placement	21%	3
2	Co-operative (co-op) education experience	0%	0
3	Work-integrated course projects where you reinforce your learning through a practical application relevant to industry or a community partner.	50%	7
4	Applied research projects	43%	6
5	Lab courses	86%	12
	Total number of respondents		14

Note: The last row presents the total number of respondents. The total number of responses for this question is greater than the number of respondents. Therefore, the percentage total exceeds 100%.

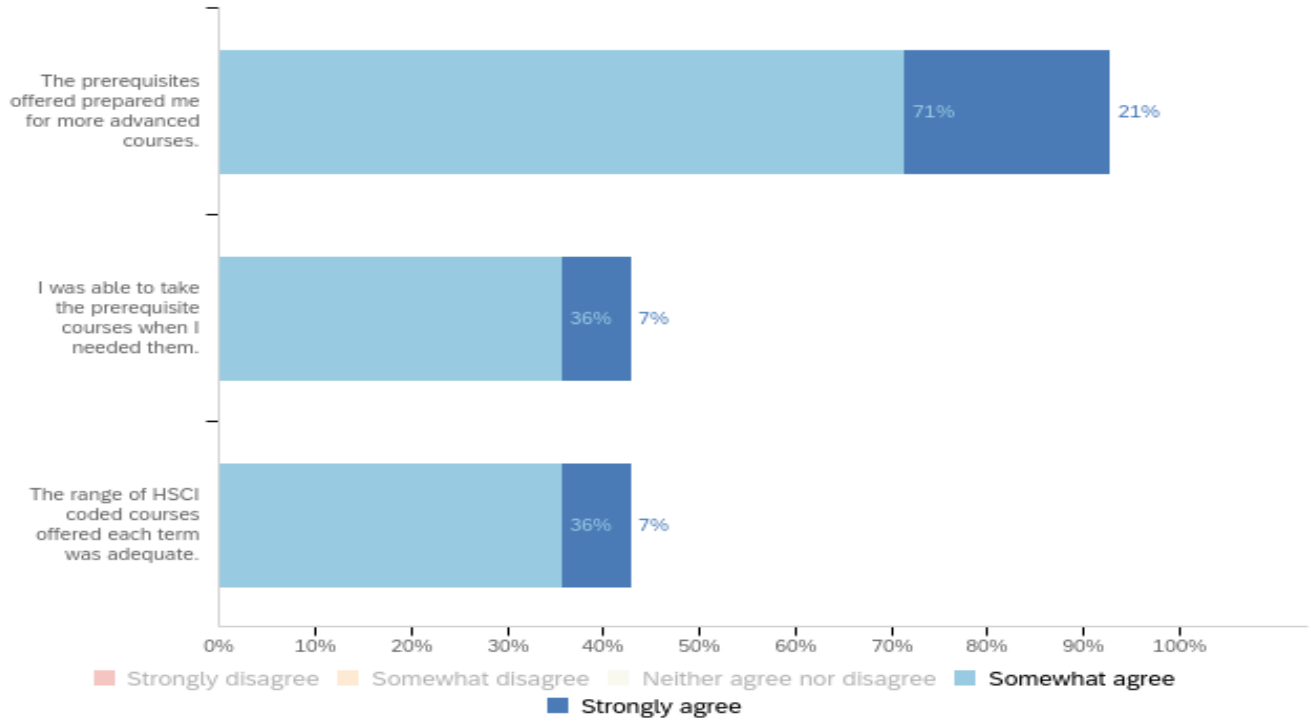
13. Indicate the extent the work-integrated and/or community-engaged learning opportunities contributed to your learning.



Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Practicum or volunteer placement	0%	33%	0%	67%	3
2	Co-operative (co-op) education experience	0%	0%	0%	0%	0
3	Work-integrated course projects where you reinforce your learning through a practical application relevant to industry or a community partner.	0%	43%	14%	43%	7
4	Applied research projects	0%	0%	17%	83%	6
5	Lab courses	0%	8%	42%	50%	12

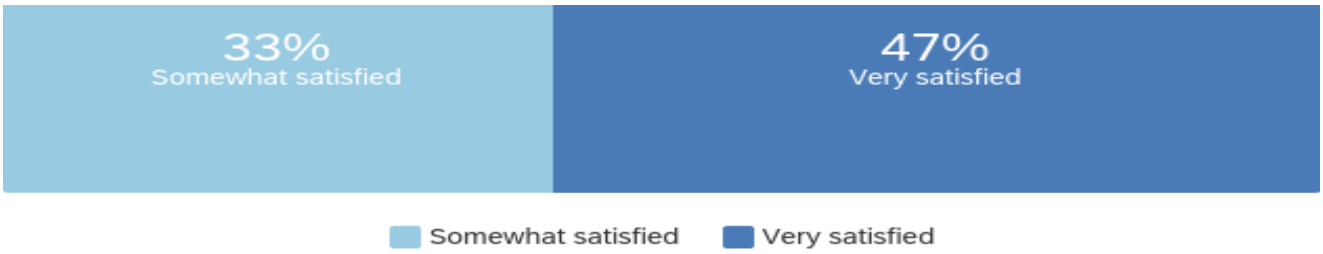
14. Thinking of KPU's Health Science degree program as a whole, please indicate your agreement with the following.



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	The prerequisites offered prepared me for more advanced courses.	7%	0%	0%	71%	21%	14
2	I was able to take the prerequisite courses when I needed them.	7%	36%	14%	36%	7%	14
3	The range of HSCI coded courses offered each term was adequate.	14%	29%	14%	36%	7%	14

15. Overall, how satisfied are you with the instruction you have received in KPU's Health Science degree program?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Overall, how satisfied are you with the instruction you have received in KPU's Health Science degree program?	Percentage
1	Very dissatisfied	0%
2	Somewhat dissatisfied	13%
3	Neither satisfied nor dissatisfied	7%
4	Somewhat satisfied	33%
5	Very satisfied	47%
	Total number of respondents	15

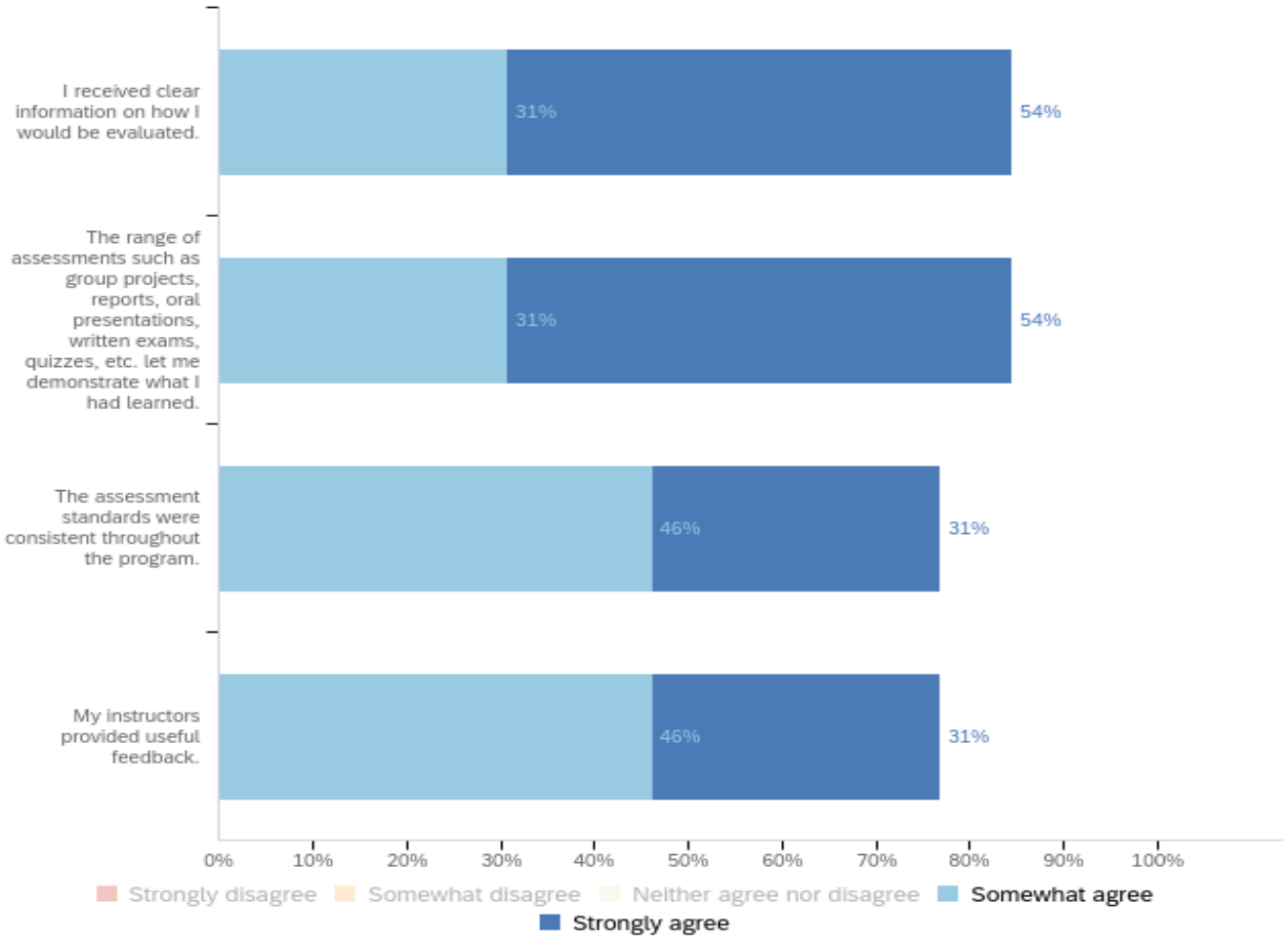
16. Thinking of how instruction is delivered across the Health Science degree program as a whole, please indicate the strengths of the program instruction.

- lab courses to enhance practical skills
I found the instruction to be exceptional due to its interdisciplinary approach, integrating knowledge from various fields with a strong emphasis on critical thinking and problem-solving. The faculty's real-world experience enriched the learning experience, and the hands-on labs and clinical simulations allowed me to apply theory in practical settings. The use of modern technology, collaborative learning with peers from other healthcare fields, and a focus on cultural competency and ethical training thoroughly prepared me for a healthcare career.
The program taught plenty of general skills that is useful in the health field. I believe Health Science could be used as pre-med degree.
Overall, it was good because the theory and hands-on aspects were aligned; some courses that did not have labs and was delivered online worked for me
small class sizes, teachers caring about making relationships with students, having guest speakers in the field, making content that is relevant to real-life applications, presentations help too
There are some great instructors in the program. They were approachable and easy to talk to. Discussions and collaborations are highly encouraged in classes.
Course instructors in the 3rd and 4th year courses were good at laying out expectations and curriculum.

17. Thinking of how instruction is delivered across the Health Science degree program as a whole, please identify any gaps and/or provide any suggestions you have for improvement in program instruction.

offering more sections of courses
it really helps to have teachers who really care about what they're doing and where the students are at
Perhaps providing insight on what careers Health Science can be used for. I had a hard time finding a job right after school. It was not clear what a Health Science centred career was.
I wished there was more flexibility in the classes (more online options, even with in-person exams).
I do not have any critiques.
[Course Name Redacted] could have been a way better course that built on **[Course Name Redacted]**. These two courses need to be coordinated better.
At the time, when I was completing my first and second year health science courses, there weren't a lot of health science instructors with different backgrounds. Which made it difficult to gain different perspectives on certain health science topics.

18. Thinking of how learning is assessed in the program as a whole, indicate your agreement with the following.



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	I received clear information on how I would be evaluated.	0%	8%	8%	31%	54%	13
2	The range of assessments such as group projects, reports, oral presentations, written exams, quizzes, etc. let me demonstrate what I had learned.	0%	15%	0%	31%	54%	13
3	The assessment standards were consistent throughout the program.	0%	15%	8%	46%	31%	13
4	My instructors provided useful feedback.	0%	8%	15%	46%	31%	13

19. Have you pursued further education since completing KPU's Health Science degree program?

#	Have you pursued further education since completing KPU's Health Science degree program?	Percentage
1	Yes	64%
2	No	36%
	Total number of respondents	14

20. Please list the name of the program and the institution where you enrolled after completing KPU's Health Science degree program.

Bachelor of Education (UBC)
KPU nursing
Master's in Public Health at Keele University, UK
Medical Device Reprocessing Technician in VCC
Respiratory Therapy - Thompson Rivers University
UBC Entry to Practice Doctor of Pharmacy
UBC PhD in Medical Genetics
University of Victoria

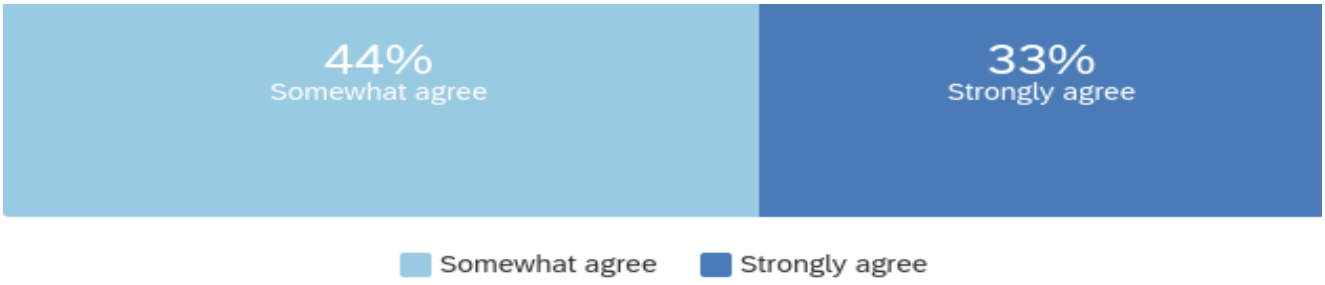
21. What is the highest credential you have earned or are currently pursuing since completing KPU's Health Science degree program?

#	What is the highest credential you have earned or are currently pursuing since completing KPU's Health Science degree program? - Selected Choice	Percentage
1	Diploma	11%
2	Associate's Degree	0%
3	Bachelor's Degree	33%
4	Master's Degree	11%
5	Doctorate	11%
6	Professional designation (Please specify)	22%
7	Other (Please specify)	11%
	Total number of respondents	9

Professional designation (Please specify) - Text
Business Management Certificate
Pharmacist

Other (Please specify) - Text
Certificate

22. To what extent do you agree that KPU's Health Science degree program prepared you well for further education?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	To what extent do you agree that KPU's Health Science degree program prepared you well for further education?	Percentage
1	Strongly disagree	0%
2	Somewhat disagree	0%
3	Neither agree nor disagree	22%
4	Somewhat agree	44%
5	Strongly agree	33%
	Total number of respondents	9

23. Are you currently employed in a health-related field?

#	Are you currently employed in a health-related field?	Percentage
1	Yes	50%
2	No	50%
	Total number of respondents	14

24. How long did it take you to secure your current position?

#	How long did it take you to secure your current position?	Percentage
1	I was hired while completing my Health Science degree at KPU	29%
2	Within 3 months after graduation	14%
3	Within a year after graduation	29%
4	More than a year	29%
	Total number of respondents	7

25. Which of the following best describes your current employment situation?

#	Which of the following best describes your current employment situation?	Percentage
1	Full-time regular position	29%
2	Part-time regular position	29%
3	Contract position	14%
4	Casual or temporary position	29%
5	Self-employed	0%
	Total number of respondents	7

26. What is your position/role/job title?

Territory Manager of Vancouver Island
Medical Device Reprocessing Technician
Education Coordinator, Nurse Practitioners
Laboratory Assistant
Pharmacist
Pharmacy assistant

27. Could you specify the organization where you are currently employed? This information will help us better determine KPU graduates' career trajectories.

Arthrex (Orthopaedic Medical Device Company)
Vancouver General Hospital (Vancouver Coastal Health)
Fraser Health
Lifelabs
Community pharmacy

28. Were you previously employed in a health-related field?

#	Were you previously employed in a health-related field?	Percentage
1	Yes	14%
2	No	86%
	Total number of respondents	7

29. Which of the following best describes your previous employment situation?

Not enough response to report.

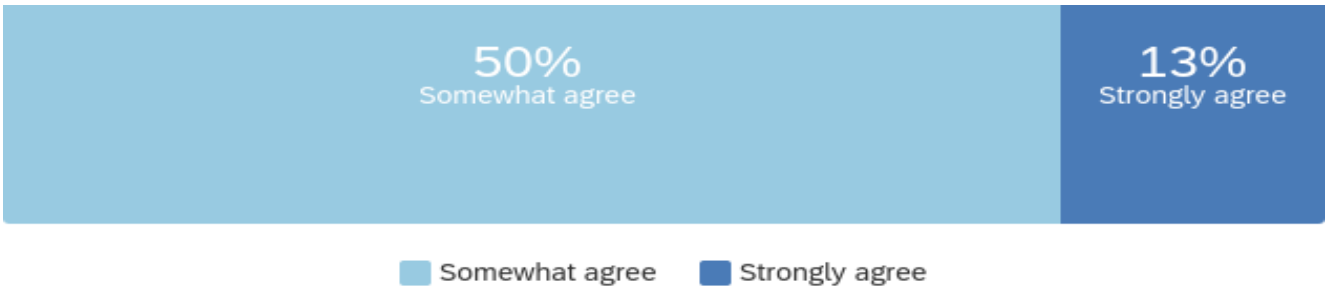
30. What was your position/role/job title?

Clerk III - Health Information Management

31. Could you specify the organization where you were employed? This information will help us better determine KPU graduates' career trajectories.

Providence Health and Fraser Health

32. Based on your experience since graduating, to what extent do you agree that the program prepared you well for an entry-level job in the industry?



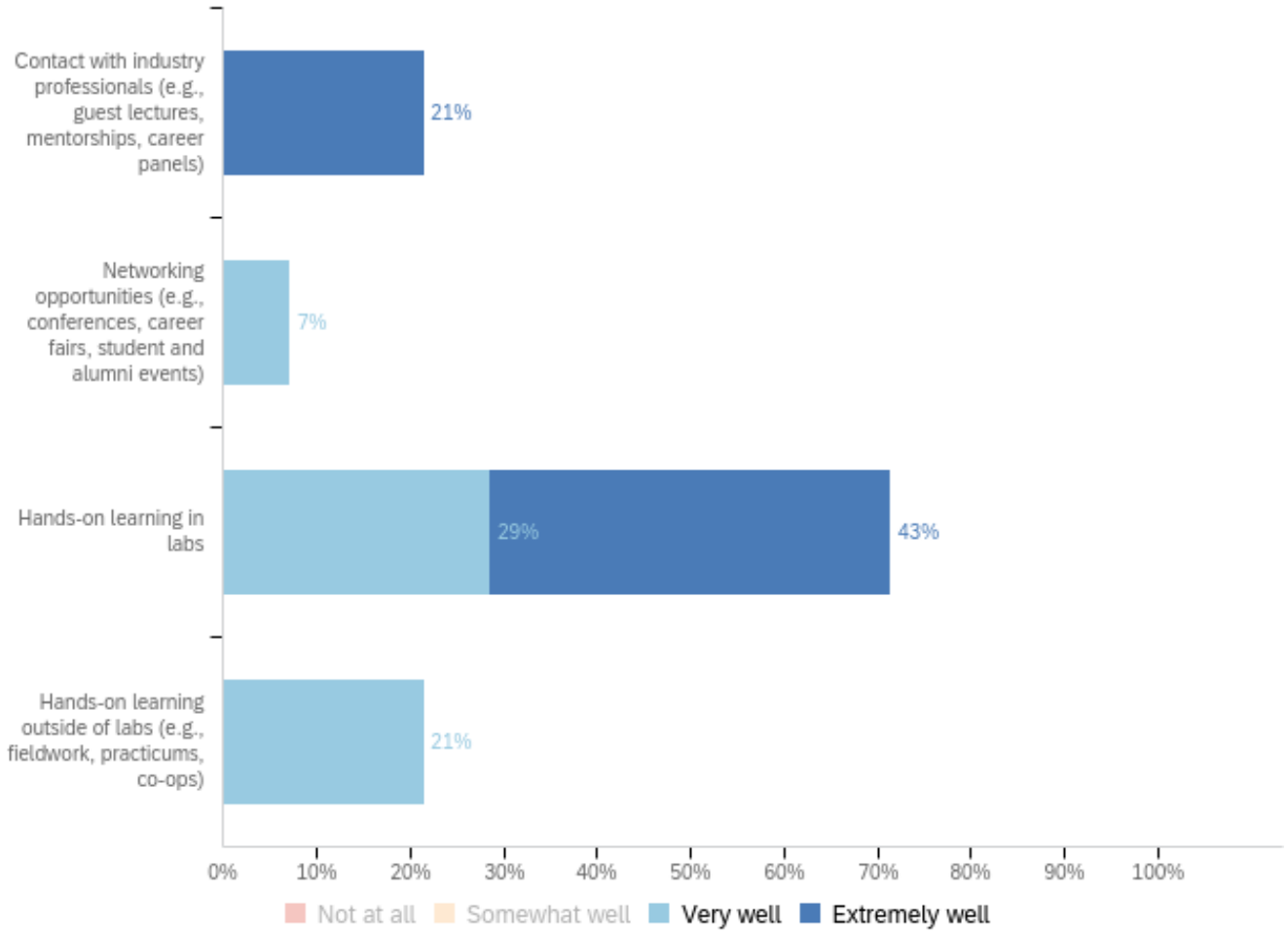
Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Based on your experience since graduating, to what extent do you agree that the program prepared you well for an entry-level job in the industry?	Percentage
1	Strongly disagree	0%
2	Somewhat disagree	25%
3	Neither agree nor disagree	13%
4	Somewhat agree	50%
5	Strongly agree	13%
	Total number of respondents	8

33. Please identify the skills/knowledge area(s) you felt were missing for an entry-level job in your industry.

Business acumen.
Database knowledge (SPSS)
Lab experience. A lot of health-related fields require Medical Assistant certification similar to what BCIT offers. I understand that not everyone going into a health science degree wants to work in a lab, however, a lot of students (myself included) wished to go to medical school after the Health Science Program. I feel having more labs focused on clinical work would better equip students moving forward. Or providing more electives that would allow students to gain MLA certification like those other programs at BCIT and VCC.
N/A
Not enough about program development in health care, health laws in Canada and etc

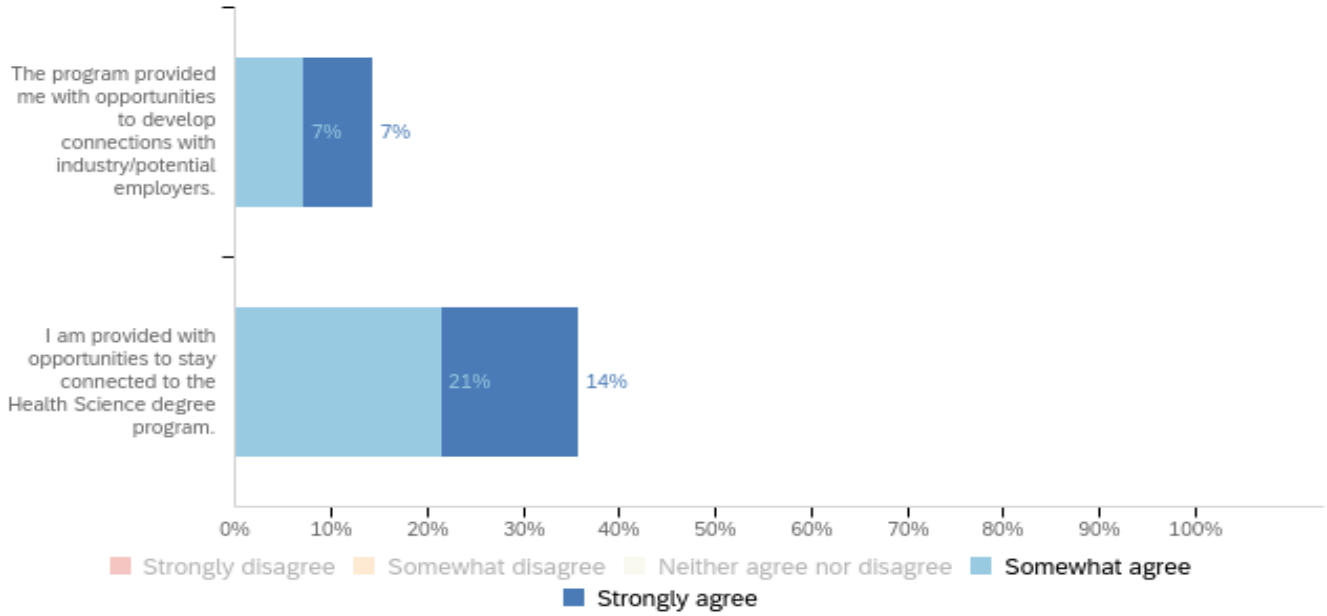
34. Please indicate how well KPU's Health Science degree program prepares students for careers in a health science-related field through the following methods.



Note that "not at all" and "Somewhat well" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "Somewhat well" categories.

#	Question	Not at all	Somewhat well	Very well	Extremely well	Total
1	Contact with industry professionals (e.g., guest lectures, mentorships, career panels)	57%	21%	0%	21%	14
2	Networking opportunities (e.g., conferences, career fairs, student and alumni events)	43%	50%	7%	0%	14
3	Hands-on learning in labs	7%	21%	29%	43%	14
4	Hands-on learning outside of labs (e.g., fieldwork, practicums, co-ops)	36%	43%	21%	0%	14

35. Please indicate the extent you agree with the following statements:



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	The program provided me with opportunities to develop connections with industry/potential employers.	36%	29%	21%	7%	7%	14
2	I am provided with opportunities to stay connected to the Health Science degree program.	7%	29%	29%	21%	14%	14

36. What can the program do to build better connections with alumni?

More networking opportunities
More communication with the happenings of the programs for interested alumni. I would be happy to speak to current students about my experience within the program and after.
Not too sure.
A health-science fair would be nice
not sure exactly but I would consider being a part of events
For such a small program, there really wasn't any way to keep in touch after graduation. I hope that there is a way to keep in touch with instructors, current students, and alumni through an annual alumni event or external fundraisers, such as creating a group for Canadian Blood Services and Canadian Cancer Society.
I think having an event with alumni talking on a panel would be great for future and current students. Having alumni who pursued different careers post-graduation provide their opinions and information regarding their career path would be highly beneficial.

Appendix D - Student Survey Tabular Results and Comments

Health Science Program Review – Student Survey Results

The student survey was sent to 173 Health Science students. A total of 44 students responded. The response rate is 25%.

Note: The data includes open-ended comments. In order to preserve integrity and objectivity, OPA does not do value-judgment editing (i.e. we do not fix spelling errors, syntax issues, punctuation, etc.). Comments are included verbatim – with one exception: if individuals or courses are named, OPA redacts the name of the instructor or course. This rule applies to whether the comment is good, bad or indifferent.

1 - Which of the following credentials are you pursuing at KPU? Please select all that apply.

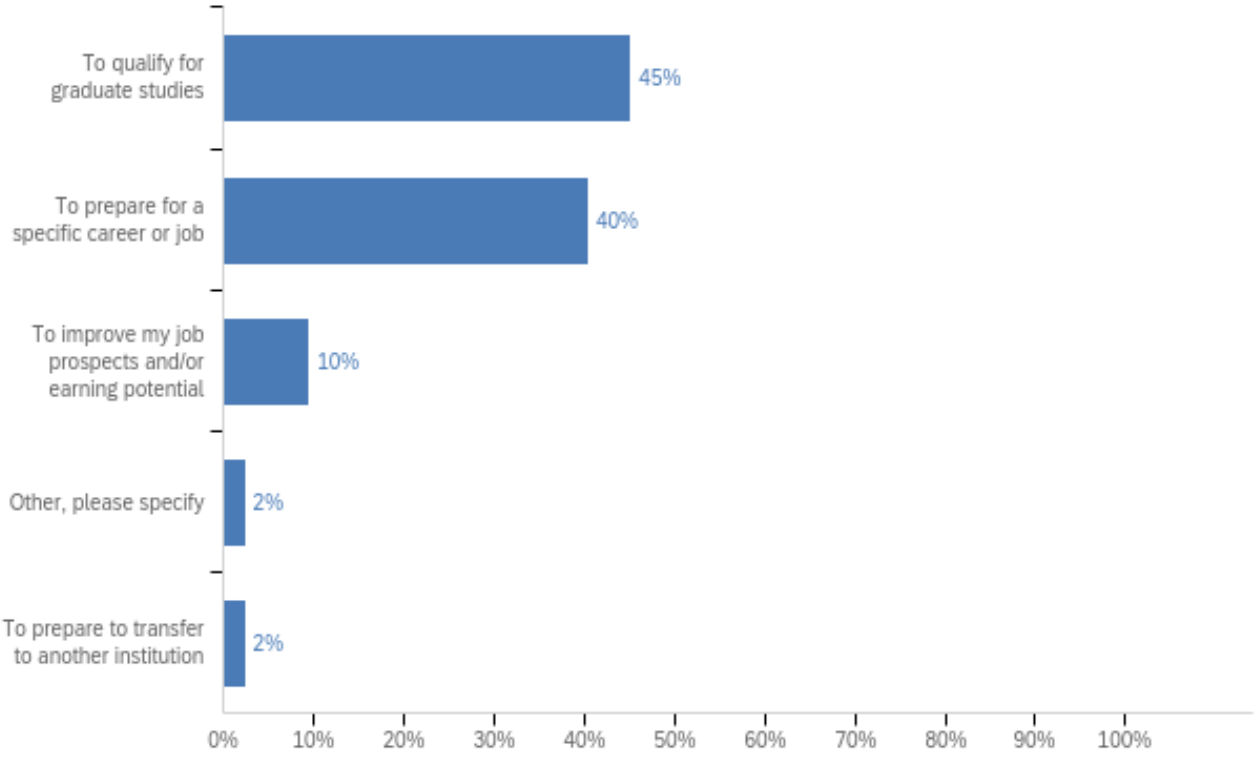
#	Answer	Percentage	Count
1	Bachelor of Science (Honours), Major in Health Science	14%	6
2	Bachelor of Science (Honours), Major in Health Science, Co-operative Education	2%	1
3	Bachelor of Science, Major in Health Science	82%	36
4	Bachelor of Science, Major in Health Science, Co-operative Education	11%	5
5	Minor in Health Science	2%	1
6	None of the above	2%	1
7	Don't know	0%	0
	Total number of respondents		44

Note: The last row presents the total number of respondents. The total number of responses for this question is greater than the number of respondents. Therefore, the percentage total exceeds 100%.

2 - How many credits have you completed towards your degree?

#	How many credits have you completed towards your degree?	Percentage
1	3 to 30 credits	12%
2	31 to 60 credits	40%
3	61 to 90 credits	36%
4	91 to 120 credits	7%
5	More than 120 credits	5%
	Total number of respondents	42

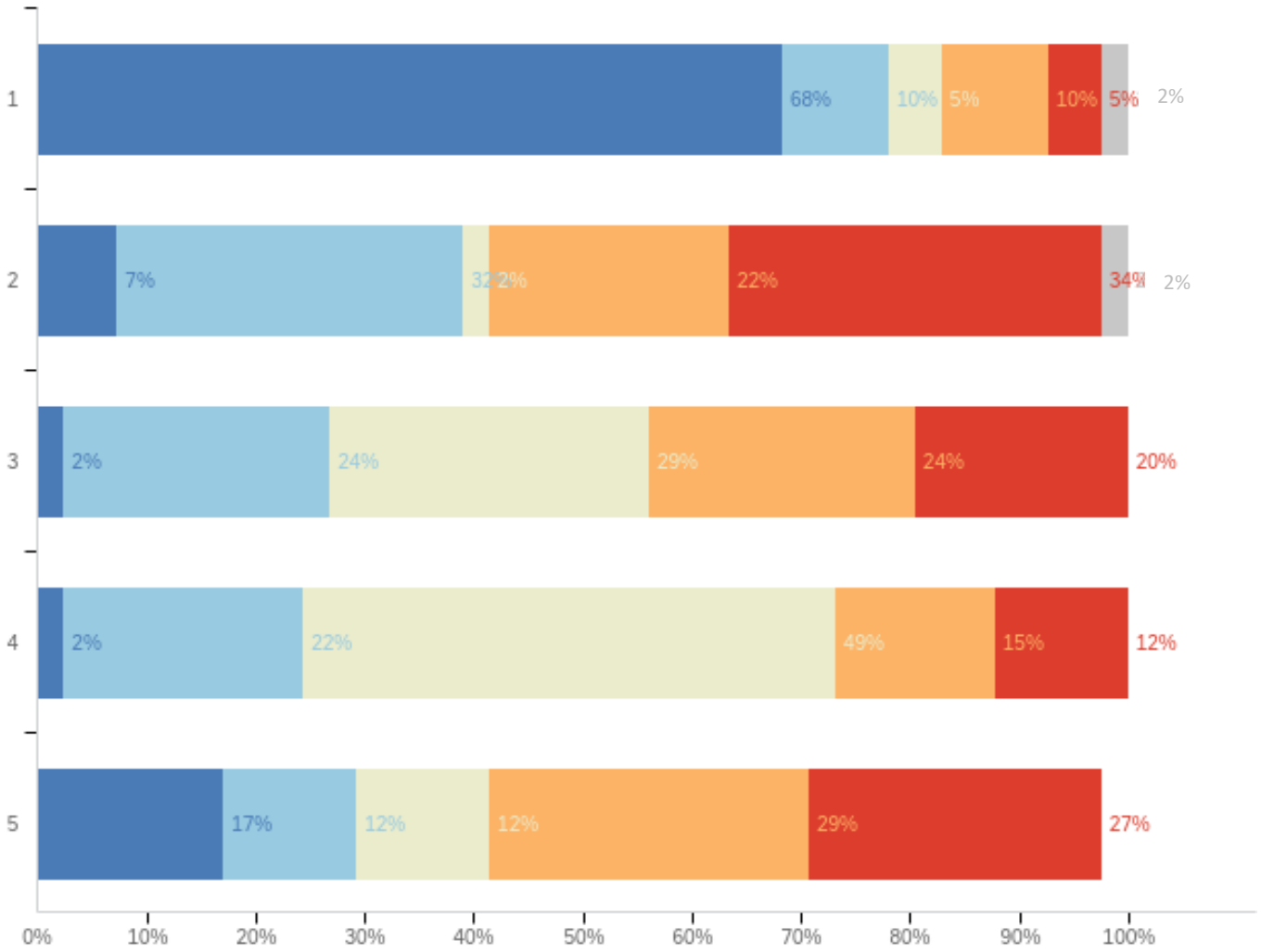
3 - What was your main reason for enrolling in the Health Science degree program?



#	What was your main reason for enrolling in the Health Science degree program? - Selected Choice	Percentage
1	To prepare for a specific career or job	40%
2	To improve my job prospects and/or earning potential	10%
3	To prepare to transfer to another institution	2%
4	To qualify for graduate studies	45%
5	To qualify for the Post-Graduation Work Permit program	0%
6	Other, please specify	2%
	Total number of respondents	42

Other, please specify - Text
Medical school

4 - The field of health science has a number of possible career options. When considering your future career, please rank the following employment categories from 1 (most preferred) to 5 (least preferred).



Clinical and Allied Health positions involve direct patient care and include roles designed to support the diagnosis, treatment, and/or prevention of diseases. Examples include: physician, dentist, pharmacist, nurse, or physiotherapist.

Research and Academic positions contribute to the understanding of diseases, development of new treatments, and improvements in healthcare practices. Examples include: researcher, project assistant, professor (or lecturer), or employee wellness specialist.

Population and Public Health positions focus on improving the health and populations via work in government agencies, non-profits, or international health organizations. Examples include: epidemiologist, health educator, biostatistician, or global health worker.

Health Administration and Management positions involve overseeing the management of healthcare systems, hospitals, and other healthcare organizations. Examples include: hospital administrator, healthcare manager, health policy analyst, or quality assurance lead.

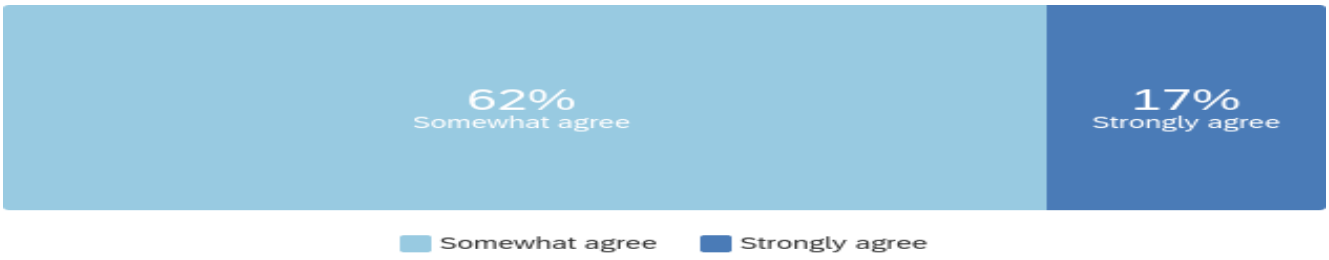
Biotechnology and Pharmaceuticals positions work in the development, testing, and production of medical devices, pharmaceuticals, or other health-related products. Examples include: bioinformatician, health product sales, product development, or pharmaceutical rep.

Other, please specify:

#	Question	1	2	3	4	5
1	Clinical and Allied Health positions involve direct patient care and include roles designed to support the diagnosis, treatment, and/or prevention of diseases. Examples include: physician, dentist, pharmacist, nurse, or physiotherapist.	68%	7%	2%	2%	18%
2	Research and Academic positions contribute to the understanding of diseases, development of new treatments, and improvements in healthcare practices. Examples include: researcher, project assistant, professor (or lecturer), or employee wellness specialist.	10%	32%	24%	22%	13%
3	Population and Public Health positions focus on improving the health and populations via work in government agencies, non-profits, or international health organizations. Examples include: epidemiologist, health educator, biostatistician, or global health worker.	5%	2%	29%	49%	13%
4	Health Administration and Management positions involve overseeing the management of healthcare systems, hospitals, and other healthcare organizations. Examples include: hospital administrator, healthcare manager, health policy analyst, or quality assurance lead.	10%	22%	24%	15%	30%
5	Biotechnology and Pharmaceuticals positions work in the development, testing, and production of medical devices, pharmaceuticals, or other health-related products. Examples include: bioinformatician, health product sales, product development, or pharmaceutical rep.	5%	34%	20%	12%	28%
6	Other, please specify:	2%	2%	0%	0%	0%
	Total number of respondents	41	41	41	41	40

Other, please specify: - Text
Nursing
Medical anthropologist studying how different identities impact an individuals interaction with the medical system

5 - Thinking of KPU's Health Science degree program as a whole, to what extent do you agree that the program's curriculum is relevant to your postgraduate and/or career goals?

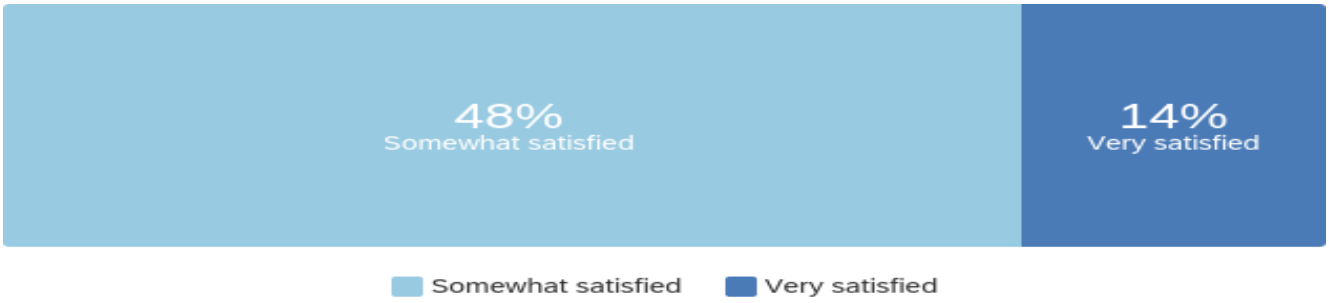


Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Thinking of KPU's Health Science degree program as a whole, to what extent do you agree that the program's curriculum is relevant to your postgraduate and/or career goals?	Percentage
1	Strongly disagree	2%
2	Somewhat disagree	10%
3	Neither agree nor disagree	10%

4	Somewhat agree	62%
5	Strongly agree	17%
	Total number of respondents	42

6 - Overall, how satisfied are you with the curriculum of KPU's Health Science degree program?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Overall, how satisfied are you with the curriculum of KPU's Health Science degree program?	Percentage
1	Very dissatisfied	2%
2	Somewhat dissatisfied	21%
3	Neither satisfied nor dissatisfied	14%
4	Somewhat satisfied	48%
5	Very satisfied	14%
	Total number of respondents	42

7 - Thinking of KPU's Health Science degree program's curriculum as a whole, please indicate the strengths of the program.

Excellent professors teaching health science courses.
Provides a lot of different courses with some variation in classes
'/a
First, it takes an interdisciplinary approach, mixing biology, psychology, and sociology. This helps students understand health from different angles. Second, there's a strong focus on practical experience. Students participate in labs and internships, applying what they learn in real-world settings. Third, the program is flexible. Students can choose courses that fit their interests and career goals. The faculty is also impressive, with many professors having real-world experience and research backgrounds. Lastly, KPU encourages community engagement through partnerships with local health organizations, allowing students to tackle real health issues.
Many options in third or fourth year for what electives you want to take
Variety of courses offered. I like that we have options to choose from when completing our major of health science.
The professors are amazing. The health sciences courses themselves seem to be very useful.
covers subjects for mcat
Lots of lab experience, easy access to professors, variety of elective courses related to many different areas of science
Offers strong base in biology and anatomy which can be used in a variety of career paths

Interesting classes, mostly what is required for our degree are the pre reqs to apply for post grad.
There are many options for elective courses, both in biology and other subjects. There are many wonderful instructors who have passion for teaching. Most of the classes are small, which is a great learning environment.
Gives an overall view of the different possible careers in the healthcare/academia sector. More focused on human health than other programs so more tailored to people who want to pursue careers for medical/research purposes
very good at having core courses that teaches the content that health science undergraduates need to know.
It is a program where you can learn basic science courses such as Biology, Chemistry, Physics, Math and Health Science related courses.
KPU's Health Science degree program is well-rounded and hands-on. It covers biology, chemistry, psychology, and public health. Small class sizes allow for more support from instructors. The program also includes lab work and research opportunities, helping students build practical skills for careers or further studies in healthcare.
This program is a good if someone wants to do masters
the professors are very nice, friendly and approachable
I like how there are math course involvements he'll with problem solving skills
Most instructors I have encountered have been knowledgeable, enthusiastic, and helpful which really makes a positive impact on learning the class material.
there is focus on discussion and exploring topics to do with health science
Very good at establishing a good understanding of basic background science, covering MCAT topics
Due to the program, students are able to build some connections with their peers.
Offers a variety

8 - Thinking of KPU's Health Science degree program's curriculum as a whole, please provide suggestions you have for improvement.

More sections available for certain courses, I've had trouble getting into classes since they fill up right away.
Provide more health based classes rather then the heavy amount on science like chemistry and other science classes that are hindering even doing a basic human anatomy class
Have required classes available for each semester. I have noticed a class like **[Course Name Redacted]** may be available for one semester but unavailable the next
More class options. I am often on a waitlist because one class is offered or none at all in a semester
First, incorporating more technology-focused courses, like health informatics and telehealth, can help students adapt to the growing role of technology in healthcare. Second, expanding interdisciplinary opportunities by offering joint courses with other programs, such as business or environmental science, can provide a broader understanding of health-related issues. Lastly, increasing community partnerships for internships and projects can enhance hands-on experience, while adding more electives allows students to tailor their education to their interests. These changes could strengthen the program and better prepare students for their careers.
More opportunities for research would be helpful.
to provide more frequent course offerings for upper year courses, as it becomes very difficult to plan out a class schedule when not many of the required courses i need are available, and also if they are available, most of the time only 1 or 2 sections are available, making it very difficult to get a seat.
Need to offer courses on a more regular basis. Many students graduate extremely late because some courses are only offered once year, at one campus, and at one time. Realistically, this does not benefit any student as there will always be potential time conflicts during a given semester.
The chemistry and biology part of health sciences is too subpar. Which also includes irrelevant course material and assignments. Students here usually want to go into the medical area so it would be better to just cater to that instead of weaving an intricate path.
feels like material is repeated a lot in biology classes
Don't need **[Course Name Redacted]** as a prerequisite for **[Course Name Redacted]**

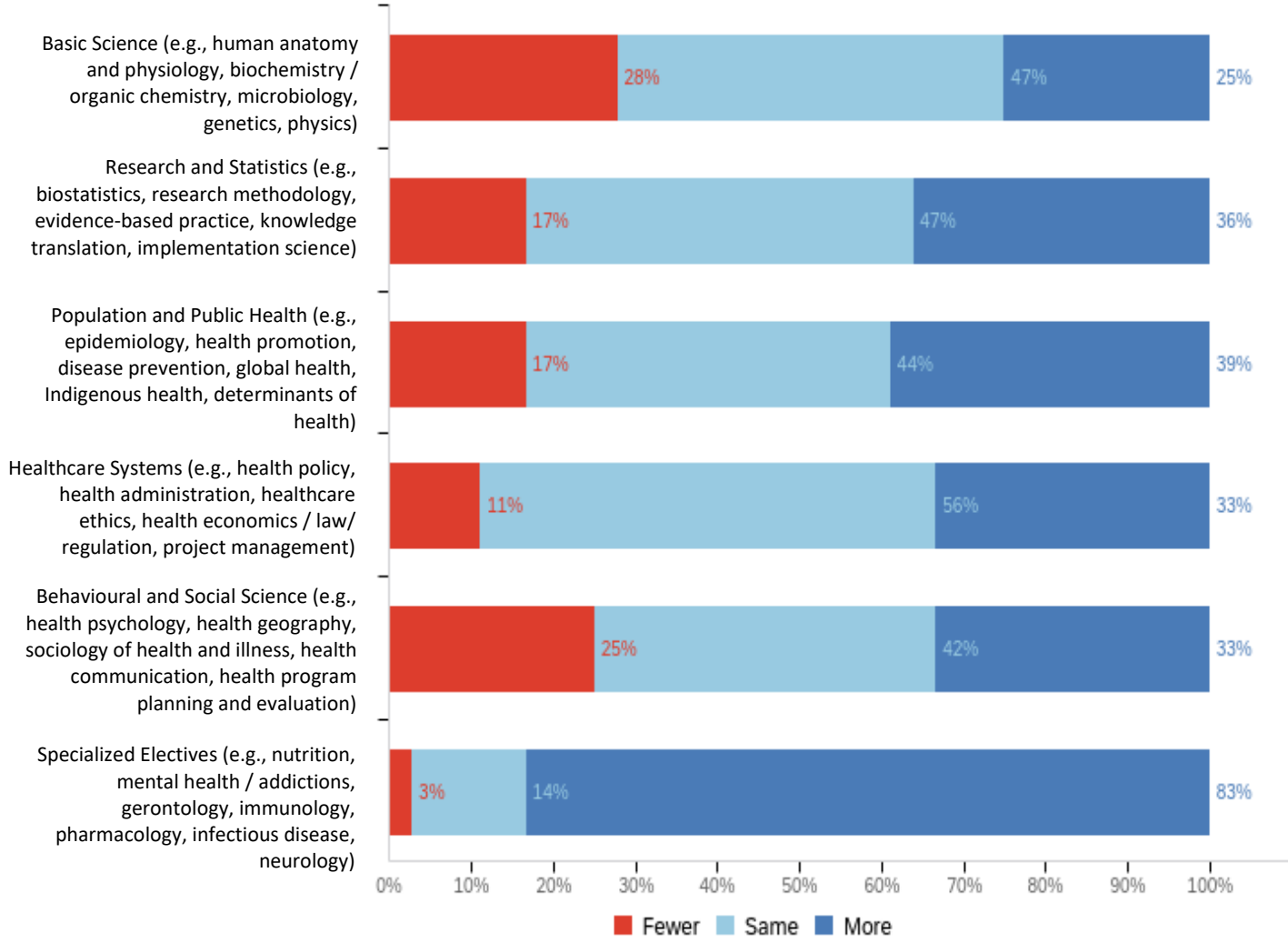
More options for specialized courses in the later years so students can focus on the direction they want to take in health sciences and stand out to graduate schools or for research internships. More options for electives from neighbouring fields, especially from psychology and chemistry. Health admin, policy or business courses shouldn't be mandatory as some might not be interested in those areas and the credits could be used to further specialize elsewhere.
Some health science classes seem not helpful to take, they just don't make sense to take for a health science degree.
It's hard to take desired courses in HSCI and BIOL, especially from 3rd year as many of them are only offered once a year, thus many students end up taking what is offered on the semester, rather than what they intented to take, in order to graduate on time. Also, due to the KPU's registration algorithm that prioritizes new and upper-level students, the 2nd year students have late registration dates, so many of us couldn't take the 2nd year bioloy courses as scheduled.
It is challenging to have courses on time therefore extending beyond the four years just to get the degree. Overlap of classes sometimes and the availability of seats were issues at the first/second year courses; it's always fighting for seats with the biology majors. The other courses in the first/second year is not really needed for the upper level courses we have (e.g. **[Course Names Redacted]**, etc) and the depth these courses are really for chem and math majors, so I think it's a waste of time and resources instead of us pouring it into math/chem-related courses that we would really need.
please have more classes offered at a time for core classes needed to graduate. for example, **[Course Name Redacted]** is not offered enough and it is a core first year class that is required to graduate.
I really hope that the **[Course Name Redacted]** is divided into two because I think it was a dense course. For the coop, I hope there will be more choices for work. Moreover, I hope we can have more experience in the lab such as volunteer experience.
KPU's Health Science program could improve by increasing hands-on learning through internships and co-op opportunities. Expanding course options in specialized areas like nutrition and health informatics would enhance student knowledge. Updating lab technology.
As I am a second year international student, I am unable to see my career options just with this degree, my suggestion is that to provide students awareness about the job market or career option right after the bachelors.
More classes!! I have heard of classes getting filled in this program leading to student having to skip semesters and finish their degree later than expected
They should have more serious topics to discuss about in class
I wish there was more health science courses rather than biology. Biology and health science basically have the same requirements. I wish there was less biology course requirements and more health science courses. Courses that were required and not just a few to chose from.
some of the very content heavy courses have some areas that seem redundant, and could be removed in order to allow more time for learning bigger and more complex topics.
including more relevant information of what's happening today
Emphasize the humanistic approach to medicine Offer an intersection with the social sciences to create better rounded future professionals Offer **[Course Name Redacted]** more often and more in-person Ideally, have health care ethics offered in person since people tend to be very passive in online classes. Having it in person would help combat the growing decline in empatjy amongst health care professionals
it feels that there is no actual support for students after uni. if there was more help on actually finding or preparing students for jobs after uni. If there were more availability of jobs or chances to build network for health science students. Also, classes that are only offered in certain semesters is making planning diffcult and making graduating taking longer than expected. would like if those classes were offered more then more students would be able to graduate or move along their degree faster.
I think maybe there should be courses such as drug discovery included in the program

9 - What topics, if any, are missing from the program?

N/A
Kinesiology
N/a
There are several important topics that might be missing from KPU's Health Science degree program. One significant area is health informatics, which focuses on using data and technology effectively in healthcare settings. This knowledge is becoming increasingly vital as technology plays a larger role in patient care. Another important topic is global health issues.

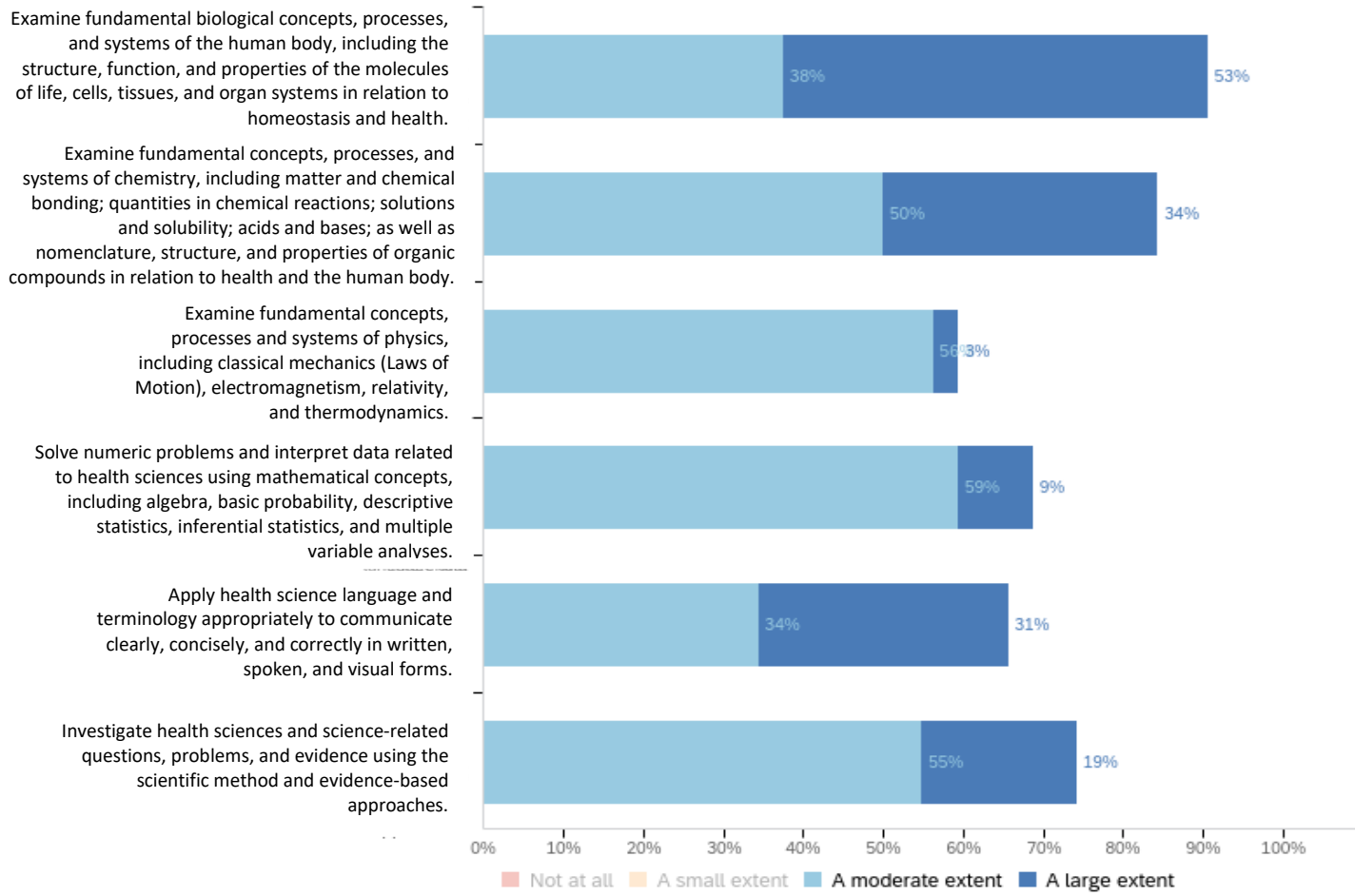
Understanding challenges like pandemics and health disparities can give students a broader perspective on health beyond their local context. Additionally, more emphasis on mental health and wellness is crucial, as it is an integral part of overall health care. Cultural competence is also essential, as it prepares students to work effectively with diverse populations. Finally, a course on health policy and advocacy can help students understand the regulatory environment and how to advocate for important health issues. Incorporating these topics could greatly enhance the program.
Maybe more kinesiology classes would be appreciated.
topics such as higher level molecular biochemistry. For instance, there is no course at KPU which transfers to meet the UBC BIOC 302 (biochemistry) which is required for dentistry and recommended for medical school.
unsure
I can’t think of any
Neurology, kinesiology
Pathology, Immunology
Statistics course which uses software such as SPSS and SAS? Maybe it's included in the Bioinformatics course, but I'm not sure.
Math & chem topics that are more health science-related, offering electives at least twice, not just once, human side of things (a good example is the health and aging class)
more classes like medical terminology, pathology?
I hope to learn about specific programs for statistics like SPSS, RED cap that will be beneficial in research. I hope we can also get more courses about genetics. Moreover, I personally I don't know how this problem can be solved but for the final exams if there is something that can be done so that they do not fall in the same day. Because there was one semester that I had 3 final exams in a day. Additionally, I hope we have Epidemiology course too. Lastly, I hope we have more immersion experience in a community.
KPU’s Health Science program could benefit from adding topics such as chemical engineering , biomedical science , epidemiology, global health, and alternative and holistic medicine.
The courses which teach us about the practical things so we can be prepared for the job market agter fhis degree
More common and new chronic diseases affecting us
I wish there was courses for health science that are all required for general health, public health, anatomy and nutrition. I know some of these r offered by KPU but they aren’t required and you only need to chose 2 out of 5. These courses should be a requirement and the biology courses should be the one you can pick certain ones from a list.
Holistic approaches to health and more classes that emphasize how systems of power affect health
Health admin. Planning.

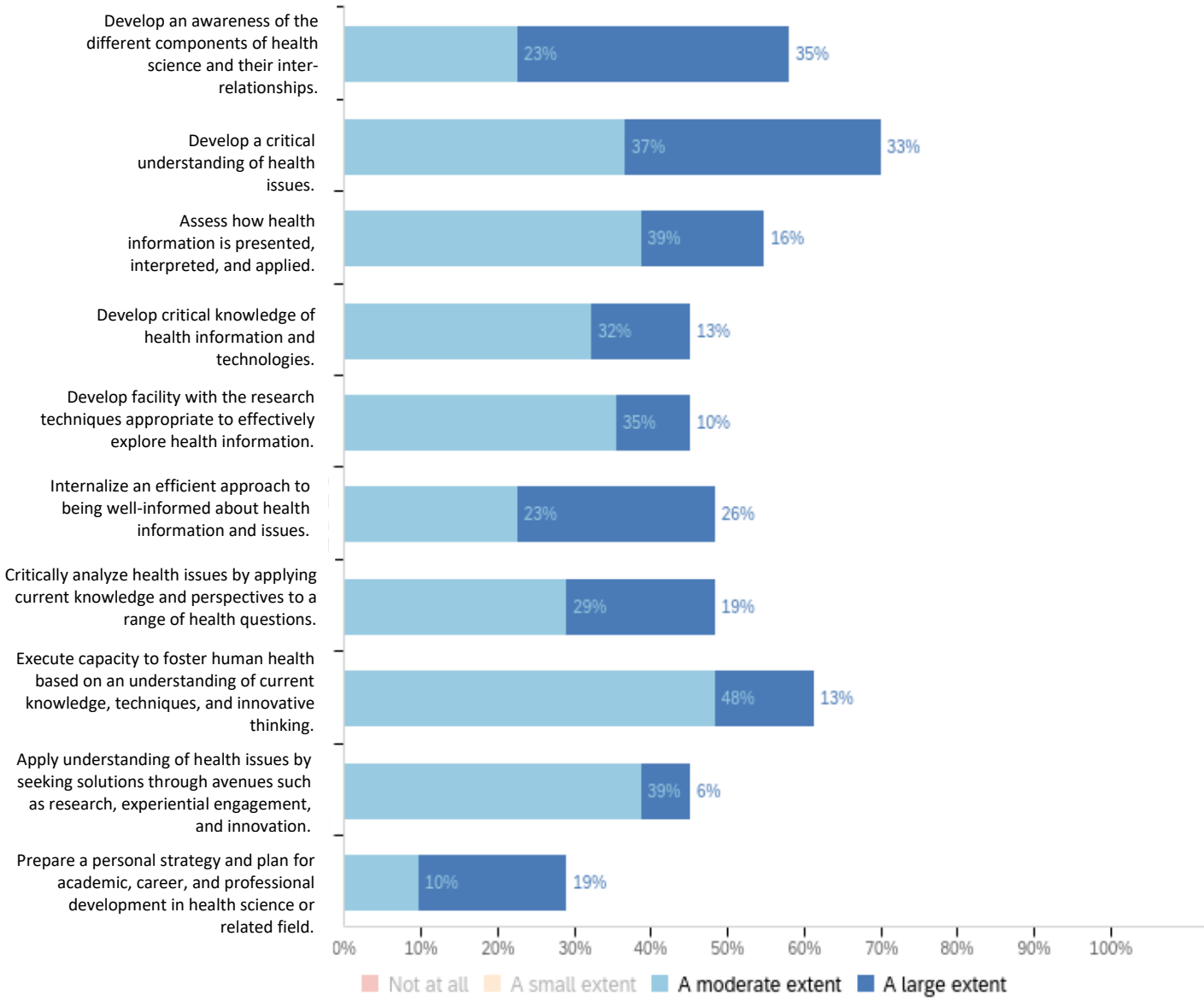
10 - The Health Science degree program is considering making changes to the type of health science courses that are offered. Compared to the current offerings, please indicate whether you would prefer fewer, the same number, or more of the following course categories within the degree program.



#	Question	Fewer	Same	More	Total
1	Basic Science (e.g., human anatomy and physiology, biochemistry / organic chemistry, microbiology, genetics, physics)	28%	47%	25%	36
2	Research and Statistics (e.g., biostatistics, research methodology, evidence-based practice, knowledge translation, implementation science)	17%	47%	36%	36
3	Population and Public Health (e.g., epidemiology, health promotion, disease prevention, global health, Indigenous health, determinants of health)	17%	44%	39%	36
4	Healthcare Systems (e.g., health policy, health administration, healthcare ethics, health economics / law/ regulation, project management)	11%	56%	33%	36
5	Behavioural and Social Science (e.g., health psychology, health geography, sociology of health and illness, health communication, health program planning and evaluation)	25%	42%	33%	36
6	Specialized Electives (e.g., nutrition, mental health / addictions, gerontology, immunology, pharmacology, infectious disease, neurology)	3%	14%	83%	36

11 - Program Learning Outcomes are statements that describe the knowledge and skills students will have upon completion of a program. To what extent are the courses you are taking for KPU's Health Science degree program helping you develop each of the following learning outcomes?



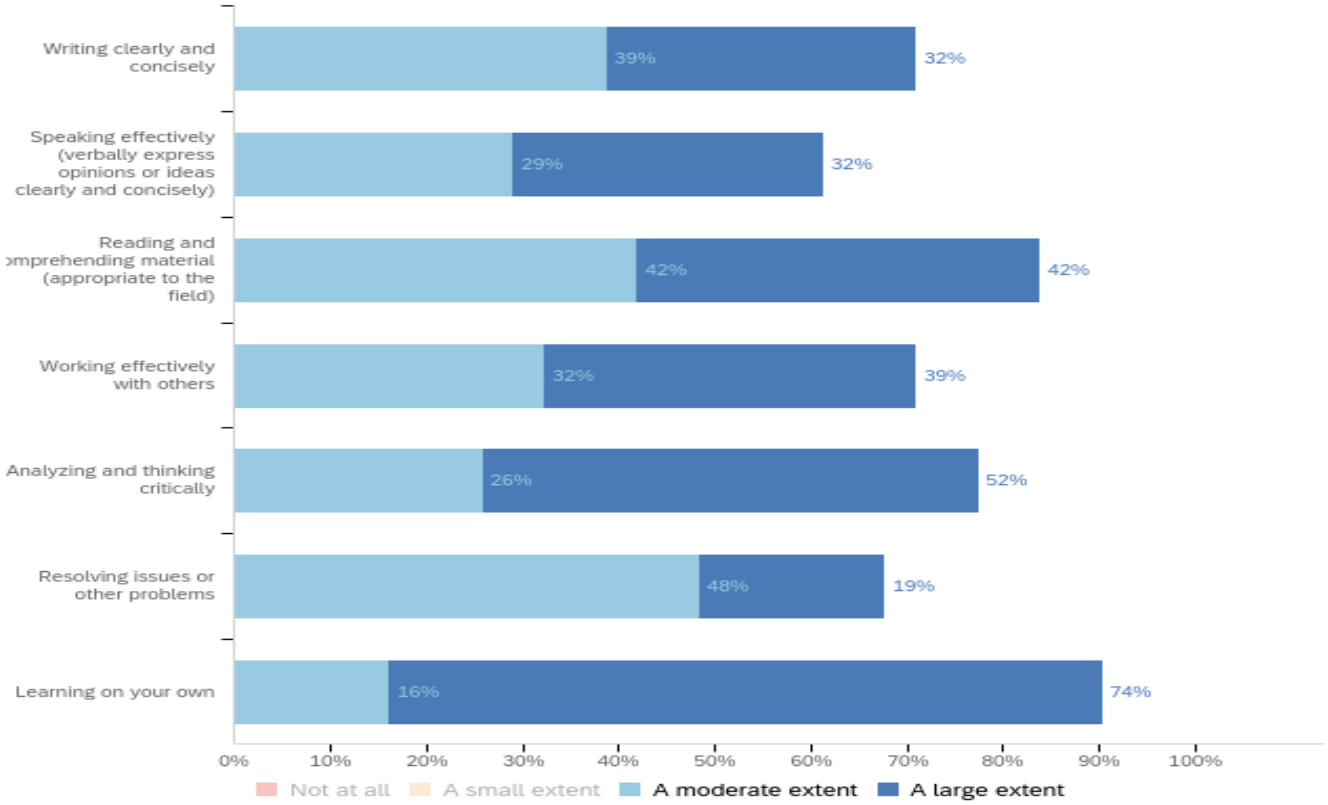


Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	0%	9%	38%	53%	32
2	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic compounds in relation to health and the human body.	3%	13%	50%	34%	32

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
3	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.	16%	25%	56%	3%	32
4	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	6%	25%	59%	9%	32
5	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	9%	25%	34%	31%	32
6	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	6%	19%	55%	19%	31
7	Develop an awareness of the different components of health science and their inter-relationships.	13%	29%	23%	35%	31
8	Develop a critical understanding of health issues.	3%	27%	37%	33%	30
9	Assess how health information is presented, interpreted, and applied.	10%	35%	39%	16%	31
10	Develop critical knowledge of health information and technologies.	16%	39%	32%	13%	31
11	Develop facility with the research techniques appropriate to effectively explore health information.	10%	45%	35%	10%	31
12	Internalize an efficient approach to being well-informed about health information and issues.	10%	42%	23%	26%	31
13	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	6%	45%	29%	19%	31
14	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	13%	26%	48%	13%	31
15	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	10%	45%	39%	6%	31
16	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.	26%	45%	10%	19%	31

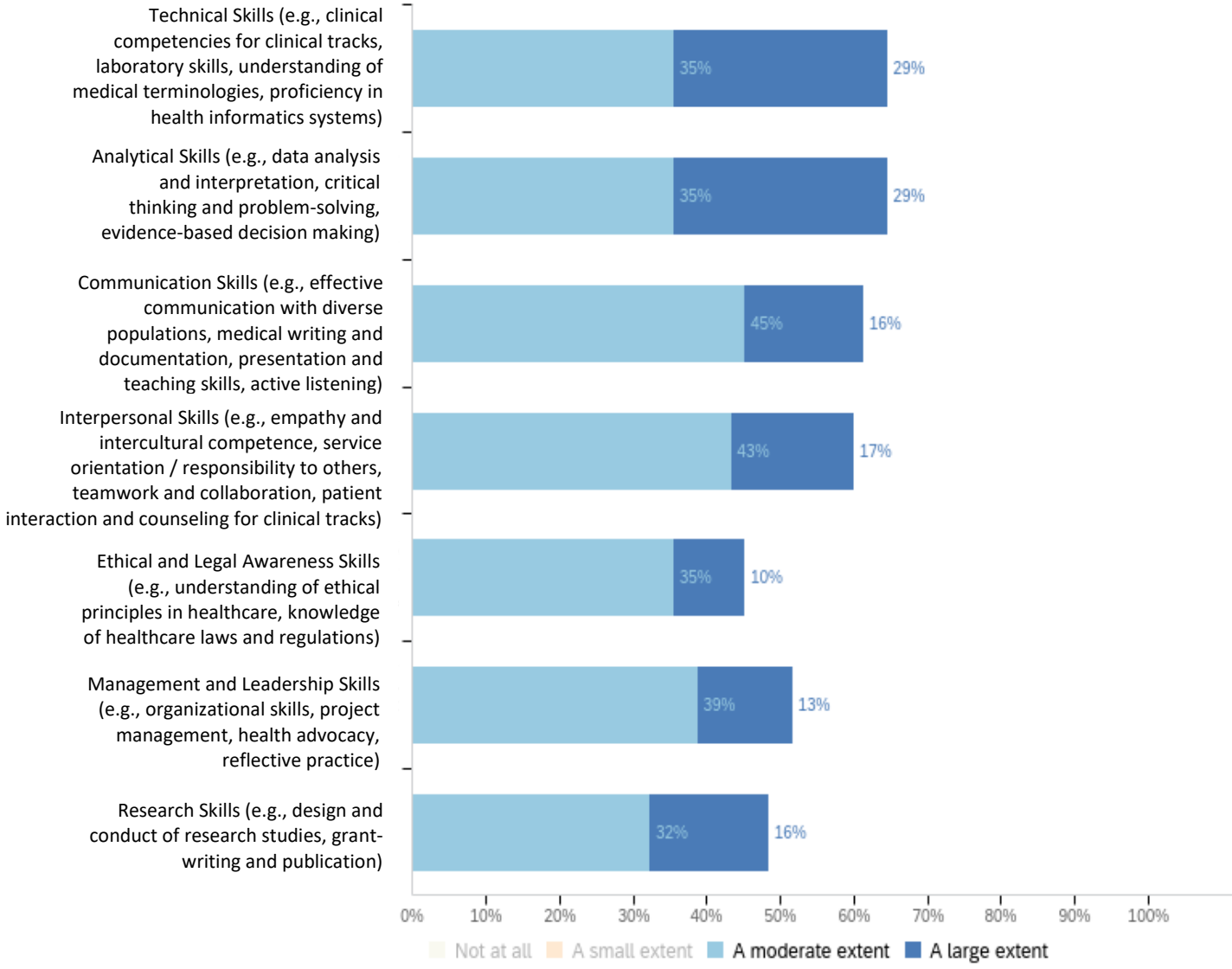
12 - To what extent are the courses you are taking for KPU's Health Science degree program helping you develop each of the following essential skills?



Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Writing clearly and concisely	10%	19%	39%	32%	31
2	Speaking effectively (verbally express opinions or ideas clearly and concisely)	0%	39%	29%	32%	31
3	Reading and comprehending material (appropriate to the field)	3%	13%	42%	42%	31
4	Working effectively with others	13%	16%	32%	39%	31
5	Analyzing and thinking critically	0%	23%	26%	52%	31
6	Resolving issues or other problems	10%	23%	48%	19%	31
7	Learning on your own	0%	10%	16%	74%	31

13 - To what extent are the courses you are taking for KPU's Health Science degree program helping you develop each of the following program-specific skills?

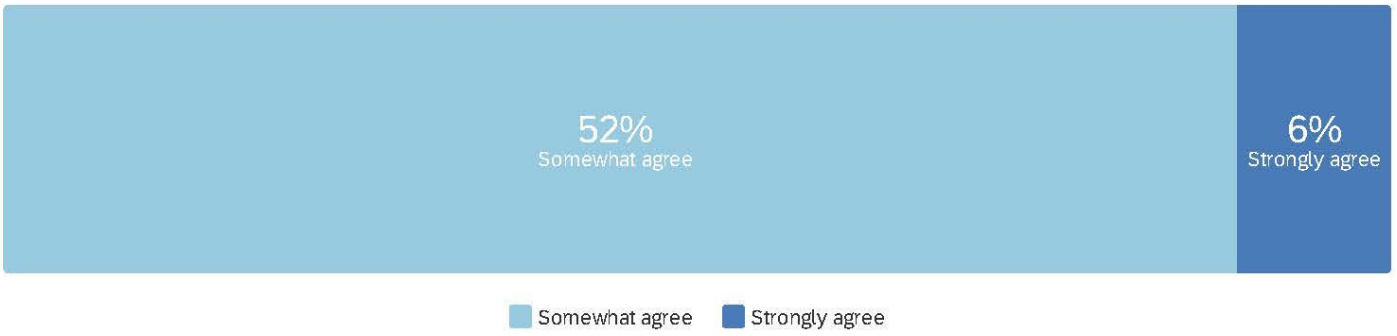


Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Technical Skills (e.g., clinical competencies for clinical tracks, laboratory skills, understanding of medical terminologies, proficiency in health informatics systems)	10%	26%	35%	29%	31
2	Analytical Skills (e.g., data analysis and interpretation, critical thinking and problem-solving, evidence-based decision making)	0%	35%	35%	29%	31

3	Communication Skills (e.g., effective communication with diverse populations, medical writing and documentation, presentation and teaching skills, active listening)	3%	35%	45%	16%	31
4	Interpersonal Skills (e.g., empathy and intercultural competence, service orientation / responsibility to others, teamwork and collaboration, patient interaction and counseling for clinical tracks)	17%	23%	43%	17%	30
5	Ethical and Legal Awareness Skills (e.g., understanding of ethical principles in healthcare, knowledge of healthcare laws and regulations)	19%	35%	35%	10%	31
6	Management and Leadership Skills (e.g., organizational skills, project management, health advocacy, reflective practice)	13%	35%	39%	13%	31
7	Research Skills (e.g., design and conduct of research studies, grant-writing and publication)	19%	32%	32%	16%	31

14 - To what extent do you agree that you have sufficient opportunities in the program to reinforce your learning through practical application of this learning?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

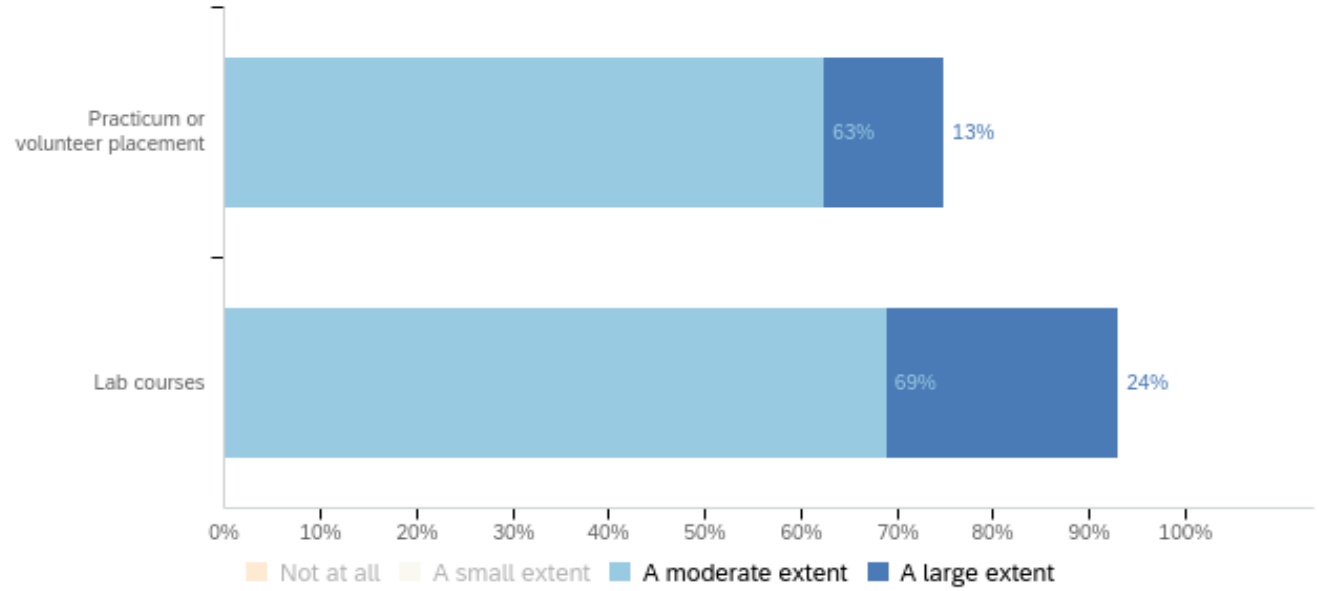
#	To what extent do you agree that you have sufficient opportunities in the program to reinforce your learning through practical application of this learning?	Percentage
1	Strongly disagree	10%
2	Somewhat disagree	19%
3	Neither agree nor disagree	13%
4	Somewhat agree	52%
5	Strongly agree	6%
	Total number of respondents	31

15 - Were you involved in any of the following work-integrated and/or community-engaged learning opportunities? Select all that apply.

#	Answer	Percentage	Count
1	Practicum or volunteer placement	27%	8
2	Co-operative (co-op) education experience	10%	3
3	Work-integrated course project where you reinforce your learning through a practical application relevant to an industry or a community partner.	0%	0
4	Applied research projects	3%	1
5	Lab courses	97%	29
	Total number of respondents		30

Note: The last row presents the total number of respondents. The total number of responses for this question is greater than the number of respondents. Therefore, the percentage total exceeds 100%.

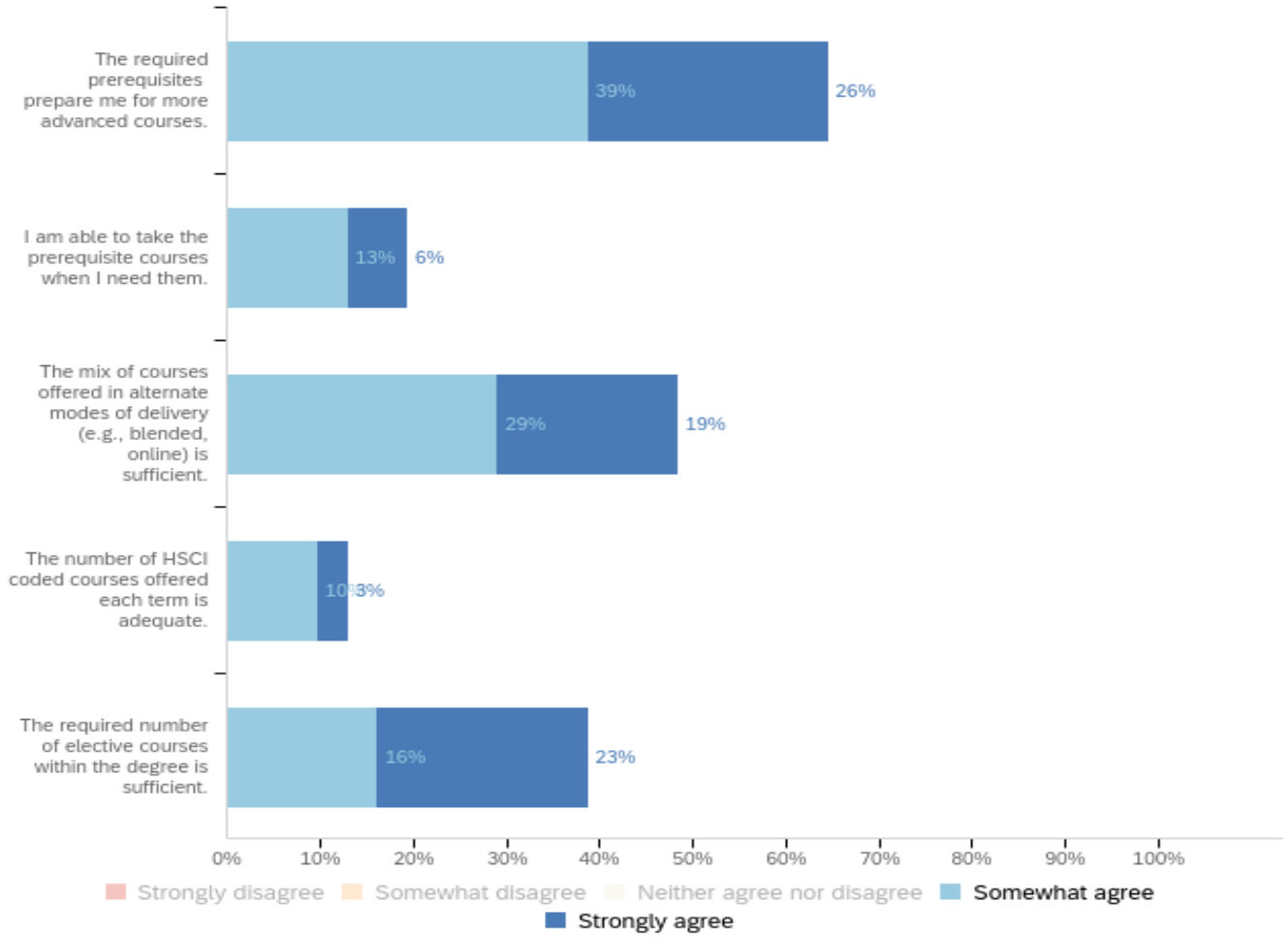
16 - Indicate the extent the following learning opportunities contributed to your learning.



Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Practicum or volunteer placement	0%	25%	63%	13%	8
2	Co-operative (co-op) education experience	Not enough responses to report.				
3	Work-integrated course project where you reinforce your learning through a practical application relevant to an industry or a community partner.					
4	Applied research projects					
5	Lab courses	0%	7%	69%	24%	29

17 - Thinking of KPU's Health Science degree program as a whole, please indicate your agreement with the following.



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	The required prerequisites prepare me for more advanced courses.	6%	13%	16%	39%	26%	31
2	I am able to take the prerequisite courses when I need them.	48%	23%	10%	13%	6%	31
3	The mix of courses offered in alternate modes of delivery (e.g., blended, online) is sufficient.	19%	23%	10%	29%	19%	31
4	The number of HSCI coded courses offered each term is adequate.	48%	29%	10%	10%	3%	31
5	The required number of elective courses within the degree is sufficient.	16%	13%	32%	16%	23%	31

18 - Were there any courses you were not able to take when you needed to?

#	Were there any courses you were not able to take when you needed to?	Percentage
1	Yes	74%
2	No	26%
	Total number of respondents	31

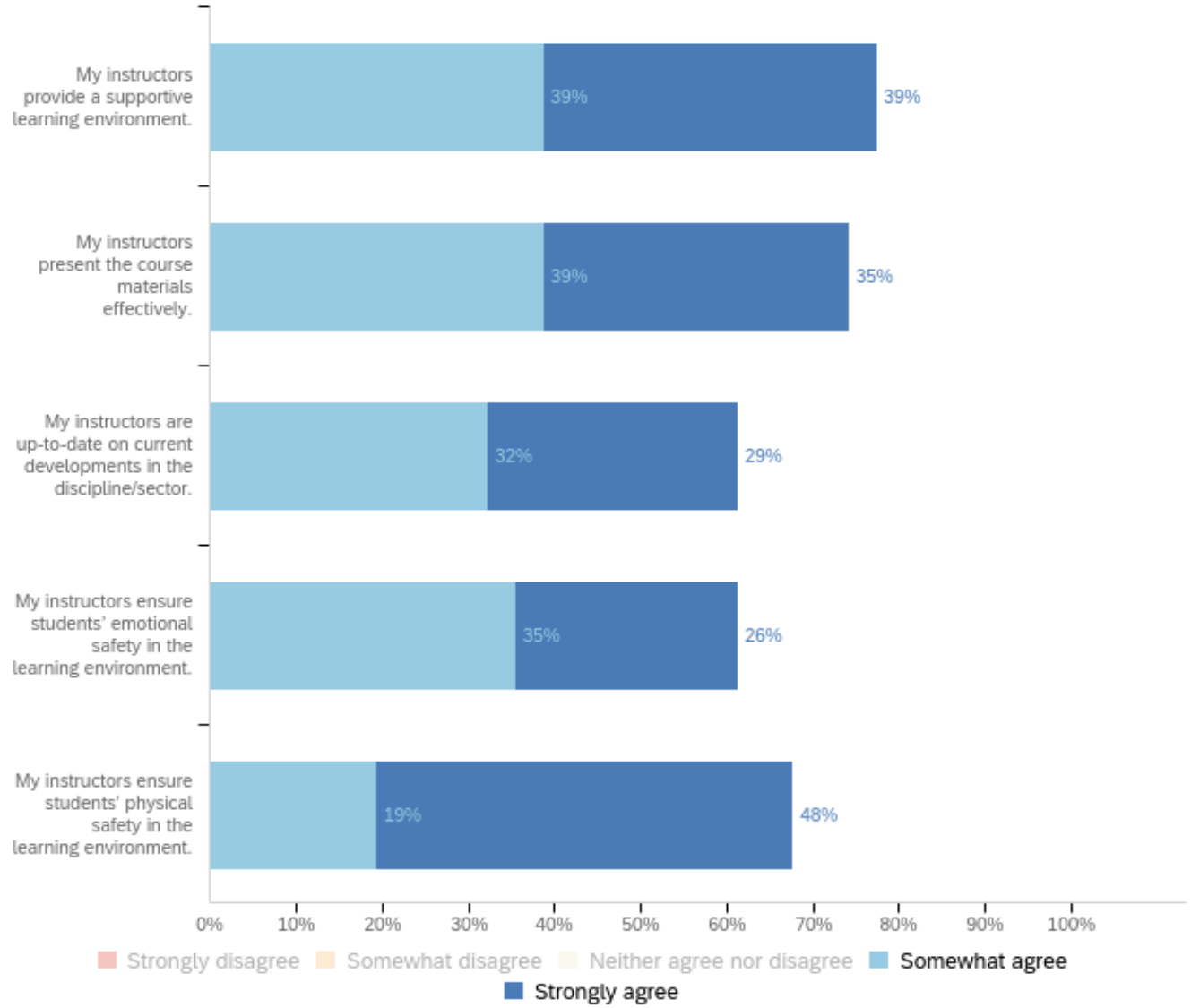
19 - Please provide the names of the courses you were not able to take in a timely manner.

Intro to health science and many electives
Organic Chemistry I and II Genetics (2320) Cell biology (2321) Nutrition (3225) Research methodology (3180)
Intro to health sciences & medical terminology
Biol 3180 Organic chemistry 2 (chem 2420) Biochemistry 1 (biol 2421)
Most of the HSCI courses, some biology and chemistry courses.
Biology courses
PHYS1101. HSCI2220. HSCI3225.
Mostly health science classes, bio classes for 3000 and higher are rarely offered every term and if they are offered it's always just one section making it hard to get in or fit with schedule. Such as human genetics not being offered for the past 2 semester.
HSCI 2220, SOCI 2280, MATH 1230
physics, cell biology, genetics, HSCI courses
Genetics and Molecular Genetics, Biochemistry, Medical Terminology, A&P, Bioinformatics, Advanced Cell Bio, Human Cardiovascular and Respiratory Systems
The electives that are offered only once a year primarily (e.g. Human Pathology, etc) and some first/second year courses before
medical terminology, chem 1210
Biol 3321, HSCI4380
medical terminology, calc 2
medical terminology
It took me more than a year to get into the medical terminology class. I only got in this year because they opened up a new section. All the health science classes r so limited and they always require a certain amount of credits.
Cell biology medical terminology anatomy and physiology
the next hsci after 1115
Medical terminology
pharmacology, nutrition, anatomy and physiology, cellular biochemistry
Genetics Cell Biology

20 - What is your preferred mode of course delivery for lectures?

#	What is your preferred mode of course delivery for lectures?	Percentage
1	Online	16%
2	In-person	45%
3	Hybrid (combination of online and in-person)	39%
	Total number of respondents	31

21 - Thinking of how the program content is delivered, please indicate your agreement with the following.



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	My instructors provide a supportive learning environment.	3%	10%	10%	39%	39%	31
2	My instructors present the course materials effectively.	0%	3%	23%	39%	35%	31
3	My instructors are up-to-date on current developments in the discipline/sector.	0%	3%	35%	32%	29%	31
4	My instructors ensure students' emotional safety in the learning environment.	3%	10%	26%	35%	26%	31
5	My instructors ensure students' physical safety in the learning environment.	0%	3%	29%	19%	48%	31

22 - Overall, how satisfied are you with the instruction you have received in KPU's Health Science degree program?

Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Overall, how satisfied are you with the instruction you have received in KPU's Health Science degree program?	Percentage
1	Very dissatisfied	3%
2	Somewhat dissatisfied	16%
3	Neither satisfied nor dissatisfied	23%
4	Somewhat satisfied	39%
5	Very satisfied	19%
	Total number of respondents	31

23 - Thinking of how instruction is delivered across the Health Science degree program as a whole, please indicate the strengths of the program instruction.

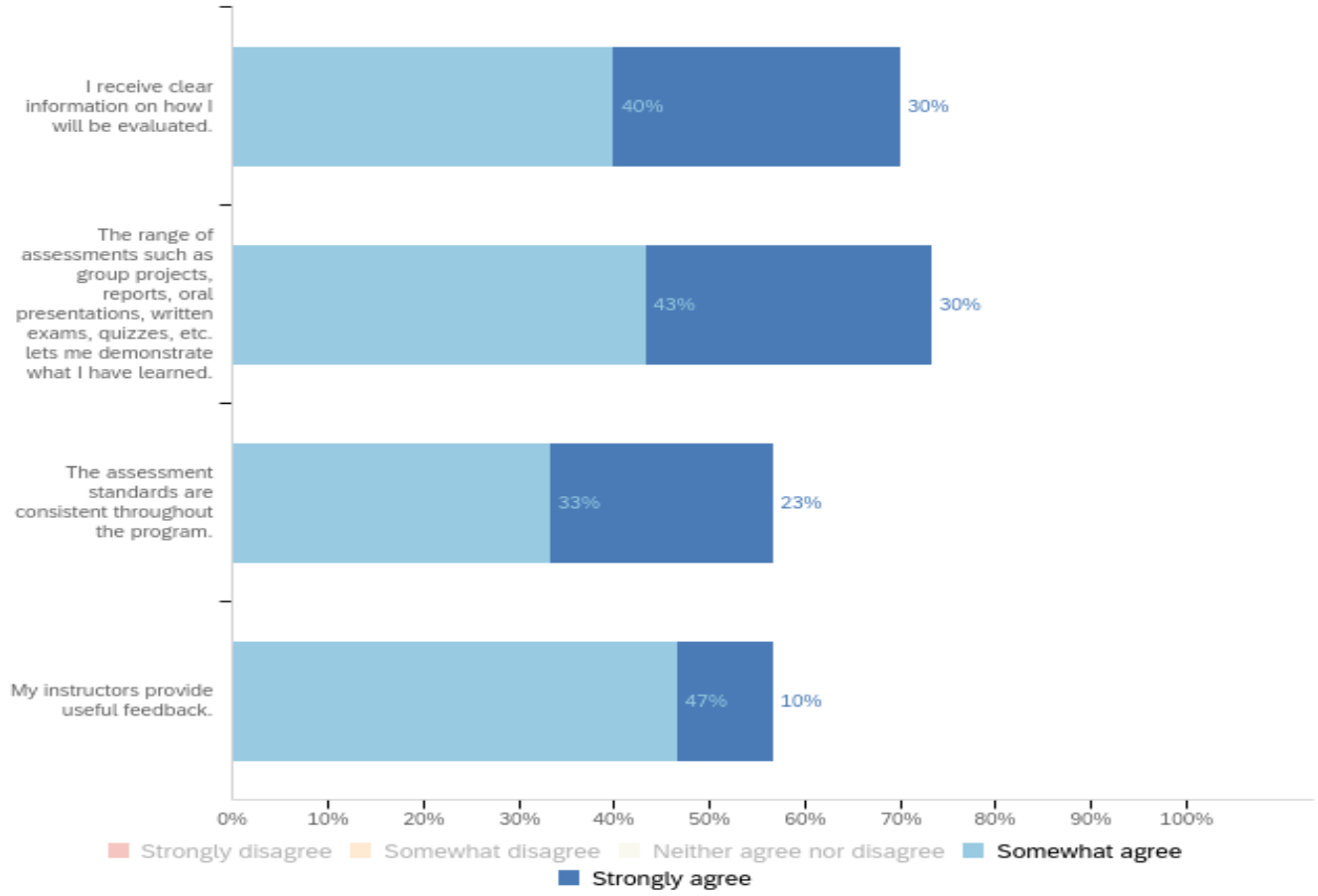
very understanding, very caring professors, care about your health and only want to see you succeed
there is focus on applications and learning things in discussions
instructors care to see and help students succeed and are well experienced in their field of teaching
i can see that some professors have a passion for what they are teaching, which really encourages students in learning and attending class. Also, it gives students the ability to feel more comfortable with their peers.
fair difficulty
There is group work with some sections
The instructors are really knowledgeable in their respective fields. I like how health science is more tailored to human health than animals/plants. I most especially like the integration of social science courses and specific hsci courses that talk about specific topics.
The instruction in KPU's Health Science degree program has several strengths. Small class sizes allow for more personalized learning and interaction with instructors. Hands-on learning through labs and research projects helps students apply theoretical knowledge. Experienced faculty bring real-world expertise, enhancing the learning experience. Interactive teaching methods, such as group discussions and case studies, encourage critical thinking. Additionally, the program's focus on interdisciplinary learning helps students gain a broad understanding of health sciences.
The availability
The Health Science degree program at KPU has several strengths in how instruction is delivered that I really appreciate. One of the key strengths is the emphasis on hands-on learning. I find that many courses incorporate practical experiences, like lab work and community projects, which help me apply theoretical knowledge in real-world situations. Another strength is the diverse range of teaching methods used. I enjoy how instructors utilize lectures, discussions, and group work, catering to different learning styles and keeping me engaged. This variety makes the learning experience dynamic and interesting. Additionally, I value the experienced faculty who bring real-world expertise into the classroom. Their insights and experiences enrich my learning environment and provide me with valuable industry knowledge. Lastly, the program encourages collaboration among students, fostering a sense of community and teamwork, which I find essential for preparing for the collaborative nature of the healthcare field. Overall, these strengths contribute to a well-rounded educational experience in the Health Science degree program.
Some courses are offered online and blended. The instructors are great.
Mostly in person good for students who feel the need to be physically present
It is easy to remember the assignments that need to be done as the professor sends an email each week reminding us
Instructors always available for questions after class.
Instruction was mostly clear. In most cases, the instruction of material matched up well with the level of detail asked in exams.
I like that important courses are offered in person, with electives being offered online or hybrid.
Heavy emphasis on base sciences give lots of scaffolding to build medical knowlege on Kind professors who communicate well for the most part

24 - Thinking of how instruction is delivered across the Health Science degree program as a whole, please identify any gaps and/or provide suggestions you have for improvement in program instruction.

A regular student spends 3 hours in class, whereas a Health Science student spends 7 hours for one class per week (2 hour lectures twice a week + 3 hour lab). This makes managing life extremely difficult as many of us have MULTIPLE LABS. Last semester, I had 3 courses alongside 3 labs, this semester I have 5 courses alongside 2 labs. I think it would be beneficial to have some labs "optional" since they aren't required for many post graduate studies (like dentistry and medicine). In fact, I've had some courses (ex **[Course Name Redacted]**) where the lab component was so heavy that I would spend 75% of the

course preparing and completing lab reports, than even studying for the course lecture, even though the lab is only worth 25-30% of the final grade.
Emphasize the sociological/ anthropological aspects of health more to provide a more balanced program
HSCI & BIOL courses offered each semester are not sufficient.
I do think that some presentations of the material could be condensed or simplifies as some professors are explaining things in such a complex manner. Communication between professors about what topics were taught about in depth and what was not.
In first and second year classes, more practice material would have been good.
KPU's Health Science program instruction could improve by incorporating more hands-on learning opportunities, such as internships and clinical placements, to provide real-world experience. Increasing the use of technology and simulation tools would enhance practical learning. More guest lectures from industry professionals could offer insights into current healthcare trends.
Many instructors teach the material in an awkward order, do not teach enough and do not establish connections between topics which can make learning much more difficult. Many times what is thought and assessed are at very different levels. Many times instructors are vague. A few times I had to essentially teach the entire course to myself (which I did not enjoy) due to instructors merely guiding and not fully instructing.
Other than what I have already stated, I think fostering a more unified front for Health Science majors because I've felt that we have been "floaters" we don't have a home base so to speak, compared to other majors. We often get so intertwined with biology majors and sometimes competing seats too. So there's no distinction at times of what sets us apart from biology and other majors, and socializing among our fellow health science majors don't really happen. We only get the opportunity when we become classmates but nothing beyond that.
The assignments are not the same as what we learn in class so most of the time, we have to find external sources to learn the material
There needs to be more practical opportunities
While I appreciate many aspects of the Health Science degree program at KPU, I see some gaps in the instruction delivery. One area for improvement is the inclusion of more online and hybrid learning options. This could provide greater flexibility for students who may have other commitments. I also think there should be a stronger focus on current health technologies and informatics. Integrating courses on these topics would better prepare us for the evolving healthcare landscape. Additionally, more emphasis on mental health and wellness in the curriculum could enhance our understanding of holistic care. Lastly, I believe that incorporating more guest speakers from various health sectors could provide valuable insights and networking opportunities. These changes could help make the program even more relevant and comprehensive.
Wish there were more fully online classes and availability of classes some classes are only valuable in one specific semesters so everyone applies for those classes trying to get in
needs more passion from instructors
needs more spots for core classes
showing enthusiasm for the course has a major impact on learning, some instructors show more enthusiasm than others.
some professors tend to overlook on spending more time on thoroughly explaining challenging topics as they don't want to fall behind on content, therefore i feel content should be revised so that it can sufficiently be taught and extra time needs to be allotted for professors to teach challenging topics
talking more about real world applications. exploring different ways of teaching that can make class more appealing

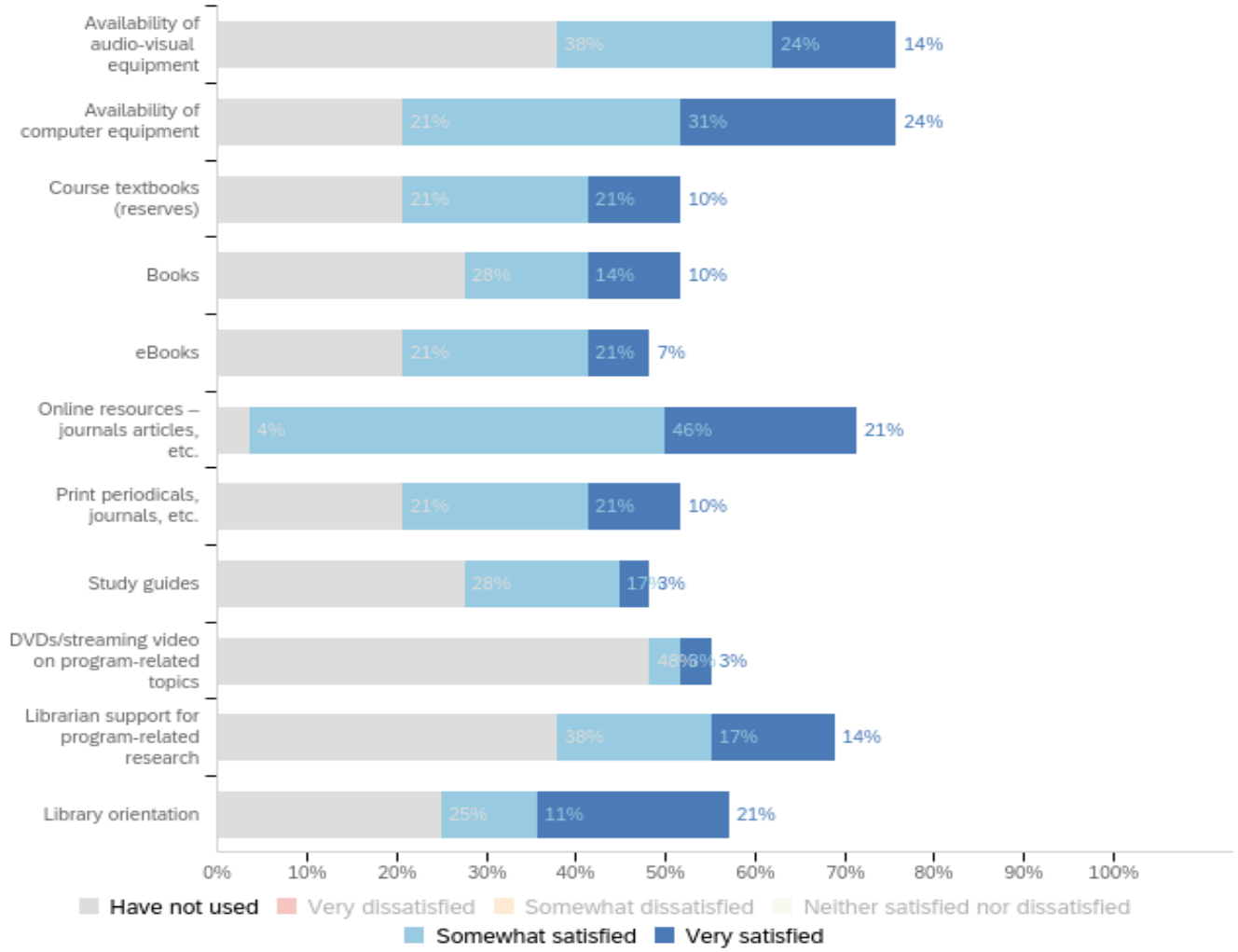
25 - Thinking of how learning is assessed in the program as a whole, indicate your agreement with the following.



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	I receive clear information on how I will be evaluated.	0%	10%	20%	40%	30%	30
2	The range of assessments such as group projects, reports, oral presentations, written exams, quizzes, etc. lets me demonstrate what I have learned.	3%	20%	3%	43%	30%	30
3	The assessment standards are consistent throughout the program.	7%	23%	13%	33%	23%	30
4	My instructors provide useful feedback.	7%	17%	20%	47%	10%	30

26 - How satisfied are you with the following library resources as they apply to KPU's Health Science degree program?

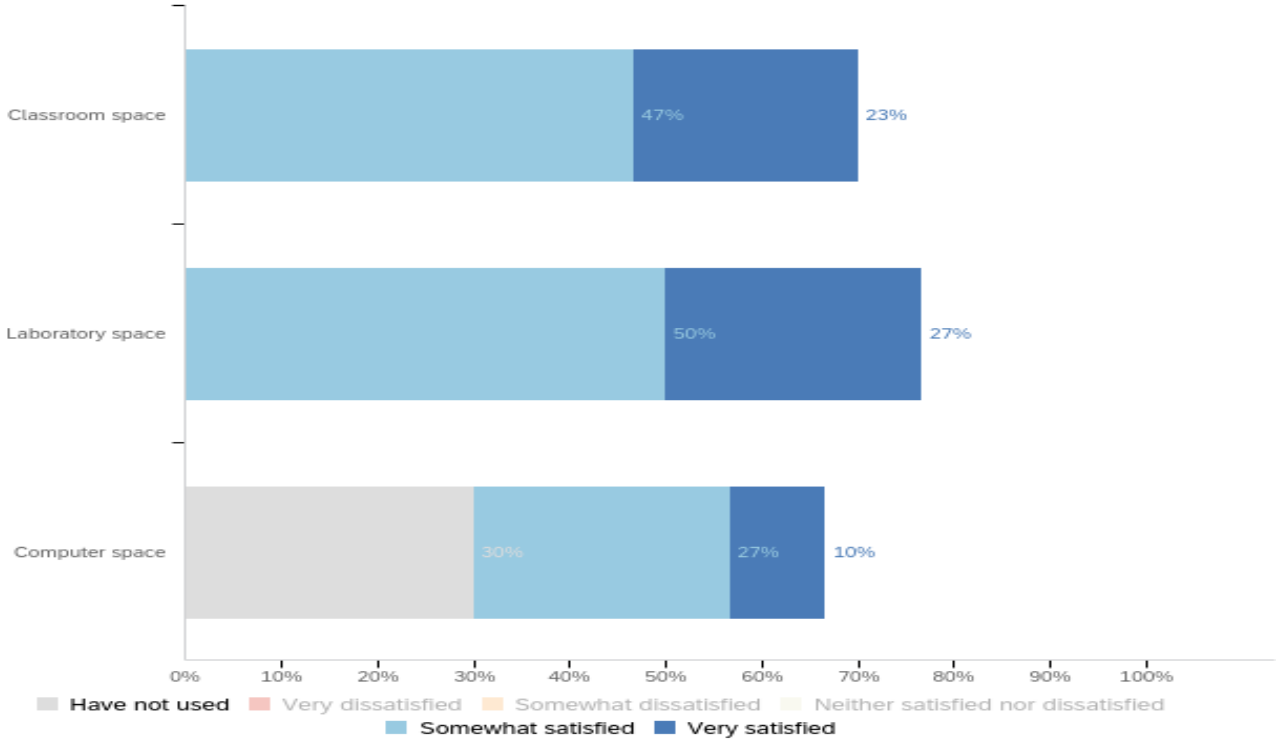


Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Have not used	Very dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Very satisfied	Total
1	Availability of audio-visual equipment	38%	0%	3%	21%	24%	14%	29
2	Availability of computer equipment	21%	0%	0%	24%	31%	24%	29
3	Course textbooks (reserves)	21%	10%	14%	24%	21%	10%	29
4	Books	28%	7%	10%	31%	14%	10%	29
5	eBooks	21%	7%	7%	38%	21%	7%	29
6	Online resources – journals articles, etc.	4%	0%	0%	29%	46%	21%	28

7	Print periodicals, journals, etc.	21%	0%	10%	38%	21%	10%	29
8	Study guides	28%	0%	17%	34%	17%	3%	29
9	DVDs/streaming video on program-related topics	48%	7%	0%	38%	3%	3%	29
10	Librarian support for program-related research	38%	3%	0%	28%	17%	14%	29
11	Library orientation	25%	4%	11%	29%	11%	21%	28

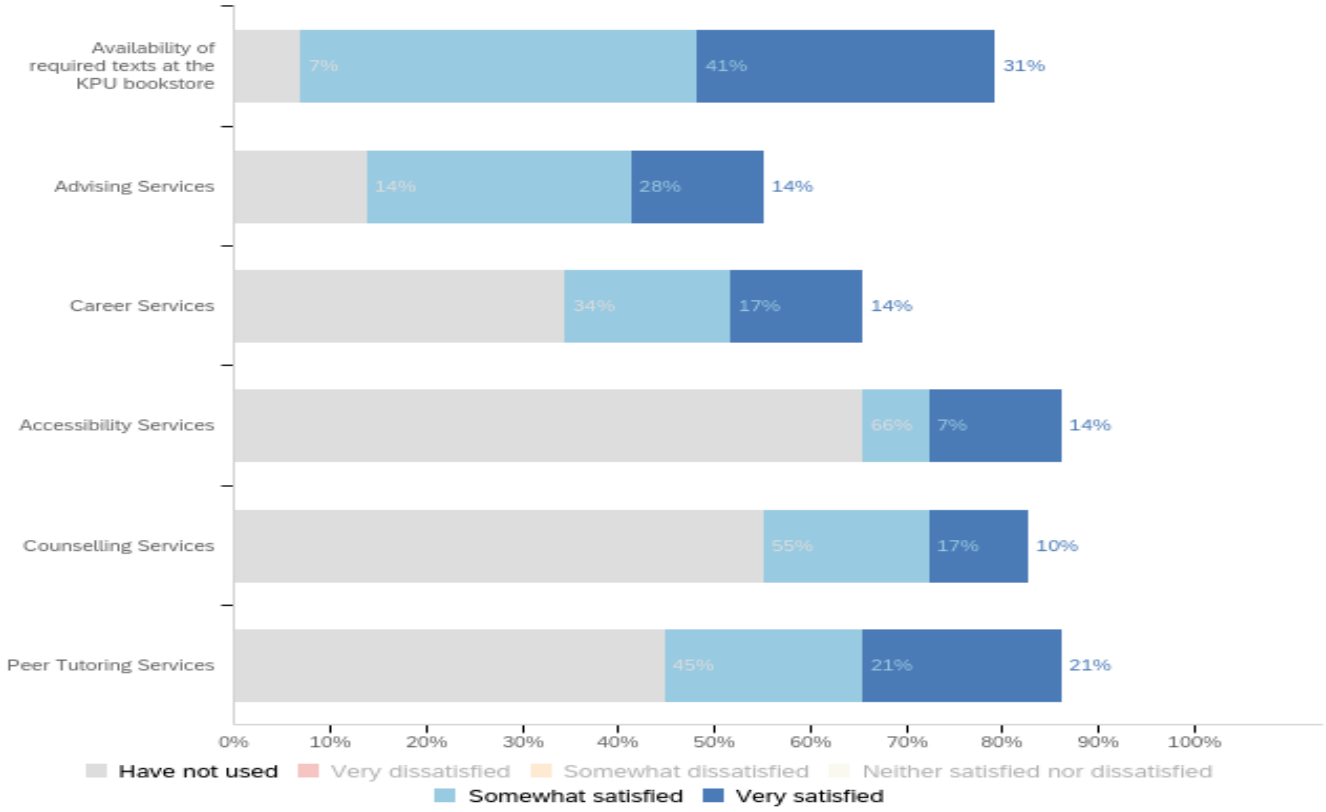
27 - How satisfied are you with the following facilities as they apply to KPU's Health Science degree program?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Have not used	Very dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Very satisfied	Total
1	Classroom space	0%	3%	17%	10%	47%	23%	30
2	Laboratory space	0%	0%	13%	10%	50%	27%	30
3	Computer space	30%	0%	7%	27%	27%	10%	30

28 - How satisfied are you with the following as they apply to KPU's Health Science degree program?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Have not used	Very dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Very satisfied	Total
1	Availability of required texts at the KPU bookstore	7%	0%	7%	14%	41%	31%	29
2	Advising Services	14%	10%	14%	21%	28%	14%	29
3	Career Services	34%	3%	17%	14%	17%	14%	29
4	Accessibility Services	66%	0%	3%	10%	7%	14%	29
5	Counselling Services	55%	3%	7%	7%	17%	10%	29
6	Peer Tutoring Services	45%	0%	0%	14%	21%	21%	29

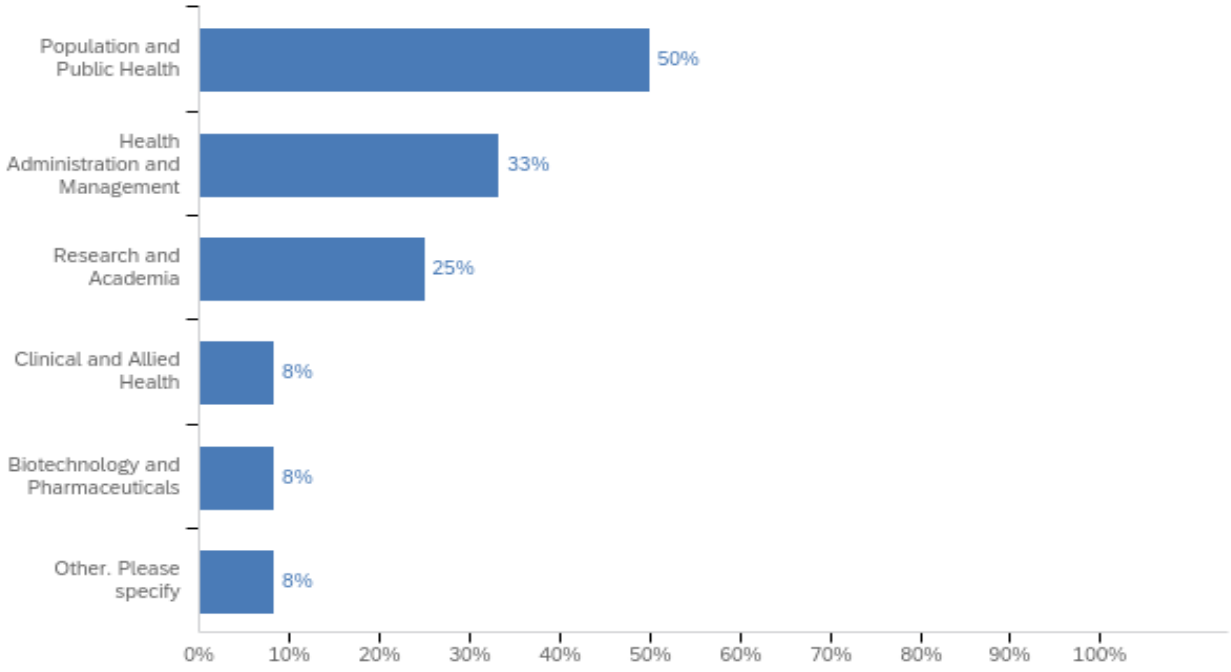
Appendix E – Discipline / Sector Survey Tabular Results and Comments

Health Science Program Review – Discipline/Sector Survey Results

The discipline/sector survey was sent to 42 Health Science discipline/sector representatives. A total of 12 representatives responded. The response rate is 29%.

Note: The data includes open-ended comments. In order to preserve integrity and objectivity, OPA does not do value-judgment editing (i.e. we do not fix spelling errors, syntax issues, punctuation, etc.). Comments are included verbatim – with one exception: if individuals or courses are named, OPA redacts the name of the instructor or course. This rule applies to whether the comment is good, bad or indifferent.

1 - Which area of health science are you employed in? Select all that apply.



#	Answer	Percentage	Count
1	Population and Public Health	50%	6
2	Health Administration and Management	33%	4
3	Research and Academia	25%	3
4	Clinical and Allied Health	8%	1
5	Biotechnology and Pharmaceuticals	8%	1
6	Other. Please specify	8%	1
	Total number of respondents		12

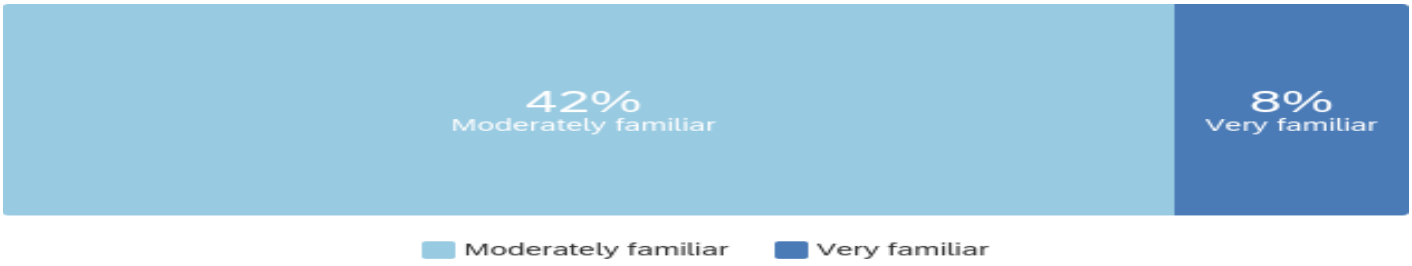
Note: The last row presents the total number of respondents. The total number of responses for this question is greater than the number of respondents. Therefore, the percentage total exceeds 100%.

Other. Please specify - Text
Patient Engagement

2 - What is your current job title/role?

Senior Policy Analyst
Senior Manager of Community Health and Specialized (Violence Prevention) Programs
Regional Maternal-Child Health Leader
Public Health Dietitian
Positive and adverse childhood experiences community health specialist
Manager, Clinical Trials and Business Development
Instructor
Executive Director
Executive Director
Director, Quality
Community Health Specialist
Clinical Practice Consultant

3 - How familiar are you with KPU's Health Science degree program?



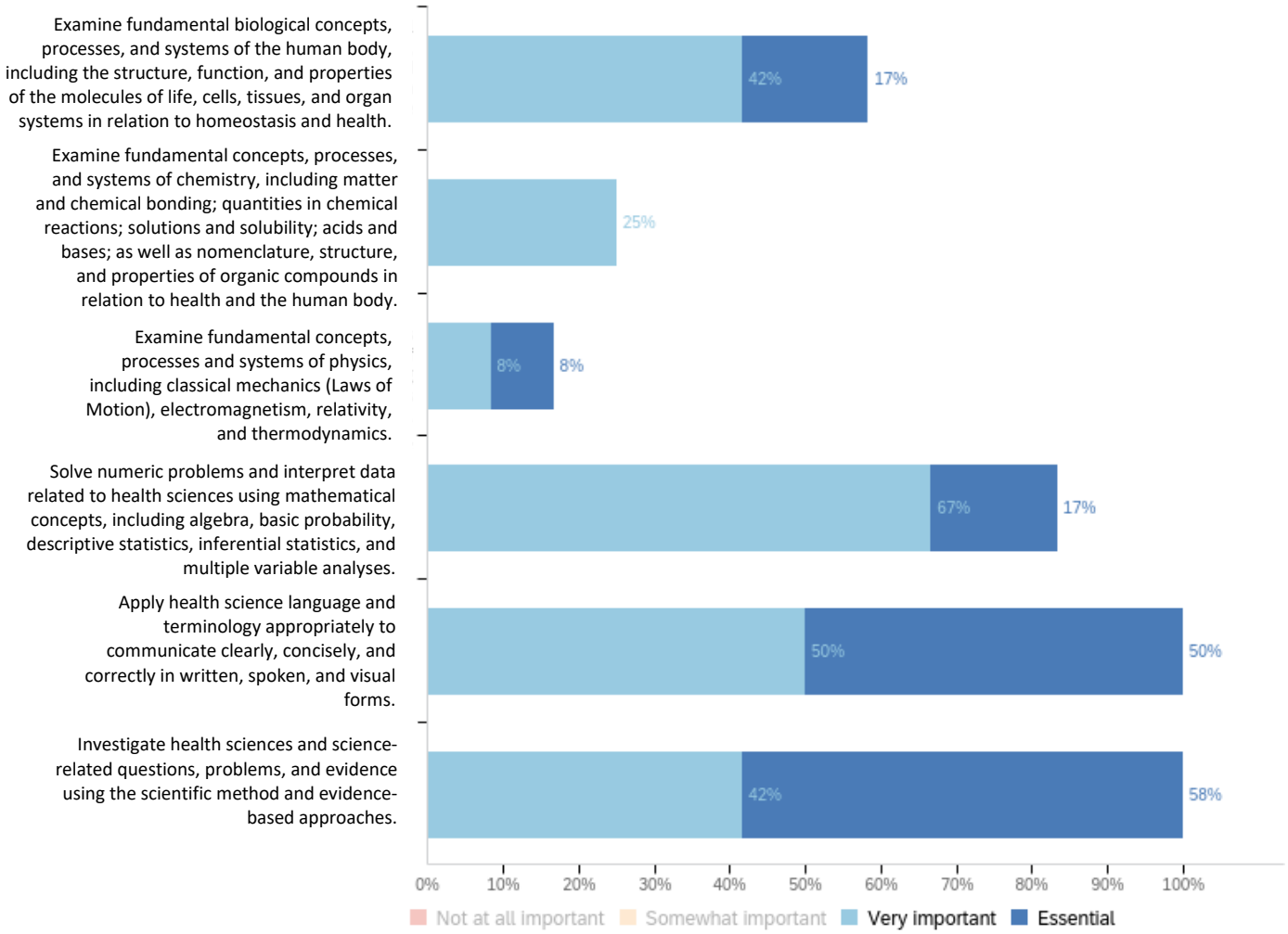
Note that "not at all familiar" and "slightly familiar" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all familiar" and "slightly familiar" categories

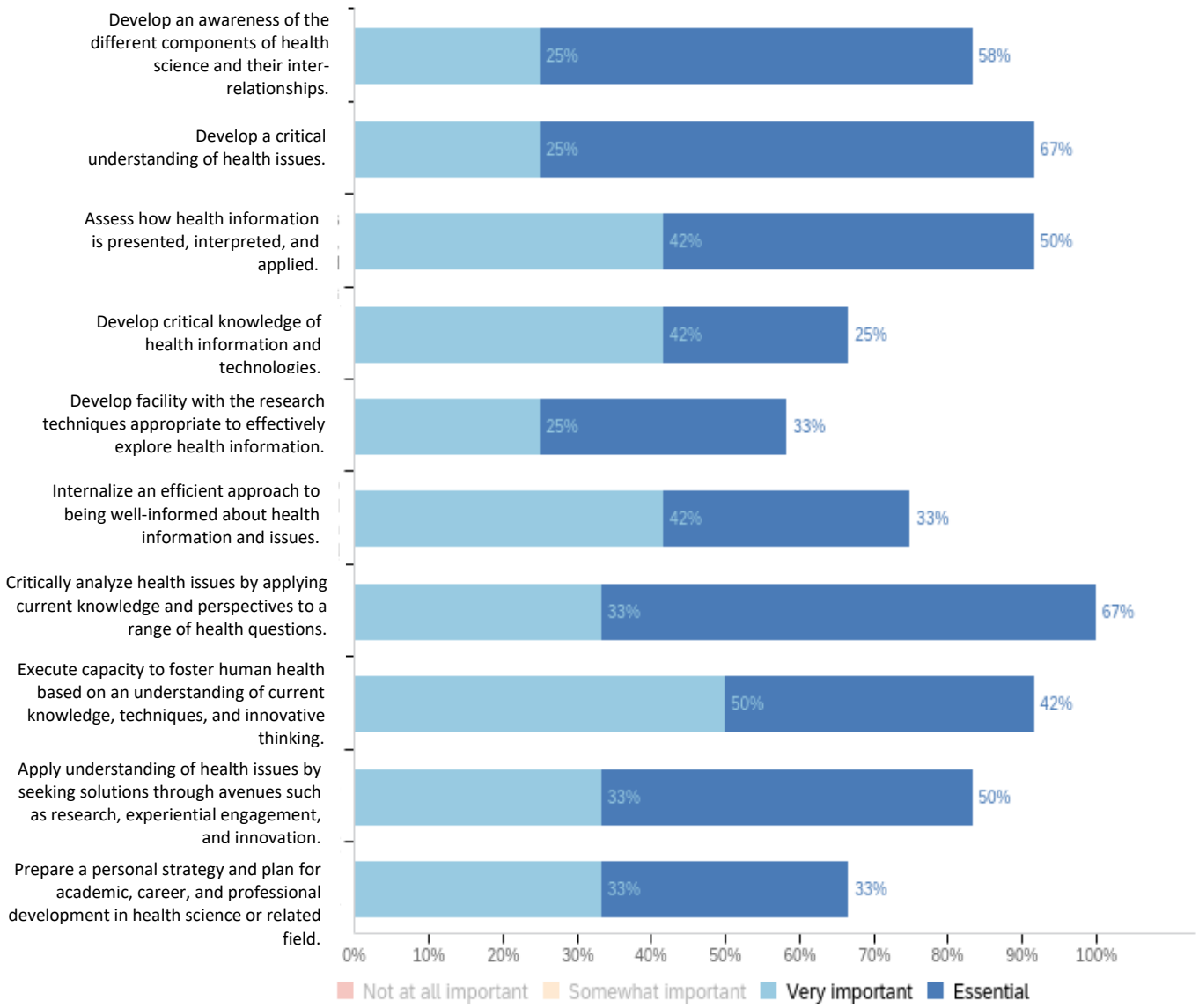
#	How familiar are you with KPU's Health Science degree program?	Percentage
1	Not at all familiar	8%
2	Slightly familiar	42%
3	Moderately familiar	42%
4	Very familiar	8%
	Total number of respondents	12

4 - When you think about KPU's Health Science degree program, what are the top three characteristics that come to mind?

Characteristic #1	Characteristic #2	Characteristic #3
research and evidence-based	multidisciplinary	clinical experience
practical	local	hands-on
understand health research and data	career in health care	preparation for graduate studies
Clinical	Evidence-based	Competitive
Small classes	Career focus	Foundational knowledge
Hands-On Learning		

5 - Considering the needs and expectations of your organization and/or health sector, how important is it for an entry-level employee to be able to demonstrate the following?





Note that 'Not at all important' and 'Somewhat important' categories are excluded from the chart. Use the frequency table below to review the proportion of 'Not at all important' versus 'Somewhat important' responses.

#	Question	Not at all important	Somewhat important	Very important	Essential	Total
1	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	17%	25%	42%	17%	12
2	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic compounds in relation to health and the human body.	33%	42%	25%	0%	12
3	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of	33%	50%	8%	8%	12

#	Question	Not at all important	Somewhat important	Very important	Essential	Total
	Motion), electromagnetism, relativity, and thermodynamics.					
4	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	0%	17%	67%	17%	12
5	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	0%	0%	50%	50%	12
6	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	0%	0%	42%	58%	12
7	Develop an awareness of the different components of health science and their inter-relationships.	0%	17%	25%	58%	12
8	Develop a critical understanding of health issues.	0%	8%	25%	67%	12
9	Assess how health information is presented, interpreted, and applied.	0%	8%	42%	50%	12
10	Develop critical knowledge of health information and technologies.	0%	33%	42%	25%	12
11	Develop facility with the research techniques appropriate to effectively explore health information.	0%	42%	25%	33%	12
12	Internalize an efficient approach to being well-informed about health information and issues.	0%	25%	42%	33%	12
13	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	0%	0%	33%	67%	12
14	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	0%	8%	50%	42%	12
15	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	0%	17%	33%	50%	12
16	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.	8%	25%	33%	33%	12

6 - What other skills, training, or knowledge (e.g., scientific writing, data analysis, project management, intercultural competence, etc.) should an entry-level applicant have to be hired into your organization?

healthcare report writing, jurisprudence competency and law
community experience and be able to write in plain language. Many new graduates do not understand how to communicate in a plain language to the public. Also community engagement is important in community and public health work.
community and population based understanding. strong communication. flexibility, adaptability and multi-taskings. critical thinking.
We expect a basic understanding of the social determinants of health/social inequities and health. Program planning and evaluation skills are not required for every position, but can make a recent graduate much more employable, as there is a growing emphasis on structured quality improvement initiatives.
Teamwork, and strong oral and written communication

Project Management, Knowledge Translation/Dissemination
Other skills an entry-level applicant to research include: 1. Understanding research principles, study design, research ethics, confidentiality and privacy of human subjects/patients, 2. familiarity with current health agency regulations and standards in clinical research ex. Good Clinical Practice and TCPS2. 3. prior exposure to work in a clinical setting (e.g., shadowing/volunteering in the hospital) 4. experience with data collection, good documentation practices
Health knowledge translation Interprofessional collaboration
Compassion and application of person-centred approach to care at all levels of healthcare (from the bedside to the boardroom).
Community collaboration, advocacy, evaluation and policy review
Basic understanding of healthcare systems in BC, familiarity with patient safety, quality principles and healthcare regulations, awareness of equity, diversity and inclusivity and patient-centered care
1. culturally-safe and trauma-informed approach to health literacy, 2. knowledge of social determinants of health. 3. knowledge of the non-profit settlement sector including funding structures, grant writing and understanding the scope of the work we do as non profits.

7 - What are the emerging trends in the health sector that KPU Health Science students should be prepared for? These trends might include technology, sustainability, and innovation. Please be as specific as you are able to.

planetary health, sustainability, Indigenous health, racism.
innovation in interdisciplinary healthcare
how to embed equity into their everyday work. For example, when developing public policies or programming, need to consider who are the beneficiaries of these policies and programs. How do we support those who are most vulnerable in our community.
Virtual Health Person-centred Care Compassion Planetary Health
Use of Artificial Intelligence (AI), Workforce Optimization
The emergent shift to Public Health and Community Health sector where health starts when we're healthy, not when we're sick. Navigating BC Health including advocating for culturally-safe ways to achieve health for clients/patients.
Planetary health, EDI, Access and Flow principles, Outcomes, Quality, Systems thinking, creativity and innovation, Artificial Intelligence, Big Data Analytics, Health information systems, Predictive Modeling
Mental wellness
Emerging trends include AI driven diagnostics, telemedicine, wearable tech, and big data transforming healthcare. HSc students can prepare by exploring health informatics, AI in medicine, data analysis. Learning basic coding, statistics and electronic health records systems will be valuable along with collaborating across disciplines to understand emerging technologies shaping patient care.
Biologics therapies AI technologies
As we expand our use of technology and AI, we are all learning quickly about the strengths, limitations, and ethics of using these technologies. If students could receive some basic exposure to these concepts, this could be a benefit. We are also strengthening our capacity to address planetary health and the effects of climate change on population health and wellbeing (physical, mental, emotional and social). If the students can have some understanding of the health impacts as well as the role of health systems in addressing climate change and promoting planetary health, this could be beneficial.

8 - What is your assessment of the Health Science degree program's curriculum? Have you identified any particularly noteworthy elements, significant gaps, or aspects that you found perplexing?

I would say that the current curriculum has a lot of focus on the science of healthcare (for example the majority of courses are related to anatomy and physiology) and less emphasis on the art of healthcare (for example relationship building, change

management, education theory, team-based care, equity, diversity, and inclusion, person-centred care, cultural safety). It would be great to have a better balance between the science of healthcare and the art of healthcare. A great deal of focus within healthcare right now is related to the art of healthcare. Also, it would be good to include courses related to upcoming health priorities and advancements such as Artificial Intelligence, planetary health, virtual health, and primary care models.
The clinical structures and courses of the program is robust. If the outcomes are to prepare students for health policy, research, management, sales and education - the gaps on courses I see are the following: community/public health, health leadership, health economics ($ we save/spend), and perhaps an elective about BC Healthcare Navigation where the graduands will have basic understanding about the connections we have in BC - Ministry of Health, Health Authorities, doctors, clinicians, community nurses, ICBC, WorkSafe BC, MCFD, MPSSG, etc, and how all these affect our health, and how they can be better equipped with resources for their clients, as well as be better informed of our provincial systems.
I think focus on statistics should include queuing theory for access and flow, shewhart charts and data visualization. Patient Safety like just culture, fundamentals of quality, big data analytics and artificial intelligence, data management and visualization, diversity, equity and inclusivity, planetary health. Project management, Agile, health information systems. Fraser Health is using Model for Improvement for Quality activities- this should be a stand alone subject. Soft skills like human factors, just culture and Communication skills should be considered as well.
- Lack of stream options for building specific/niche skillsets - Dedicated practicum/experiential learning opportunities
Has limited application to the profession I represent
The **[Course Name Redacted]** seems to focus a lot on macronutrients (carbohydrates, lipids, and protein) and micronutrients (vitamins and minerals) and its role in regulating and promoting health. Need to take a more holistic look at the role of nutrition. Not only focus on its role in the prevention of chronic illnesses. Need to look at the broader social determinants of health and the impact of diet culture. Need to critically examine weight bias and its impact including who is funding weight science and who is benefiting in the name of wellness.
HSc students can prepare by exploring health informatics, AI in medicine, data analysis. Learning basic coding, statistics and electronic health records systems will be valuable along with collaborating across disciplines to understand emerging technologies shaping patient care.
I feel that the required courses make sense for a Bachelor of Science degree. Those alone may not make a graduate particularly employable in the field of public health, but it looks like there are electives that they could take to boost their skills related to population and public health. Having more electives that align with the PHAC's Core Competencies for Public Health in Canada may benefit those students who want to pursue public health. Some of the core competencies content that could be strengthened within the curriculum include applying evidence (i.e., using the hierarchy of evidence - we won't always have RCTs in Public Health, so students need to know how to assess and interpret qualitative data and population level data) and identifying, assessing and proposing policy options to address health issues.
I like the balanced nature of the curriculum that emphasizes both basic sciences but also valuable competencies, such as science writing and research methodology.
Do not need biology, chemistry, algebra

9 - Which of the following best describes your previous experience with student(s) and/or alumni in KPU's Health Science program? Please select all that apply.

#	Answer	Percentage	Count
1	I have hosted KPU Health Science co-operative (co-op) education student(s).	8%	1
2	I have worked with KPU student(s) on work-integrated course project(s).	25%	3
3	I have worked with KPU practicum or volunteer placement student(s).	25%	3
4	I have worked with KPU Health Science alumni.	33%	4
5	None of the above	42%	5
	Total number of respondents		12

Note: The last row presents the total number of respondents. The total number of responses for this question is greater than the number of respondents. Therefore, the percentage total exceeds 100%.

10 - Based on your experience, how prepared were KPU's Health Science co-op student(s) to work in your organization?

Not enough responses to report.

11 - Based on your experience, how prepared were KPU's Health Science practicum or volunteer placement student(s) to work in your organization?

#	Based on your experience, how prepared were KPU's Health Science practicum or volunteer placement student(s) to work in your organization?	Percentage
1	Not at all prepared	0%
2	Somewhat prepared	100%
3	Very well prepared	0%
4	Extremely well prepared	0%
	Total number of respondents	3

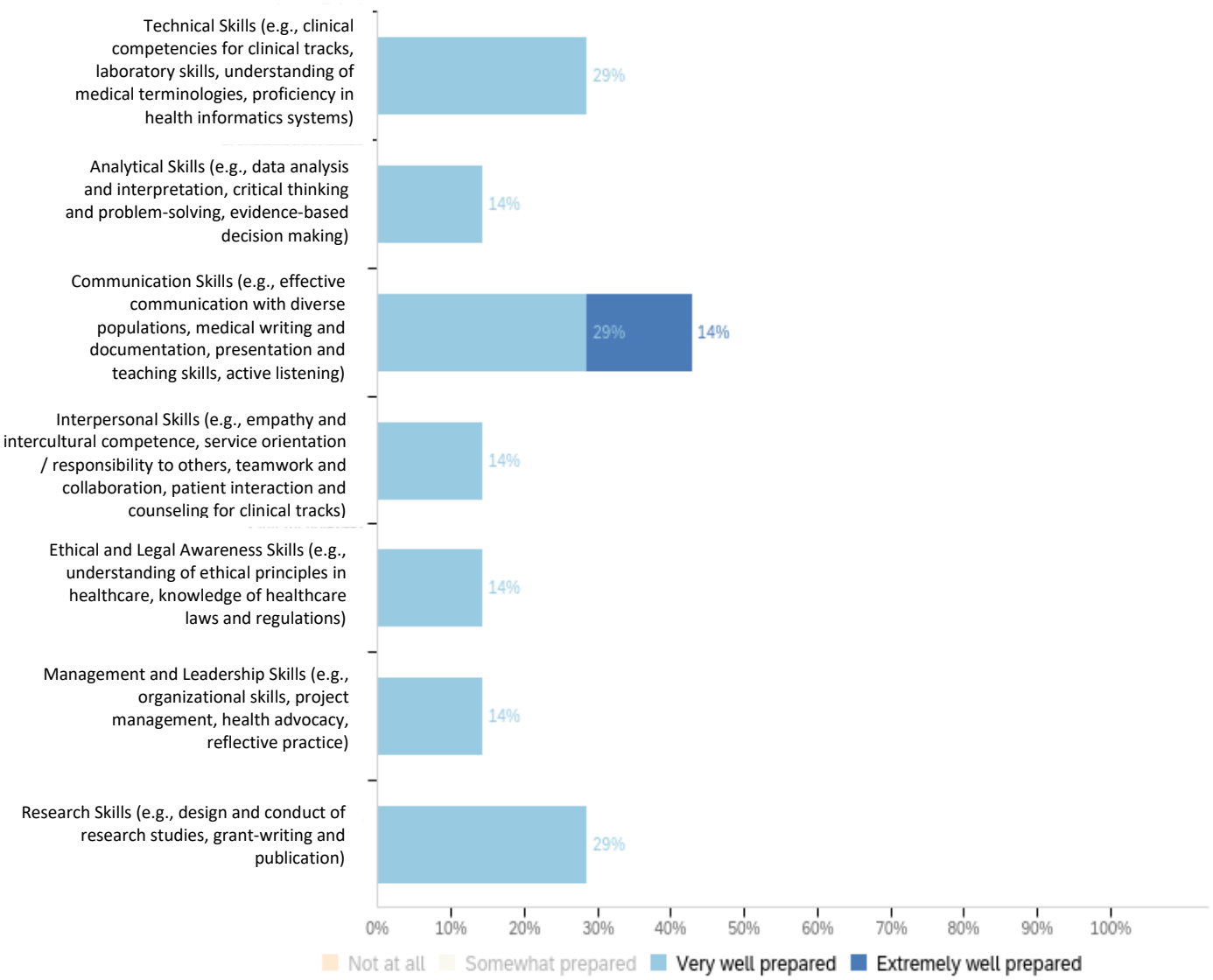
12 - Based on your experience, how prepared were KPU's Health Science student(s) you worked on work-integrated course project(s)?

#	Based on your experience, how prepared were KPU's Health Science student(s) you worked on work-integrated course project(s)?	Percentage
1	Not at all prepared	0%
2	Somewhat prepared	100%
3	Very well prepared	0%
4	Extremely well prepared	0%
	Total number of respondents	3

13 - Based on your experience, how prepared were KPU's Health Science alumni to work in your organization?

#	Based on your experience, how prepared were KPU's Health Science alumni to work in your organization?	Percentage
1	Not at all prepared	0%
2	Somewhat prepared	75%
3	Very well prepared	25%
4	Extremely well prepared	0%
	Total number of respondents	4

14 - How prepared were KPU's Health Science student(s) you worked with in the following areas?



Note that "not at all" and "somewhat prepared" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "somewhat prepared" categories.

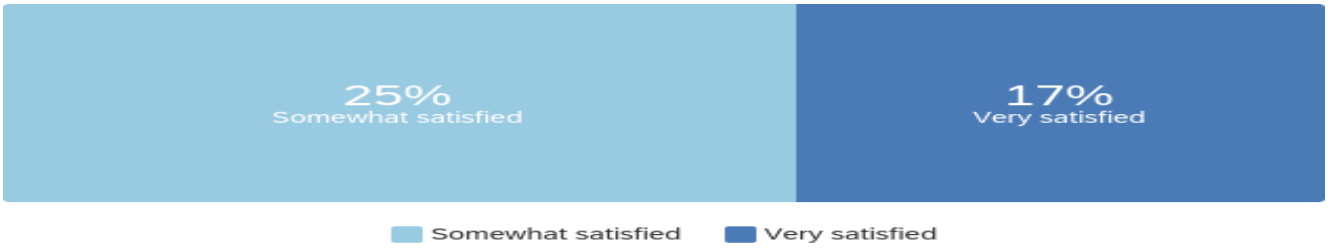
#	Question	Not at all	Somewhat prepared	Very well prepared	Extremely well prepared	Total
1	Technical Skills (e.g., clinical competencies for clinical tracks, laboratory skills, understanding of medical terminologies, proficiency in health informatics systems)	29%	43%	29%	0%	7
2	Analytical Skills (e.g., data analysis and interpretation, critical thinking and problem-solving, evidence-based decision making)	0%	86%	14%	0%	7
3	Communication Skills (e.g., effective communication with diverse populations, medical writing and documentation, presentation and teaching skills, active listening)	14%	43%	29%	14%	7

#	Question	Not at all	Somewhat prepared	Very well prepared	Extremely well prepared	Total
4	Interpersonal Skills (e.g., empathy and intercultural competence, service orientation / responsibility to others, teamwork and collaboration, patient interaction and counseling for clinical tracks)	0%	86%	14%	0%	7
5	Ethical and Legal Awareness Skills (e.g., understanding of ethical principles in healthcare, knowledge of healthcare laws and regulations)	43%	43%	14%	0%	7
6	Management and Leadership Skills (e.g., organizational skills, project management, health advocacy, reflective practice)	29%	57%	14%	0%	7
7	Research Skills (e.g., design and conduct of research studies, grant-writing and publication)	14%	57%	29%	0%	7

15 - Please comment on how well the program is preparing students for work.

The prepare can better prepare students for work by adding health informatics, AI in medicine, data analysis. Learning basic coding, statistics and electronic health records systems will be valuable along with collaborating across disciplines to understand emerging technologies shaping patient care.
The most important consideration for me is whether someone is willing to seek feedback and learn from others in the organization. I have always been very impressed with KPU's students' ability to self-reflect and explore areas where they can grow. This is one of the greatest strengths they can bring to their work.
The challenge I had was not knowing what the expectations were for the student. I didn't receive any direction from faculty related to how much time the students should be dedicated to working with me, did they have any deliverables, what was my role. It would have been great to have had an orientation to hosting a student.
If it's clinical, they are prepared with major gaps in Indigenous understanding that can be quite harmful. If it's community-based work, there needs some work to be done.

16 - How satisfied are you with the opportunities you have to stay connected to KPU's Health Science degree program?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories to enable quick comparisons between items. For items with low positive percentages, use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	How satisfied are you with the opportunities you have to stay connected to KPU's Health Science degree program?	Percentage
1	Very dissatisfied	8%
2	Somewhat dissatisfied	0%
3	Neither satisfied nor dissatisfied	50%
4	Somewhat satisfied	25%

5	Very satisfied	17%
	Total number of respondents	12

17 - What can KPU's Health Science degree program do to build better connections with the discipline/sector? (e.g., host networking events, engage in research projects with industry, hold career panels, etc.)

Updates on where students are placed. Regular communication related to how to apply for students. More opportunities to provide feedback on the curriculum. Opportunities to present to students.
The profession represented by my organization is not an educational focus of KPU
Networking
In addition to networking and holding career panels, KPU could identify specific competencies that are desirable within the sector and perhaps provide flexible learning opportunities to help bridge the gap between a foundational degree and a complete professional skillset.
I think they are doing a great job trying to work with community partners.
I really value the KPU's collaboration with community partners and health authorities in connecting research to real life health and social issues impacting the community. KPU's involvement in the community food security table has been really valuable and instrumental to many projects and initiatives. We look forward to continued partnership with KPU.
Facilitating connections and practicum not only in clinical based facilities.
Dialogue with organizations for partnerships.
- Career Panels - Networking Events - Newsletter

18 - Please rate your level of interest in participating in projects that connect program students with the industry or sector.

#	Please rate your level of interest in participating in projects that connect program students with the industry or sector.	Percentage
1	Not at all interested	8%
2	Somewhat interested	67%
3	Very interested	25%
	Total number of respondents	12

19 - Please share any project ideas you have to connect program students with the industry.

Presentations to students about person-centred care and compassion. Awareness of what students area of interest are. Patient Engagement and Equity, Diversity, and Inclusion Patient Engagement and impact evaluation
Practicum especially in our social prescription programs and violence prevention programs. Also having some community-based events.
I teach at Douglas College and we develop streams for volunteer opportunities and student placement. Some of the projects the students are working on include high impact high priority projects like addiction, access to care, mental health issues etc
In Public Health, we often have community engagement and health promotion projects that offer on-the-ground experience in community. Students could be connected to those opportunities through our public health programs.
I think overall there could be more cross-collaboration between local public post-secondary institutions. KPU Health Science could be a feeder into career-specific programs at BCIT. Alternatively, there could be an option for KPU students to satisfy 4th year requirements with courses from UBC or SFU. This would allow students to better tailor their learning journey to their specific career goals.

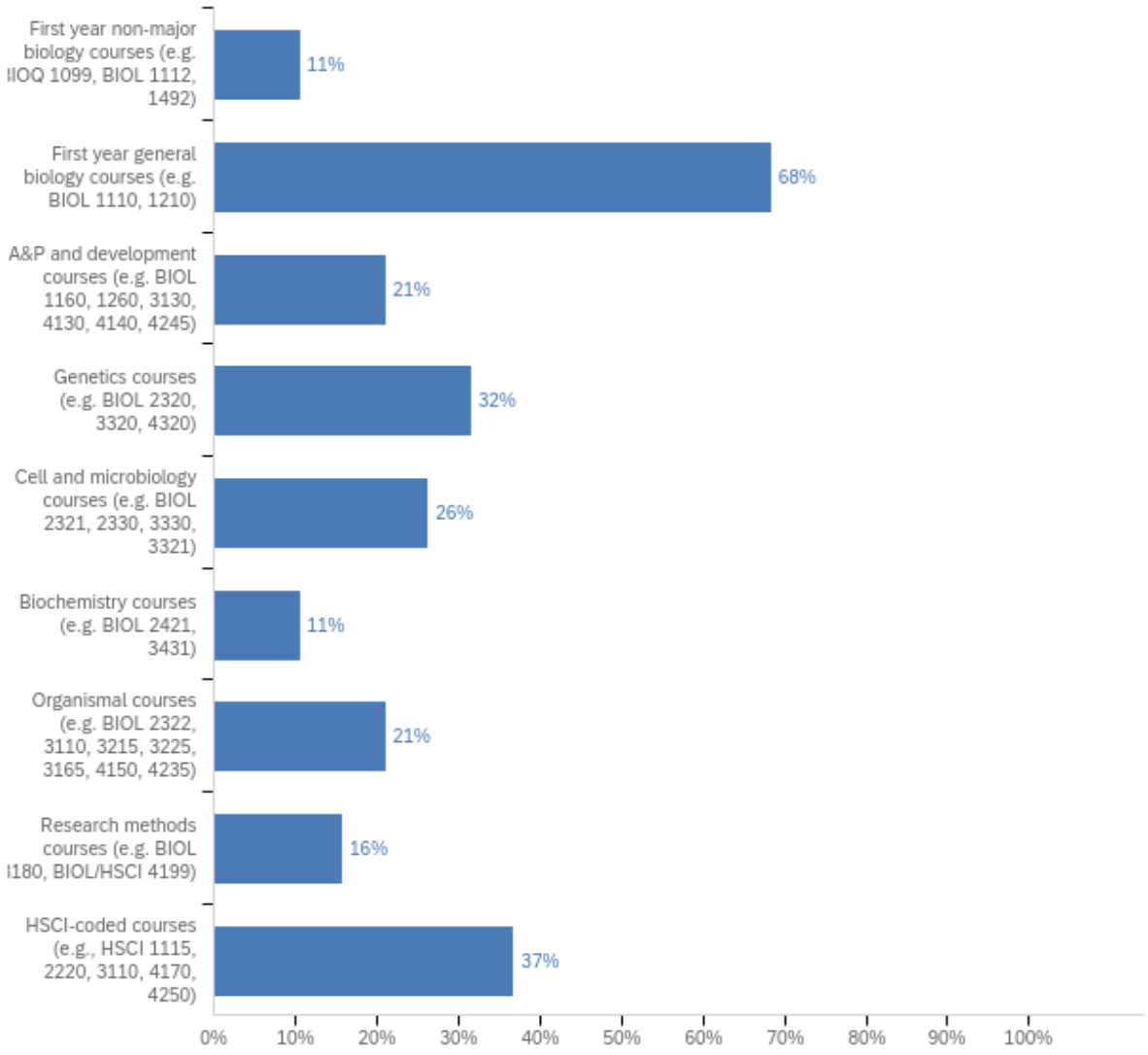
Appendix F - Faculty Survey Tabular Results and Comments

Health Science Program Review - Faculty Survey Results

The faculty survey was sent to 24 Health Science faculty members. A total of 19 faculty members responded. The response rate is 79%.

Note: The data includes open-ended comments. In order to preserve integrity and objectivity, OPA does not do value-judgment editing (i.e. we do not fix spelling errors, syntax issues, punctuation, etc.). Comments are included verbatim – with one exception: if individuals or courses are named, OPA redacts the name of the instructor or course. This rule applies to whether the comment is good, bad or indifferent.

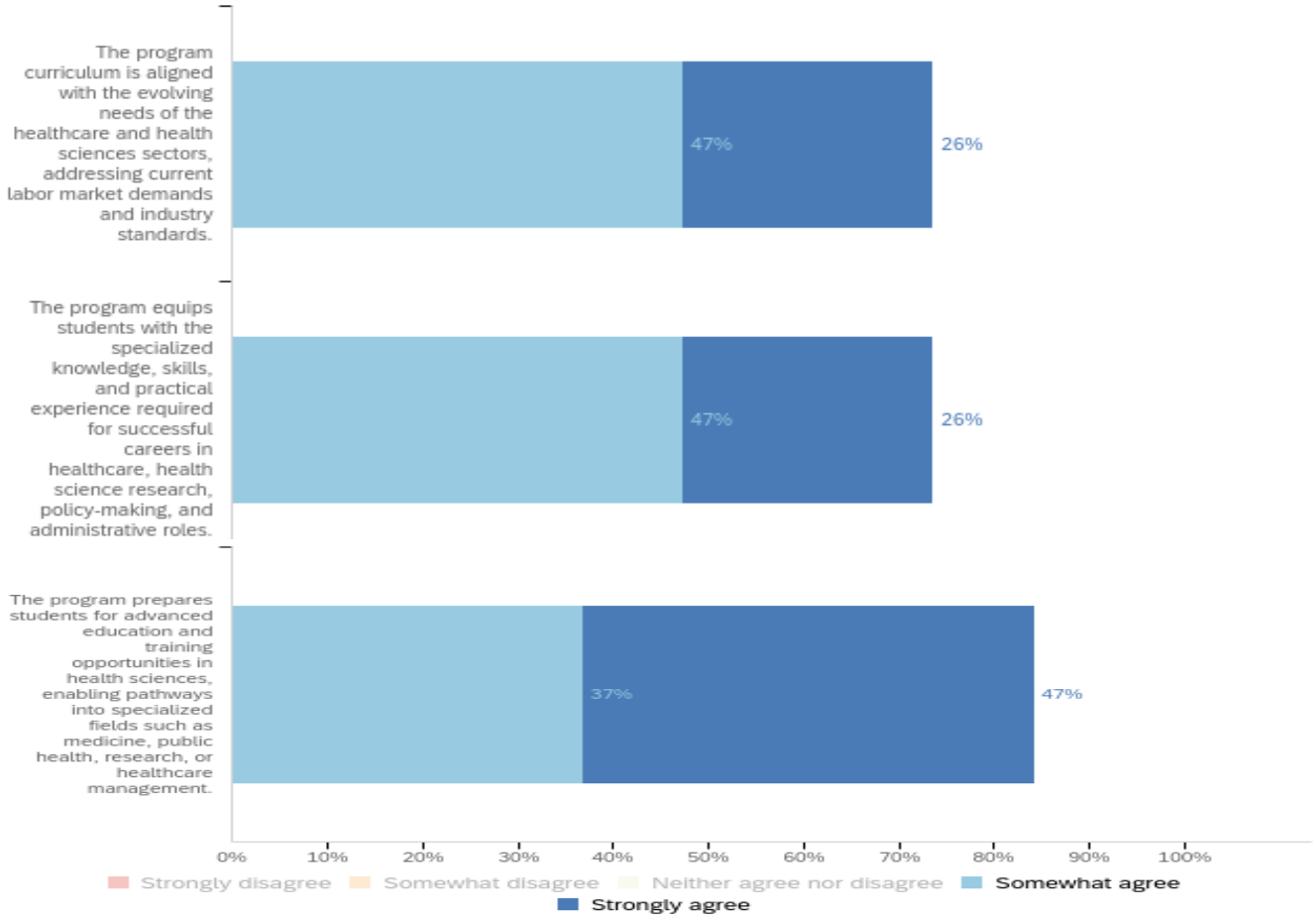
1. Which courses do you teach in KPU's Health Science degree program? Please select all that apply.



#	Answer	%	Count
1	First year non-major biology courses (e.g. BIOQ 1099, BIOL 1112, 1492)	11%	2
2	First year general biology courses (e.g. BIOL 1110, 1210)	68%	13
3	A&P and development courses (e.g. BIOL 1160, 1260, 3130, 4130, 4140, 4245)	21%	4
4	Genetics courses (e.g. BIOL 2320, 3320, 4320)	32%	6
5	Cell and microbiology courses (e.g. BIOL 2321, 2330, 3330, 3321)	26%	5
6	Biochemistry courses (e.g. BIOL 2421, 3431)	11%	2
7	Organismal courses (e.g. BIOL 2322, 3110, 3215, 3225, 3165, 4150, 4235)	21%	4
8	Research methods courses (e.g. BIOL 3180, BIOL/HSCI 4199)	16%	3
9	HSCI-coded courses (e.g., HSCI 1115, 2220, 3110, 4170, 4250)	37%	7
	Total number of respondents		19

Note: The last row presents the total number of respondents. The total number of responses for this question is greater than the number of respondents. Therefore, the percentage total exceeds 100%.

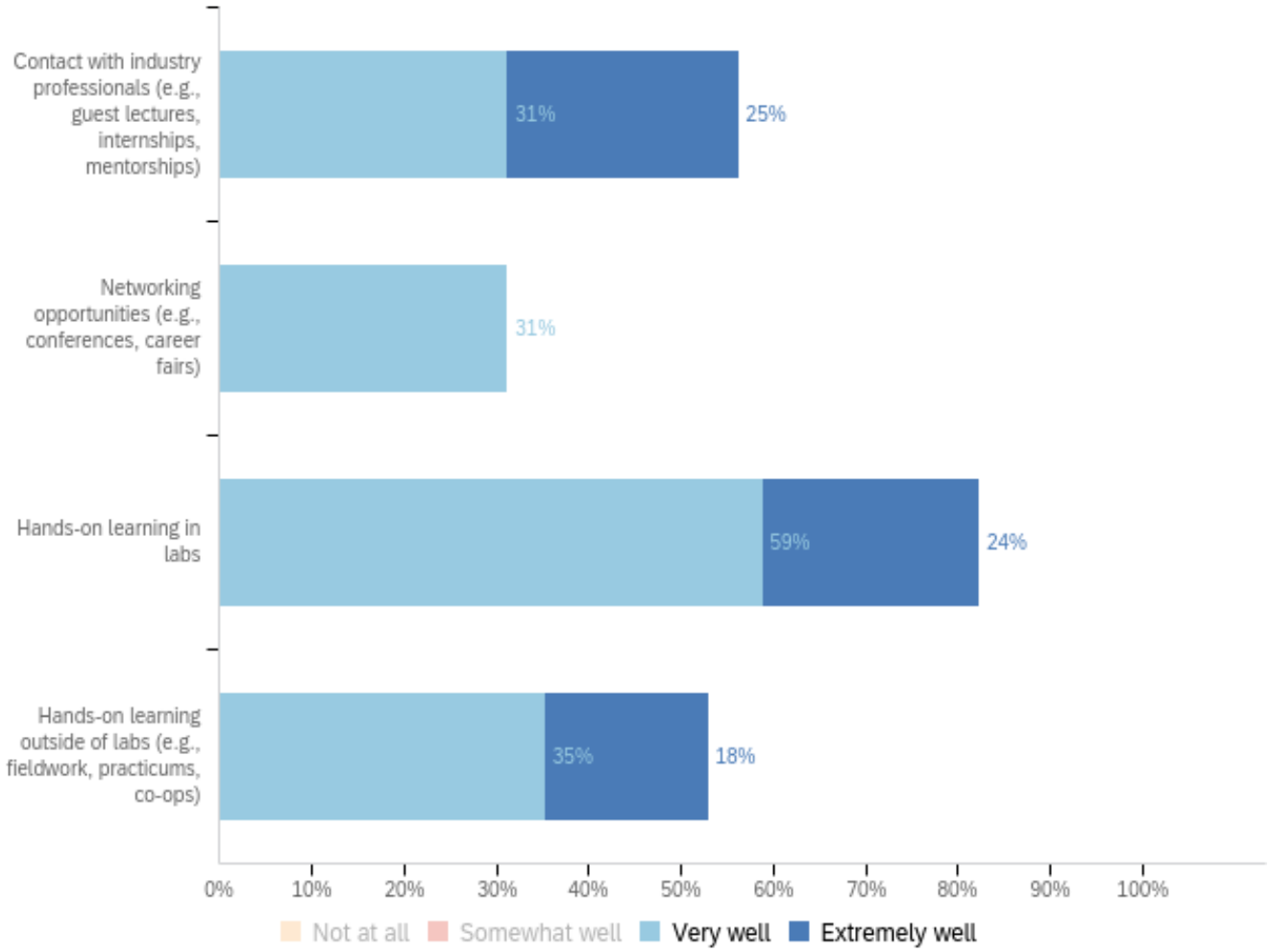
2. Thinking of KPU's Health Science degree program as a whole, indicate the extent you agree with the following.



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	The program curriculum is aligned with the evolving needs of the healthcare and health sciences sectors, addressing current labor market demands and industry standards.	5%	16%	5%	47%	26%	19
2	The program equips students with the specialized knowledge, skills, and practical experience required for successful careers in healthcare, health science research, policy-making, and administrative roles.	5%	11%	11%	47%	26%	19
3	The program prepares students for advanced education and training opportunities in health sciences, enabling pathways into specialized fields such as medicine, public health, research, or healthcare management.	0%	11%	5%	37%	47%	19

3. How well does the program prepare students for careers in health science-related fields through the following methods?



Note that "not at all" and "Somewhat well" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "Somewhat well" categories.

#	Question	Not at all	Somewhat well	Very well	Extremely well	Total
1	Contact with industry professionals (e.g., guest lectures, internships, mentorships)	25%	19%	31%	25%	16
2	Networking opportunities (e.g., conferences, career fairs)	19%	50%	31%	0%	16
3	Hands-on learning in labs	0%	18%	59%	24%	17
4	Hands-on learning outside of labs (e.g., fieldwork, practicums, co-ops)	6%	41%	35%	18%	17

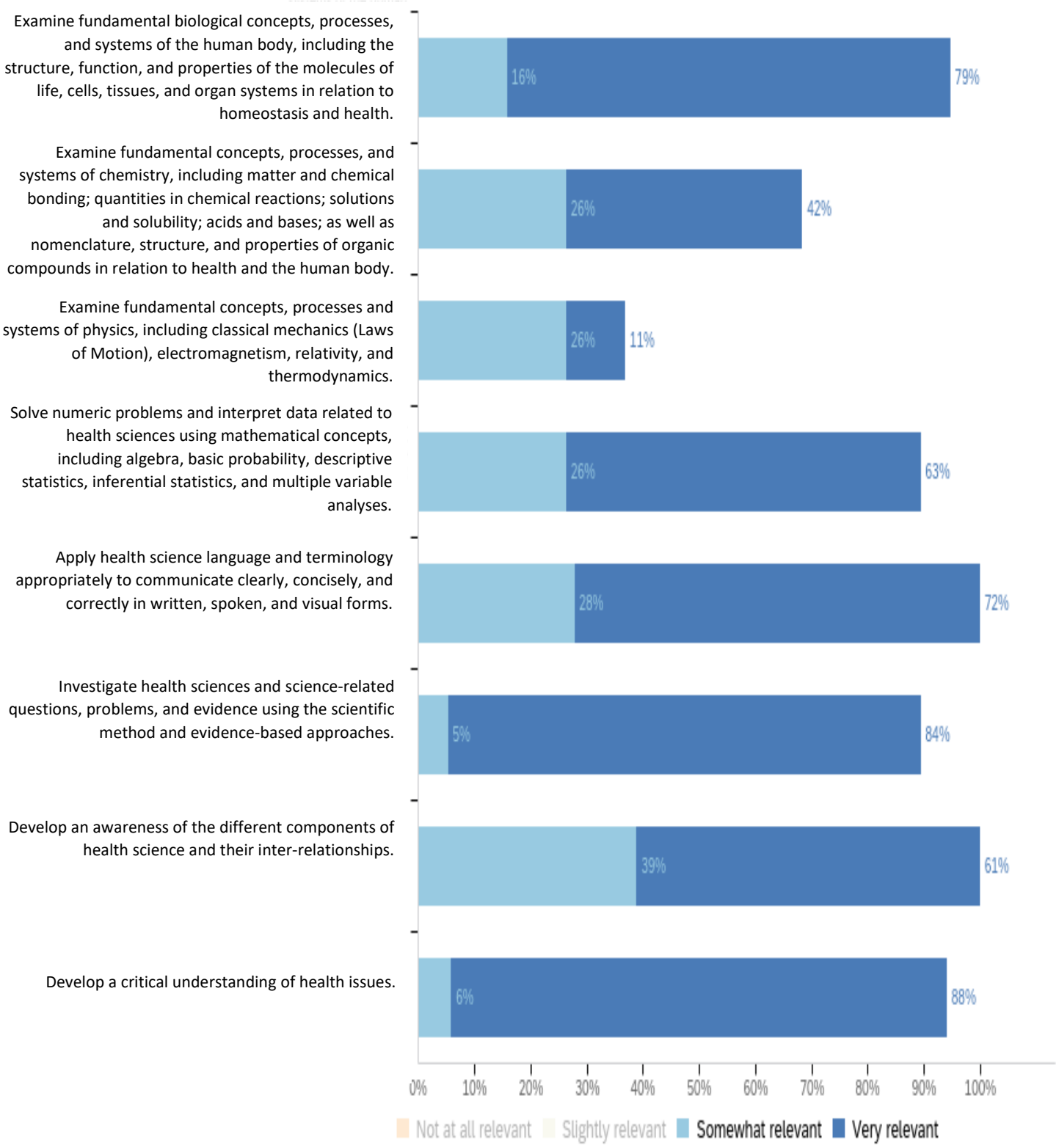
4. Beyond lab courses, do you feel there are sufficient hands-on learning opportunities in the program to prepare students for health science careers?

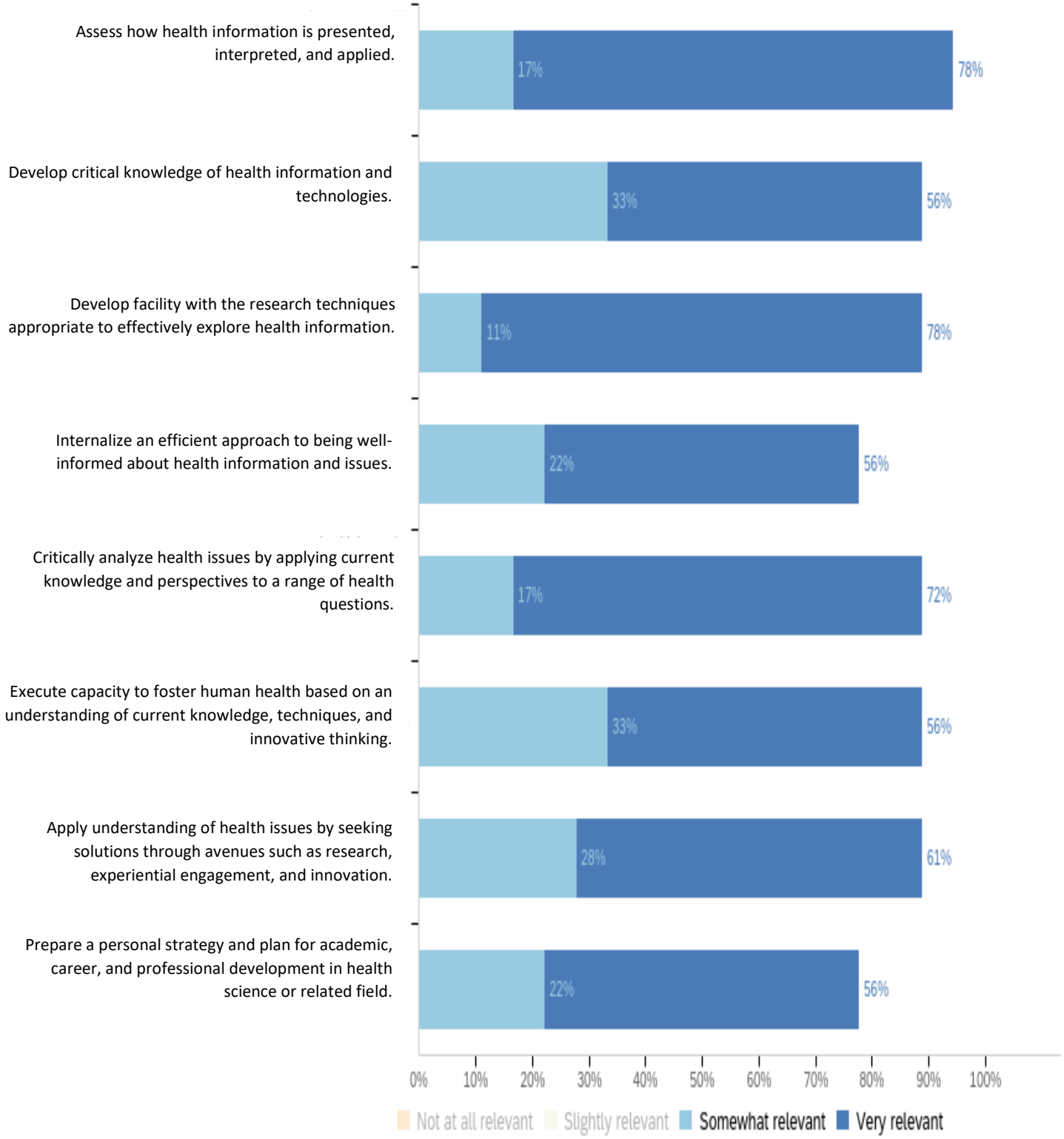
#	Beyond lab courses, do you feel there are sufficient hands-on learning opportunities in the program to prepare students for health science careers?	Percentage
1	Yes	44%
2	No	22%
3	Not sure	33%
	Total number of respondents	18

5. What additional career preparation opportunities would you like to see in the program?

More opportunities for research and interactions with the community (eg conferences, guest lectures)
A stronger command of human health, physiology, pharmacology, kinesiology.
More "practicum-like" opportunities.
Stronger connection to industry; more work-integrated learning; career panels and guest lectures open to all students
NA
Need more HSCI coded courses, instead of such heavy emphasis on wet bench labs and Biology.

6. Please indicate how relevant each of the following Program Learning Outcomes is to the current needs of the discipline/sector.

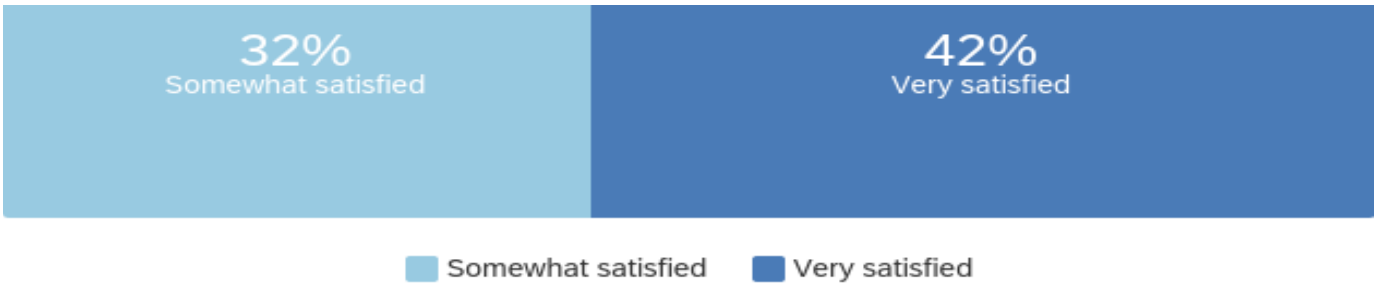



Assess how health information is presented, interpreted, and applied.
17%
78%
Develop critical knowledge of health information and technologies.
33%
56%
Develop facility with the research techniques appropriate to effectively explore health information.
11%
78%
Internalize an efficient approach to being well-informed about health information and issues.
22%
56%
Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.
17%
72%
Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.
33%
56%
Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.
28%
61%
Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.
22%
56%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Not at all relevant
Slightly relevant
Somewhat relevant
Very relevant

Note that “not at all relevant” and “slightly relevant” categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the “not at all relevant” and “slightly relevant” categories.

#	Question	Not at all relevant	Slightly relevant	Somewhat relevant	Very relevant	Total
1	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	0%	5%	16%	79%	19
2	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic compounds in relation to health and the human body.	0%	32%	26%	42%	19
3	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.	21%	42%	26%	11%	19
4	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	0%	11%	26%	63%	19
5	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	0%	0%	28%	72%	18
6	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	0%	11%	5%	84%	19
7	Develop an awareness of the different components of health science and their inter-relationships.	0%	0%	39%	61%	18
8	Develop a critical understanding of health issues.	0%	6%	6%	88%	17
9	Assess how health information is presented, interpreted, and applied.	0%	6%	17%	78%	18
10	Develop critical knowledge of health information and technologies.	6%	6%	33%	56%	18
11	Develop facility with the research techniques appropriate to effectively explore health information.	0%	11%	11%	78%	18
12	Internalize an efficient approach to being well-informed about health information and issues.	6%	17%	22%	56%	18
13	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	0%	11%	17%	72%	18
14	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	0%	11%	33%	56%	18
15	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	6%	6%	28%	61%	18
16	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.	0%	22%	22%	56%	18

7. Overall, how satisfied are you with KPU's Health Science degree program curriculum?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Overall, how satisfied are you with KPU's Health Science degree program curriculum?	Percentage
1	Very dissatisfied	0%
2	Somewhat dissatisfied	16%
3	Neither satisfied nor dissatisfied	11%
4	Somewhat satisfied	32%
5	Very satisfied	42%
	Total number of respondents	19

8. Thinking of KPU's Health Science degree program's curriculum as a whole, please indicate the strengths of the program.

coop, the program design to help them progress at a good pace, honours option
This program provides students with more hands-on learning opportunities compared to other universities. It also gives students opportunities to conduct research, to gain those necessary skills as undergraduates.
The blend of courses to provides: 1. a strong natural science foundation to understand the body from the cell to organismal level, 2. an understanding of how the social organization of societies impact health 3. an understanding of how environmental factors impact 4. scientific literacy and research for knowledge generation
Strong human biology foundation and labs.
Strong focus on the variety of information types, perspective and data that need to be interpreted as a whole.
Our Health Science degree programs at KPU are unique in various aspects of students' healthcare careers and further professional studies. Thanks to the University authorities and the Office of Research and Services, we are now incorporating research into students' curricula. The course programs have a few distinct advantages: The interdisciplinary Curriculum integrates biological sciences with psychology and public health for a solid base of students interested in different healthcare fields. Strong focus on applied learning, "research," and small class size that leads to the hands-on learning experience.
NA
It is a comprehensive program that provides the essential lab skills and rigor of a traditional science degree while also training students for careers in health policy, public health, and health related business. For the most part, the program design allows students to progress efficiently through their degree requirements through either full- or part-time enrollment.
It includes a comprehensive approach to health with a specific emphasis on health promotion and public health.

I would say the greatest strengths are a) a broad learning approach that includes exposure to a spectrum of Health-related fields, including medical applications, research, physiology, public health, allied health, and specialized disciplines; and b) emphasis on applied learning through labs, co- and extra-curricular learning, COOP options, research courses, etc.

Good balance of foundational sciences as well as population level and health system content.

Co-op and applications of health science course **[Course Name Redacted]**. Small class sizes. Lots of options for Anatomy and Physiology courses.

Broad range of topics relevant to health careers.

Breadth of topics.

-lots of opportunity for students to explore the different facets of health science and determine what area interests them the most

- Solid foundation of basic science

9. Thinking of KPU's Health Science degree program's curriculum as a whole, please identify any gaps and/or provide any suggestions you have for improvement.

Incorporating the art and science of evidence-based decision making more strongly in the curriculum as that is a vital approach to making health decisions. This includes not just hypothesis-based research but also engagement to learn the perspectives of interest groups, environmental analysis and triangulating different information sources for decision-making. With the increased availability of data and information through generative AI, coupled with increasingly complex to chaotic societies, the skill of using multiple evidence sources to make decisions will be even more critical for health policy practitioners. This could be part of a substantive exploration of knowledge translation/mobilization.

I think that some of the elective options in the "Choose # of..." bundles could probably be reconsidered. It is difficult to have 4 credit (lab) courses in the same bundle as 3 credit courses (without labs). Reducing the number of electives in these bundles overall will also help to keep the program flexible into the future. If the number of credits that must be taken from "required" elective lists is shorter, then there is more flexibility for developing and adding new elective courses to the curriculum. This also gives students more space to focus their degree to their specific areas of interest. I also think that the number of required A&P courses in the upper level of the degree should be reduced from three **[Course Names Redacted]** to just **[Course Name Redacted]** plus one other upper-level A&P. In addition to helping with student progression, this change would allow for the creation of more specialized A&P courses, such as neurobiology as the program continues to grow.

Limited Exposure to Emerging Health Technologies: This is a very dynamic field, and due to the lack of a lab environment and all the technological tools, our program may not be at the best level of providing advanced technology to students. More Research Opportunities: Students interested in graduate school or medical research may find limited faculty-led research opportunities compared to more prominent universities. Greater Integration of Indigenous and Global Health Perspectives: Given our shared importance, we could work more towards integrating more Indigenous and minority students. Insufficient Specialization Options: The general curriculum covers various health science topics but lacks concentrations or specializations in public health, biomedical research, or health informatics. Limited Advanced Laboratory and Clinical Training: While the program provides fundamental lab experiences, it may lack advanced clinical or diagnostic training that could better prepare students for healthcare professions. We need to dream big!!!

I think there is a pretty good amount of community engagement, but I think that there can always be more of that. Establishing networks and community engagement is often very critical in landing a first job.

I think we could incorporate more networking where students get to meet more graduates actually working in health science fields. I always think we can do more hands on learning to fit with the "polytechnic" designation. I think we need a permanent epidemiology course and a permanent course covering cancer. Both have previously run as special topics.

Revising the literature (book)of reference from **[Course Name Redacted]** could be beneficial because it contains so much outdated information.

Greater integration with evolutionary theory would allow for students to gain better understanding of the root causes of health issues.

Students have very limited understanding of the human body.

More emphasis on communications and leadership skills in addition to the technical skills they learn. (health is a people-focused industry, and students will need to be experts in these areas to be competitive upon graduation.

- the sequence of A&P courses is problematic for progression - very prescriptive with 'select two of'' bins - no substantive (outside of research) culminating capstone project - very few HSCI coded courses offered across the degree - consider degree concentrations to match student interests

Perhaps connection with microcredential programs so that students have more direct options straight out of KPU

I think there are places where the curriculum could be tightened (in terms of required courses) and options could be broadened (in terms of elective courses in specific sub-fields); also, further co- and extra-curricular options, or connections to networking and volunteering opportunities, would be very valuable and fit with our applied/polytechnic mandate.

NA

This degree is a biology degree with a minor in health science as opposed to the other way around.

10. What topics, if any, are missing from the program?

Knowledge mobilization in health.

The study of virology is increasingly significant within health sciences due to the SARS-CoV-2 pandemics. However, the KPU's Health Science degree program, has no course specializing in virology, which presents as a major gap. Why Virology Should Be Taught Public Health & Epidemiology-Viruses definitely have a considerable impact on pandemics, vaccine development, and global health policies. Molecular & Cell Biology Applications-Understanding viruses' replication, mutation, and evasion of the immune response are fundamentals to biomedical research and healthcare careers. Emerging Infectious Diseases-Climate change and globalization are heightening viral spillover risks (e.g., zoonotic diseases refractory to allopathy of SARS-CoV-2, virus and Ebola). Therapeutics & Vaccine Development-A lot of our students will work in the pharmaceuticals, immunology, or public health, in which some knowledge of virology is critical. It is critical to expose our students to knowledge in virology. Proposed Formal Addition: 1. Medical Virology & Immunity-New Course Structure: This should be a standalone upper-year course. Topics to be covered: Virus Structure & Classification Viral Replication & Mutation Mechanisms Host-Pathogen Interactions Antiviral Therapies & Vaccine Development Epidemiology of Viral Diseases (e.g., HIV, Influenza, Coronaviruses).

Epidemiology

Health services research and health economics

Evolution

Anatomy and physiology. Proper statistics and computational skills.

- more emphasis on skill development (e.g., interpersonal skills, management and leadership, communication, analytical) - greater focus on research and statistics (e.g., biostatistics, knowledge translation), population and public health (e.g., epidemiology, global health, Indigenous health), and healthcare systems (e.g., health administration, project management)

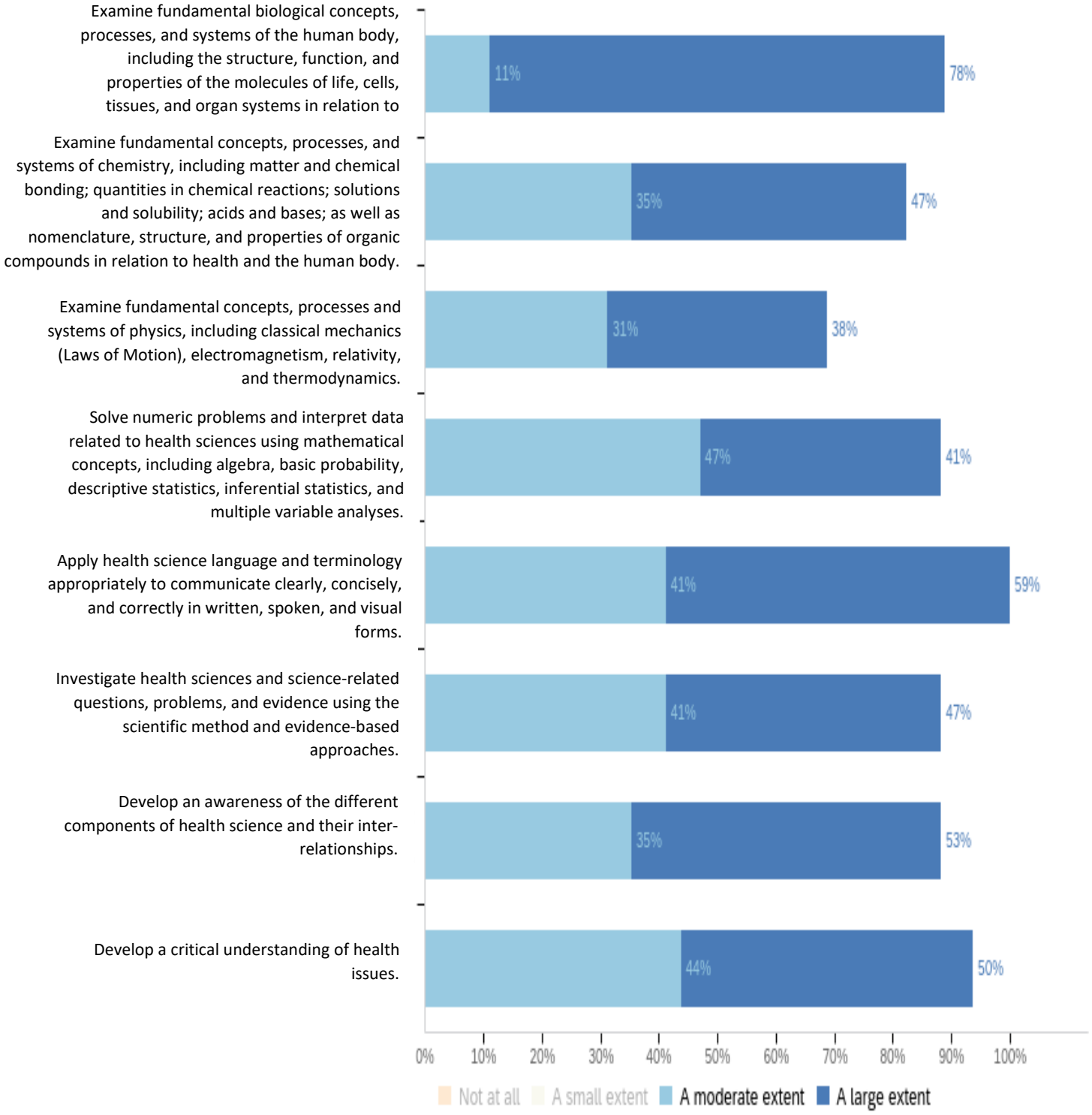
I don't know if I would say any specific topics stand out as missing, but addition of specific-field courses could allow creation of smaller citations/microcredentials within the program, such as something like a physiotherapy course or additional nutrition content, pharmacology content, etc. Such curricular content could help students create a pathway into various professional programs.

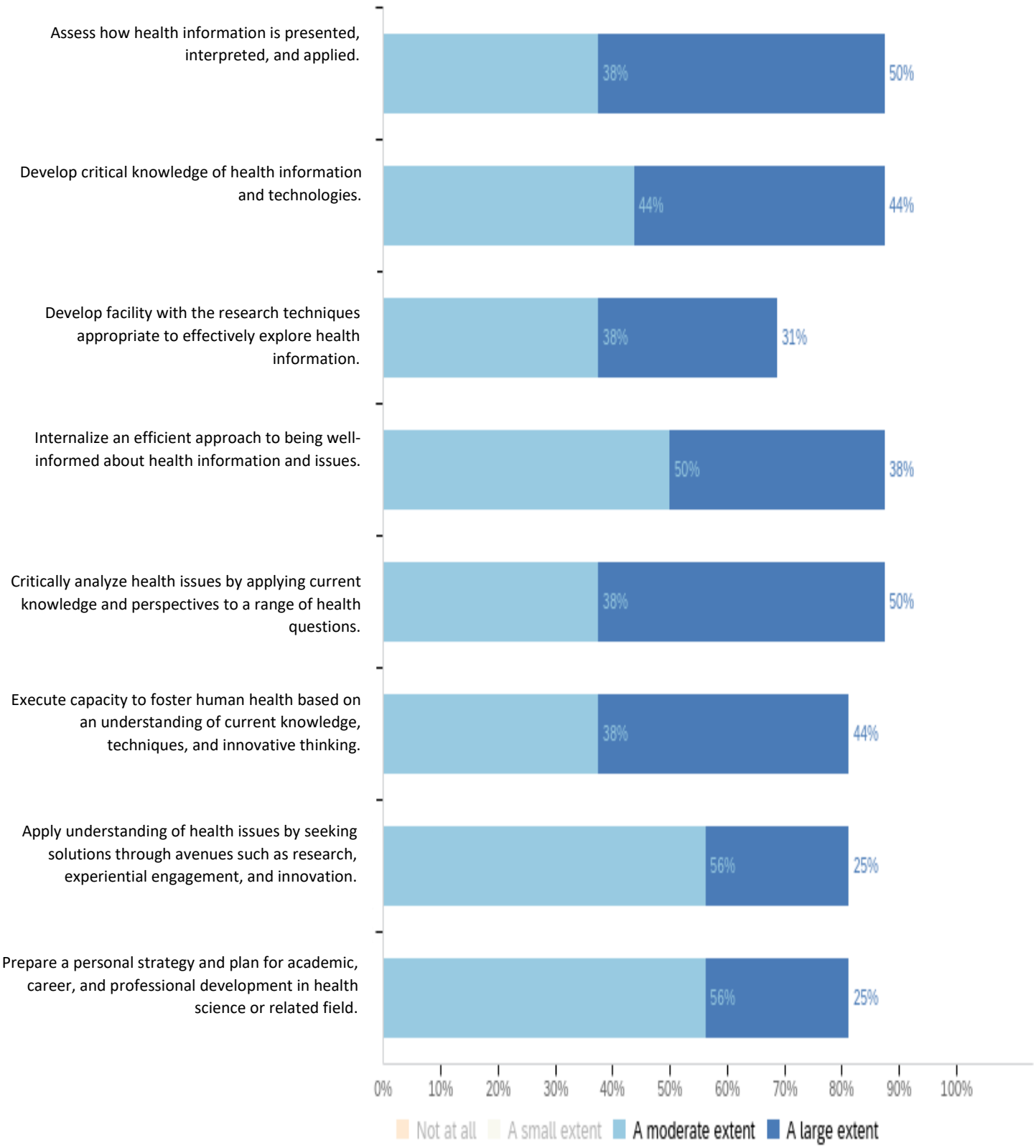
Human sexuality, Ethics, Applied Kinesiology (such as applied ergonomics),

health informatics

Dedicated health systems, professions, issues courses for deep dive of health science challenges and opportunities.

11. To what extent is KPU's Health Science degree program helping students develop the following Program Learning Outcomes?

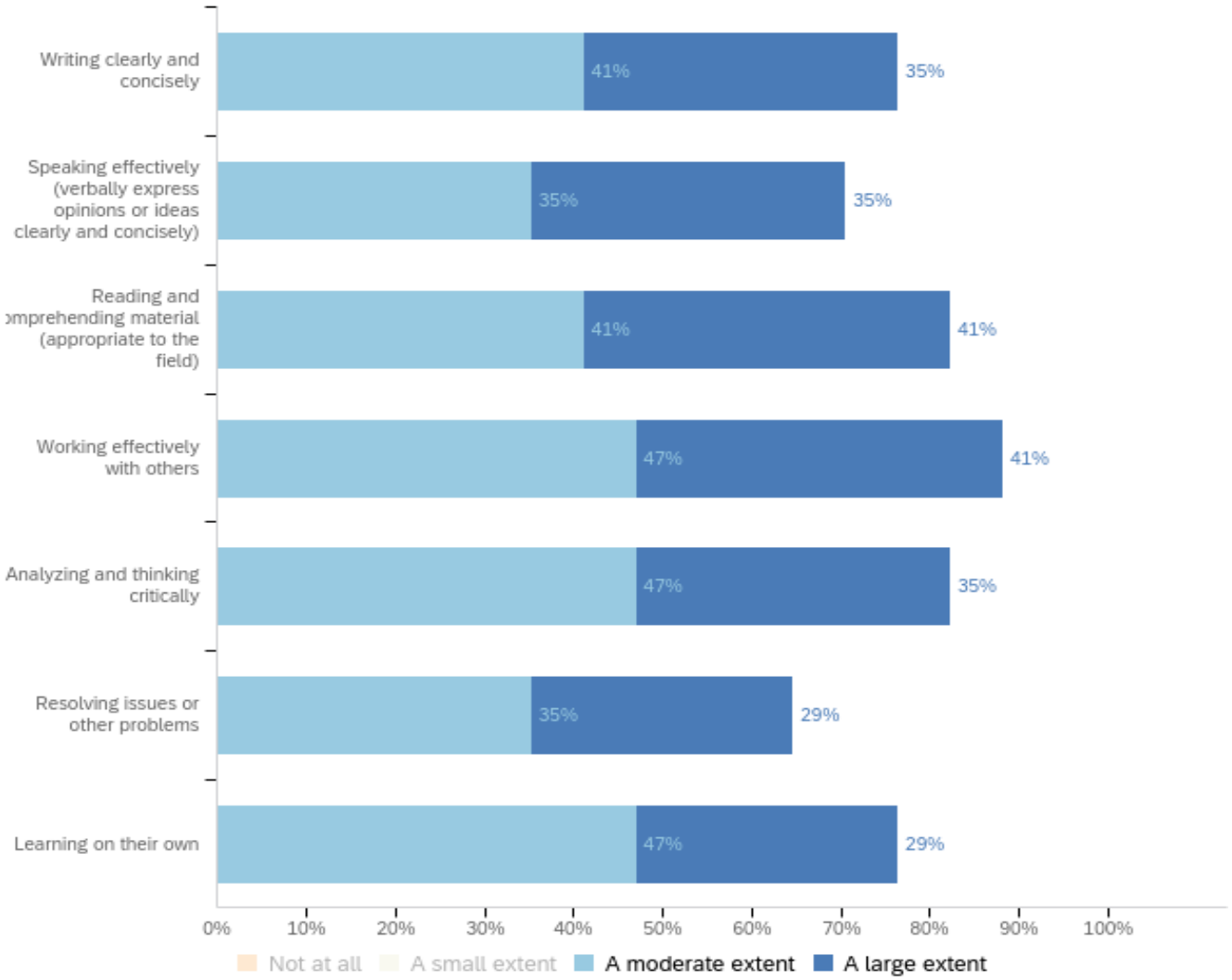



Assess how health information is presented, interpreted, and applied.
38%
50%
Develop critical knowledge of health information and technologies.
44%
44%
Develop facility with the research techniques appropriate to effectively explore health information.
38%
31%
Internalize an efficient approach to being well-informed about health information and issues.
50%
38%
Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.
38%
50%
Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.
38%
44%
Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.
56%
25%
Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.
56%
25%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Not at all
A small extent
A moderate extent
A large extent

Note that “not at all” and “a small extent” categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the “not at all” and “a small extent” categories.

#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Examine fundamental biological concepts, processes, and systems of the human body, including the structure, function, and properties of the molecules of life, cells, tissues, and organ systems in relation to homeostasis and health.	6%	6%	11%	78%	18
2	Examine fundamental concepts, processes, and systems of chemistry, including matter and chemical bonding; quantities in chemical reactions; solutions and solubility; acids and bases; as well as nomenclature, structure, and properties of organic compounds in relation to health and the human body.	0%	18%	35%	47%	17
3	Examine fundamental concepts, processes and systems of physics, including classical mechanics (Laws of Motion), electromagnetism, relativity, and thermodynamics.	6%	25%	31%	38%	16
4	Solve numeric problems and interpret data related to health sciences using mathematical concepts, including algebra, basic probability, descriptive statistics, inferential statistics, and multiple variable analyses.	0%	12%	47%	41%	17
5	Apply health science language and terminology appropriately to communicate clearly, concisely, and correctly in written, spoken, and visual forms.	0%	0%	41%	59%	17
6	Investigate health sciences and science-related questions, problems, and evidence using the scientific method and evidence-based approaches.	0%	12%	41%	47%	17
7	Develop an awareness of the different components of health science and their inter-relationships.	0%	12%	35%	53%	17
8	Develop a critical understanding of health issues.	0%	6%	44%	50%	16
9	Assess how health information is presented, interpreted, and applied.	0%	13%	38%	50%	16
10	Develop critical knowledge of health information and technologies.	13%	0%	44%	44%	16
11	Develop facility with the research techniques appropriate to effectively explore health information.	6%	25%	38%	31%	16
12	Internalize an efficient approach to being well-informed about health information and issues.	13%	0%	50%	38%	16
13	Critically analyze health issues by applying current knowledge and perspectives to a range of health questions.	0%	13%	38%	50%	16
14	Execute capacity to foster human health based on an understanding of current knowledge, techniques, and innovative thinking.	6%	13%	38%	44%	16
15	Apply understanding of health issues by seeking solutions through avenues such as research, experiential engagement, and innovation.	6%	13%	56%	25%	16
16	Prepare a personal strategy and plan for academic, career, and professional development in health science or related field.	6%	13%	56%	25%	16

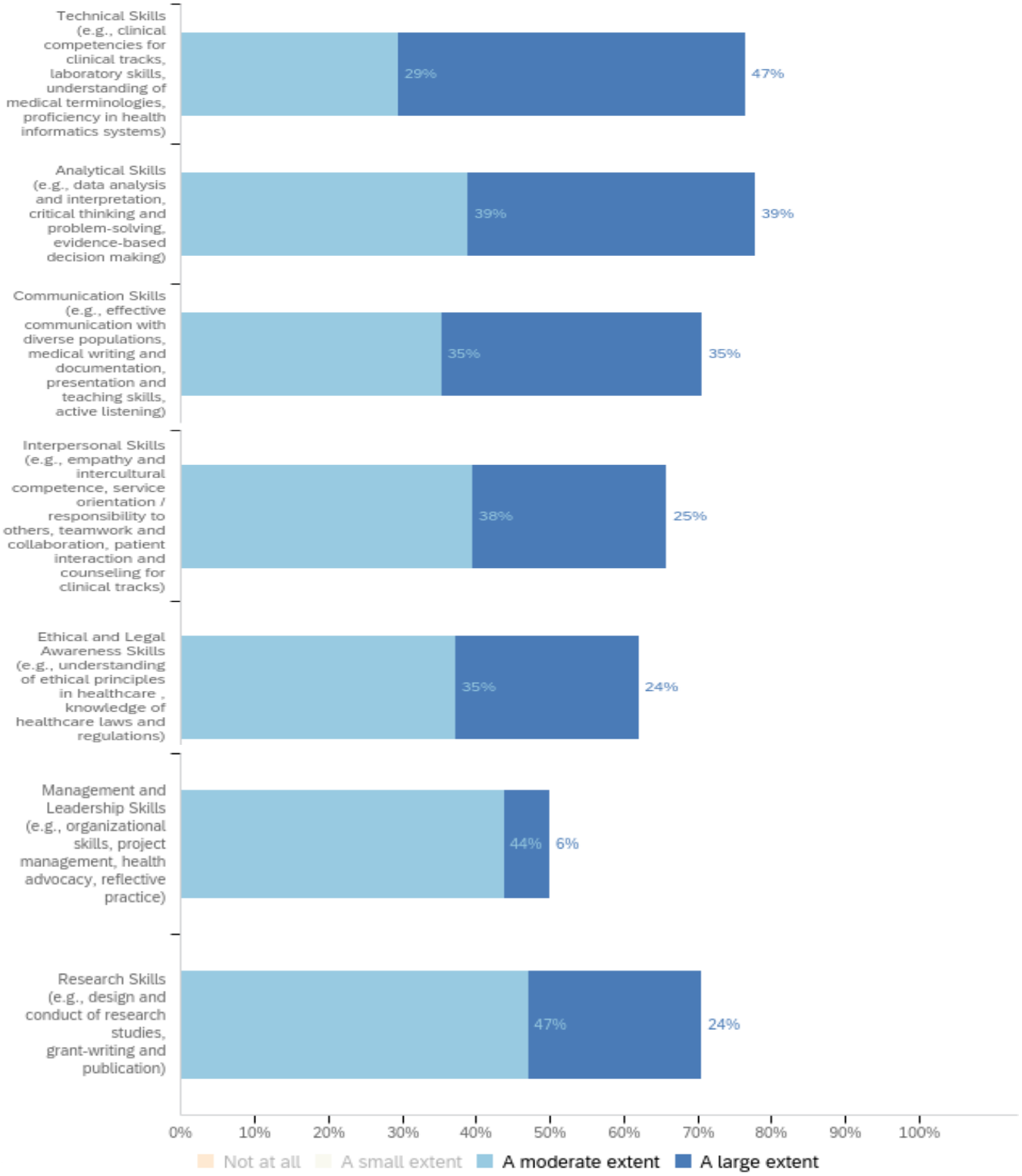
12. To what extent is KPU's Health Science degree program helping students develop the following essential skills?



Note that "not at all" and "a small extent" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "a small extent" categories.

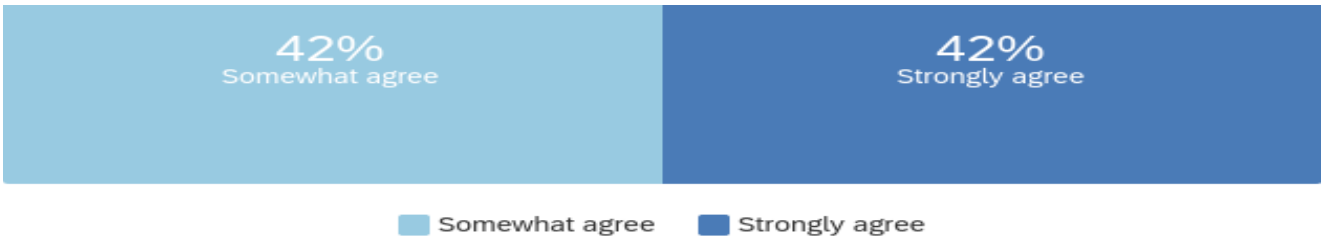
#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Writing clearly and concisely	6%	18%	41%	35%	17
2	Speaking effectively (verbally express opinions or ideas clearly and concisely)	6%	24%	35%	35%	17
3	Reading and comprehending material (appropriate to the field)	0%	18%	41%	41%	17
4	Working effectively with others	12%	0%	47%	41%	17
5	Analyzing and thinking critically	0%	18%	47%	35%	17
6	Resolving issues or other problems	12%	24%	35%	29%	17
7	Learning on their own	6%	18%	47%	29%	17

13. To what extent are the courses that students take within KPU's Health Science degree program helping them develop each of the following program-specific skills?



#	Question	Not at all	A small extent	A moderate extent	A large extent	Total
1	Technical Skills (e.g., clinical competencies for clinical tracks, laboratory skills, understanding of medical terminologies, proficiency in health informatics systems)	0%	24%	29%	47%	17
2	Analytical Skills (e.g., data analysis and interpretation, critical thinking and problem-solving, evidence-based decision making)	11%	11%	39%	39%	18
3	Communication Skills (e.g., effective communication with diverse populations, medical writing and documentation, presentation and teaching skills, active listening)	0%	29%	35%	35%	17
4	Interpersonal Skills (e.g., empathy and intercultural competence, service orientation / responsibility to others, teamwork and collaboration, patient interaction and counseling for clinical tracks)	6%	31%	38%	25%	16
5	Ethical and Legal Awareness Skills (e.g., understanding of ethical principles in healthcare , knowledge of healthcare laws and regulations)	6%	35%	35%	24%	17
6	Management and Leadership Skills (e.g., organizational skills, project management, health advocacy, reflective practice)	19%	31%	44%	6%	16
7	Research Skills (e.g., design and conduct of research studies, grant-writing and publication)	0%	29%	47%	24%	17

14. Thinking of KPU's Health Science degree program as a whole, to what extent do you agree that the prerequisites offered prepare students for more advanced courses?



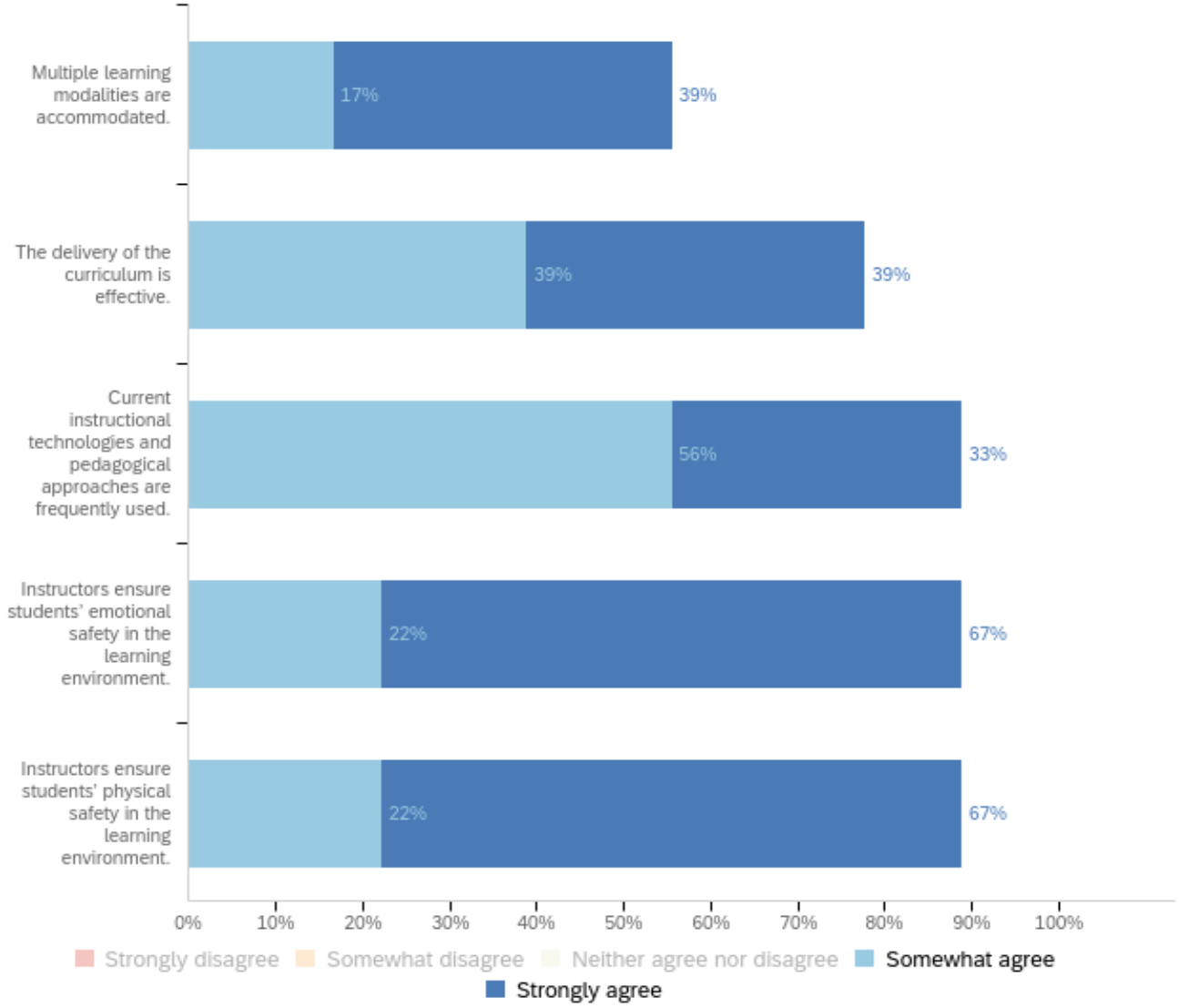
Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Thinking of KPU's Health Science degree program as a whole, to what extent do you agree that the prerequisites offered prepare students for more advanced courses?	Percentage
1	Strongly disagree	0%
2	Somewhat disagree	5%
3	Neither agree nor disagree	11%
4	Somewhat agree	42%
5	Strongly agree	42%
	Total number of respondents	19

15. Please explain why you Neither Agree nor Disagree/ Strongly Disagree/ Somewhat Disagree with the statement that the prerequisites offered prepare students for more advanced courses.

Students don't seem to have a command of the human body, pathology, etc.

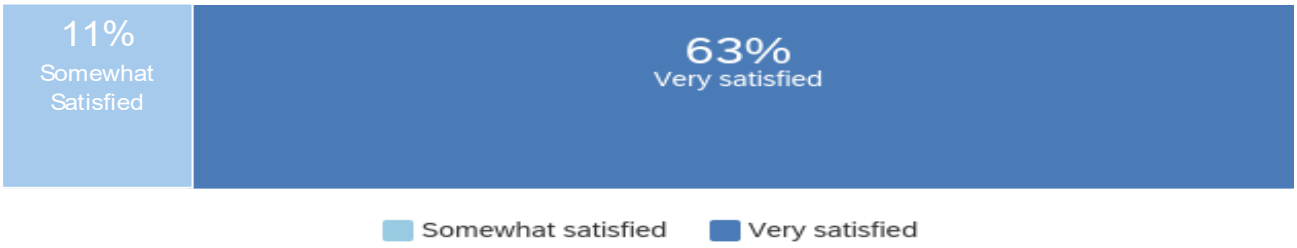
16. Thinking of how the program's courses are delivered, please indicate your agreement with the following.



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	Multiple learning modalities are accommodated.	0%	11%	33%	17%	39%	18
2	The delivery of the curriculum is effective.	0%	6%	17%	39%	39%	18
3	Current instructional technologies and pedagogical approaches are frequently used.	0%	6%	6%	56%	33%	18
4	Instructors ensure students' emotional safety in the learning environment.	0%	0%	11%	22%	67%	18
5	Instructors ensure students' physical safety in the learning environment.	0%	0%	11%	22%	67%	18

17. Overall, how satisfied are you with the quality of instruction across the program?



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Overall, how satisfied are you with the quality of instruction across the program?	Percentage
1	Very dissatisfied	0%
2	Somewhat dissatisfied	5%
3	Neither satisfied nor dissatisfied	21%
4	Somewhat satisfied	11%
5	Very satisfied	63%
	Total number of respondents	19

18. Thinking of how instruction is delivered across the program as a whole, please indicate the strengths of the program instruction.

Dedicated instructors who are always ready to support students. A solid foundation in the first two years in the sciences.
-faculty hired are experts in the field
Faculty in the department are enthusiastic to adopt pedagogical approaches to help students learn effectively. There is flexibility in the mode of instruction, assessments, and resources for students. HSCI students also have opportunities to interact with their instructors much more than at other institutes, which helps them learn more effectively as well.
I can't really comment.

Instructors have deep understanding of the material and issues of the field. They are welcoming and encouraging of all students. Variety of assessment projects, etc.

We have very skilled and dedicated instructional staff, small class sizes, and therefore good student access to help and support both in and out of the classroom. Hands-on learning with good quality laboratory spaces and external partners, as well as support for COOP are also program strengths.

NA

Smaller class sizes naturally support closer instructor and student working relationship, irrespective of delivery modalities.

19. Thinking of how instruction is delivered across the program as a whole, please provide any suggestions you have for improvements in program instruction.

faculty can sometimes be too busy, having more than one full time job (while permanent full time at KPU). I worry how it will affect their relationships with the students and coworkers, and negatively impact the university

We need to support each other and not work individually.

Students need more guidance in learning to learn independently - something they will have to continue throughout their career.

More course availability so students can move through their required courses more efficiently.

More computation skills. More inline options.

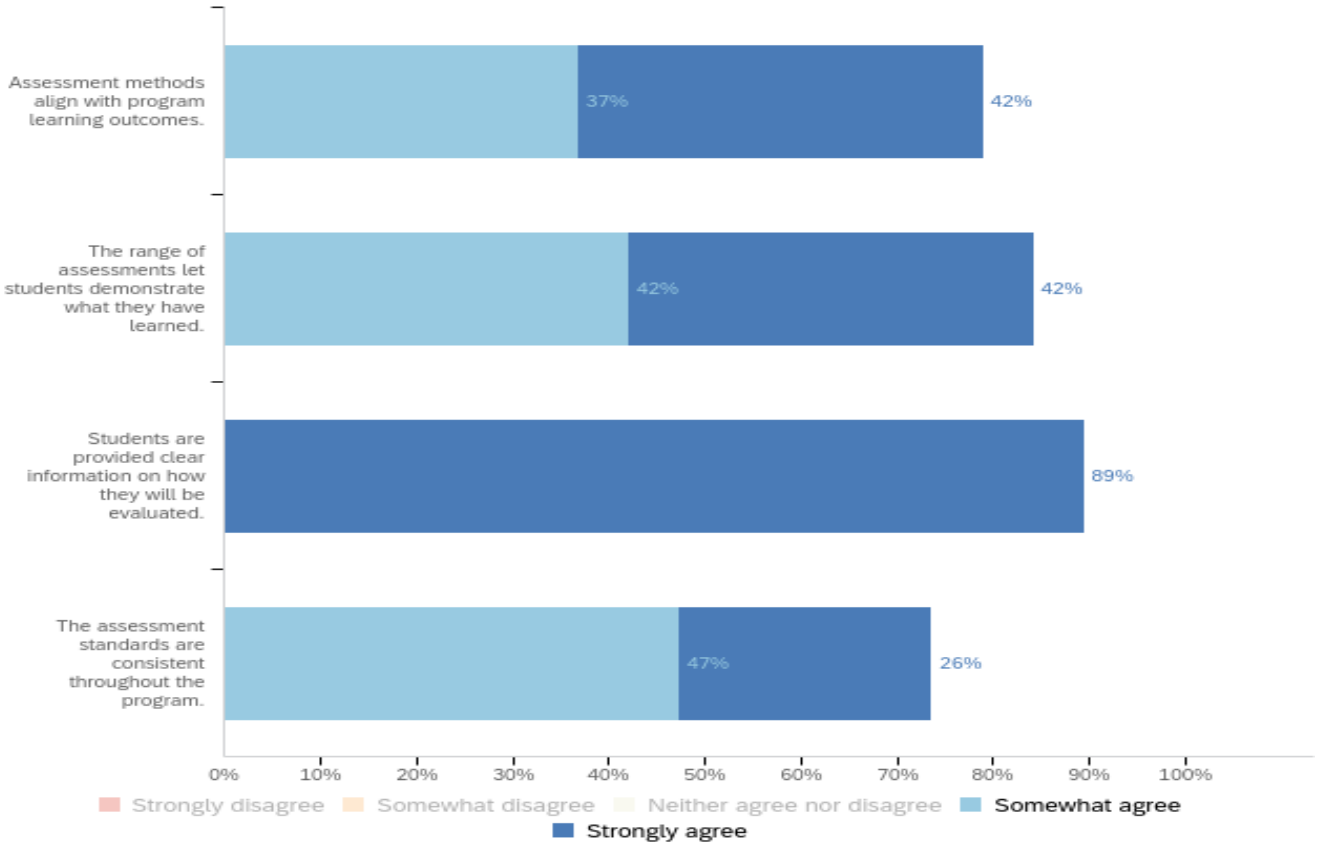
Ensuring that as many of the classes are in-person as possible will facilitate greater interactions among students and between students and their instructors. It can also help students cope with the stresses of university life when they feel more a part of a community.

As we refine the curriculum, it would be useful to more closely align how instruction is delivered in multi-instructor courses. This has already been happening in **[Course Names Redacted]** since the BIOL program review, and we can certainly do more, especially as new resources for course delivery come via T&L. Sharing resources between instructors will help as well.

Allowing flexibility in program delivery.

- assessments can be re-worked to be more applied and real-world in nature (currently the program is quite exam heavy)

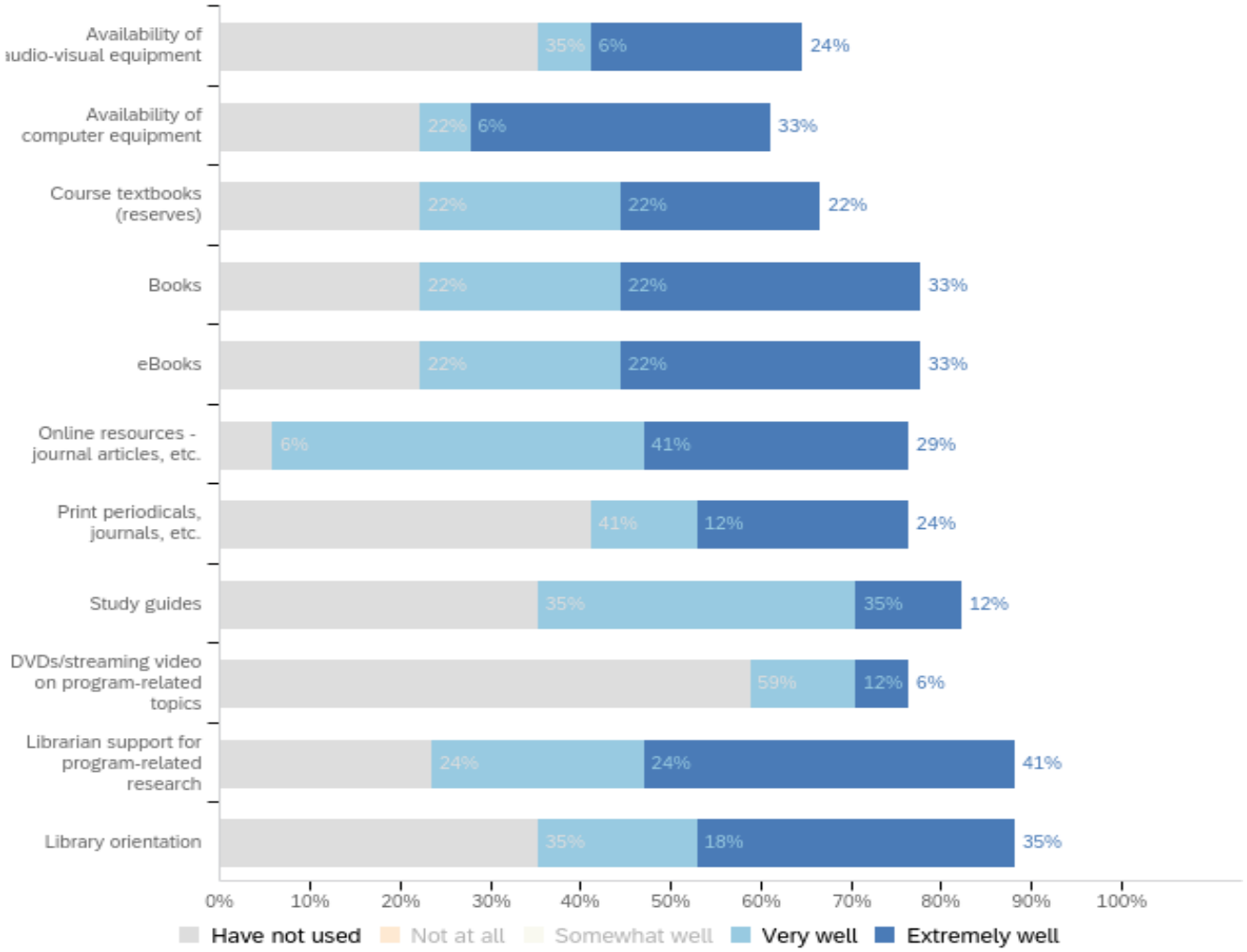
20. Thinking of how learning is assessed in the program courses you teach, indicate your agreement with the following.



Note that "neutral" and "negative" categories are excluded from the chart, leaving only the "positive" categories. Use the frequency table below to review the proportion of "neutral" versus "negative" responses.

#	Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total
1	Assessment methods align with program learning outcomes.	0%	5%	16%	37%	42%	19
2	The range of assessments let students demonstrate what they have learned.	5%	0%	11%	42%	42%	19
3	Students are provided clear information on how they will be evaluated.	0%	0%	11%	0%	89%	19
4	The assessment standards are consistent throughout the program.	0%	0%	26%	47%	26%	19

21. How well are the following library resources meeting the program's needs?

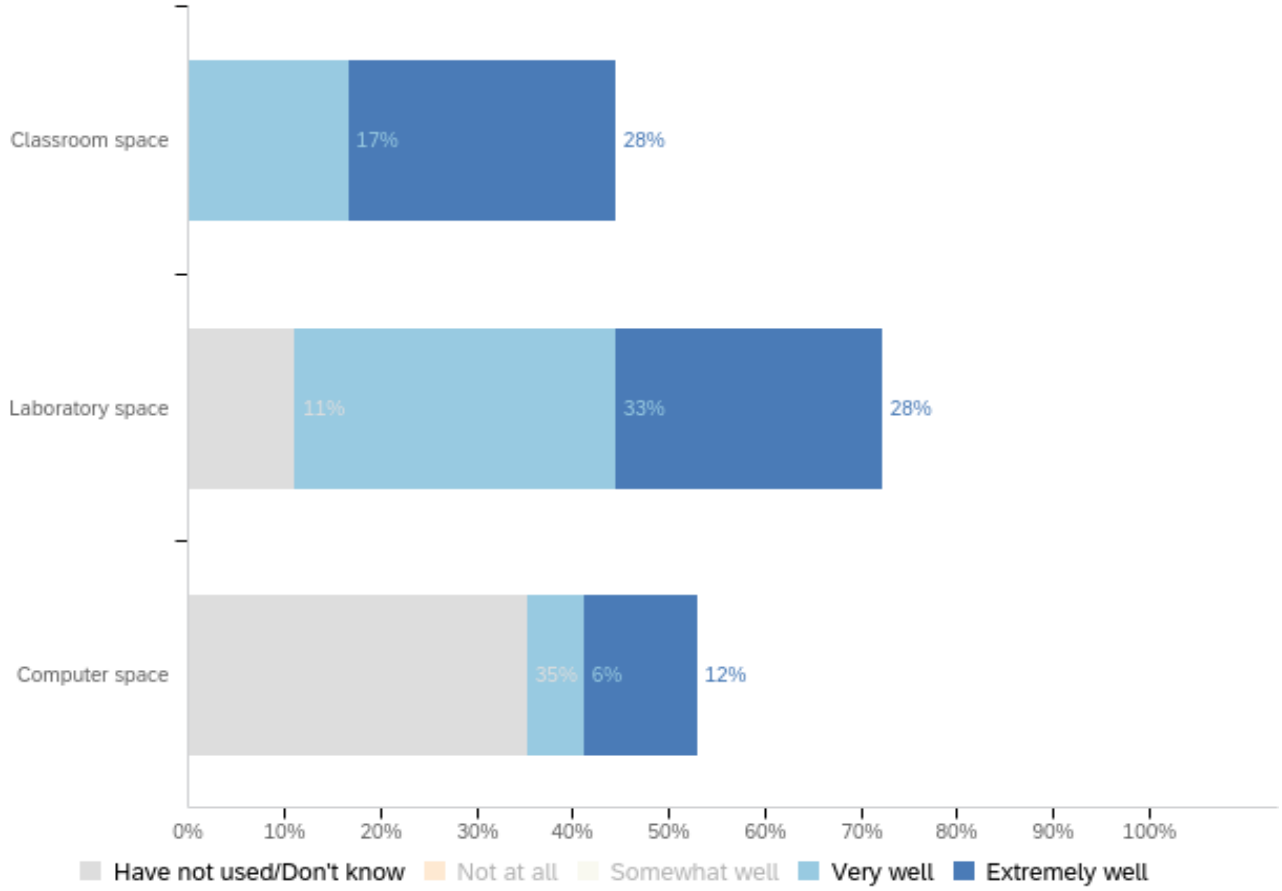


Note that "not at all" and "Somewhat well" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "Somewhat well" categories.

#	Question	Have not used	Not at all	Somewhat well	Very well	Extremely well	Total
1	Availability of audio-visual equipment	35%	6%	29%	6%	24%	17
2	Availability of computer equipment	22%	6%	33%	6%	33%	18
3	Course textbooks (reserves)	22%	6%	28%	22%	22%	18
4	Books	22%	6%	17%	22%	33%	18
5	eBooks	22%	6%	17%	22%	33%	18
6	Online resources - journal articles, etc.	6%	0%	24%	41%	29%	17
7	Print periodicals, journals, etc.	41%	0%	24%	12%	24%	17
8	Study guides	35%	6%	12%	35%	12%	17
9	DVDs/streaming video on program-related topics	59%	6%	18%	12%	6%	17

10	Librarian support for program-related research	24%	6%	6%	24%	41%	17
11	Library orientation	35%	0%	12%	18%	35%	17

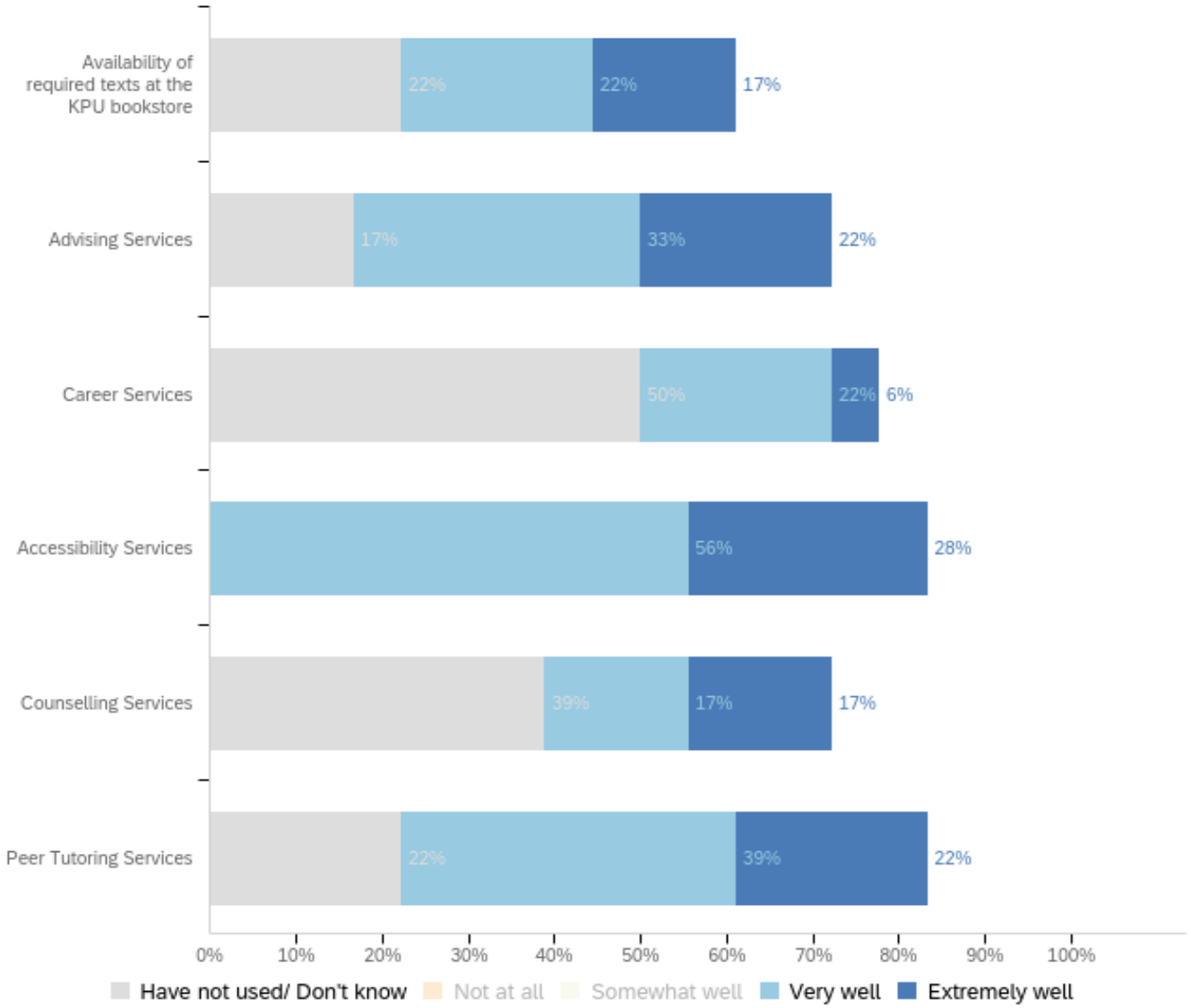
22. How well are the following facilities meeting the program's needs?



Note that "not at all" and "Somewhat well" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "Somewhat well" categories.

#	Question	Have not used/Don't know	Not at all	Somewhat well	Very well	Extremely well	Total
1	Classroom space	0%	11%	44%	17%	28%	18
2	Laboratory space	11%	0%	28%	33%	28%	18
3	Computer space	35%	29%	18%	6%	12%	17

23. How well are the following services meeting the program's needs?



Note that "not at all" and "Somewhat well" categories are excluded from the chart for quick comparisons between items. Please use the frequency table below for the percentages for the "not at all" and "Somewhat well" categories.

#	Question	Have not used/ Don't know	Not at all	Somewhat well	Very well	Extremely well	Total
1	Availability of required texts at the KPU bookstore	22%	0%	39%	22%	17%	18
2	Advising Services	17%	11%	17%	33%	22%	18
3	Career Services	50%	6%	17%	22%	6%	18
4	Accessibility Services	0%	0%	17%	56%	28%	18
5	Counselling Services	39%	6%	22%	17%	17%	18
6	Peer Tutoring Services	22%	0%	17%	39%	22%	18

24. Please let us know if you have anything else to share about KPU's Health Science degree program.

NA
Just from the early parts of the survey, I wanted to point out that some of the Program Learning Outcomes are very vague, and their intent is not clear. There are also quite a lot of them (16), where some seem to be a bit repetitive and could be combined. I also think that the previous program review and interim work has refined our program and increased applied learning options like the COOP very well, but improvement is always possible. The largest weakness to delivering content regarding computational and statistical analysis is computer access, as we have few dedicated options.
It's not clear to me what kind of work students who have graduated from this program might seek.
It would be great if students conducting (course-based) undergraduate research projects in fourth year had better access to KPU computers for their research projects. Due to a recent change in policy, research students with SRIGs are not allowed to borrow KPU laptops anymore for an extended period of time during their research projects.
It is an excellent program that is closely aligned with SFU and UBC. It could be beneficial to offer more teaching and research opportunities for NR1 faculty.
I think one of the biggest elements that might make a student consider transferring to a different health sciences program elsewhere is that we have limited course availability in the upper year courses. More offerings of upper year courses would make our full degree more attractive to students as it would be easier for them to navigate through.
I think KPU students have access to rich resources outside the classroom but those are underutilized. For example, students could learn how to study independently, make plans with advising, etc.

Appendix G – Faculty Qualifications and Currency Profile Template

The number of FTEs by role: 18.9 FTE faculty
Area(s) of Faculty Expertise: genetics, anatomy and physiology, pathology, nutrition, health promotion
Faculty Qualifications: Number of faculty FTEs with doctorate: 17.9 FTE Number of faculty FTEs with masters: 1 FTE Professional certifications: MD, RD
Expertise of Instructional Staff, if appropriate: n/a
Recent Professional Development: Including but not limited to: - Attend KPU Workshops offered by the Teaching and Learning Commons - Engage in research with industry and/or community partners - Supervise undergraduate student research projects - Complete clinical training or practical work experience - Attend regional, national, or international conferences / workshops - Read recent Journal articles and other current literature

Appendix H – Administrative Data Report

Administrative Data Report for Health Science Degree Program

The chapter headings refer to the chapters in the Self-Study to which the data pertain.

Table of CONTENTs

Glossary

Average Seats Offered: Maximum number of seats available in a department/Faculty divided by the count of classes offered by the department/Faculty.

Average Seats Filled: Number of seats taken in a department/Faculty divided by the count of classes offered by the department/Faculty.

BC Student Outcomes: Results of the three annual surveys of former post-secondary students in BC, one to two years after graduation, as a supplemental tool for assessing programs offered by KPU and comparing them to similar programs at other institutions. The three BC Student Outcomes surveys include the Diploma, Associate Degree, and Certificate Student Outcomes Survey (DAC), the Baccalaureate Graduates Survey (BGS), and the Trades Student Outcomes Survey (Trades). Note that while DAC covers all BC public post-secondary institutions, BGS does not report data from programs at research-intensive universities such as UBC and SFU.

Cumulative Grade Distribution: The number of students who receive a particular letter grade (A+ through F) plus those who receive a higher grade, as a percentage of the total number of students with a grade or a W/WE or DEF (Deferred). Useful for estimating the proportion of passing students based on any specific grade requirement.

DFW Rate: % of students who received a grade of D or F or withdrew from the course. Percentage is calculated based on number of students with a grade or a W/WE or DEF (Deferred).

Faculty Student Headcount: Count of all students enrolled in a Faculty, including undeclared students.

Fill Rate: Number of seats filled divided by the number of seats offered.

Grade Point Equivalent Mean: The average grade of students in the selected courses, based solely on the numerical grade point equivalent of a letter grade. A weighted average is used, such that larger classes have a larger influence on the computed mean. It is not an average of course-level grades weighted by course credits.

Intended of Undeclared: Students who identified the program under review as their intended major on their application. Note that not all of these students declare a major in the program under review.

Program Student Headcount: Count of students enrolled in the program.

Repeat Rate: Students who repeat a course, that is, have taken the course previously. Percentage is calculated based on number of students with a grade or a W/WE or DEF.

Unmet Demand: Number of waitlist seats held by students unable to enroll in the same course, and have not dropped that course, within the same term. A student waitlisted in multiple sections of the same course in the same term is counted as one waitlist seat.

Seats Offered: Maximum number of seats available in a unit (section, course, department, faculty).

Seats Filled: Number of seats taken in the unit (section, course, department, faculty)

Chapter 3. Program Relevance and Demand

3.1 Relevance

Are the program learning outcomes relevant to the current needs of the discipline/sector?[1]

What percentage of the degree program graduates are satisfied with the education they received? What percentage of the graduates rate the quality of instruction they received as "very good", "good", or "adequate"? Do they find their program of study useful in their current position?

Exhibit 1: KPU Health Science Degree Program Student Outcomes Data Compared with Ministry Targets

Measures	Student Outcome Data for KPU Health Science Degree Program	Ministry Target
Respondents	***16***	
Satisfaction[2]	100%	> 90%
Quality[3]	100%	> 90%
Usefulness[4]	86%	> 90%

3.3 Student Demand

Who takes the program?[5]

Has the demographic profile of Health Science degree program students changed over the last five years?

Exhibit 2: Demographic Profile of Health Science Degree Program Students by Academic Year

	2019/20	2020/21	2021/22	2022/23	2023/24
Student Headcount	*662*	*630*	*636*	*675*	*772*
% Women	67%	69%	68%	69%	70%
% 22 years or younger	89%	84%	80%	78%	74%
% International	17%	15%	15%	18%	20%

How does the demographic profile of Health Science degree program students compare with that of students at the same level for the Faculty of Science as a whole over the same period?

[1] Data reported in this section was obtained from a dashboard that is under development.
[2] Respondents who are "very satisfied" or "satisfied" with the education or training they received in their program of study.
[3] Respondents who rate the quality of instruction received from their program of study as "very good", "good" or "adequate".
[4] Respondents who describe their program of study as "very" or "somewhat" useful in their current occupation.
[5] Data reported in this section was obtained from a dashboard that is under development.

Exhibit 3: Demographic Profile of Faculty of Science Students by Academic Year

	2019/20	2020/21	2021/22	2022/23	2023/24
Student Headcount	*2,691*	*2,414*	*2,619*	*2,593*	*2,608*
% Women	55%	57%	60%	61%	61%
% 22 years or younger	76%	74%	74%	74%	70%
% International	34%	34%	38%	39%	37%

Is demand for the program sustainable?

Has demand for Health Science courses been changing over the last five years? Is the overall class size, in terms of filled seats, sustainable? How does demand for Health Science courses compare with demand for Faculty of Science courses at the same level over the same period?

Exhibit 4: Student Headcount in Health Science Courses by Academic Year Compared with Faculty of Science Courses

	2019/20	2020/21	2021/22	2022/23	2023/24	%Change[6]
Health Science	372	364	312	427	514	38%
Faculty of Science	4,206	3,902	3,702	3,788	3,746	-11%

Has demand for the Health Science degree program changed over the last five years? How does it compare with demand for Faculty of Science programs at the same level over the same period?

Exhibit 5: Student Headcount in Health Science Degree Program by Academic Year Compared with Faculty of Science Programs

	2019/20	2020/21	2021/22	2022/23	2023/24	%Change
Declared-Major	44	68	88	77	90	127%
Declared-Minor *(if applicable)*	0	0	0	4	9	N/A
Intended of Undeclared	625	572	561	604	694	11%
Health Science Total Headcount	662	630	636	675	772	17%
Faculty of Science Total Headcount	2,691	2,414	2,619	2,593	2,609	-3%

How do KPU Health Science degree program enrolment trends compare with overall enrolment trends in similar programs in BC?

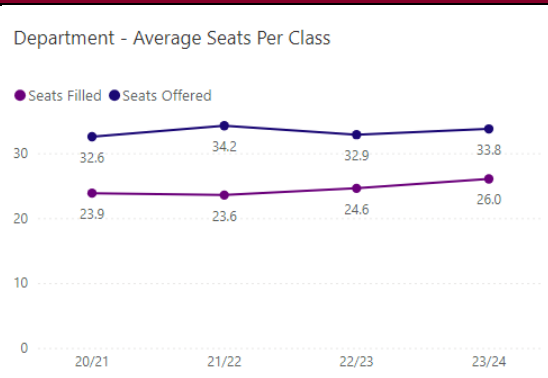
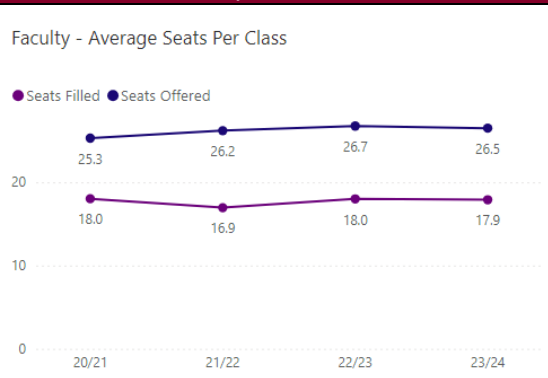
[6] % Change refers to change between 2019/20 to 2023/24.

Exhibit 6: Number of Students Enrolled in Health Science Degree Programs at BC Public Post-Secondary Institutions (excluding KPU students)[7]

	2018/19	2019/20	2020/21	2021/22	2022/23
Total (excluding KPU)	**4,208**	**4,373**	**4,728**	**4,816**	**4,963**
JIBC	52	77	114	103	85
Diploma	52	77	114	103	85
Langara	1,662	1,558	1,615	1,472	1,425
Associate Degree	783	733	751	625	702
Certificate	528	586	708	735	619
Diploma	367	253	179	121	119
SFU	1,409	1,536	1,669	1,669	1,684
Bachelor's Degree	1,409	1,536	1,669	1,669	1,684
TRU	940	1,042	1,155	1,141	1,075
Bachelor's Degree	940	1,042	1,155	1,141	1,075
UNBC	26	30	29	29	37
Bachelor's Degree	The enrolment data is not available.				
Doctorate	17	19	21	16	12
Master's Degree	9	11	8	13	25
UVIC	48	49	52	53	55
Doctorate	32	33	32	32	31
Master's Degree	16	16	20	21	24
KPU	**29**	**44**	**68**	**86**	**78**

Has there been a change in average filled seats per class in Health Science courses? How do they compare with Faculty of Science courses at the same level? Is demand steady, declining, or increasing?

Exhibit 7: Average Filled Seats per Class by Academic Year from AY 2020/21 to 2023/24[8]

Health Science:	Faculty of Science[9]:
	

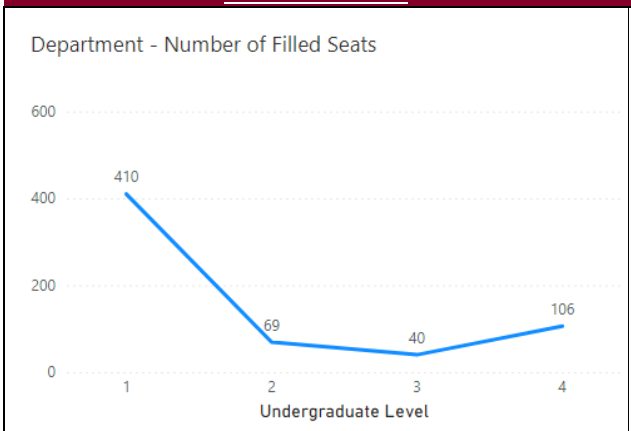
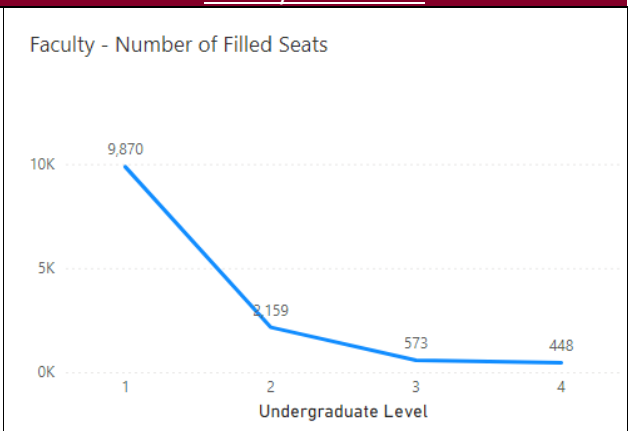
[7] Data reported in this section was obtained from a dashboard that is under development. Data are coded by Classification of Instructional Program (CIP). To identify Health Science Degree Program, CIP code 51.0000 (Health services/allied health/health sciences, general) was used.

[8] Data reported in this section was obtained from a dashboard that is under development.

[9] Data reported does not include CPS and Vocational courses.

How does demand for upper level courses (3rd and 4th year) compare with demand for lower level courses, where applicable? How does demand for upper level versus lower level courses compare with demand for Faculty of Science upper level and lower level courses?

Exhibit 8: Number of Course Enrolments by Level for AY 2023/24 [10]

Health Science:	Faculty of Science:
	

How does tuition compare with instructional costs for the average class in your program?

A program's importance isn't gaged by the tuition revenue it brings in, as some programs will not be able to cover their costs, but all programs should be delivered efficiently. Part of assessing a program's sustainability is considering if it can be made more efficient without compromising student safety or success. The biggest driver of efficiency is class size in terms of filled seats. International enrolments, where relevant, can improve a program's sustainability.

Exhibit 9: Cost Structure of Average Class for Health Science, Faculty of Science UG, and All KPU UG Courses for Academic Year 2023/24[11]

	Health Science	Faculty of Science UG	All KPU UG Courses
Cost of Instruction	$15,712.75	$15,712.75	$15,712.75
Average # of Seats Filled	26.0	17.9	24.4
Overall % filled by International	20%	29%	44%
Tuition Revenue	$20,586.75	$13,822.82	$29,467.20
Average Net Revenue	$4,874.00	($1,889.93)	$13,754.45
Total # of Classes	24	729	4,857
Total Net Revenue	$116,976.02	($1,377,758.91)	$66,805,386.71

*Average Net Revenue = Cost of instruction - tuition revenue

[10] Data reported in this section was obtained from a dashboard that is under development.

[11] Data reported in this section was obtained from a dashboard that is under development. The data includes Health Science courses only.

Does the program have the capacity to meet demand?

Are there waitlists that limit students' ability to progress through the program in a timely manner? Are the waitlists for courses delivered by the program, or delivered by other departments?

Exhibit 10: Unmet Demand at the Stable Enrolment Date

	Unmet Demand	Fill Rate
Summer 2024	13	91%
Spring 2024	20	71%
Fall 2023	-	69%
Summer 2023	13	76%
Spring 2023	4	94%
Fall 2022	-	61%
Summer 2022	30	77%
Spring 2022	7	77%
Fall 2021	15	56%
Summer 2021	16	75%
Spring 2021	19	75%
Fall 2020	3	70%

	Course	Unmet Demand
Summer 2022	HSCI 1115	30

Unmet demand by course is available in the Enrolment Tracking Report dashboard for each term.

Chapter 4. Effectiveness of Instructional Delivery

4.1 Instructional Design and Delivery of Curriculum

Are appropriate opportunities provided to help students acquire the essential skills? [12]

Graduates are asked to indicate the extent to which the program helps them achieve the Ministry identified essential skills. Is the program achieving the Ministry's targets in skills development?

Exhibit 11: KPU Health Science Degree Program Student Outcomes Essential Skills Data Compared with Ministry Targets

Measures	Student Outcome Data for KPU Health Science Degree Program	Ministry Target
Respondents	***16***	
Skill Development[13]	96%	≥ 85%
Write Clearly and Concisely	100%	≥ 85%
Speak Effectively	94%	≥ 85%
Read and Comprehend Materials	94%	≥ 85%
Work Effectively with Others	88%	≥ 85%
Analyze and Think Critically	100%	≥ 85%
Resolve Issues or Problems	94%	≥ 85%
Learn on your Own	100%	≥ 85%

[12] Data reported in this section was obtained from a dashboard that is under development.

[13] Program graduates' assessment of their skill development at KPU. An overall average for all skills is provided, plus the results for each skill.

4.2 Student Success

Are students performing satisfactorily in courses? [14]

Are an adequate number of students in Health Science courses receiving a grade of C and above? How do they compare with the students in Faculty of Science courses at the same level?

Exhibit 12: Cumulative Grade Distribution for Health Science Courses from AY 19/20 to AY 23/24

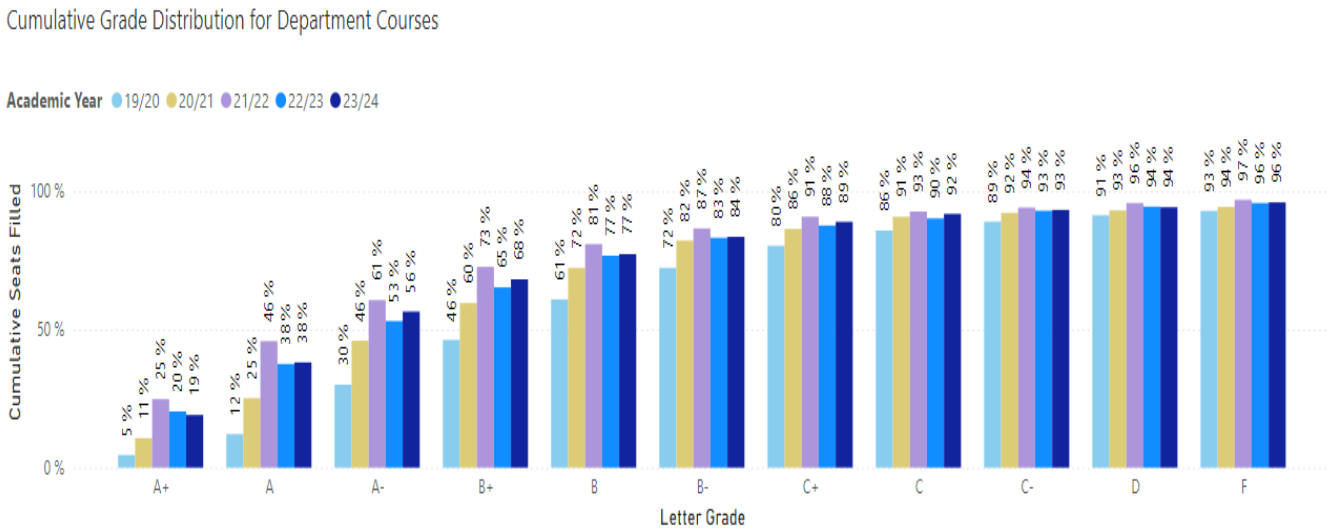
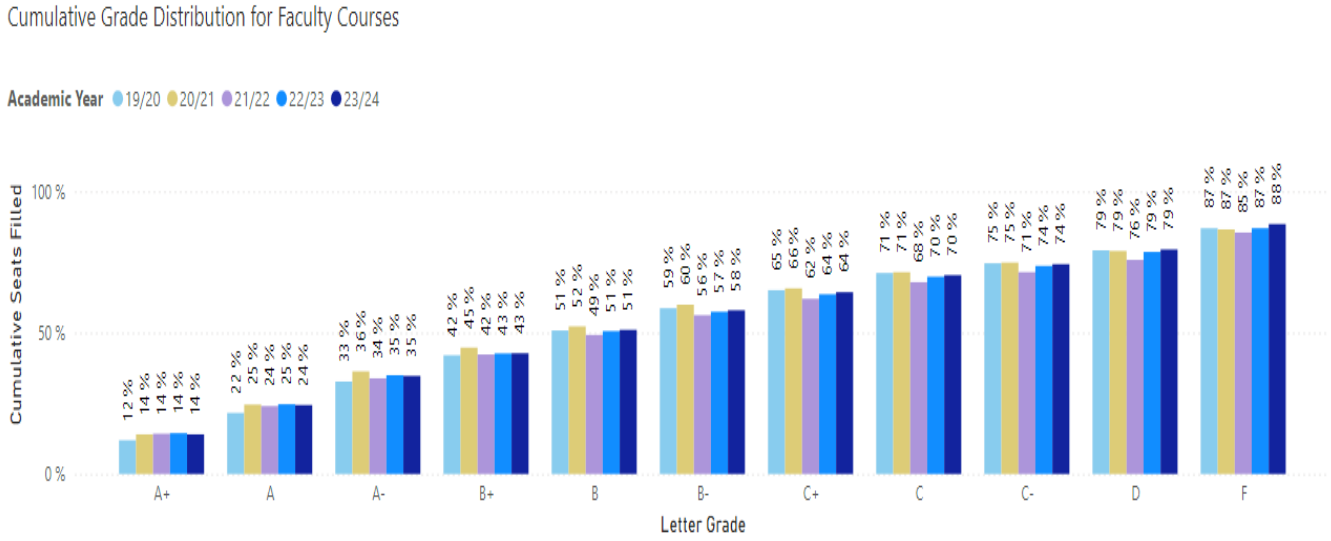


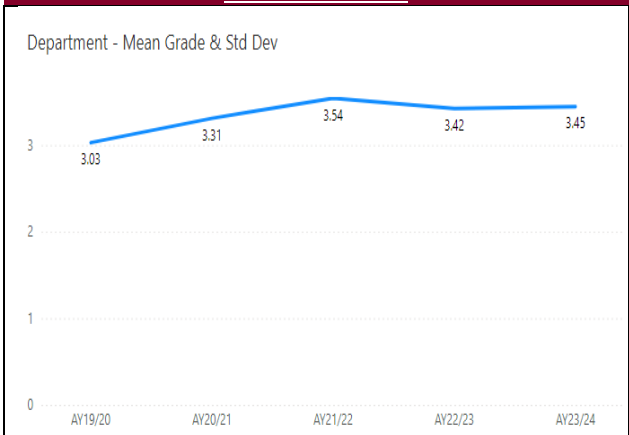
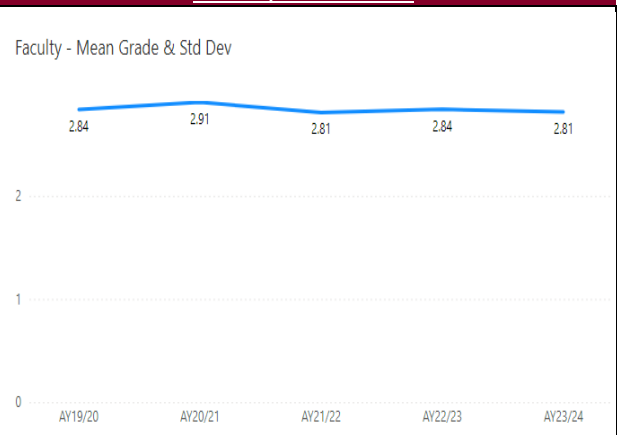
Exhibit 13: Cumulative Grade Distribution for Faculty of Science Undergraduate Courses from AY 19/20 to AY 23/24



[14] Data reported in this section was obtained from the Grade Distribution Report, which is available at DATA - Home (sharepoint.com)

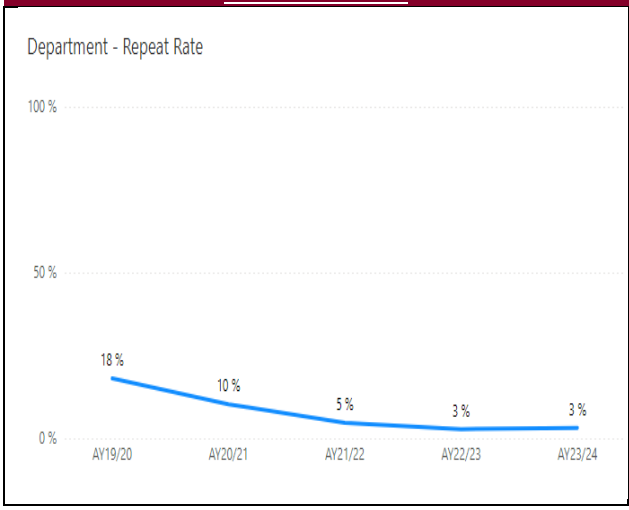
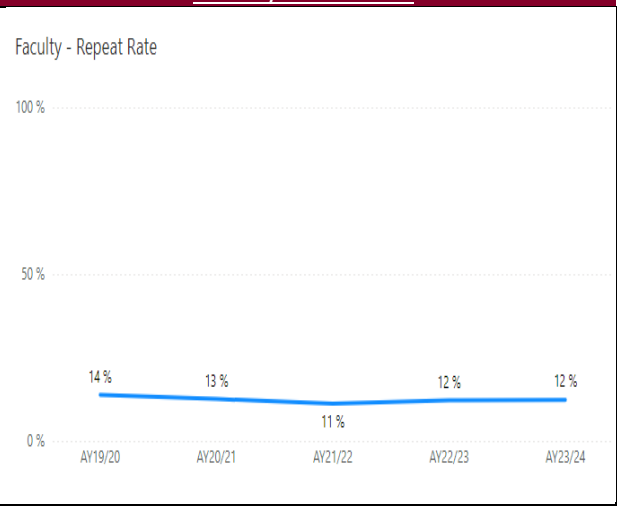
Do the overall grade trends for the Health Science courses indicate an issue? How do they compare with the overall grades for Faculty of Science courses?

Exhibit 14: Grade Data for Health Science Undergraduate Level Courses by Academic Year compared with Faculty of Science

Health Science:	Faculty of Science:
	

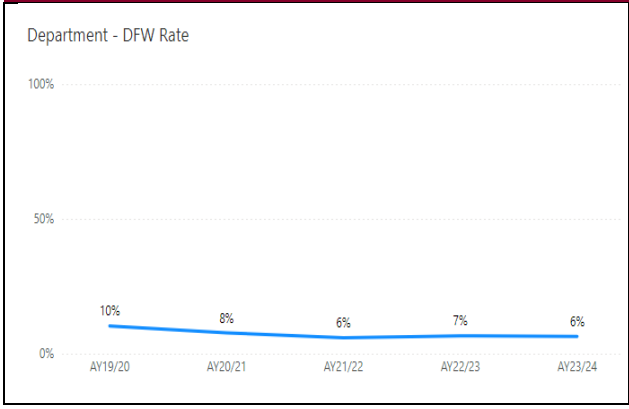
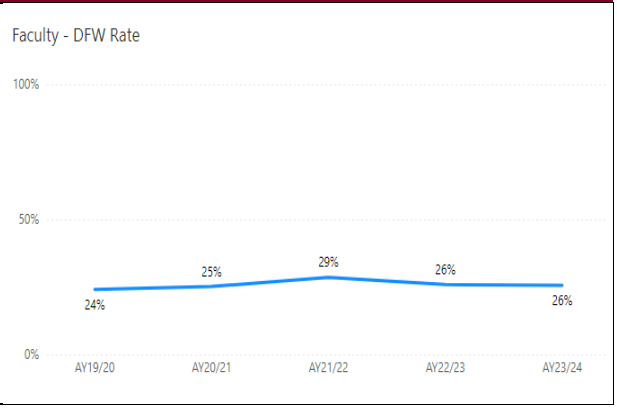
Do the repeat rate trends in Health Science courses indicate an issue? How does it compare with the repeat rate trends of Faculty of Science undergraduate courses?

Exhibit 15: Repeat Rates in Health Science Undergraduate Level Courses by Academic Year Compared with Faculty of Science

Health Science:	Faculty of Science:
	

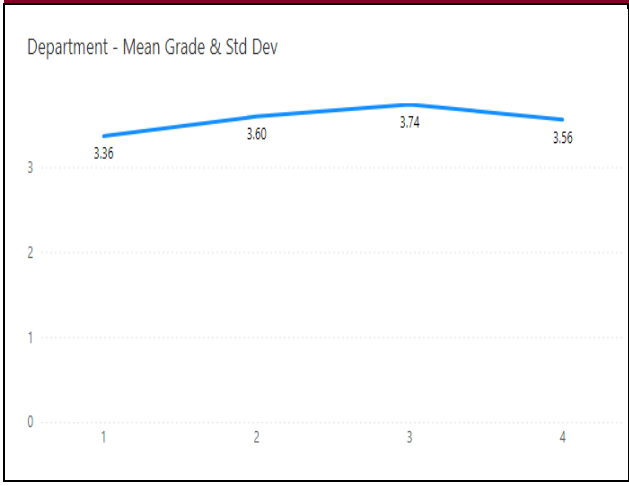
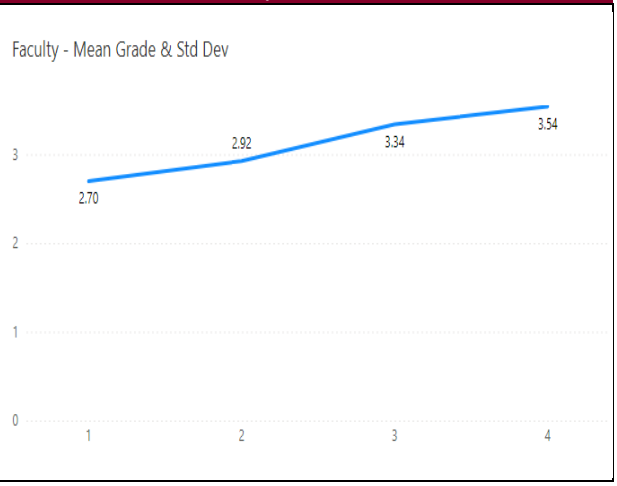
Does the DFW rate trends in Health Science courses indicate an issue? How does it compare with the DFW rate trends in Faculty of Science undergraduate courses?

Exhibit 16: DFW Rates in Health Science Undergraduate Level Courses by Academic Year Compared with Faculty of Science

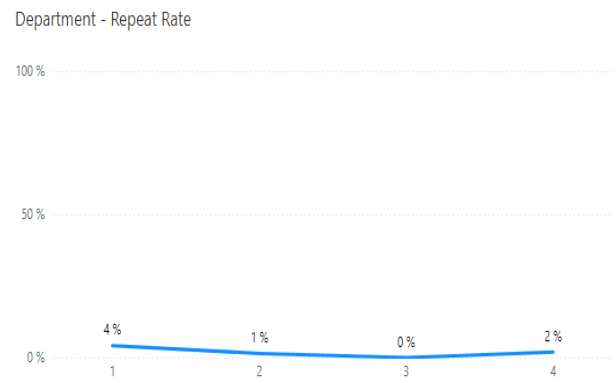
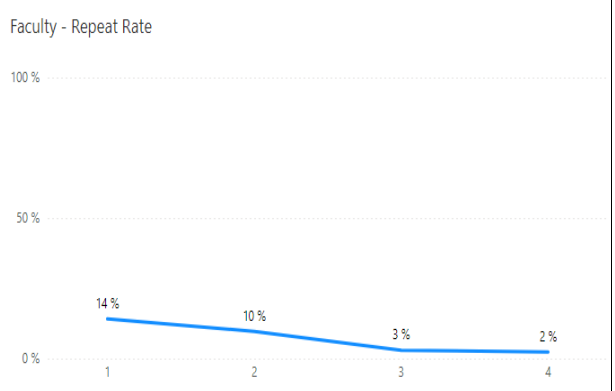
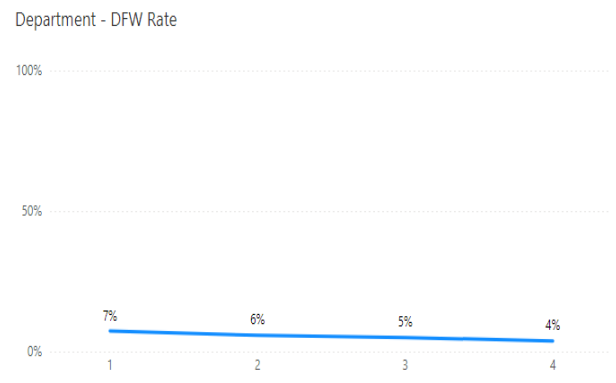
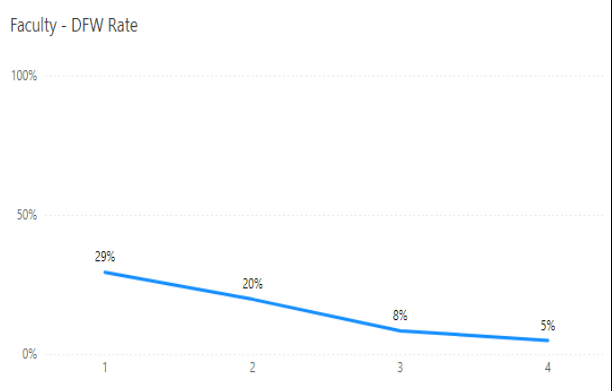
Health Science:	Faculty of Science:
	

Are there any issues with Health Science students' performance at each level? How do they compare with Faculty of Science undergraduate courses?

Exhibit 17: Student Performance Data for Health Science Courses for AY 2023/24 by Undergraduate Levels Compared with Faculty of Science

Health Science:[15]	Faculty of Science:
	

[15] Note that variations in sample size can affect the Grade Point Equivalent Mean data.

Health Science	Faculty of Science:
	
Health Science:	**Faculty of Science:**
	

Are students making satisfactory progress in the program? [16]

Has there been a change in the number of Health Science degree program graduates over time? How does it compare with Faculty of Science in general?

Exhibit 18: Health Science Degree Program Graduate Headcount[17] by Credential and Academic Year

	2019/20	2020/21	2021/22	2022/23	2023/24
Total[18]	**6**	**8**	**20**	**13**	**24**
Baccalaureate Degree	6	8	20	13	24

[16] Data reported in this section was obtained from the Credentials Report, which is available at DATA - Home (sharepoint.com)

[17] Count of unique students who have earned a KPU credential. Breakdown values may not add up to total or 100% because a student can earn multiple credentials in different categories within the same academic year.

[18] To avoid double counting students, total graduate headcounts presented in Exhibits 18 and 19 are unique headcounts of students for the year, not the sum of the credential counts.

Exhibit 19: Faculty of Science Graduate Headcount by Credential and Academic Year

	2019/20	2020/21	2021/22	2022/23	2023/24
Total	**260**	**162**	**215**	**179**	**184**
Associate Degree	46	27	27	24	9
Baccalaureate Degree	39	42	51	42	53
Certificate	24	8	25	16	12
Citation	38	14	23	22	19
Diploma	126	79	111	87	98

Are graduates of the program successful?

Are the graduates getting jobs in a related field? Are the graduates pursuing further education?

Exhibit 20: KPU Health Science Degree Program Student Outcomes Data Compared with Ministry Targets

Measures	Average Student Outcome Data for KPU Health Science Degree Program (2020-23)	Ministry Target
Respondents	***16***	
Unemployment Rate[19]	12.5%	≤ 7.5%
Currently Employed[20]	44%	
In a Related Job[21]	71%	
Further Studies[22]	81%	

[19] Unemployment rate of KPU's graduates (of those in the labour market).

[20] Respondents who were working at a job or business at the time of the survey, as a percentage of all respondents, regardless of whether they were in the labour force (see above).

[21] Respondents who are currently employed in occupations that they describe as "very" or "somewhat" related to their studies, as a percentage of all employed respondents.

[22] Respondents who have taken further studies after taking the program, including those currently studying.

Appendix I – Health Science Program Comparison

Health Science Program	Program Overview and Description	Degree Specializations	Minimum Credits	Minimum UD Credits[1]	Honours[2]	Co-op
KPU	**BSc in Health Science**: Designed around basic science courses that are complemented by health science and open electives. Prepares students for entry into health professional programs and post graduate degrees, along with employment in health policy, research, management, sales, and education.	--	124	45	√	√
SFU	**BSc in Health Sciences**: Incorporates basic science courses (e.g., biology, chemistry, statistics) with health science courses about health and disease. Students receive advanced training in pharmacology, toxicology, virology and immunology, pathophysiology and epidemiology, as well as molecular biology and genetics.	Life Sciences Public Health and Data	120	44	√	√
	BA in Health Sciences: Multi-disciplinary approach to identify and explain the social, behavioural, and biological determinants of health, wellness, and disease in communities and populations. Students take courses in epidemiology, human biology, statistics and research methods, health promotion and disease prevention, health policy and health care systems, evidence-based decision making, and bioethics.	--	120	45	√	√
TRU	**Bachelor of Health Science**: Part-time online studies intended for individuals with a health care diploma (e.g., registered massage therapist) to advance to a degree. Upper level requirements include research methods course and two of either HLTH 3101: Client-Directed Care Management; HLTH 4021: Issues in Health Care; HLTH 4011 Health Policy; or equivalent	Respiratory Therapy (Dipl.)	120	45	--	--

Health Science Program	Program Overview and Description	Degree Specializations	Minimum Credits	Minimum UD Credits[1]	Honours[2]	Co-op
UBCO	**Bachelor of Health and Exercise Sciences (Kinesiology)**: Examines the interdisciplinary nature of human health, including the psychology, physiological, neuromechanical, and socio-cultural aspects of movement.	(1) Kinesiology & Allied Health (2) Health Behaviour Change (3) Clinical Exercise Physiology	120	45	√	√
UNBC	**Bachelor of Health Sciences**: Draws from the natural sciences, social sciences, and humanities to provide students with a broad understanding of issues while preparing them for further studies in diverse areas such as community health, epidemiology, management and administration, medicine, occupational and environmental health, rehabilitation sciences, and speech pathology.	Biomedical Studies Aboriginal and Rural Health Environmental Health	122	45	√	√
UVIC	**BSc in Health Information Science**: Focus is on information technology, clinical systems and the business aspects of the health care industry. Students learn to identify information and data needed by doctors, hospital administrators, government planners and other health care professionals and how they are used in order to make effective health care decisions.	--	60[3]	28.5	√	√
	BA in Public Health: Students enter in year 3 from social sciences, humanities, or science-based program; remainder of degree is online with two onsite components (also includes a 225-hour practicum placement). Prepares students for a career supporting health and community organizations to provide services that address health inequities.	Disability Studies Indigenous Peoples' Health Global Health Development Ageing	60[3]	28.5	√	√

[1] Upper Division (UD) courses have either 300+ course numbers of 3000+ course numbers.

[2] The Honours program may require additional credits to those required for graduate with a major degree.

[3] The University of Victoria uses unit hours as opposed to credit hours. Most one-term courses count for 1.5 units.