



**Doctor of Chiropractic Program
Canadian Chiropractic Examining Board (CCEB)
Annual Performance Report
2021 - 2022**

Published March 20, 2023

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Executive Summary

This report includes annual average scores and first-time pass rates for CCEB Components A, B, and C since 2017 and is designed to assist the DC program administration and faculty in the curriculum planning and teaching improvement process. CCEB provides the following types of data for analysis:

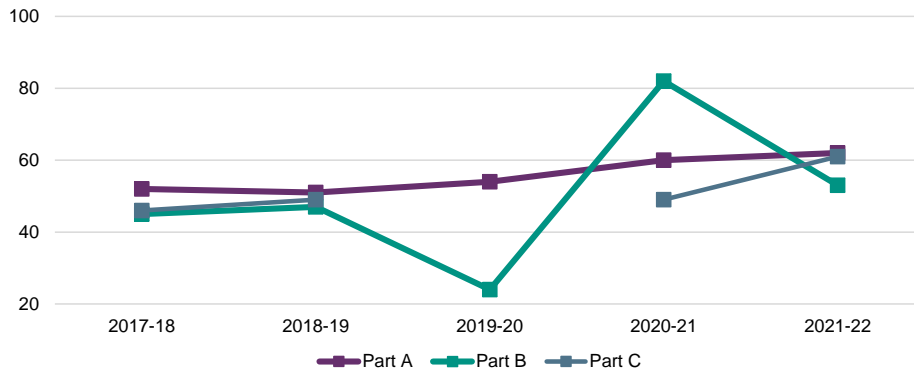
- First-time pass rates by Component
- Average percent performance by exam behavior/subject rates by Component
- Average percent performance by the patient presentation for Components A and B only

Due to the COVID-19 pandemic, and restrictions implemented in jurisdictions across Canada, the CCEB canceled the Spring 2020 exam administration. To protect individual candidate information, and due to small candidate samples for each school and country, the data provided to UWS for 2019-20 does not disaggregate by individual institution. Component C data in this report is in aggregate for all institutions taking the exam in 2019-20, providing limited opportunities for analysis.

As seen in the figure below, the total number of UWS students taking Component A has increased steadily (from 52 to 62) over the past five testing cycles as the population of Canadian students has grown. The increase in 20-21 includes an influx of students who were unable to take Component A in 2019-20. The increase in students completing Component B is related to students who were unable to take the exam in the spring of 2020. Similarly, the rise in students completing Component B is likely associated with students unable to sit for the exam in 2020 and the increase of Canadian students over the last five years (45 to 53). Please note that CCEB did not provide data to institutions regarding the number of students taking Component C in the 20-21 testing cycle. While Component C examinees has returned to expected levels for 2021-22, the number of students completing Component C has increased (from 46 to 61) over the past five testing cycles.

Commented [DS1]: Examinees have returned? I'm actually not sure I understand this entire sentence. It sounds like we are contradicting ourselves?

Number of UWS First-time Examinees



Unlike the National Board of Chiropractic Examiners (NBCE), CCEB does not provide the university with individual student performance data or information regarding the number of students passing all exam components.

Component A

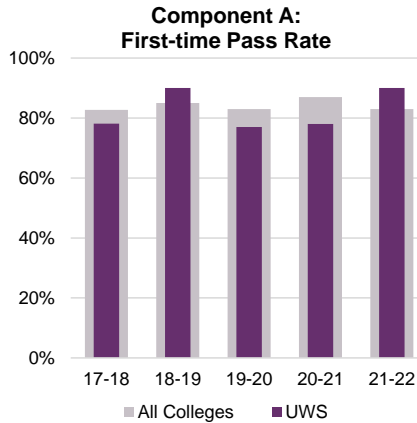
With a first-time pass rate of 90 percent, UWS exceeded the all-college average of 83 percent in 2021-22. This is the second time in the last five years UWS students' first-time pass rate exceeded the all-college average.

The following subjects are consistently below all-college average scores between 2017 and 2022:

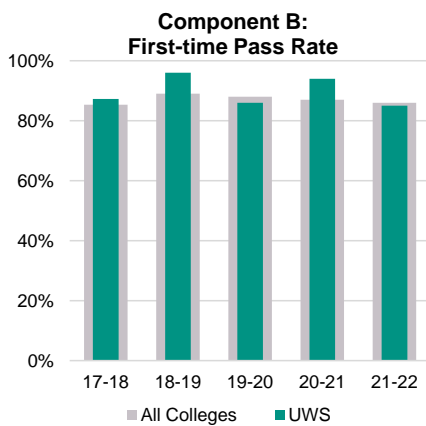
- Neurology
- Biomechanics
- Physiology
- Pathology
- Biochemistry
- Microbiology
- Public Health & Health Promotion
- Embryology / Histology / Immunology

There is some overlap of the performance below the all-college average for section scores in neurology and pathology. Additionally, the following case presentation types scored below the all-college average for four of the last five years:

- neck
- midback
- head
- hip and pelvis
- shoulder
- knee and leg
- foot
- elbow and arm
- face and jaw
- hand
- other



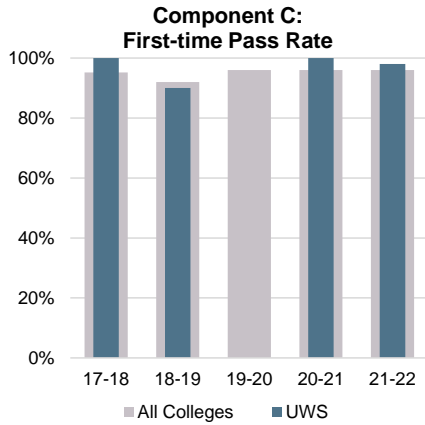
Component B



In 2021-22, UWS students' first-time pass rate of 85 percent fell below the all-college rate of 86 percent. UWS students performed below the all-college pass rate on the Component B exam for three of the past five years. The radiology image section (image interpretation) continues to be an area of weakness, falling below the all-college in four out of the last five testing cycles. Other areas of weakness include radiology theory and administration.

The hip and pelvis presentation types performed below the all-college average in four of the last five years. Neck, hip, pelvis, and hand performance were below the all-college average for Component B as well.

Component C



In 2021-22, UWS students' first-time pass rate of 98 percent surpassed the all-college rate of 95 percent. As such, UWS students performed at or above the all-college pass rate on the Component C exam for three of the past four years. The following subjects fell below the all-college average score for three or more of the last four testing cycles:

- Physical Exams
- Technique
- Diagnosis
- Consideration of Legal & Ethical Obligations

The adjusting technique is also an area of weakness for UWS examinees on NBCE. Students consistently perform below the all-college average on the technique section for the Part IV exam. DCP alums have also requested exposure to a wider variety of techniques during the last three iterations of the alumni feedback survey. While the NBCE Part II exam

includes a category of items related to jurisprudence, ethics, and basic economics, it is not clear how well this content aligns with that of CCEB exams.

Exam Overview

The CCEB administers three examinations: Components A, B, and C. Component A and B examinations are multiple-choice. Component C is a demonstration of clinical skills in the format of an Objective Structured Clinical Examination (OSCE). During the year, all three examinations are provided at each sitting (typically October, February, and June). The test specifications for these examinations are based on a national job analysis. The job analysis provided evidence of the frequency and criticality of patient presentations seen in practice across Canada. This information was used to identify the knowledge, skills, and aptitudes required in daily practice. The test specifications identify the behaviors, patient presentations, and weighting within the examinations.

Purpose and Use of the Report

The report includes annual average scores and first-time pass rates for CCEB Components A, B, and C since 2017. The report is designed to assist:

- The DC program administration and faculty in tracking longitudinal CCEB performance data.
- Individual DC faculty members in becoming familiar with CCEB exam makeup and subject weightings.
- The DC program administration and faculty in the curriculum planning and teaching improvement process. The exam breakdown information can help faculty members ensure they adequately cover or reinforce CCEB content to enhance/dovetail one another's courses.

Detailed information about CCEB written test plans and weightings is available on the CCEB website <http://www.cceb.ca/>.

CCEB does not provide UWS detailed information regarding individual student performance like that of the National Board of Chiropractic Examiners (NBCE). As such, the institution is not able to track other key factors such as the:

- Identities of UWS students included in each exam cohort,
- Individual Component and content area scores, and
- The number of students passing all three exam Components.

Component A – Chiropractic Knowledge

The first exam, Component A, consists of multiple-choice items, each with four alternatives, and is based on the underlying causes of pain and diseases. Most items (approximately 95%) are presented in a patient-centered and clinical context. However, some are presented in a factual context stripped of reference to a patient. The table below presents the total percentage of items by skill.

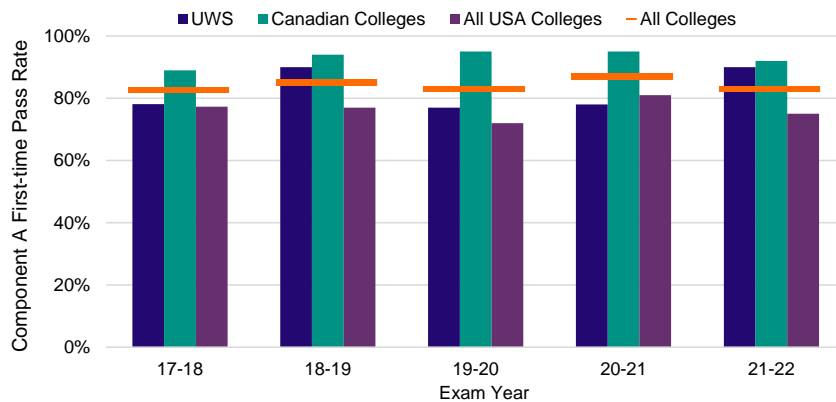
Skill	Total % of Items
Knowledge of Fact	30% (+/-5%)
Understanding	34% (+/-5%)
Application	36% (+/-5%)
Total	100%

The Component A exam consists of approximately 220 items written in two sections with three hours to complete each section. Thirteen different content areas are represented in this exam; the table below includes the percentage of items included for each area.

Subject/Content Area	Total % of Items
Anatomy	23% (+/- 2%)
Neurology	16% (+/- 2%)
Biomechanics	11% (+/- 2%)
Physiology	10% (+/- 2%)
Pathology	9% (+/- 2%)
Nutrition	7% (+/- 2%)
Biochemistry	5% (+/- 1%)
Microbiology	4% (+/- 1%)
Public Health & Health Promotion	4% (+/- 1%)
Embryology / Histology / Immunology	3% (+/- 1%)
Psychology	3% (+/- 1%)
Toxicology & Pharmacology	3% (+/- 1%)
Research Methods	2% (+/- 1%)
Total	100%

Exam Pass Rate by Educational Region

The following figure presents UWS first-time examinees compared to those attending other DCPs in the United States and Canada. The 2021-22 cohort exceeded the all-college pass rate for Component A for the second time in the last five years.



Average Score by Exam Subject

The table below presents UWS first-time examinee performance on Component A by exam subject. Cells filled with orange represent exam subject average scores lower than that of the all-college average. Further analysis of UWS student performance compared with the all-college average is presented in the figures following the table.

Exam Year		2017-18	2018-19	2019-20	2020-21	2021-22
Annual Cohort		52	51	54	60	62
Exam Subject/Content Area	Anatomy	79%	76%	74%	80%	79%
	Neurology	71%	77%	76%	75%	73%
	Biomechanics	63%	68%	76%	75%	67%
	Physiology	76%	75%	71%	73%	68%
	Pathology	73%	76%	82%	76%	69%
	Nutrition	80%	71%	69%	73%	82%
	Biochemistry	63%	50%	64%	79%	75%
	Microbiology	63%	63%	62%	73%	65%
	Public Health & Health Promotion	70%	66%	71%	59%	62%
	Embryology / Histology / Immunology	65%	57%	70%	72%	78%
	Psychology	64%	74%	79%	76%	67%
	Toxicology & Pharmacology	82%	71%	80%	82%	83%
	Research Methods	41%	50%	58%	80%	62%
Component A (all 13 subjects)						
UWS Pass Rate		68%	90%	77%	78%	90%
All College Pass Rate		71%	85%	83%	87%	83%

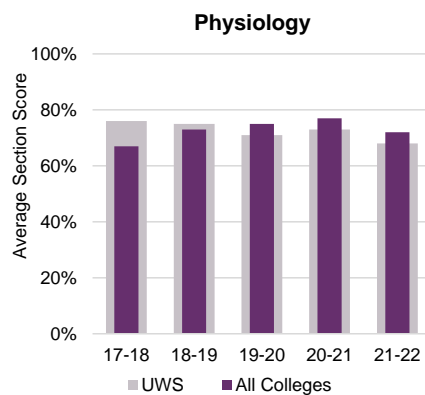
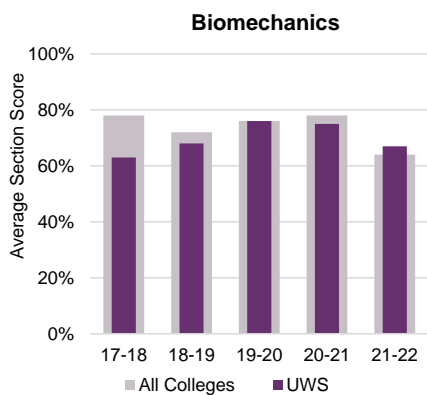
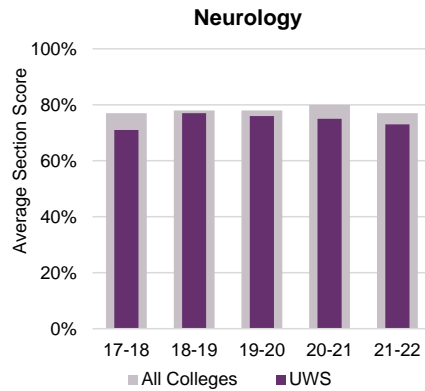
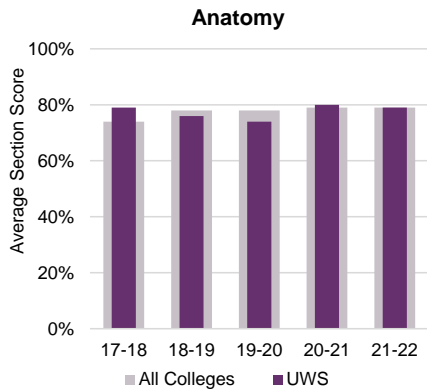
There was a decline in UWS average exam subject scores in 2021-22, with students scoring lower than all-college averages in 7 of 13 subjects (an improvement from 2020-21). The following categories fell below all-college average scores in at least three of the last five cycles:

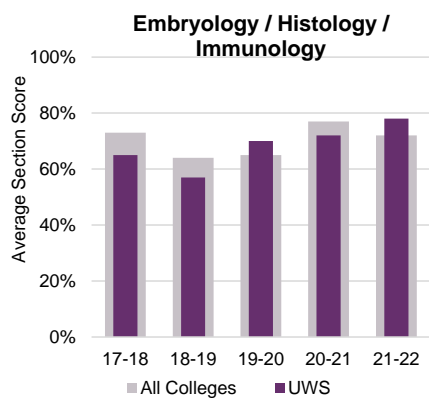
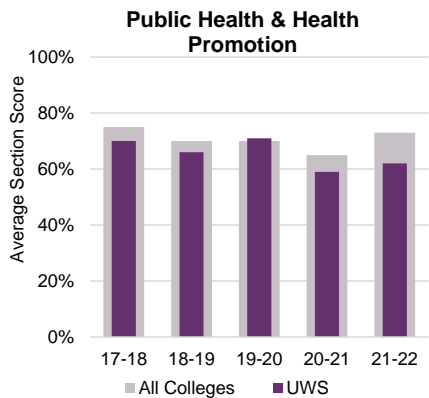
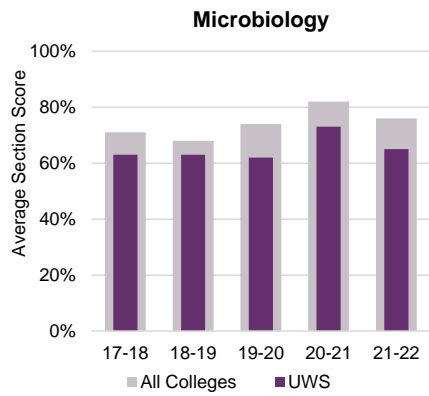
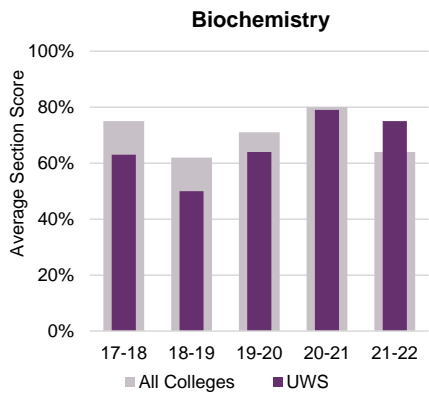
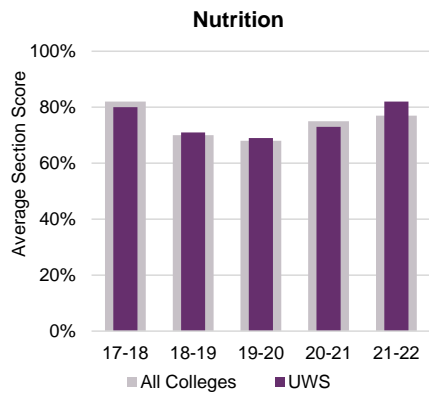
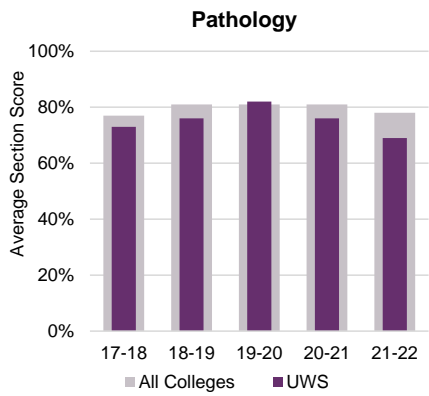
- Neurology
- Biomechanics
- Physiology

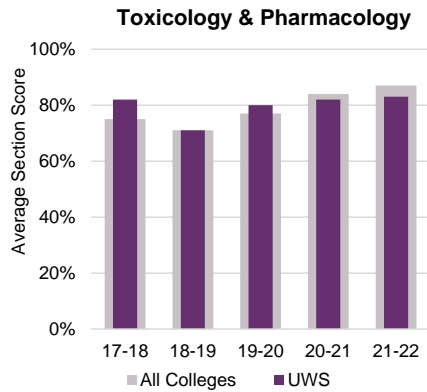
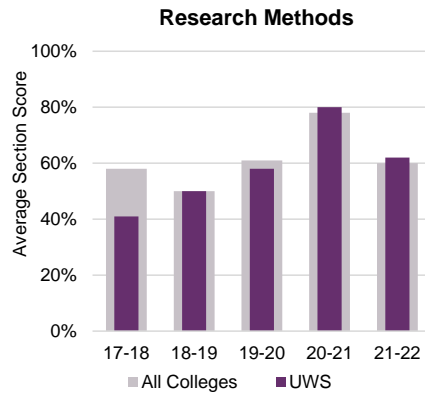
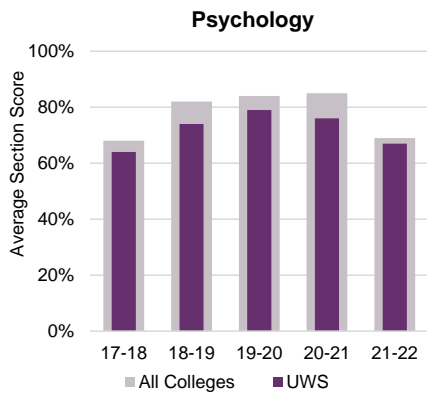
- Pathology
- Biochemistry
- Microbiology
- Public Health & Health Promotion
- Embryology / Histology / Immunology
- Psychology

UWS students perform below the all-college average for NBCE-comparable sections related to neurological structures and neurophysiology. Additionally, while UWS student performance (first-time pass rate) on the NBCE pathology section has improved over the past three years, the average scores for this section remain below the all-college average.

An analysis of UWS student performance compared with the CCEB all college average subject scores is presented in the following figures.







Average Score by Patient Presentation

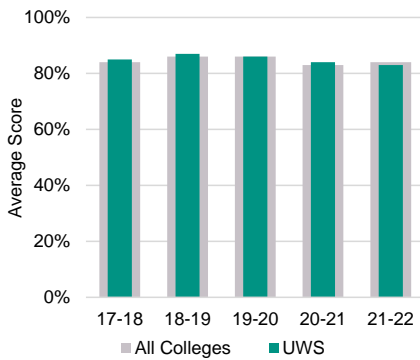
The table below presents UWS first-time examinee performance on Component A by patient presentation. Cells filled with orange represent a patient presentation category with scores lower than that of the all-college average. Further analysis of UWS student performance compared with the all-college average is presented in the figures following the table.

Exam Year		2017-18	2018-19	2019-20	2020-21	2021-22
Annual Cohort		52	51	54	60	62
Patient Presentation	Low-back	68%	75%	72%	78%	78%
	Neck	72%	71%	74%	79%	79%
	Mid-back	71%	72%	72%	83%	74%
	Head	73%	75%	75%	76%	71%
	Hip & Pelvis	72%	75%	78%	78%	75%
	Shoulder	72%	72%	74%	69%	76%
	Knee & Leg	86%	63%	84%	79%	84%

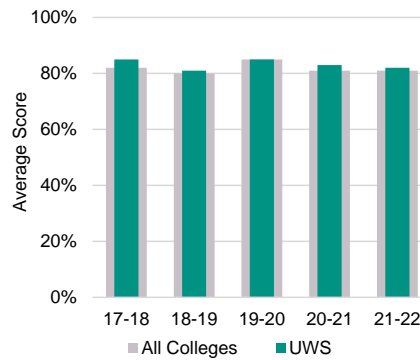
Exam Year	2017-18	2018-19	2019-20	2020-21	2021-22
Elbow & Arm	72%	64%	69%	77%	70%
Foot	69%	67%	76%	72%	59%
Chest & Abdomen	81%	59%	66%	78%	77%
Face & Jaw	75%	62%	77%	68%	63%
Hand	66%	67%	73%	76%	59%
Other	79%	67%	76%	74%	81%

For the 2021-22 year, seven of the 13 patient presentation types were consistently below the all-college average, the highest number in the last five cycles. Cases with neck, mid-back, hip/pelvis, shoulder, foot, and face/jaw presentation scored below the all-college average in four of the last five cycles. An analysis of UWS student performance compared with the all-college average score for each patient presentation type is available in the following figures.

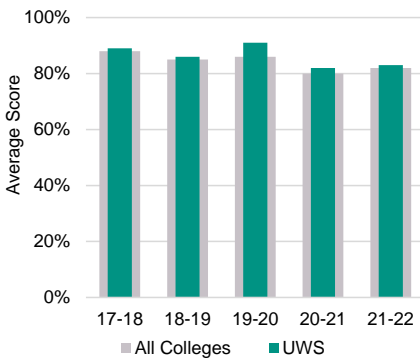
Clinical & Differential Diagnosis



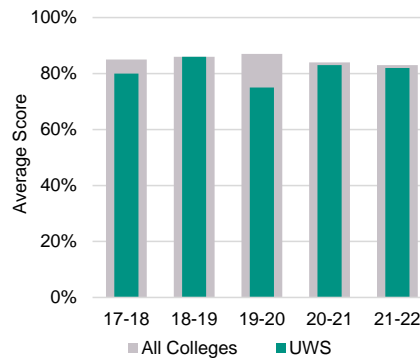
Patient Assessment

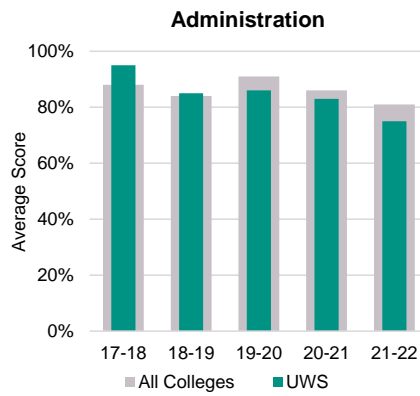
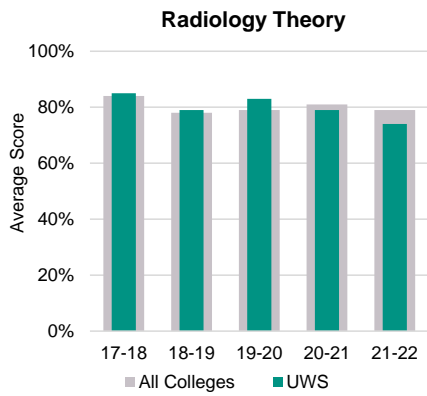


Treatment & Technique



Radiology Images





Component B – Clinical Decision Making

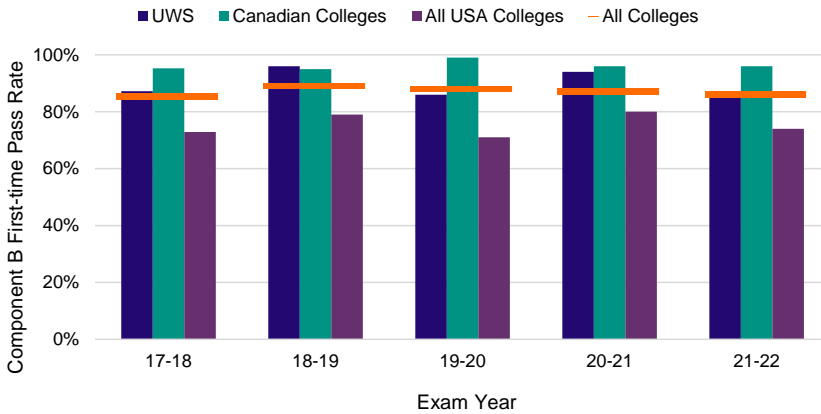
The second exam, Component B, consists of multiple-choice items, each with four alternatives, and tests the student's ability to make decisions and diagnoses in a clinical context. The exam also contains radiographic images with three to four questions pertaining to each image, and some radiographic theory questions that are presented in a factual context without reference to a patient.

The Component B exam consists of two sections, with a total of approximately 220 items and three hours for the completion of each section. Thirteen different content areas are represented in this exam; the table below includes the percentage of items included for each area.

Subject/Content Area	Total % of Items
Administration, Ethics & Documentation	5% (+/- 5%)
Clinical and Differential Diagnosis	26% (+/- 5%)
Diagnostic Imaging (Image Interpretation)	14% (+/- 5%)
Diagnostic Imaging (Radiographic Theory)	8% (+/- 3%)
Patient Assessment (Physical Exams and History Taking)	24% (+/- 5%)
Treatment, Technique & Rehabilitation	23% (+/- 5%)
Total	100%

Exam Pass Rate by Educational Region

The figure below presents UWS first-time examinees compared to those attending other DCPs in the United States and Canada. For three of the last five years, UWS students have performed above the all-college benchmarks and are comparable to that of Canadian colleges.

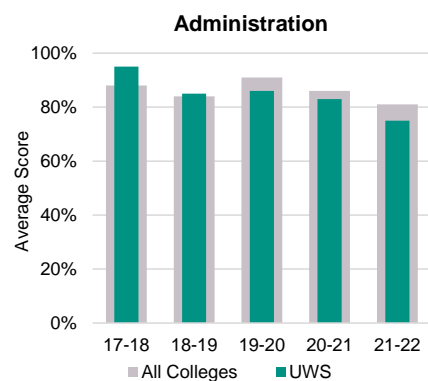
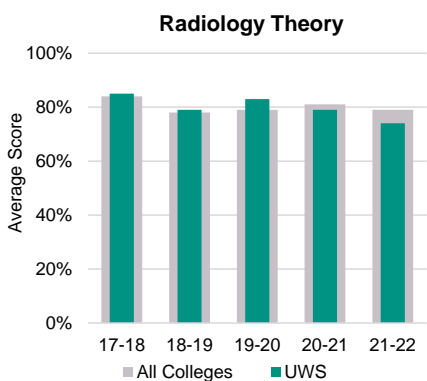
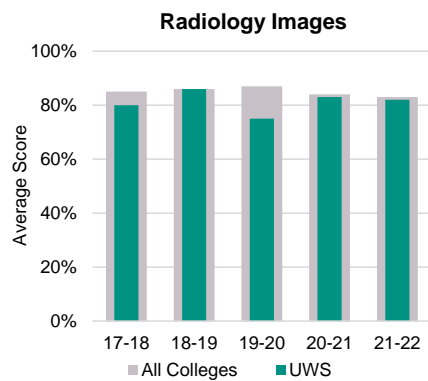
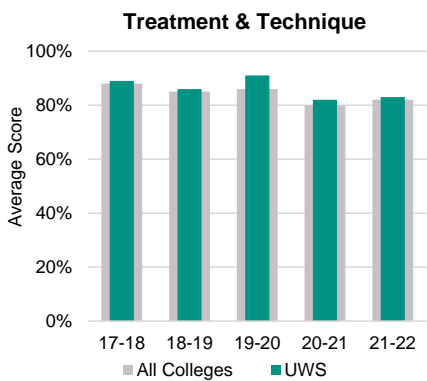
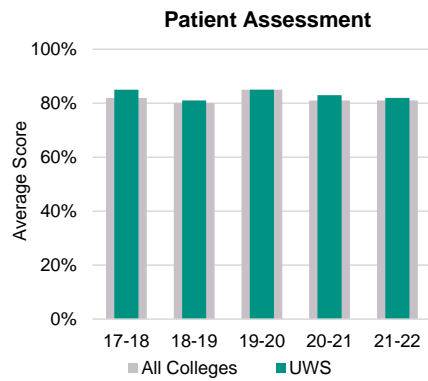
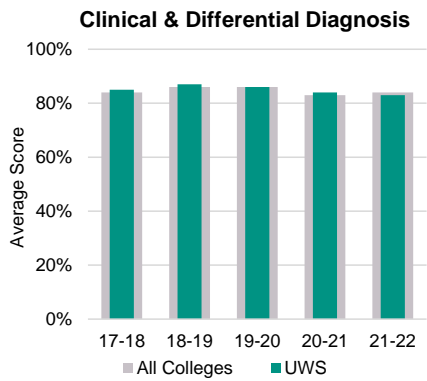


Average Score by Exam Subject

The table below presents UWS first-time examinee performance on Component B by exam subject. Cells filled with orange represent exam subject scores lower than that of the all-college average. Further analysis of UWS student performance compared with the all-college average is presented in the figures following the table.

Exam Year		2017-18	2018-19	2019-20	2020-21	2021-22
Annual Cohort		45	47	24	82	28
Exam Subject	Clinical & Differential Diagnosis	85%	87%	86%	84%	83%
	Patient Assessment (History & Exam)	85%	81%	85%	83%	82%
	Treatment & Technique	89%	86%	91%	82%	83%
	Diagnostic Imaging Interp.	80%	86%	75%	83%	82%
	Radiology Theory	85%	79%	83%	79%	74%
	Administration, Ethics & Documentation	95%	85%	86%	83%	75%
Component B (all 6 subjects)						
UWS Pass Rate		87%	96%	86%	94%	85%
All College Pass Rate		85%	89%	88%	87%	86%

UWS students scored higher than the all-college average for three of the six exam subjects in 2021-22. Diagnostic image interpretation has scored below the all-college average in four of the last five cycles. This year is the third time the administration subject has scored below the all-college average in the past five years. Content in this section relates to patient documentation related to informed consent, outcome measurement, chart notes, and professional conduct and ethics related to patient management. An analysis of UWS student performance compared with the all-college average subject score is presented in the following figures.

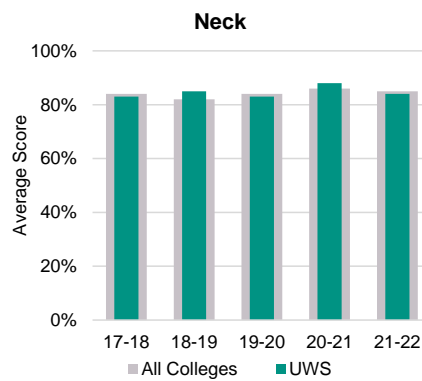
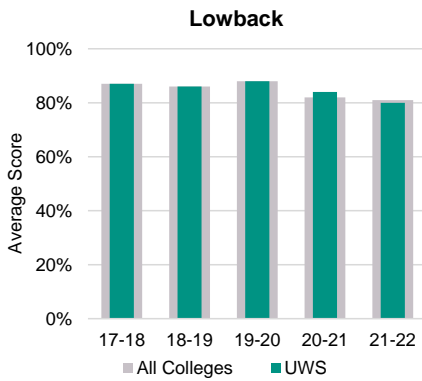


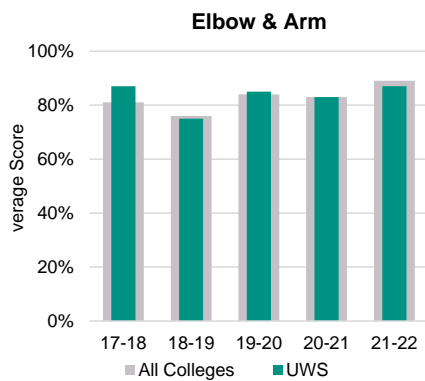
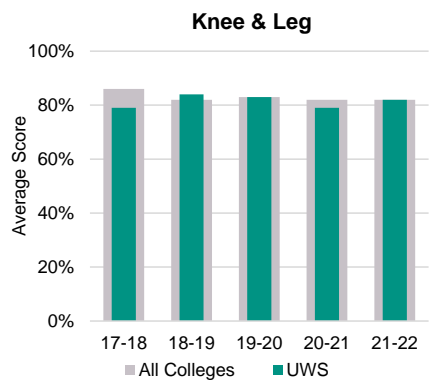
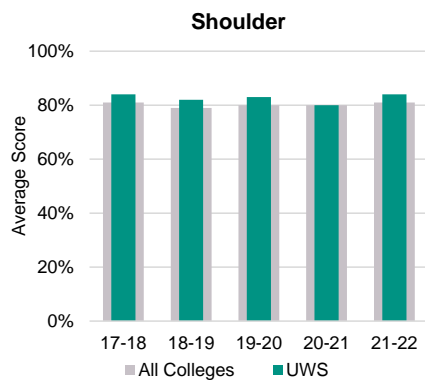
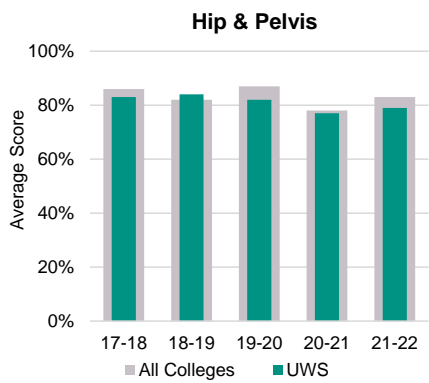
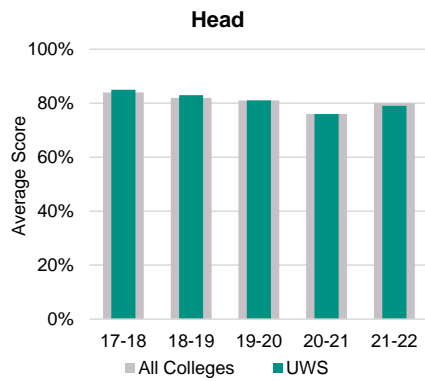
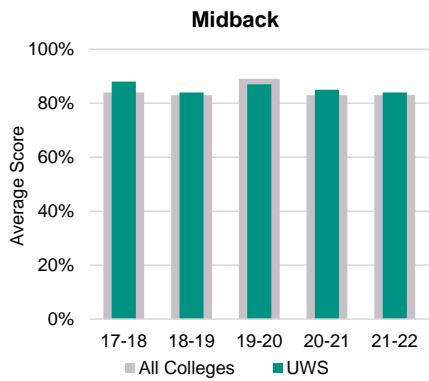
Average Score by Patient Presentation

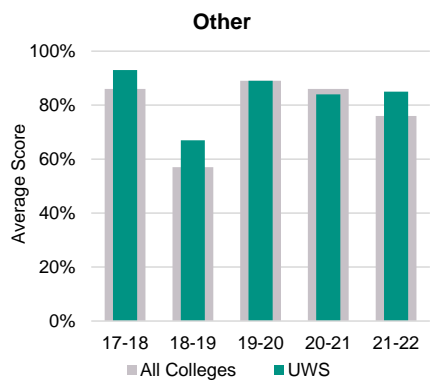
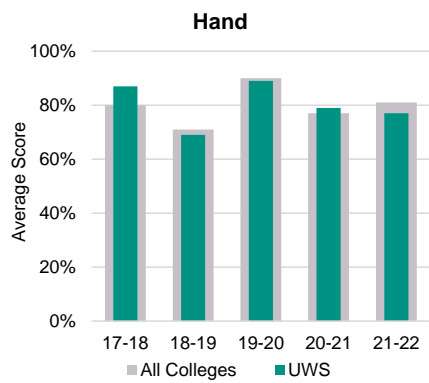
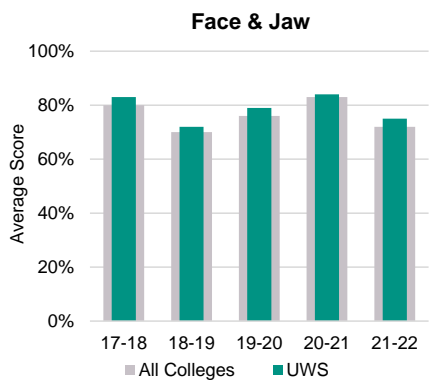
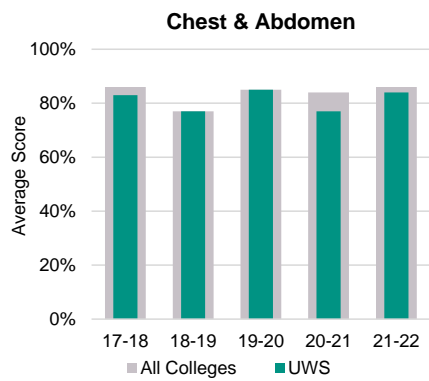
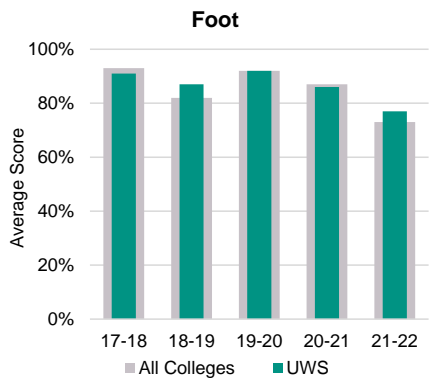
The table below presents UWS first-time examinee performance on Component B by the patient presentation. Cells filled with orange represent exam subject scores lower than the all-college average. UWS students performed better than the all-college average in seven of the 13 case presentation types for the 2021-22 year. Hip and pelvis presentation has been below the all-college average for four of the last five years. This case presentation type is consistently below average for Component A as well.

Exam Year		2017-18	2018-19	2019-20	2020-21	2021-22
Annual Cohort		52	47	24	82	28
Exam Subject	Low-back	87%	86%	88%	84%	80%
	Neck	83%	85%	83%	88%	84%
	Mid-back	88%	84%	87%	85%	84%
	Head	85%	83%	81%	76%	79%
	Hip & Pelvis	83%	84%	82%	77%	79%
	Shoulder	84%	82%	83%	80%	84%
	Knee & Leg	79%	84%	83%	79%	82%
	Elbow & Arm	87%	75%	85%	83%	87%
	Foot	91%	87%	92%	86%	77%
	Chest & Abdomen	83%	77%	85%	77%	84%
	Face & Jaw	83%	72%	79%	84%	75%
	Hand	87%	69%	89%	79%	77%
	Other	93%	67%	89%	84%	85%

An analysis of UWS student performance compared with the all-college average score for each patient presentation type is available in the following figures.







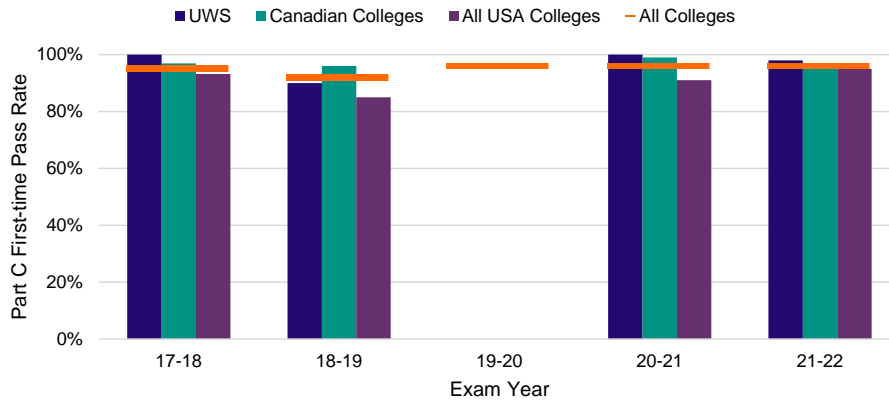
Component C – Clinical Skills

The third exam, Component C, is an objective structured clinical exam (OSCE) that tests each student's clinical skills in a clinic-like environment. The Component C exam consists of ten 12-minute stations and up to 23 different patient presentations. This exam uses actors to portray the role of a patient and uses trained examiners to evaluate each station. Behavioral components are evaluated across multiple stations on the exam. For example, aspects of communication and professionalism are found on every station of the exam. Components such as history taking and physical exams have specific stations designed to test these competencies. Nine different content areas are represented in this exam; the table below includes the percentage of items included for each area.

Content Area	Total % of Items
History Taking	14% (+/- 2%)
Physical Exams	21% (+/- 2%)
Technique	8% (+/- 2%)
Diagnosis	9% (+/- 2%)
Plans of Management / Treatment	16% (+/- 2%)
Rationale (Explanation of Process)	5% (+/- 2%)
Consideration of Legal Ethical and Organizational Aspects of Practice	7% (+/- 2%)
Communication	14% (+/- 2%)
Professionalism	6% (+/- 2%)
Total	100%

Exam Pass Rate by Educational Region

The figure below presents UWS first-time examinees compared to those attending other DCPs in the United States and Canada. For the third time in the last five years, UWS students have performed above all benchmarks, with pass rates approaching 100 percent. Due to the COVID-19 pandemic, only the all-college data is available for 2019-20, as CCEB did not provide disaggregated data to individual institutions.



Average Score by Exam Subject

The table below presents UWS first-time examinee performance on Component C by exam subject. Cells filled with orange represent exam subject scores lower than that of the all-college average. Further analysis

of UWS student performance compared with the all-college average is presented in the figures following the table. Due to lack of disaggregated data, no analysis is available for 2019-20.

Exam Year		2017-18	2018-19	2019-20	2020-21	2021-22
Annual Cohort		46	49	N/A	49	61
Exam Subject	History (14%)	85%	85%		90%	89%
	Physical Exams (21%)	74%	76%		78%	78%
	Technique (8%)	87%	86%		89%	90%
	Diagnosis (9%)	83%	84%		87%	85%
	Management & Treatment (16%)	82%	82%		81%	82%
	Rationale & Processes (5%)	62%	67%		73%	76%
	Legal & Ethical Obligations (7%)	68%	71%		77%	90%
	Communication (14%)	87%	85%		90%	88%
	Professionalism (6%)	96%	93%		94%	96%
	Component C (all 9 subjects)					
UWS Pass Rate		100%	90%	N/A	100%	98%
All College Pass Rate		95%	92%	96%	96%	96%

The UWS exam first-time pass rate in 2021-22 continues to be high, approaching almost 100% for the third time in the last four years of available data. The following subjects are consistently below the all-college average score for at least three out of the four prior testing cycles:

- Physical Exam
- Technique
- Diagnosis
- Consideration of Legal & Ethical Obligations

Physical exam performance has continued to be below the all-college average. This section (orthopedic and neurological examinations) is also consistently below the all-college benchmark for NBCE Part IV. Although there was some improvement for the technique section for 2021-22 (both UWS and an all-college pass rate of 90%), UWS students regularly score below the all-college average on the corresponding NBCE Part IV exam section. Legal and ethical obligations approach the all-college average this year (both 90%). Factors influencing the performance of this section are unclear, as similar content is assessed in the NBCE Part II exam, and UWS students generally perform well in this area.

