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Syllabus

CS 351: Discrete Mathematics in Computing

School of Technology & Computing

5 Credits, Undergraduate Course
Grading Type: Decimal
Effective: Summer 2022
Pre-requisite or Co-requisite: None

Access to the Internet is required.
All written assignments must be in Microsoft-Word-compatible formats.
See the library's APA Style Guide tutorial for a list of resources that can help you use APA style.

Contact Information

Professional experience information for instructors is found under *Faculty Information* in the online course menu.

Faculty Information

Contact information for instructors is found under *Faculty Information* in the online course menu.

Email: [Instructor]
Phone: [xxx-xxx-xxxx]
Office Hours and Response Time: [I am available X and X nights between X-X PM]. I will respond within 24 hours. I will grade within 3 business days after the due date.]
Bio: (keep images under 300px wide)

Course Description

Students are introduced to discrete mathematics concepts using a general-purpose programming language. Students walk through basic concepts such as variables, arithmetic sets, functions, algorithms, loops, strings, lists, dictionaries, files, number systems, Boolean algebra, statements, digital circuits, bitwise operators, sequences, sums, parity, invariants, and finite strategy games, counting, probabilities, vectors, matrices, polynomials, recurrence relations, recursion, graphs, number theory, and cryptology. Students complete a series of mathematics and programming exercises designed to build the ability to think with precision about both mathematical algorithms and the logic applied in programming.

Course Resources

Required and recommended resources to complete coursework and assignments are found on the course Reading List. The reading list can be found under Course Information in Desires to Learn LMS, as well as from the library homepage.

Note: Required resources that must be purchased by the student are tagged “Purchase from a vendor of your choosing.” Required resources with a direct link, “Available through CityU Library”, are available at no cost to students.

Students in Canada will see required resources they need to purchase tagged “Purchase from the Canadian Bookstore.” Students outside the U.S. and Canada should contact their advisor or textbook coordinator for additional information.

Course Outcomes

At the end of the course students:

1. Understand basic discrete mathematics concepts such as: terminology of logic, functions, relations, sets programming algorithmic concepts such as loops, strings, etc.
2. Explain basic properties of graphs and related discrete structures; relate the structures to practical examples.
3. Apply formal methods of symbolic propositional and predicate logic, such as calculating validity of formulae and computing normal forms.
4. Apply discrete mathematics concepts to solve problems using a programming language such as Python.
5. Review a problem to determine underlying recurrence relations.
6. Evaluate probabilities of events and expectations of random variables for elementary problems such as games of chance.

Grading Scale

The grades earned for the course will be calculated using City University of Seattle’s decimal grading system, found in the current University Catalog (https://www.cityu.edu/catalog/).

Grading rubrics with details on how each assignment will be graded are located under *Assignments* and/or in *My Grades* in the online course menu. Students should review the rubric for each assignment prior to completing their work in order to understand how it will be assessed.

OVERVIEW OF REQUIRED ASSIGNMENTS	% OF FINAL GRADE	POINTS
Instructor Determined Assignments	***30%***	
The Muddiest Point (MP)	5%	50 = 5 points * 10 modules
Concept Test (CT)	5%	50 = 5 points * 10 modules
Discussion Board (DB)	10%	100 = 10 points * 10 modules
Knowledge Check (KC)	10%	100 = 10 points * 10 modules
Major Assignments	***70%***	
Hands-On Practice (HOP)	20%	200 = 20 points * 10 modules
Virtual Lab (VL)	30%	300 = 30 points * 10 modules
Team Project (TP)	20%	Proposal: 30 points Progress: 70 points Final Report: 70 points Final PPT: 30 points Subtotal: 200 points
TOTAL	**100%**	**1,000 points**

Course Assignments and Grading

The instructor provides grading rubrics that will provide more detail as to how this assignment will be graded.

The Muddiest Point (MP)

Before class, students are required to submit the Muddiest Point (MP) activity to ensure understanding of discrete mathematics concepts. The purpose of this activity is to stimulate student engagement. The instructor uses the MP to assess how students understood the required readings. The instructor also uses the MP to customize the lecture scope to implement Just-in-Time Teaching (JiTT). The MP consists of writing a brief reflective essay (<= 50 words) identifying the most confusing part (i.e., the MP) of the content covered in the upcoming module. If a student understood all concepts, the student needs to explain the most exciting aspect. There is one multiple-choice question from the required reading to demonstrate that the student understood the required readings.

MP Criteria	***% of Grade***
Participation	80%
Citation	20%
TOTAL	**100%**

Concept Test (CT)

The instructor poses a problem based on key discrete mathematics concepts introduced in the lecture. For example, how specific mathematical models are used by GPS to find the shortest route. After reflecting on the problem, students submit their responses, and the instructor reviews them without providing a correct answer. Students discuss their thought process and solution with a peer. Students then commit to an answer and re-submit their responses. Instructor reviews the responses and provides feedback.

CT Criteria	***% of Grade***
Engagement	100%
TOTAL	**100%**

Discussion Board (DB)

All classes are required to use the Discussion Board. Participation through DB is an integral part of this course. Students discuss core discrete mathematics concepts, their application, and how logical algorithms, based on the concepts are used in programming to solve computing problems. Instructors determine the type of activities and their due dates; moreover, different DB activities have different substance and length guidelines. The instructor provides specific instructions to students.

A student posts an answer to a weekly discussion topic in Discussion Board. The student also posts a response to two other students' posts by the end of each module. Comments and

questions should be clear and thoughtful, with correct grammar, spelling, and punctuation. The instructor grades the quality of your discussion postings on both content and response.

Questions or comments specifically for the instructor should be emailed directly to the instructor or posted in the Question and Answer Forum. Students who want to talk with other students about issues unrelated to the discussion forums should use the Coffee Talk Forum.

Although your DB postings' tone can be informal, your instructor expects the content to be on a professional level. Your comments and questions for discussion should be clear and thoughtful, with correct grammar, spelling, and punctuation. As with written assignments, your discussion postings' quality is graded on both content and presentation.

DB Criteria	***% of Grade***
Participation	50%
Writing	50%
TOTAL	**100%**

Hands-on Practice (HOP)

The instructor assigns Hands-on Practice exercises to practice the mathematical problems introduced in class. Knowledge of how to solve discrete mathematic problems and understand the algorithms assist students in completing the virtual labs.

HOP Criteria	***% of Grade***
Practice Exercise	80%
Engagement	20%
TOTAL	**100%**

Virtual Lab (VL)

Students complete labs that apply the math logic learned and practiced in HOPs using a programming language to solve specific problems. VLs involve viewing instructional documents and following systematic instructions. Activities are embedded within each lab. The activities present a challenge to complete. Each lab is graded on accuracy and writing. A student has unlimited attempts at each lab to increase their accuracy and learn the required skills. Reports submitted include a write up on their understandings and findings in their lab reports.

VL Criteria	***% of Grade***
Accuracy	80%
Writing	20%
TOTAL	**100%**

Knowledge Check (KC)

Brief quizzes follow the readings which introduce discrete mathematic concepts. The questions focus on the underlying principles and concepts rather than memorization to solve the quizzes.

KC Criteria	*% of Grade*
Correctness	100%
TOTAL	**100%**

Team Project (TP)

Team Project Description:

The central task in computing is designing efficient computational methods, or algorithms, for solving problems. Chose a concept from discrete mathematics and research how it is applied in real life. The instructor provides a list of topics. Students can suggest an alternative, but it needs to be approved by the course instructor.

A team is selected consisting of three or four students. A group of fewer than three students require the instructor's approval. Each team choses an instructor-approved topic relevant to the course.

The final project is the culmination of analyzing and evaluating required software, applied research, and instructor led activities throughout the quarter.

Students can work on a specific project, but it must be approved by the instructor and be relevant to the course. Each project consists of four elements: a proposal, a progress report, a final report of 6-7 pages, and a final presentation with slides. Templates are provided for each element by the instructor. Students add to their project elements weekly, incorporating feedback from their instructor.

Students are expected to use evidence to support the contentions they have drawn from their findings and critically analyze their cited resources. Resources should include assigned course materials and additional sources students have investigated and researched not assigned by the professor. Students use industry technical style of reporting and are expected to employ APA formatting for citations and references.

TP Report

Each student provides a report formatted based on a template provided by the instructor listing the team members. Students are required to improve their writing iteratively and incrementally every week. Students add new required sections to the existing paper every week.

The final report is the culmination of applied research and activities conducted throughout the quarter. The final report/paper provides a detailed problem and its solution. Students need to specify if the problem they are solving is likely to be encountered in industry.

Grading for TP01 and TP02

TP 01 & 02 Criteria	*% of Grade*
Structure	20%
Content	30%
Writing	30%
Reference	10%
Collaboration	10%
TOTAL	100%

Rubric for TP03

	TP03 Criteria	*Outcome*	*% of Grade*
Discrete Mathematics for Computing (20%)			
1	Discrete Mathematics for Computing	Apply concepts, integration, and management of key components of discrete mathematics for computing.	20%
Critical Thinking (60%)			
2	Issue	Issue is stated and described thoroughly so that it is understood fully.	20%
3	Evidence	Information is taken from source(s) appropriate to the scope with enough interpretation and evaluation to develop a comprehensive analysis or synthesis, and expert opinions are thoroughly scrutinized.	10%
4	Context and Awareness	Thoroughly analyzes assumptions and biases, carefully evaluating contextual relevance when presenting a position.	20%
5	Conclusions	Conclusions are logical and reflect an informed evaluation of evidence and perspectives in priority order.	10%
Collaboration (20%)			
6	Teamwork	Works effectively on diverse, global and/or distributed teams.	10%
7	Knowledge of Cultural Frameworks	Demonstrates sophisticated understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.	5%
8	Openness to Cultural Differences	Demonstrates openness to the diverse population of students in STC programs, collaboratively and professionally communicates with team members to form a collective decision and provide resolutions to the challenges that arise.	5%
	TOTAL		100%

TP Presentation

The students report the research outcomes, development, or other project efforts to an academically appropriate committee in a public forum. The nature of the presentation content determines the specific makeup of the audience. The students choose the format of the presentation in consultation with the advisor. The layout and design must be appropriate and adequate to represent the outcomes of the effort. While students must make some form of a visual presentation, the presentation of the results may include publishing in a refereed publication, publication in a trade or popular magazine or journal, broadcast in an appropriate medium, or, in exceptional cases, limited dissemination within a closed community.

Each Team has 15 minutes for presentation and 5 minutes for questions and answers. Each presenter must keep the total presentation time limit strictly.

TP Presentation Criteria	***% of Grade***
Structure	20%
Visual Presentation	30%
Verbal Quality & Engagement	30%
Collaboration	20%
TOTAL	100%

Course Policies

Course policies on Late Assignments, Participation, and Professional Writing are found under Course Information in the online course menu. Students are responsible for reviewing and applying these policies while enrolled in this course.

University Policies

You are responsible for understanding and adhering to all of City University of Seattle's academic policies. The most current versions of these policies can be found in the University Catalog that is linked from the CityU Web site.

Antidiscrimination

City University of Seattle and its staff and faculty are committed to supporting our students. We value equity, diversity, and inclusion as a way of life as well as the educational opportunities it provides. City U will not tolerate any form of discrimination based on race, color, ethnicity, sexual orientation, gender identification, socioeconomic status, or religious values. If you have experienced any discrimination based on any of the above, we encourage you to report this to the University. Please report this to your instructor. If you do not feel safe reporting this to your instructor, please report to Dr. Scott Carnz, Provost or to the Vice President of Student Affairs, Melissa Mecham.

Non-Discrimination & Prohibition of Sexual Misconduct

City University of Seattle adheres to all federal, state, and local civil rights laws prohibiting

discrimination in employment and education. The University is committed to ensuring that the education environment is bounded by standards of mutual respect and safety and is free from discriminatory practices.

In the U.S., the University is required by Title IX of the Education Amendments of 1972 to ensure that all of its education programs and activities do not discriminate on the basis of sex/gender. Sex include sex, sex stereotypes, gender identity, gender expression, sexual orientation, and pregnancy or parenting status. Sexual harassment, sexual assault, dating and domestic violence, and stalking are forms of sex discrimination, which are prohibited under Title IX and by City University of Seattle policy. City University of Seattle also prohibits retaliation against any person opposing discrimination or participating in any discrimination investigation or complaint process internal or external to the institution. Questions regarding Title IX, including its application and/or concerns about noncompliance, should be directed to the Title IX Coordinator. For a complete copy of the policy or for more information, visit https://my.cityu.edu/titleix or contact the Title IX Coordinator.

In Canada, in compliance with the British Columbia Human Rights Code, the Alberta Human Rights Act, WorksafeBC, and the Workers' Compensation Board of Alberta, the University believes that its environment should at all times be supportive and respectful of the dignity and self-esteem of individuals. Discrimination, harassment and bullying conduct, whether through person to person behaviour or via electronic communications such as email or social media is not acceptable and will not be tolerated. As an educational institution, it is our responsibility to cultivate an environment of excellence, equity, mutual respect and to recognize the value and potential of every individual. The University will take all necessary steps to meet or exceed the requirements of the law to prevent discrimination, harassment and bullying. The Respectful Workplace Policy for the prevention of discrimination, harassment and bullying policy and procedure can be found at https://www.cityu.edu/discover-cityu/about-cityu/ under the Policies section or at https://www.cityuniversity.ca/about/ .

Religious Accommodations

City University of Seattle has a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The University's policy, including more information about how to request an accommodation, is available in the University Catalog and on the my.cityu.edu student portal. Accommodations must be requested by the 20% mark of this course (e.g. day 14 of a ten-week course, day 7 of a 5-week course) using the Religious Accommodations Request Form found on the student dashboard in the my.cityu.edu student portal.

Academic Integrity

Academic integrity in students requires the pursuit of scholarly activity that is free from fraud, deception and unauthorized collaboration with other individuals. Students are responsible for understanding CityU's policy on academic integrity and adhering to its standards in meeting all course requirements. A complete copy of this policy can be found in the University Catalog in the section titled *Academic Integrity Policy* under *Student Rights & Responsibilities*.

Attendance

Students taking courses in any format at the University are expected to be diligent in their studies and to attend class regularly. Regular class attendance is important in achieving learning outcomes in the course and may be a valid consideration in determining the final grade. For classes where a physical presence is required, a student has attended if they are present at any time during the class session. For online classes, a student has attended if they have posted or submitted an assignment. A complete copy of this policy can be found in the University Catalog in the section titled Attendance under Student Rights & Responsibilities.

Final Assignments Due Date
Final assignments for each class at CityU must be due on or before the final date of the course as indicated in the university's course information system. Due dates that extend beyond the final date of the course may negatively impact tuition funding for students.

Support Services

Disability Services & Accommodations

Students with a documented disability who wish to request academic accommodations are encouraged to contact Disability Support Services to discuss accommodation requests and eligibility requirements. Please contact Disability Support Services at *disability@cityu.edu* or 206.239.4752 or visit the Disability Support Services page in the my.cityu.edu portal. Confidentiality will be observed in all inquiries. Once approved, information about academic accommodations will be shared with course instructors.

Library Services
CityU librarians are available to help students find the resources and information they need to succeed in this course. Contact a CityU librarian through the Ask a Librarian service, or access library resources and services online, 24 hours a day, seven days a week.

Smarthinking Tutoring

CityU students have 24/7 access to free online tutoring offered through Smarthinking, including writing support, from certified tutors. Contact CityU's Student Support Center at mycityusupport@cityu.edu to request a username and password.

Rubric Detail

Muddiest Points Rubric Details

100%	Levels of Achievement			
Criteria	**Below Standard**	**Approaching Standard**	**At Standard**	**Exceeds Standard**
Undergraduate Percentage Scale	**0%-61.99%**	**62.00%-74.99%**	**75.00%-91.99%**	**92.00%-100%**
Participation **Weight 80%**	No submission	Late submission	On-time submission	On-time submission clearly explaining the muddiest point of the module.
Correctness **Weight 20%**	Answers none or 61.99% less of the questions correctly.	Answers 62.00% above or 74.99% less of the questions correctly.	Answers 75.00% above or 91.99% less of the questions correctly.	Answers 92.00% above or all the questions correctly.

Discussion Board (DB) Rubric Details

100%	Levels of Achievement			
Criteria	**Below Standard**	**Approaching Standard**	**At Standard**	**Exceeds Standard**
Undergraduate	**0%-61.99%**	**62.00%-74.99%**	**75.00%-91.99%**	**92.00%-100%**
Participation **Weight 50%**	Submission does not post answer an d responses.	Submission answers the question but doesn't post responses to other peers.	Submission answers the question and posts responses to only one student.	Submission answers the question with references and posts responses to at least two students.
Writing	No submission.	Submission posts responses with spelling errors, grammar	Submission is coherent with only two spelling	Submission is coherent and grammatically

Weight 50%		errors, and punctuation s.	or grammar errors.	correct with no errors.

Concept Test (CT) Rubric Detail

100%	Levels of Achievement			
Criteria	**Below Standard**	**Approaching Standard**	**At Standard**	**Exceeds Standard**
Undergraduate Percentage Scale	**0%-61.99%**	**62.00%-74.99%**	**75.00%-91.99%**	**92.00%-100%**
Engagement **Weight 100%**	Submission does not show an answer or shows an answer without justification.	Submission shows an answer with justification, but there is no peer student engagement.	Submission includes an answer, justification, and peer engagement.	Submission includes an answer, justification, and peer engagement with critical thoughts.

Hands-On Practice (HOP) Rubric Detail

100%	Levels of Achievement			
Criteria	**Below Standard**	**Approaching Standard**	**At Standard**	**Exceeds Standard**
Undergraduate Percentage Scale	**0%-61.99%**	**62.00%-74.99%**	**75.00%-91.99%**	**92.00%-100%**
Practice Exercise **Weight 80%**	Submission does not show answers or shows answers without evidence.	Submission shows answers with minimal evidence.	Submission shows answers with some evidence.	Submission shows answers with full evidence.
Engagement **Weight 20%**	Student does not engage in the exercise.	Student engages minimal ly in the exercise.	Student engages fully in the exercise.	Student mentors the other student to learn and succeed.

Virtual Lab (VL) Rubric

100%	Levels of Achievement			
Criteria	**Below Standard**	**Approaching Standard**	**At Standard**	**Exceeds Standard**
Undergraduate Percentage Scale	**0%-61.99%**	**62.00%-74.99%**	**75.00%-91.99%**	**92.00%-100%**
Practice Exercise **Weight 80%**	Submission does not show answers or shows answers without evidence.	Submission shows answers with minimal evidence.	Submission shows answers with some evidence.	Submission shows answers with full evidence.
Engagement **Weight 20%**	Student does not engage in the exercise.	Student engages minimal ly in the exercise.	Student engages fully in the exercise.	Student mentors the other student to learn and succeed.

Knowledge Check (KC) Rubric

100%	Levels of Achievement			
Criteria	**Below Standard**	**Approaching Standard**	**At Standard**	**Exceeds Standard**
Undergraduate Percentage Scale	**0%-61.99%**	**62.00%-74.99%**	**75.00%-91.99%**	**92.00%-100%**
Correctness **Weight 100%**	Answers none or 61.99% less of the questions correctly.	Answers 62.00% above or 74.99% less of the questions correctly.	Answers 75.00% above or 91.99% less of the questions correctly.	Answers 92.00% above or all the questions correctly.

Research Paper (RP) Rubric

100%	Levels of Achievement			
Criteria	**Below Standard**	**Approaching Standard**	**At Standard**	**Exceeds Standard**

Undergraduate Percentage Scale	**0%-61.99%**	**62.00%-74.99%**	**75.00%-91.99%**	**92.00%-100%**
Structure **Weight 20%**	Does not utilize template format.	Sometimes adheres to template, falls short or exceeds page count.	Frequently adheres to template. Follows page count.	Displays mastery of template qualities, able to fit formulated ideas and diagrams into template**.**
Content **Weight 40%**	Student does not use resources or evidence to support the topic, or those used are not relevant or scholarly. Information used is summarized or generalized rather than analyzed.	Student uses a limited range of resources and evidence to support topic, some of which lack relevance and scholarship. Interpretation or application of how the evidence supports the topic is lacking or generalized.	Student incorporates an appropriate variety of relevant scholarly resources and evidence to support almost every point. Student provides some interpretation and explanation of how the evidence supports the topic.	Student incorporates an appropriate variety of relevant scholarly resources and evidence to support every point. Student provides full interpretation and explanation of how the evidence supports the topic.
Writing **Weight 30%**	Ideas are unclear, lack detail, and/or random. Paper/presentation has no or minimal organization. Ideas appear to be arranged in a random order. Few or inappropriate transitions between paragraphs/ideas, and ideas are	Writing contains spelling, punctuation, and/or grammatical errors that may temporarily confuse the reader, but do not generally impede the overall understanding. Sentence structure is generally correct, but may	Writing contains spelling, punctuation, and/or grammatical errors, but these do not impede understanding. Sentences are generally clear, well structured, and focused, but some may be awkward or ineffective. Usually uses words accurately	Writing is almost entirely free of spelling, punctuation, and/or grammatical errors. Sentences are varied, clearly structured, carefully focused, and fit assignment's purpose and audience. Words chosen for their precise meaning

	not developed clearly. Does not appropriately respond to the assignment.	be wordy, unfocused, repetitive, or confusing. There is some use of relatively vague, general, or inappropriate words.	and effectively, but sometimes m ay be too general.	and an appropriate level of specificity is use d.
Reference **Weight 10%**	More than 10 errors in APA document formatting (including: punctuation, capitalization, title page, numbers, use of abbreviations, biased language, pronoun errors, headers/footers, levels of heading).	Between 5 and 10 errors in APA document formatting (including: punctuation, capitalization, title page, numbers, use of abbreviations, biased language, pronoun errors, headers/footers , levels of heading).	Between 0 and 4 errors in APA document formatting (including: punctuation, capitalization, title page, numbers, use of abbreviations, biased language, pronoun errors, headers/footers, levels of heading).	No errors in APA document formatting (including punctuation, capitalization, title page, numbers, use of abbreviations, biased language, pronoun errors, headers/footers, levels of heading).

Team Project (TP) Rubric Details

	100%	Levels of Achievement			
	Criteria	**Below Standard**	**Approaching Standard**	**At Standard**	**Exceeds Standard**
	Undergraduate Percentage Scale	**0%-61.99%**	**62.00%-74.99%**	**75.00%-91.99%**	**92.00%-100%**
1	**Discrete Mathematics in Computing** Weight 20%	Recalls foundations, knowledge and applications of Discrete Mathematics.	Understands foundations, knowledge, and applications of Discrete Mathematics.	Applies foundations, knowledge, and applications of Discrete Mathematics.	Evaluates foundations, knowledge, and applications of Discrete Mathematics.
2	**Issue**	Issue is stated without	Issue is stated but leaves	Issue is stated, described, and	Issue is stated and described

	Weight 20%	clarification or description.	some elements unaddressed, such as background, context, terms, boundaries, or ambiguities.	clarified so that understanding is not impeded by omissions.	thoroughly so that it is understood fully.
3	**Evidence** Weight 10%	Information is taken from source(s) appropriate to the scope without any interpretation or evaluation, and expert opinions are taken as fact without question.	Information is taken from source(s) appropriate to the scope with some interpretation and evaluation, but not enough to develop a coherent analysis or synthesis, and expert opinions are taken as fact with little questioning.	Information is taken from source(s) appropriate to the scope with enough interpretation and evaluation to develop a coherent analysis or synthesis, and expert opinions are subject to questioning	Information is taken from source(s) appropriate to the scope with enough interpretation and evaluation to develop a comprehensive analysis or synthesis, and expert opinions are thoroughly scrutinized.
4	**Context and Awareness** Weight 20%	Emerging awareness of assumptions and biases with limited identification of contextual relevance when presenting a position.	Questions some assumptions and biases with a limited range of contextual relevance when presenting a position.	Analyzes assumptions and biases and evaluates a range of contextual relevance when presenting a position.	Thoroughly analyzes assumptions and biases, carefully evaluating contextual relevance when presenting a position
5	**Conclusions** Weight 10%	Conclusions are inconsistently tied to some of the information discussed and is overly simplistic.	Conclusions are logically tied to information that support a desired conclusion.	Conclusions are logically tied to a range of information and include opposing points of view.	Conclusions are logical and reflect an informed evaluation of evidence and perspectives in priority order
6	**Teamwork**	Recalls aspects of how to work	Understands aspects of how to work	Applies effective strategies for	Evaluates effective strategies for

	Weight 10%	effectively on diverse, global and/or distributed teams.	effectively on diverse, global and/or distributed teams.	working on diverse, global and/or distributed teams.	working on diverse, global and/or distributed teams.
7	**Knowledge of Cultural Frameworks** Weight 5%	State some elements that are important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.	Describe and explain some elements that are important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.	Argue and defend key elements that are important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.	Analyze sophisticated understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.
8	**Openness to Cultural Differences** Weight 5%	Ask complex questions about other cultures when considering an idea or solution.	Seek out answers to questions about other cultures when considering an idea or solution and suspends judgment in valuing their interactions with cultures that are different to their own.	Initiate and develop interactions with people from cultures different from than their own in order to inform an idea or solution. Suspend judgement in their interactions with cultures that are different to their own.	Argue and defend how concepts, perspectives, and people from cultures that are different from their own can enhance ideas and solutions. Suspend judgement in their interactions with cultures that are different to their own.