

The Hong Kong University of Science and Technology

UG Course Syllabus (Fall 2026-27)

Course Title : Competitive Programming in Cybersecurity III

Course Code: COMP4633

No. of Credit: 2 credits

Prerequisite(s): COMP3633 and instructor consent

Exclusion(s): None

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Course Description

This is the last course out of a series of three special courses that aim to prepare interested students in joining the various cybersecurity competitions. This course aims to let experienced senior students who have joined COMP2633 and COMP3633 to share their experience and help train the new incoming junior students of COMP2633 for the various cybersecurity competitions

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

1. Be able to apply and understand ethical hacking.
2. Be able to acquire leadership through the training of the more junior student members who will be taking part in the cybersecurity contests.
3. Be able to educate less experienced students regarding cybersecurity and provide the leadership in sharing and deepening the understanding of cybersecurity issues among the student community.
4. Be able to deal with real-world cyber-security issues, providing concrete advice to the various cyber-security problems to the senior management of the various organizations.
5. Be able to explore and equip themselves with the edge-cutting techniques to deal with cyber-attacks and provide the leadership in fighting against cyber-attacks.

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Detailed rubrics for each assignment are provided below, outlining the criteria used for evaluation.

Assessments:

[List specific assessed tasks, exams, quizzes, their weightage]

Assessment Task	Contribution to Overall Course grade (%)	Deadline
Sharing of experience and knowledge in the classes.	50%	By the end of the semester (exact dates different for different students)
Joining CTF competitions	50%	By the end of the semester (exact dates depend on the competition dates)

Mapping of Course ILOs to Assessment Tasks

[add to/delete table as appropriate]

Assessed Task	Mapped ILOs	Explanation
Sharing of experience and knowledge in the classes.	ILO1-ILO3	This task assesses students' ability to apply concepts learned in ILO1 – ILO3
Joining CTF competitions	ILO1, ILO4, ILO5	This task assesses students' ability to apply concepts learned in ILO1, ILO4, ILO5

Grading Rubrics

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Course Learning Outcome	A	B	C	D	F
1. Be able to apply and understand ethical hacking.	Demonstrates an excellent grasp of the idea of ethical hacking.	Demonstrates a comprehensive grasp of the idea of ethical hacking.	Demonstrates a sufficient grasp of the idea of ethical hacking.	Demonstrates some understanding of the idea of ethical hacking.	Demonstrates limited understanding of the idea of ethical hacking.
2. Be able to acquire leadership through the training of the more junior student members who will be taking part in the	Demonstrates an extremely strong leadership in teaching and training of the more junior student members.	Demonstrates a strong leadership in teaching and training of the more junior student members.	Demonstrates a sufficient leadership in teaching and training of the more junior student members.	Demonstrates some degree of leadership in teaching and training of the more junior student members.	Demonstrates limited ability to lead the teaching and training of more junior student members.

cybersecurity contests.					
3. Be able to educate less experienced students regarding cybersecurity and provide the leadership in sharing and deepening the understanding of cybersecurity issues among the student community.	Demonstrates the excellent ability to play an instrumental role in educating and leading more junior student members in deepening their understanding of cybersecurity issues. Being able to play an instrumental role in deepening the understanding of cybersecurity issues among the student community.	Demonstrates the ability to play an instrumental role in educating and leading more junior student members in deepening their understanding of cybersecurity issues. Being able to play an instrumental role in deepening the understanding of cybersecurity issues among the student community.	Demonstrates the ability to play a reasonable role in educating and leading more junior student members in deepening their understanding of cybersecurity issues. Being able to play a reasonable role in deepening the understanding of cybersecurity issues among the student community.	Demonstrates the ability to play a limited role in educating and leading more junior student members in deepening their understanding of cybersecurity issues. Being able to play a limited role in deepening the understanding of cybersecurity issues among the student community.	Will not be able to play any role in educating the more junior student members, nor to deepen the understanding of cybersecurity issues among the student community.
4. Be able to deal with real-world cyber-security issues, providing concrete advice to the various cyber-security problems to the senior management of the various organizations.	Demonstrates the excellent ability to provide a strong and concrete leadership to deal with real-world cybersecurity issues. Being able to provide robust support to the senior management of the various organizations regarding cybersecurity problems.	Demonstrates the ability to provide a strong and concrete leadership to deal with real-world cybersecurity issues. Being able to provide robust support to the senior management of the various organizations regarding cybersecurity problems.	Demonstrates the ability to provide a reasonable leadership to deal with real-world cybersecurity issues. Being able to provide reasonable support to the senior management of the various organizations regarding cybersecurity problems.	Demonstrates the ability to provide some leadership to deal with real-world cybersecurity issues. Being able to provide some support to the senior management of the various organizations regarding cybersecurity problems.	Will not be able to provide any leadership and support on issues related to real-world cybersecurity.
5. Be able to explore and equip	Demonstrates the excellent	Demonstrates the strong	Demonstrates a reasonable	Demonstrates some ability to	Will have limited ability to explore

themselves with the edge-cutting techniques to deal with cyber-attacks and provide the leadership in fighting against cyber-attacks.	ability to explore and equip himself/herself with the edge-cutting techniques in dealing with cyber-attacks. Demonstrates the strong ability to provide the leadership in fighting against cyber-attacks.	ability to explore and equip himself/herself with the edge-cutting techniques in dealing with cyber-attacks. Demonstrates the strong ability to provide the leadership in fighting against cyber-attacks.	ability to explore and equip himself/herself with the edge-cutting techniques in dealing with cyber-attacks. Demonstrates a reasonable ability to provide the leadership in fighting against cyber-attacks.	explore and equip himself/herself with the new techniques in dealing with cyber-attacks. Demonstrates some ability to provide the leadership in fighting against cyber-attacks.	and equip himself/herself with edge-cutting techniques to deal with cyber-attacks. Will have limited ability to provide leadership in fighting against cyber-attacks.
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Final Grade Descriptors:

See the grading rubrics for more details

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Demonstrates a comprehensive grasp of ILO1-ILO5
B	Good Performance	Shows good knowledge and understanding of the ILO1-ILO5
C	Satisfactory Performance	Possesses adequate knowledge of the ILO1-ILO5
D	Marginal Pass	Has threshold knowledge of the ILO1-ILO5
F	Fail	Demonstrates insufficient understanding of the ILO1-ILO5

Course AI Policy

Whenever approved by the instructor, and permitted by the competitions the student would join, the student could use generative artificial intelligence tools to complete assessment tasks.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via email by the end of the semester.

Resubmission Policy

No resubmission is allowed.

Required Texts and Materials

No

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to [Academic Integrity | HKUST – Academic Registry](#) for the University's definition of plagiarism and ways to avoid cheating and plagiarism.