



香港大學

THE UNIVERSITY OF HONG KONG

The semester and year that the course is expected to be offered as a CI-Badged Course

Communication-intensive Course (CI Course) Certification Form

Course Code	Course Title	Course Coordinator	Expected Offering Year & Semester	Badging Type	
CCST9010	The Science of Crime Investigation	Dr Philip Beh	Sem 2, 2022-23	<input checked="" type="checkbox"/>	New Course
				<input type="checkbox"/>	Renewal

Communication 'Literacies' - In which literacy areas do students on the course develop and demonstrate communication-related *knowledge* (understanding of communication as it relates to human interaction), *skills* (skills in communicating effectively with others, using language and/or other means) and *attributes* (the attributes of effective communicators)? Please select at least two and put a tick (☐) in the boxes.

	Oral literacy: The ability to communicate through spoken texts that are constructed with the appropriate content, structure and language features, fit for their intended academic, social or professional purpose and audience.
✓	Written literacy: The ability to communicate through written texts that are constructed with the appropriate content, structure and language features, fit for their intended academic, social or professional purpose and audience.
✓	Visual literacy: The ability to communicate in speech and writing (e.g., essays, reports, presentations) and/or visual media (e.g., posters, 3-D printed objects, stage performances).
	Digital literacy: The ability to use appropriate information and communication technologies to find, evaluate, create, and communicate information in speech and writing (e.g., wikis, websites, virtual reality projects).

Ensure that each selected literacy is explicitly taught and assessed in the course.

Course Learning Outcomes – Please list the course learning outcome(s) that relate explicitly to students' learning of communication-related knowledge, skills and attributes. The following are examples from four different courses:

Students will be able to...

Oral literacy: Apply the basic principles of counselling and demonstrate interviewing and counselling skills in authentic cases.

Written/visual literacy: Conduct an in-depth scientific literature review on a key regional geological issue and present the findings through visuals (e.g., graphs/charts) and an engaging, comprehensive online written format.

Oral/written literacy: Generate and refine designs into detailed engineering specifications and be able to effectively communicate and defend the project status and technical material in both oral and written forms.

Oral/written/digital literacy: Create design documentation, technical design documents, art 'bibles' and other pertinent technical documents and present these through a formal pitch presentation and website.

Copy and paste from your course outline and modifying to clearly show communication literacies.

Visual and Written: Analyze and integrate various sources of data and understand their validity and limitations when used to support or negate a hypothesis through a case portfolio and video presentation.

Visual and Written: Recreate the crime scene by accurately and coherently interpreting scientific evidence and communicating the findings effectively through visual (video presentation) and written (case portfolio) means.

Please only include the CiC related assessment. Indicate the percentage in brackets and include a brief description of the assessment.

Assessment component – Please list the communication-rich assessment task(s) that measure the communication-related course learning outcomes on the course. Please indicate what proportion of the course grade is allocated to performance on the assessment(s).

Students in the course are arranged into project groups of 8-10. Each group will be assigned a criminal case in the second week of the semester, and is expected to complete the case as a group in the semester. Each group is expected to submit two assessment components at the end of the criminal case investigation (i.e., at the end of the semester). The assessment components are explained below:

1. **Case Portfolio (20%)**: The Case Portfolio is a **written publication** on a criminal case study which reports on the process and findings of scientific investigation into the case. The portfolio should reflect the progression of case development based on evidence, research, and feedback provided by the teacher on four progress reports submitted by the group throughout the semester. Students are also expected to produce **visual** representations of the scene, injuries, and the chain of events (in the form of diagrams, timelines, or charts) to communicate their ideas and scientific findings clearly to the non-specialist audience. The Case Portfolio ranges from 40-70 pages long, which should cover the investigation process, collection of evidence, interpretation of evidence, hypothesis testing, and conclusion and legal implications of the investigation. The portfolio should be written in a way that should be comprehensible to a non-specialist audience (e.g., a jury)
2. **Presentation of the Case (30%)**: The Presentation is a **video presentation** of about 25-30 minutes long. It should highlight the use of critical evidence in establishing scientific links between the suspect(s) and victim(s) at the scene of crime. A **visual** re-enactment of the criminal act should be included, in the form of role-play, animation, or a combination of styles. The conclusion of the case should be discussed. The Presentation should aim to communicate the case effectively to the non-specialist audience (e.g., the general public).

Please refer to sample **CiC Syllabus Statements** to complete this section. After badging approval, this section will appear in your course syllabus and read by students.

What communication knowledge and skills will students learn in this course?

This course introduces students to the scientific, legal, and ethical concepts that underpin forensic science. In this course, students will explore and develop an understanding of the principles of forensic science through an overview as well as more topic-specific lectures and experience hands-on tutorials involving scientific analysis of forensic evidence.

Specific knowledge and skills related to visual communication include create the process of the investigation, injuries and the cause of death, and physical weapons. Specific knowledge and skills related to written communication include scientific reports and creating logical and evidence-based arguments.

The answers to these questions will appear in the CiC Badge. The CiC Badge must be included in the course outline to inform students that they are taking a CiC Course.

How will students learn these? Describe the teaching and learning activities in your course that teach the communication knowledge and skills.

Students will learn these skills and knowledge through:

1. In class, students will look at samples of argumentation (**written**) and **visual** presentations, such as sketches of scene reports, injuries, and blood stain patterns.
2. A session on effective science **communication** will be provided by the communications expert (From the Centre for Applied English Studies).
3. A **video** editing and **visual** storyboarding session will be provided by the digital literacy expert (from the Digital Literacy Lab).

4. A **video** feedback session will also help the students develop their preliminary work in their crime scene re-enactment (**visual**).
5. Teacher's feedback on progress reports to help students structure their scene through witness and scientific reports (**visual**).
6. A group consultation will be provided to address both technical and video presentation (**visual**).

The answers to these questions will appear in the CiC Badge. The CiC Badge must be included in the course outline to inform students that they are taking a CiC Course.

What does a good communicator look like in this course? – Please list the expected communication-related attributes you want your students to have after taking your course (e.g. confidence, openness to diverse perspectives and ways of learning, ability to respond to constructive criticism from peers and the teacher, developing interpersonal skills to collaborate with others to achieve a common goal, collaboration with peers, providing constructive feedback to peers, following the conventions of a genre, and having personal and academic integrity).

At the end of the course, students will have developed the following attributes of an effective communicator: the ability to analyze and evaluate forensic reports, use these analyses to organize logical and evidence-based arguments, re-create the crime scene, and explain the case and its legal implications to the non-specialist audience (e.g., a jury and the general public).

Please attach the following documents with this certification form (tick included items): the

	Please tick below
Course Syllabus	✓
Course Schedule (please highlight the CIC components i.e. where and when in the course the students will acquire the specific knowledge, and develop the specific skills required of a good communicator)	✓
Assessment Tasks/Instructions and Rubrics	✓

Submit all documents to the CIC committee (cics@hku.hk).

THE UNIVERSITY OF HONG KONG Department of Pathology

CCST9010 The Science of Crime Investigation

Academic Year 2021/22

Second Semester

Course Outline

Teaching Team

Dr Philip Beh, Course Coordinator, Email: philipbeh@pathology.hku.hk

Dr Wincy Chan, Email: wincy@hku.hk

Course Details

Lectures: Wednesday 12:30 - 2:20pm; Online via Zoom

Tutorials: Online and On-Campus options; see below for details

Learning Management System (LMS):

<https://learning.hku.hk/courses/course-v1:HKU+CCST9010+202021T2/course/>

1. Course Description

This course introduces students to the scientific, legal and ethical concepts that underpin forensic science. Forensic science spans all scientific disciplines such as anthropology, biology, chemistry, computing, medicine, physics, etc. Students will explore and develop an understanding of the principles of forensic science through an overview as well as more topic specific lectures, and experience hands-on tutorials involving scientific analysis of forensic evidence. Knowledge gained will be applied and assessed through individual tasks as well as a collaborative project on an assigned case.

2. Course Intended Learning Outcomes (ILOs)

On completing the course, students will be able to:

- ILO1. Demonstrate understanding of the basic rules that define science and apply them to crime investigation.

- ILO2. Analyze and integrate various sources of data and understand their validity and limitations when used to support or negate a hypothesis through a written report and video presentation. (Visual and Written)
- ILO3. Display communication and collaboration skills in working with students from different backgrounds.
- ILO4. Demonstrate awareness of the importance of professional standards and ethical practices.
- ILO5. Recreate the crime scene by accurately and coherently interpreting scientific evidence, and communicating the findings effectively in visual (video presentation) and written (written report) means. (Visual and Written)

3. Course Design and Delivery

This course is partially flipped. This means that part of the course content is designed for self-directed learning and will be delivered online in the Course Learning Management System (LMS), and part of the course will be delivered in live sessions, either face-to-face or via online conferencing tools (e.g., Zoom). The purpose of this flipped design is to encourage a more personalized learning strategy for students in the process of acquiring knowledge with the help of watching online lecture videos and completing online learning tasks before coming to class, so the lectures are centered on practice-based learning. This enables the students to put their knowledge into practice through a set of group activities, thereby, enabling them to exercise their acquired knowledge, develop critical thinking skills, and work in a collaborative manner.

Students are expected to complete all components of the course, including online learning materials assigned in the Course LMS, attend all lecture and tutorial topics, and complete all assessment tasks.

4. Attendance Requirement: 100% for Tutorials

Students are expected to sign up for one tutorial group and adhere to the class schedule of the group. Both attendance and performance in tutorial classes will be considered for tutorial grades.

5. Assessment Ratio: 100% Coursework

6. Assessment Tasks

There are four graded assessment tasks in the course:

Assessment Task	Course ILOs	Weighting
i. Written Assignment	1, 2, 4	30%
ii. Problem-based Learning Tutorials	1, 2, 3, 4	20%
iii. Portfolio of the Case Analysis	1, 2, 3, 4, 5	20%

iv. Presentation of Case and Conclusions	1, 2, 3, 4, 5	30%
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i. Mid-term Assignment (Not Badged for CIC)

- This is a mid-term assignment. A scene of crime will be presented in class followed by in-class activity. Scientific reports of the case will be provided. Students are expected to conduct in-depth analysis on the evidence, using the knowledge learned in the course and through academic research, to address questions assigned to the case.
- Both in-class and after-class work will be counted towards the assignment grade. Hence, class attendance is compulsory.
- The written work will be submitted to Turnitin. No late submission will be accepted.

ii. Problem-Based Learning Tutorials (Not badged for CIC)

- Tutorials are designed to strengthen students' knowledge of forensic evidence through interactive and hands-on activities. There are six tutorial classes in total. Four of them will focus on a forensic case assigned to each group. Students are expected to attend all classes and learning tasks assigned to the tutorial group.
- Groups are expected to work collaboratively and effectively in-class and after-class to develop the case throughout the semester. They are expected to submit at least four progress reports to collect feedback from the tutor. The progress reports should demonstrate the group's ability to reflect on the feedback and improve the depth of analysis and scientific writing as the case develops. Visual presentation (such as sketches of the scene and wounds) should be used to explain the interpretation of text-based forensic files and analysis of the case.
- This is a formative assessment. Both attendance and performance in tutorial classes will be taken into consideration.

iii. Portfolio of the Case Analysis (Badged for CIC - Written Literacy)

- The portfolio is a publication that documents the process and findings of the case study assigned to each tutorial group. It should build on the formative work developed by the group throughout the semester (see Problem-Based Learning Tutorials above) and provide an accurate summary of the investigation, interpretation, and conclusion of the case.
- Fluent and effective visual (such as timelines and sketches) and written communication is expected to deliver the content in a meaningful and professional way.
- The Portfolio should be written in a way that should be comprehensible to a non-specialist audience (e.g., a jury)
- Each group will submit one portfolio, together with a video presentation (see below), at the end of the semester. No late submission will be accepted.

iv. Presentation of the Case and Conclusions (Badged for CIC - Visual Literacy)

- Each group should produce a video presentation of the case. All members of the group are expected to participate in the production and presentation of the video. The amount of contribution of each member should be documented and submitted.
- Fluency of both oral and visual presentations is expected. A video on the re-enactment of the criminal act is compulsory.

- The Presentation should aim to communicate the case effectively to the non-specialist audience (e.g., the general public).
- The video presentation should be submitted with the portfolio at the end of the semester.

7. Submission of Assignments

All assignments should be submitted on time. In general, assignments submitted late will not be graded. If accepted, in rare circumstance, late submission of assignment will receive the following penalty:

Late for	% of marks to be deducted
First 12 hours	5%
1 day	10%
2 days	20%
3 days	30%
4 days	40%
5 days	50%
6 days	60%
7 days	70%
More than 7 days	No marks will be given

8. Standards of Assessment

Grade	Grade Standard	Grade Description
A+ A A-	Excellent	Strong evidence of superb ability to fulfill the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize. Demonstrate effective and professional communication of ideas in written, visual, and oral forms of work at all times.
B+ B B-	Good	Strong evidence of the ability to fulfill the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize. Demonstrate effective and professional communication ideas in written, visual, and oral forms of work most of the time.

C+ C C-	Satisfactory	Evidence of adequate ability to fulfill the intended learning outcomes of the course at low levels of learning such as describe and apply but not at high levels of learning such as evaluate and synthesize. Quality of written, visual, and oral forms of communication could be incoherent or inappropriate.
D+ D	Pass	Evidence of basic familiarity with the subject. Communication of ideas in written, visual, and oral forms could be incoherent or inappropriate that may cause some confusion to the audience.
F	Fail	Little evidence of basic familiarity with the subject. Serious issues with accuracy and/or appropriacy in written, visual, and oral forms of communication could be incoherent or inappropriate that cause major distraction and/or confusion to the audience.

9. Academic Conduct

The University Regulations on academic dishonesty will be strictly enforced!

Academic dishonesty is a behaviour in which a deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another. It includes, but is not necessarily limited to, the following types of cases:

- i. Plagiarism - The representation of someone else's ideas as if they are one's own. Where the arguments, data, designs, etc., of someone else are being used in a paper, report, oral presentation, or similar academic project, this fact must be made explicitly clear by citing the appropriate references. The references must fully indicate the extent to which any parts of the project are not one's own work. Paraphrasing of someone else's ideas is still using someone else's ideas, and **must be acknowledged**.
- ii. Unauthorized Collaboration on Out-of-Class Projects - The representation of work as solely one's own when in fact it is the result of a joint effort. Where a candidate for a degree or other award uses the work of another person or persons without due acknowledgement.

Penalty: The relevant Board of Examiners may impose a penalty in relation to the seriousness of the offence. ii. The relevant Board of Examiners may report the candidate to the Senate, where there is *prima facie* evidence of an intention to deceive and where sanctions beyond those in (i) might be invoked.

Resources on academic honesty and avoiding plagiarism:

- [Copyright and Plagiarism, Undergraduate Handbook, University of Hong Kong](#)
- [What is plagiarism?](#)
- [Plagiarism and How to Avoid It, Centre for Applied English Studies, University of Hong Kong](#)
- [Turnitin - Promote Academic Integrity](#)

10. Weekly Topics (Semester 2, 2021-22)

Written, Visual, Both

Week	Online Learning Topic	Lecture Date & Topic	Tutorial & Topic
1-4	Block 1: Scene of Crime <ul style="list-style-type: none"> - Learning videos that present visual representations of sketches of scenes and animations to explain the protocol of crime scene investigation - Knowledge check questions to test students' concept 	January 19: Introduction <ul style="list-style-type: none"> - Introduce the background and interdisciplinarity of forensic science - Explain the course and expectations - Look at a case example and explore the role of evidence in forensic investigation - Class discussion on the use and misuse of evidence in drawing conclusions 	
		January 26: Anatomy of Crime Investigation <ul style="list-style-type: none"> - Introduce the concept and procedures of scientific inquiry in crime investigation - Use a case study to engage student in the oral communication of scientific examination of evidence to the non-specialist audience - Explain the critical elements in scientific reporting and the appropriate use of visual artefacts to facilitate communication; guidelines for report writing are provided. 	Tutorial 1: Collection of Evidence <ul style="list-style-type: none"> - Discuss what forms of evidence are collected and how this can be presented visually and in writing. - Use of an interactive virtual scene to engage students in visual presentations of scene and evidence. - Students learn how to synthesize evidence from different sources and write this up in a report including creation of visual representations of the scene. - Feedback on Progress Report will be provided on the level of analysis, visual presentation of relationships, the scene of crime, and the chain of events, and effective written communication.
		January 31 – February 7 CNY Holiday	
		February 9: Simulated Scene of Crime	Tutorial 2: Hypothesis Testing

Students learn, practice and get feedback on written and visual literacy in class

		<ul style="list-style-type: none">- Show students sample crime scene videos to show how a successful re-enactment is achieved.- Analyse the key features of a successful re-enactment video- Visualize evidence in a crime scene (e.g., What makes a good crime science video?)	<ul style="list-style-type: none">- Students will learn how to write up hypothesis testing in a report.- Students will look at written samples of forensic reports and decide the elements that make these successful.- Students will learn to create sketches of injuries and compare sketches.- Tutor will provide oral feedback in class, and written feedback in Progress Report concerning fingerprint analysis.	
5-8	Block 2: Evidence from the Body <ul style="list-style-type: none">- Learning videos that present visual presentations of injuries, personal identifications, fingerprints, and bloodstain patterns, and explain how to analyze and use the evidence accurately and appropriately in different contexts- Knowledge check questions to test students' concept- Forums for students to discuss their analysis and ideas in written format	February 16: Interpreting injuries (Video Production) <ul style="list-style-type: none">- Explain how to translate a text description of injury into visual presentation- Explain how to develop hypotheses from injuries- Workshop on effective communication of injuries to the non-specialist audience- Workshop on digital storyboarding and video production- Students (in groups of 4-5) will be assigned an injury in text description and expected to submit a 1-minute re-enactment video to explain the injury pattern and related hypotheses		
		February 23: Video Feedback <ul style="list-style-type: none">- Teachers will give written and oral feedback on the content, communication, and production of the re-enactment video submitted last week- Peer evaluation on other groups' re-enactment videos- Reflection on peer-evaluation on the video	Tutorial 3**: Fingerprints <ul style="list-style-type: none">- Differentiate the types of fingerprints through visual examination during tutorial.- The findings in this experiment will be presented in a written report.- Students will learn how to explain and write about fingerprint evidence in a forensic report.- Tutor will provide oral feedback in class, and written feedback in Progress Report concerning fingerprint analysis.	
		March 2 (No Lecture)		
		March 8-13 Reading Week		

Students learn digital literacy in class

9-11	<p>Block 3: Death Investigation</p> <ul style="list-style-type: none"> - Learning videos to explain deaths in Hong Kong, its death investigation and reporting systems - Visual presentation of autopsy - Knowledge check questions to test students' concept 	<p>March 16 HKU Foundation Day</p> <hr/> <p>March 23: Mid-Term Assessment</p> <ul style="list-style-type: none"> - Visual artefacts (e.g. photos of the scene and injuries) of a case will be presented in the lecture. - Students will generate questions on the evidence and report that orally in class, and in writing after class. - Teacher will provide answers to individual groups in email. - Students will write an individual report based on their interpretation of evidence, analysis, and implications of the evidence on the case. <hr/> <p>March 30: Death System & Autopsy</p> <ul style="list-style-type: none"> - Explain death and the death system - Use evidence to determine the manner of death (natural, accidental, homicide, suicide). - Explore variants of unnatural death (e.g., homicide-suicide) - Explain the purpose and types of post-mortem medical examination - Look at autopsy reports and learn to explain autopsy findings - Students will write up the analysis of manner of death from the medical point of view. - Teacher will provide oral feedback in class and written feedback in Progress Report concerning manner of death and autopsy findings. 	<p>Tutorial 4**: Bloodstain Pattern Analysis</p> <ul style="list-style-type: none"> - Examination of bloodstains through visual experiment during tutorial. - Write up and use photos or videos to present experimental findings that explain bloodstain patterns. - Use experimental findings to solve an interactive, virtual crime scene with blood evidence. - Practice oral communication of scientific investigation and findings to the non-specialist audience (e.g., the general public). - Tutor will provide oral feedback in class, and written feedback in Progress Report concerning bloodstain pattern analysis.
12-14	<p>Block 4: Presenting Evidence</p> <ul style="list-style-type: none"> - Learning videos to criminal proceedings in Hong Kong, and issues relating to the misuse of evidence leading to wrongful convictions 	<p>April 6: Accident, Suicide, Homicide</p> <ul style="list-style-type: none"> - Ascertain the manner of death through the use of evidence from multiple perspectives - Discuss the use and misuse of evidence to classify death 	<p>Tutorial 5: Identifying the Suspects</p> <ul style="list-style-type: none"> - Students will learn to use direct evidence to prove a criminal act and present the argumentation in writing.

Students get feedback on written literacy in class

	<ul style="list-style-type: none"> - Knowledge check questions to test students' concept 	April 13: Wrongful Convictions <ul style="list-style-type: none"> - Discuss the elements of a criminal trial - Discuss the misuse of evidence leading to wrongful convictions and its legal, social, and moral consequences - Discuss cases of false confession and its consequences 	<ul style="list-style-type: none"> - Create charts to explain relationships between the victim/scene and suspect. - Tutor will provide oral feedback in class, and written feedback in Progress Report concerning argumentation on the suspect(s).
		April 20 (No Lecture)	Tutorial 6: Case - Legal Analysis
15	Conclusions	April 27: Group Consultation <ul style="list-style-type: none"> - Project groups will get to ask questions about the case to wrap up the study. - Students can present visual artefacts produced and collect feedback. - Oral and written feedback will be provided by the teachers. 	<ul style="list-style-type: none"> - Students will write a legal analysis which will be part of the final report. - Samples of legal statements will be used to discuss the accuracy of writing.

***Optional on-campus sessions*

11. Tutorial Groups and Class Schedule

Tutorial classes in this course are designed to strengthen students' abilities to interpret forensic evidence and engage in competent scientific investigation through asking questions, formulating hypotheses, collecting and analyzing data, and drawing conclusions. Students in the same tutorial group will collaborate on the analysis of a case, which will contribute to the production of the Case Portfolio (20%) and Presentation (30%).

Therefore, tutorial attendance and participation are important and compulsory. Students should sign up for one of the following tutorial (project) groups. There are six tutorial classes in total; each session runs 80 minutes and students are expected to attend the entire session.

Students should attend tutorial class with the same project group at the scheduled time and location. Some groups use a mix of on-campus and online classes, and some groups are exclusively online.

Group*	Class Day	Class Time	Tutorial Date					
			1	2	3**	4**	5	6
A1	Wednesday	15:30-16:50	Jan 26	Feb 9	Feb 23	Mar 23	Apr 6	Apr 20
B1	Wednesday	15:30-16:50	Jan 26	Feb 16	Mar 2	Mar 30	Apr 13	Apr 27

A2	Wednesday	17:00-18:20	Jan 26	Feb 9	Feb 23	Mar 23	Apr 6	Apr 20
B2	Wednesday	17:00-18:20	Jan 26	Feb 16	Mar 2	Mar 30	Apr 13	Apr 27
A3	Thursday	12:00-13:20	Jan 27	Feb 10	Feb 24	Mar 17	Mar 31	Apr 21
B3	Thursday	12:00-13:20	Jan 27	Feb 17	Mar 3	Mar 24	Apr 7	Apr 28
A4	Thursday	14:00-15:20	Jan 27	Feb 10	Feb 24	Mar 17	Mar 31	Apr 21
B4	Thursday	14:00-15:20	Jan 27	Feb 17	Mar 3	Mar 24	Apr 7	Apr 28
A5	Friday	13:00-14:20	Jan 28	Feb 11	Feb 25	Mar 18	Apr 1	Apr 22
B5	Friday	13:00-14:20	Jan 28	Feb 18	Mar 4	Mar 25	Apr 8	Apr 29
A6	Friday	15:00-16:20	Jan 28	Feb 11	Feb 25	Mar 18	Apr 1	Apr 22
B6	Friday	15:00-16:20	Jan 28	Feb 18	Mar 4	Mar 25	Apr 8	Apr 29

* Groups may be cancelled due to changes in course enrolment.

** Optional on-campus, hands-on sessions may be arranged.

12. Learning Resources

Required Readings

- Pyrek, K. M. (2007). *Forensic pathology under siege: The challenges of forensic laboratories and the medico-legal death investigation system* (1st ed.). London: Elsevier. [Chapters 1 & 2] (Find the book here: https://julac.hosted.exlibrisgroup.com/primoeexplore/fulldisplay?docid=TN_els_book_whole9780123708618&context=PC&vid=HKU&search_scope=My Institution&tab=default_tab&lang=en_US)
 - National Research Council. (2002). Guiding principles for scientific inquiry. In R. J. Shavelson & L. Towne (eds.), *Scientific research in education* (pp. 50-79). Washington, DC: The National Academies Press. Available at <https://www.nap.edu/read/10236/chapter/5>
- ### Recommended Readings
- Barnett, P. D. (2001). *Ethics in forensic science: Professional standards for the practice of criminalistics*. Boca Raton, FL: CRC Press.
 - *Collected writings on the washing away of wrongs*. Chinaculture.org. From http://www1.chinaculture.org/library/2008-01/31/content_26879.htm
 - Fisher, J. (2008). *Forensics under fire: Are bad science and dueling experts corrupting criminal justice?* New Brunswick, NJ: Rutgers University Press.

Recommended Websites

- *Laws of Hong Kong*, Department of Justice, HKSAR: <https://www.doj.gov.hk/eng/laws/>
- *Crime scene documentation: Start to finish*, Forensic magazine: <https://www.forensicmag.com/article/2016/02/crime-scene-documentation-start-finish>
- *Leaving a trace: Forensic science through history*, iWonder, BBC: <http://www.bbc.co.uk/timelines/zcq2xnb#zytyb9q>

THE UNIVERSITY OF HONG KONG
CCST9010 The Science of Crime Investigation
Grade Descriptors for *Case Portfolio*

	Grade A	Grade B	Grade C	Grade D	Grade F
Content (50%)	<p>The case portfolio was able to perform the following criteria with a consistently high level of quality:</p> <ul style="list-style-type: none"> • Demonstrate an excellent understanding of the case by constantly asking the right questions in context. • Systematically and accurately apply the steps in scientific inquiry for the context of forensic investigation. • Conduct thorough and accurate observation and analysis of evidence and make accurate inferences for the context. • Accurately identify the main issues in the case and relationships between issues. • Use evidence accurately and scientifically to test hypotheses and consider alternative hypotheses. • Be able to formulate investigative strategies appropriate for the context. • Accurately and thoroughly evaluate and discuss the strengths and limitations of evidence and scientific methods/findings in context. 	<p>The case portfolio was able to perform most of these criteria well. However, some of these criteria can be performed to a higher level of quality. There may be missing information / lack of clarity in the explanations and arguments / lack of depth of analysis in several areas:</p> <ul style="list-style-type: none"> • Demonstrate a good understanding of the case by constantly asking the right questions in context. • Steps in scientific inquiry for the context of forensic investigation are mostly followed and accurate. • Conduct thorough and accurate observation and analysis of evidence and make accurate inferences for the context. • Accurately identify the main issues in the case and relationships between issues. • Use of evidence is mostly accurate and scientific when testing hypotheses; alternative hypotheses are considered most of the time. 	<p>The case portfolio was able to perform the following criteria with an acceptable quality. There may be missing information / lack of clarity in the explanations and arguments / lack of depth of analysis in many / most of the criteria:</p> <ul style="list-style-type: none"> • Demonstrate an adequate understanding of the case by asking questions that are mostly appropriate for the context. • The investigation somewhat follows the steps of scientific inquiry. • Critical details in the evidence have not been fully analyzed and explained; alternative interpretations are only sometimes considered; inferences are not always accurate or put into context. • Missing of main issues and relationship between issues to be able to explain the case to full extent. • The use of evidence to test hypotheses and consider alternative hypotheses are 	<p>The case portfolio addressed some areas but not the level of clarity and intellectual engagement required:</p> <ul style="list-style-type: none"> • The questions asked, issues and evidence identified are mostly correct in the context but key critical information is missing. • The explanation of steps in the forensic investigation for the context of the case= needs to be written more systematically and with much more clarity. • Observation and analysis and evidence lack thoroughness and depth. • Missing of main issues and lack of consideration of the relationship between issues to be able to explain the case. • The use of evidence to test hypotheses and consider alternative hypotheses need to be explained much more accurately and scientifically. • Investigation strategies reflect little consideration of the context of the case. • The evaluation of strengths and limitations are severely lacking. 	<p>Major problems with achieving many / most of the criteria. Some key areas of the portfolio may be missing or are too short to be able to assess.</p>

	<ul style="list-style-type: none"> • Rigorously conduct research and use research findings to inform investigation and the analysis of evidence; references are cited accurately and to academic standards. • Conclusions are well discussed and argued from alternative points of view (e.g., prosecution vs. defence). 	<ul style="list-style-type: none"> • Be able to formulate investigative strategies appropriate for the context. • Accurately and thoroughly evaluate and discuss the strengths and limitations of evidence and scientific methods/findings in context. • Research is conducted and used appropriately to inform investigation and the analysis of evidence; references are cited accurately and to academic standards. • Conclusions are well discussed and argued from alternative points of view (e.g., prosecution vs. defence). 	<p>somewhat accurate and/or scientific.</p> <ul style="list-style-type: none"> • Investigation strategies are sometimes designed for the context. • The evaluation of strengths and limitations of evidence and scientific methods/findings are acceptable. • The use of research to inform investigation and the analysis of evidence could have been done more rigorously; inaccuracy of academic citations is evident. • Conclusions are discussed and argued from alternative points of view but not always comprehensive. 	<ul style="list-style-type: none"> • The use of research to inform investigation and the analysis of evidence is very unclear or not present; citations are missing. • Conclusions are inadequately discussed; little consideration of alternative points of view. 	
Appropriacy (40%)	<p>The case portfolio was able to perform the following criteria with a consistently high level of quality:</p> <ul style="list-style-type: none"> • Appropriately use visuals to represent the case with proper labels and clear text description. • Appropriately use a language for a non-specialist audience (e.g., a jury in the criminal trial). • Coherently convey ideas with consistency and logic to make the overall portfolio easy to read for a non-specialist audience. 	<p>The case portfolio was able to perform most of these criteria well. However, some of these criteria can be performed to a higher level of quality:</p> <ul style="list-style-type: none"> • Appropriately use visuals to represent the case with proper labels and clear text description. • Appropriately use a language for a non-specialist audience (e.g., a jury in the criminal trial). • Coherently convey ideas with consistency and logic to make the overall portfolio easy to read for a non-specialist audience. 	<p>The case portfolio was able to perform the following criteria with an acceptable quality:</p> <ul style="list-style-type: none"> • Visuals are used to represent the case but they may not be always appropriate and/or clearly labelled/described. • The use of language for non-specialist audience is generally appropriate but some areas could be improved. • The ideas are generally consistent and logical making the overall portfolio manageable to read. However, these could be improved in some areas of the portfolio. 	<p>The case portfolio addressed some areas but not the level of clarity and intellectual engagement required:</p> <ul style="list-style-type: none"> • Visuals are not used to represent the case; when they are used, there are missing labels and textual description. • The use of language use jargon and other technical terms is difficult for a non-specialist audience. • The flow of ideas is difficult to follow; major inconsistency in the arguments makes the overall portfolio hard to read. 	<p>Major problems with achieving many / most of the criteria. Some key areas of the portfolio may be missing or are too short to be able to assess.</p>

Clear assessment criteria. These skills must be taught explicitly in the course.

Clear descriptions of expectations of performance.

Organization (10%)	<p>The case portfolio was able to perform the following criteria with a consistently high level of quality:</p> <ul style="list-style-type: none"> • Include a Table of Content (TOC) that accurately and effectively presents the main flow of argument in the portfolio. • Appropriate use of fonts, headings, bullet points, and other document formatting features. • Consistent spacing, alignment, and position of graphic elements (Layout). 	<p>The case portfolio was able to perform most of these criteria well. However, one of these criteria can be performed to a higher level of quality:</p> <ul style="list-style-type: none"> • Include a TOC that clearly presents the main flow of argument in the portfolio. • Appropriately use of fonts, headings, bullet points, and other document formatting features. • Consistent spacing, alignment, and position of graphic elements (Layout). 	<p>The case portfolio was able to perform the following criteria with an acceptable quality:</p> <ul style="list-style-type: none"> • The TOC contains some mistakes that somewhat confuse the readers. • The use of fonts, headings, bullet points, and other document formatting features are generally appropriate but could be improved. • The spacing, alignment, and position of graphic elements (Layout) is generally consistent but could be improved. 	<p>The case portfolio addressed some areas but not the level of clarity and intellectual engagement required:</p> <ul style="list-style-type: none"> • The TOC contains mistakes that confuse the readers significantly or is missing. • The use of fonts, headings, bullet points, and other document formatting features are inappropriate in a number of places. • The spacing, alignment, and position of graphic elements (Layout) is inconsistent. 	<p>Major problems with achieving many / most of the criteria. Some key areas of the portfolio may be missing or are too short to be able to assess.</p>
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Notes:

1. Full range of the grades, i.e. A+, A, A-, B+, B, B-, C+, C, C-, D+, D and F, is used in this course to reflect variation in competency.
2. The above categories are weighted according to the percentages indicated.

February 2022, Updated for CiC

THE UNIVERSITY OF HONG KONG
CCST9010 The Science of Crime Investigation
Grade Descriptors for Video Presentation

	Grade A	Grade B	Grade C	Grade D	Grade F
Content (50%)	<p>The presentation was able to perform the following criteria with a consistently high level of quality:</p> <ul style="list-style-type: none"> • Present an excellent understanding of the case by constantly asking the right questions in context. • Systematically and accurately explain the investigation process in context. • Explain thorough and accurate analysis of evidence and inferences for the context. • Explain the main issues of the case and relationships between issues thoroughly and accurately. • Discuss the accurate use of evidence and science to test hypotheses and alternative hypotheses. • Explain investigative strategies adopted and how they were appropriate for the context accurately. • Accurately and thoroughly evaluate and discuss the strengths and limitations of evidence and scientific methods/findings in context. 	<p>The presentation was able to perform most of these criteria. However, some of these criteria can be performed to a higher level of quality. There may be missing information / lack of clarity in the explanations and arguments / lack of depth of analysis in several areas:</p> <ul style="list-style-type: none"> • Present a good understanding of the case by constantly asking the right questions in context. • The investigation process is explained mostly systematically and in context. • Explanation of evidence and its inferences is mostly thorough and accurate for the context. • Explain the main issues of the case and relationships between issues thoroughly and accurately. • Discuss the accurate use of evidence and science to test hypotheses and alternative hypotheses. • Explain investigative strategies adopted and how they were appropriate for the context accurately. 	<p>The presentation was able to perform the following criteria with an acceptable quality. There may be missing information / lack of clarity in the explanations and arguments / lack of depth of analysis in many / most of the criteria:</p> <ul style="list-style-type: none"> • The presentation demonstrates an adequate understanding of the case; the questions asked are mostly appropriate for the context. • The investigation process is somewhat logical and in context. • Critical details in the evidence are not fully included and explained; alternative interpretations are only sometimes considered; inferences are not always accurate or put into context. • Missing of main issues and relationship between issues to be able to explain the case to full extent. • The use of evidence to test hypotheses and consider alternative hypotheses are 	<p>The presentation addressed some areas but not the level of clarity and intellectual engagement required:</p> <ul style="list-style-type: none"> • The questions asked, issues and evidence identified are mostly correct in the context but key critical information is missing. • The investigation process needs to be explained more systematically and with much more clarity. • Observation and analysis and evidence lack thoroughness and depth. • Missing of main issues and lack of consideration of the relationship between issues to be able to explain the case. • Hypothesis testing is explained with some accuracy; alternative hypotheses are not always discussed. • Investigation strategies reflect little consideration of the context of the case. • The evaluation of strengths and limitations are severely lacking. • Use relevant research findings to explain the investigation, 	<p>Major problems with achieving many / most of the criteria. Some key areas of the presentation may be missing or are too short to be able to assess.</p>

	<ul style="list-style-type: none"> • Use relevant research findings to explain investigation process, evidence, and implications accurately; references are cited accurately and to academic standards. • All arguments and conclusions are well discussed from alternative points of view (e.g., prosecution vs. defence). • Appropriately use a language for a non-specialist audience (e.g., the general public). • Information presented is concise with no redundancy. • Provide an outline which effectively introduces the structure and summarizes the main ideas/arguments. • Coherently convey ideas with consistency and logic to make the overall presentation easy to understand. 	<ul style="list-style-type: none"> • Accurately and clearly evaluate and discuss the strengths and limitations of evidence and scientific methods/findings in context. • Use relevant research findings to explain investigation process, evidence, and implications accurately; references are cited accurately and to academic standards. • Most of the arguments and conclusions are well discussed from alternative points of view (e.g., prosecution vs. defence). • Appropriately use a language for a non-specialist audience (e.g., the general public). • Information presented is mostly concise with no redundancy. • Provide an outline which clearly introduces the structure and summarizes the main ideas/arguments. • Coherently convey ideas with consistency and logic to make the overall presentation easy to understand. 	<p>somewhat accurate and/or scientific.</p> <ul style="list-style-type: none"> • Investigation strategies are sometimes designed for the context and/or not always explained clearly. • The evaluation of strengths and limitations of evidence and scientific methods/findings are acceptable. • Use relevant research findings to explain the investigation, evidence, and implications could have been explained more thoroughly; ; inaccuracy of academic citations is evident. • Conclusions are discussed and argued from alternative points of view but not always comprehensive. • The use a language for non-specialist audience is somewhat appropriate. • Information presented is somewhat concise with a bit of redundancy. • An outline somewhat introduces the structure and a conclusion that does not clearly summarizes the main ideas/arguments. • The ideas are more or less consistent and logical making the overall presentation manageable to understand. 	<p>evidence, and implications is very unclear or not present; citations are missing.</p> <ul style="list-style-type: none"> • Conclusions are inadequately discussed; little consideration of alternative points of view. • The use a language use jargons and other terms that is difficult for a non-specialist audience. • A lot of repetitions and redundancy in the information presented. • An outline of the presentation is not clear or missing. • The ideas have some inconsistency making the overall presentation hard to understand. 	
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Delivery (50%)	<p>The video presentation was able to perform the following criteria with a consistently high level of quality:</p> <ul style="list-style-type: none"> • Appropriately design the visuals to represent the case and clear narrative making the video easy to understand. • Properly use visuals to give the audience enough time to read. • Visuals are properly labelled and annotated to direct the audience where to look visually. • Suitable use of voice with proper pacing, pausing, intonation, and confidence. • Carefully organize the visuals by using storyboarding and applying video transitions and sign-posting. • The video adheres strictly to time limits set. 	<p>The video presentation was able to perform most of these criteria. However, some of these criteria can be performed to a higher level of quality:</p> <ul style="list-style-type: none"> • Appropriately design the visuals to represent the case with proper labels and clear narrative making the video easy to understand • Visuals are properly labelled and annotated to direct the audience where to look visually. • Suitable use of voice with proper pacing, pausing, intonation, and confidence. • Carefully organize the visuals by using storyboarding and applying video transitions and sign-posting. • The video mostly adheres strictly to time limits set. 	<p>The video presentation was able to perform the following criteria with an acceptable quality:</p> <ul style="list-style-type: none"> • The design of visuals to represent the case used some labels and appropriate narrative making the video easy to understand. • The use of visuals gives the audience more or less enough time to read. • The labels and/or annotations used to direct the audience visually are sometimes missing. • The use of voice techniques such as pacing, pausing, and intonation is somewhat acceptable and suggests some level of confidence. • The organization of the visuals has some storyboarding applied to it; the video transitions and sign-posting need some fine-tuning. • The video adheres more or less to the time limits set. 	<p>The video presentation addressed some areas but not the level of clarity and intellectual engagement required:</p> <ul style="list-style-type: none"> • The design of visuals to represent the case barely uses labels and appropriate narrative making the video difficult to understand. • The use of visuals gives the audience little to almost no time to read and process. • The labels and/or annotations used to direct the audience visually are mostly missing. • The use of voice techniques such as pacing, pausing, and intonation is barely acceptable and lacks confidence. • The organization of the visuals has some storyboarding applied to it; however, the video transitions and sign-posting need major fine-tuning. • The video may be significantly off the time limits set. 	<p>Major problems with achieving many / most of the criteria. Some key areas of the presentation may be missing or are too short to be able to assess.</p>
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Notes:

1. Full range of the grades, i.e. A+, A, A-, B+, B, B-, C+, C, C-, D+, D and F, is used in this course to reflect variation in competency.
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