# Information Systems Auditing

## ISOM4100

**3 Credits**

**Prof. James Kwok**

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**Office hours: By appointment**

### Course goals

This course offers a comprehensive approach to auditing information systems, encompassing detailed procedures and illustrative case studies that prove invaluable to auditors.

### Intended Learning Outcomes (ILOs)

Upon completion of this course, students will have acquired the following knowledge:

1. **Cultivate the Information Systems Auditor's Mindset for IS Auditing:** Develop the ability to adopt the perspective of an information systems auditor when engaging in IS auditing.
2. **Articulate Risks and Controls within Organizations:** Proficiently describe the risks and controls present within organizational contexts.

### Course description

This course provides a comprehensive approach to auditing information systems, tailored for IS auditors. Real-world cases and examples illustrate the IS auditing process, its practice, and management. The main goal is to help students adopt the IS auditor’s mindset and apply it to auditing various systems, including outsourced platforms, business servers, and cloud services. A key focus is placed on risks and controls, a critical area in IS auditing.

The course also prepares students for the CISA (Certified Information Systems Auditor) exam, covering major chapters from the CISA curriculum:

Chapter 1: Auditing Information Systems

Chapter 2: IT Governance and Management

Chapter 3: IS Acquisition, Development, and Implementation (Partial)

The course is structured into three parts: the first introduces core IS auditing concepts and processes; the second explores IT governance and senior management decision-making; the final part evaluates organizational projects from an IS auditor’s perspective.

## 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.

**Summary Table**

| **Assessment Task** | **Contribution to Overall Course grade (%)** | **Due date** |
|---|---|---|
| A. In-Class Exercise | **20%** | As per course schedule |
| B. Assignment | **20%** | As per course schedule |
| C. Final Exam – Auditing process and Auditors | **20%** | To be announced |
| D. Final Exam – IT Governance | **20%** | To be announced |
| E. Final Exam - SDLC | **20%** | To be announced |

**A. In-Class Exercise (20%)**

Students will complete **FIVE** individual in-class exercises during the semester. Please note that **no make-up opportunities** will be provided under any circumstances.

**B. Assignment (20%)**

The assignment aims to evaluate the student's comprehension of IS auditing concepts and their ability to apply these insights to resolve various IS auditing cases. This is an individual assignment, requiring the student to independently examine a case and present their findings. The student is expected to thoroughly analyze the case and submit their work by the deadline.

The essential components to be submitted include: (1) a report, (2) a PowerPoint file, and (3) a video presentation file.

Selected students will showcase their findings during the final class session through the presentation of their video files.

**C. Final Exam – Auditing process and auditors (20%)**
A comprehensive Final Exam will encompass **ALL topics** covered during the semester. This section focuses on questions related to IS auditing process and auditors.

**D. Final Exam – IT Governance (20%)**
A comprehensive Final Exam will encompass **ALL topics** covered during the semester. This section focuses on questions related to IT governance.

**E. Final Exam – SDLC (20%)**
A comprehensive Final Exam will encompass **ALL topics** covered during the semester. This section focuses on questions related to systems development life cycle (SDLC).

**Arrangements for the Make-up Final Exam**

Make-up final examinations will be arranged only under exceptional circumstances beyond a student's control, such as a documented medical emergency. Students who are absent from the final examination due to a medical emergency must submit a completed and signed official make-up exam request form (**Form EX-16**), together with relevant medical documentation issued by a registered medical practitioner, to the course instructor by email before the University deadline. Such documentation is required before a make-up examination request can be considered. The make-up examination will be conducted in essay format.

(**Attention**: Students who are eligible to take the make-up exam are required to write a research article that includes an introduction, references, proper citations, and other essential sections. The article must be completed within a few hours of being assigned. Students are expected to apply the knowledge and skills acquired in this course when completing the make-up exam. Please note that there will be **no opportunity for a second make-up exam** under any circumstances. Failure to submit the research article for any reason, including email or internet issues, will result in a grade of ZERO for the exam.)

**Remarks:**

- **Feedback on all assignments and assessments will be provided within 10 working days.**
- **A summary highlighting common mistakes or key deficiencies in answering questions will be shared with students.**
- **Additionally, students can schedule a meeting with our Teaching Assistant (TA) to review their assignments and examination papers, gaining insights into their mistakes and deficiencies. This review session must take place within a specified deadline, typically two working days after the scores are released. After this deadline, students will not be allowed to review their assignment and examination papers.**

## Score Posting and Appeal Policy

Upon completion, all scores will be posted on Canvas. It is incumbent upon the student to review their scores and verify their accuracy. If any discrepancies arise, score appeals must be submitted via email to jkwok@ust.hk. It is important to note that score appeals will not be entertained once the designated checking/appeal period has elapsed (e.g., two working days after the score release) if applicable.

[*In instances where a student is unable to check their paper within the stipulated checking period, the student's score will be deemed final by default. Regrettably, we won't be able to modify or rectify the score beyond the checking/appeal period.*]

### Mapping of Course ILOs to Assessment Tasks

| Assessment Task | Mapped ILOs | Explanation |
|---|---|---|
| A. In-Class Exercise | ILO1, ILO2 | This task evaluates students' ability to apply the IS auditor's mindset (ILO1) and articulate risks and controls (ILO2) through individual in-class exercises completed during the semester. |
| B. Assignment | ILO1, ILO2 | This task measures students' comprehension of IS auditing concepts (ILO1) and their ability to analyze and articulate risks and controls in real-world IS auditing cases (ILO2). The assignment requires students to independently investigate a case, prepare a report, and present their findings, showcasing both analytical and communication skills. |
| C. Final Exam – Auditing process and Auditors | ILO1, ILO2 | This exam assesses students' understanding of the IS auditing process and the role of auditors (ILO1). It also evaluates their ability to identify and explain risks and controls within various IS environments (ILO2), ensuring a comprehensive grasp of auditing fundamentals. |
| D. Final Exam – IT Governance | ILO1, ILO2 | This section evaluates students' ability to think like IS auditors when assessing IT governance structures (ILO1) and to articulate the associated risks and controls within organizational IT frameworks (ILO2). |
| E. Final Exam – SDLC | ILO1, ILO2 | This task assesses students' ability to apply the IS auditor's perspective (ILO1) to evaluate systems development life cycle (SDLC) processes. It also measures their understanding of risks and controls related to system acquisition, development, and implementation (ILO2). |

**Final Grade Descriptors:**

| Grades | Short Description | Elaboration on subject grading description |
|---|---|---|
| A | Excellent Performance | Demonstrates exceptional understanding of IS auditing principles and practices. Accurately identifies risks and controls, applies auditing standards with precision, and communicates findings effectively. Shows deep insight into audit processes, governance, and SDLC, consistently producing high-quality work across all assessments. |
| B | Good Performance | Shows solid grasp of IS auditing concepts and can effectively apply them to organizational contexts. Identifies risks and controls with reasonable accuracy and follows auditing procedures competently. Communicates audit findings clearly and contributes meaningfully to individual tasks and case analyses. |
| C | Satisfactory Performance | Possesses basic understanding of IS auditing and can apply core concepts to standard scenarios. Demonstrates adequate ability to identify risks and controls, though may require guidance. Communicates findings with moderate clarity and completes individual work with acceptable effort. |
| D | Marginal Pass | Has limited understanding of IS auditing principles and struggles to apply them effectively. Shows weak ability to identify risks and controls, and requires significant support in applying audit procedures. Communication of findings is inconsistent and lacks clarity. Completion of individual tasks is limited. |
| F | Fail | Demonstrates insufficient understanding of IS auditing. Fails to identify key risks and controls or apply auditing standards. Communication is unclear or absent, and completion of group or individual tasks is lacking. Shows little to no progress in mastering course objectives. |

**Student Rubrics**

Use the following rubrics to guide you for the assessment tasks that you submit in this course.

## Assessment: In-Class Exercise

| Criteria: Application of IS Auditing Concepts |
|---|
| • **Excellent**: Demonstrates a deep understanding of IS auditing principles and applies them effectively to the individual in-class exercise. The response is comprehensive and well-structured.<br>• **Good**: Applies IS auditing concepts appropriately with minor gaps in depth or structure.<br>• **Satisfactory**: Shows basic understanding of IS auditing but lacks depth or clarity in application.<br>• **Marginal**: Limited application of IS auditing concepts; the solution is incomplete or lacks coherence.<br>• **Fail**: Fails to apply IS auditing principles effectively; the solution is incorrect or missing. |
| **Criteria: Completion and Quality of Individual Work** |
| • **Excellent**: Completes the individual in-class exercise thoroughly, accurately, and independently, with clear reasoning and well-supported answers.<br>• **Good**: Completes the individual in-class exercise with mostly accurate answers and clear reasoning, though minor gaps or omissions may be present.<br>• **Satisfactory**: Completes the individual in-class exercise at a basic level, with some relevant answers but limited depth, clarity, or completeness.<br>• **Marginal**: Submits an incomplete or weak individual in-class exercise, with limited relevance, accuracy, or supporting reasoning.<br>• **Fail**: Does not submit the individual in-class exercise, or submits work that is largely incorrect, irrelevant, or incomplete. |
| **Criteria: Meeting Stated Requirements** |
| • **Excellent**: Fully meets all requirements with a robust and complete solution.<br>• **Good**: Meets most requirements with minor omissions.<br>• **Satisfactory**: Meets basic requirements but lacks completeness.<br>• **Marginal**: Partially meets requirements; key elements are missing.<br>• **Fail**: Fails to meet the majority of requirements. |

## Assessment: Assignment

| **Criteria: Analysis of IS Auditing Case** |
| --- |
| • **Excellent**: Provides a thorough and insightful analysis of the case, demonstrating strong understanding of IS auditing.<br>• **Good**: Analyzes the case well with minor gaps in insight or depth.<br>• **Satisfactory**: Basic analysis with limited depth or clarity.<br>• **Marginal**: Superficial analysis; lacks understanding of key concepts.<br>• **Fail**: Inadequate or incorrect analysis. |
| **Criteria: Meeting Stated Requirements** |
| • **Excellent**: Fully meets all submission requirements (report, slides, video) with high quality.<br>• **Good**: Meets most requirements with minor issues.<br>• **Satisfactory**: Meets basic requirements but lacks completeness or quality.<br>• **Marginal**: Partially meets requirements; key components missing.<br>• **Fail**: Fails to meet submission requirements. |
| **Criteria: Presentation** |
| • **Excellent:** (a**)** Presentation is clear, engaging, and professional with excellent video and audio quality. (b) Demonstrates thorough preparation and understanding of the material.<br>• **Good:** (a) Presentation is clear but may have slight issues with video or audio quality. (b) Covers most key points effectively, but minor details could be enhanced.<br>• **Satisfactory:** (a**)** Presentation is understandable but lacks engagement or quality in video/audio. (b) Some key points are covered, but it feels incomplete or rushed.<br>• **Marginal:** (a**)** Presentation is unclear or poorly organized, with major issues in video or audio quality. (b) Fails to engage the audience or misses significant content.<br>• **Fail:** (a) Presentation is unclear or unprofessional, with very poor video/audio quality. (b) Lacks adequate coverage of the topic, showing little effort or preparation. |

## Assessment: Final Exam – Auditing Process and Auditors

| **Criteria: Understanding of Auditing Principles** |
| --- |
| • **Excellent**: Demonstrates comprehensive understanding and application of auditing principles.<br>• **Good**: Solid understanding with minor gaps.<br>• **Satisfactory**: Basic understanding; lacks depth.<br>• **Marginal**: Limited understanding; several errors.<br>• **Fail**: Fails to demonstrate understanding. |
| **Criteria: Application to IS Contexts** |
| • **Excellent**: Applies principles effectively to IS scenarios.<br>• **Good**: Applies principles with minor inconsistencies.<br>• **Satisfactory**: Basic application; lacks clarity.<br>• **Marginal**: Incomplete or flawed application.<br>• **Fail**: Incorrect or missing application. |

### Assessment: Final Exam – IT Governance

| Criteria: Understanding of IT Governance Concepts |
|---|
| • **Excellent**: Demonstrates deep understanding of governance frameworks and decision-making.<br>• **Good**: Good understanding with minor gaps.<br>• **Satisfactory**: Basic understanding; lacks detail.<br>• **Marginal**: Limited understanding; several inaccuracies.<br>• **Fail**: Fails to demonstrate understanding. |
| **Criteria: Evaluation of Governance Practices** |
| • **Excellent**: Critically evaluates governance practices with strong reasoning.<br>• **Good**: Evaluates practices with reasonable insight.<br>• **Satisfactory**: Basic evaluation; lacks depth.<br>• **Marginal**: Superficial evaluation.<br>• **Fail**: No meaningful evaluation. |

### Assessment: Final Exam – SDLC

| Criteria: Understanding of SDLC Phases |
|---|
| • **Excellent**: Demonstrates thorough understanding of SDLC and its relevance to IS auditing.<br>• **Good**: Solid understanding with minor gaps.<br>• **Satisfactory**: Basic understanding; lacks clarity.<br>• **Marginal**: Limited understanding; several errors.<br>• **Fail**: Fails to demonstrate understanding. |
| **Criteria: Application to Auditing Scenarios** |
| • **Excellent**: Applies SDLC concepts effectively in auditing contexts.<br>• **Good**: Applies concepts with minor inconsistencies.<br>• **Satisfactory**: Basic application; lacks depth.<br>• **Marginal**: Incomplete or flawed application.<br>• **Fail**: Incorrect or missing application. |

### Efficient Email Communication Guidelines

To ensure prompt assistance, please include [**Course Code** - L**X**] (**X** being the section number), e.g., [**ISOM4100**-L**1**] at the start of your email's subject line. Neglecting this may lead to delays in our response time.

Anticipate a surge in email volume as deadlines approach. For timely support, address your queries ahead of time and utilize instructor and TA office hours.

Kindly note that **direct assignment answers won't be furnished by the instructor or TAs.** Your understanding and collaboration are appreciated.

### Policy on the Use of Generative AI

Students may use generative artificial intelligence (AI) tools only to support their learning of IS auditing concepts and lecture materials in this course. Any use of generative AI must be properly acknowledged. However, **students are strictly prohibited from using generative AI tools to produce video presentations**.

Because generative AI tools can help students produce grammatically correct content, assessments will assume that submitted work should be free from grammatical errors.

The table below summarizes the permitted use of generative AI tools across different course activities.

| Course Activity | Use of Gen AI Tools |
|---|---|
| **In-Class Exercise** | Allowed |
| **Assignment** | Allowed |
| **Final Exam** | **Not allowed** |
| **Lecture** | Allowed |
| **Outside the class (for learning)** | Allowed |

### Student learning resources

<u>Reference book</u>

ISACA, CISA Review Manual

<u>Course Site</u>

Course content updates and other pertinent information will be communicated through the course website - http://canvas.ust.hk. It is advisable for students to consistently monitor this platform throughout the semester.

**Course schedule (Tentative)**

**L1**: Tuesday 15:00 – 16:20 LSK1011
Thursday 15:00 – 16:20 LSK1011

| Week | Date | Topic | Remark |
|---|---|---|---|
| 1 | 1 Sep | **Introduction to the Course** | |
| | 3 Sep | **IS Auditing and IS Auditors** | |
| 2 | 8 Sep | **IS Auditing and IS Auditors** | |
| | 10 Sep | **IS Auditing and IS Auditors** | **Add/Drop deadline**:<br>14 Sept |
| 3 | 15 Sep | **IS Auditing and IS Auditors** | |
| | 17 Sep | **IS Auditing and IS Auditors** | |
| 4 | 22 Sep | **In-class Exercise 1**<br>**IS Auditing and IS Auditors** | |
| | 24 Sep | **IS Auditing and IS Auditors** | |
| 5 | 29 Sep | **IS Auditing and IS Auditors** | |
| | 1 Oct | **No class – National Day** | |
| 6 | 6 Oct | **In-class Exercise 2**<br>**Practice** | |
| | 8 Oct | **IS Auditor's Mindset** | |
| 7 | 13 Oct | **IS Auditor's Mindset** | |
| | 15 Oct | **IS Auditor's Mindset** | |
| 8 | 20 Oct | **In-class Exercise 3**<br>**IS Auditor's Mindset** | |
| | 22 Oct | **IS Auditor's Mindset** | |
| 9 | 27 Oct | **Practice** | |
| | 29 Oct | **IT Governance** | |
| 10 | 3 Nov | **IT Governance** | |
| | 5 Nov | **IT Governance** | |
| 11 | 10 Nov | **In-class Exercise 4**<br>**IT Governance** | **Assignment**:<br>Release on Nov 10 |
| | 12 Nov | **SDLC** | |
| 12 | 17 Nov | **SDLC** | |
| | 19 Nov | **SDLC** | **Assignment**:<br>Due on Nov 22, 17:00 |
| 13 | 24 Nov | **In-class Exercise 5**<br>**SDLC** | |
| | 26 Nov | **Revision** | |

### Contact Details for Instructor and TA

Prof. Kwok's office is located in room LSK4080, and he extends a warm invitation for you to visit during his office hours or at your convenience for any queries you may have. For urgent concerns, feel free to reach out via email (jkwok@ust.hk) or phone (2358-7652); however, he does emphasize that email is the preferred mode of communication as he frequently monitors it. Additionally, the Teaching Assistant (TA) assigned to this course is available to address inquiries related to grading, attendance, assignments, and any administrative matters.

### Academic honesty

Upholding academic integrity stands as a fundamental principle within our university community. Any breach of integrity undermines the foundation of our learning environment and the essence of inquiry that is vital for the institution's effectiveness. I maintain a zero-tolerance stance towards cheating, and no exceptions will be entertained. Students found engaging in acts of cheating, plagiarism, or any form of academic dishonesty will face a reduction of their course grade by a minimum of one letter grade. Moreover, it is my responsibility to report any instances of unethical conduct or indications of dishonesty in this course to the University.

Please bear in mind the current university regulation: any occurrence of cheating, irrespective of its magnitude, will result in an "X" grade notation on the student's academic record, signifying that the grade was attained through dishonest means. This "X" grade will persist on the student's record until graduation. Should a student be caught cheating again and subsequently receive another "X" grade, they will be dismissed from the University.

Plagiarism encompasses the act of copying text or ideas from external sources without appropriate citation. Even if you rephrase the concept using your own words, citing the origin is necessary when utilizing someone else's idea. It is imperative to exercise extreme caution to prevent presenting someone else's work as your own. Proper citations are obligatory when incorporating external sources' ideas, arguments, or any content. Whether drawing from research or the Internet, it is mandatory to acknowledge the source, even if you employ the general notion rather than verbatim wording.

### Learning environment

I wholeheartedly embrace feedback on my teaching during the entirety of the semester. I strongly encourage you to reach out to me or my TA whenever you have questions, suggestions, concerns, or if you seek advice. Your input is valued and will contribute to enhancing the learning experience. Feel free to contact us at your convenience.