

**COURSE OUTLINES: AC2401 Accounting Information Systems**

<b>Academic Year</b>	AY2022/23	<b>Semester</b>	2
<b>Course Coordinator</b>	Prof Tung Lai Lai		
<b>Course Code</b>	AC2401		
<b>Course Title</b>	Accounting Information Systems		
<b>Pre-requisites</b>	None		
<b>No of AUs</b>	4 Academic Units		
<b>Contact Hours</b>	4hr x 13 weeks = 52hr		

**A) Course Aims**

This course aims to provide accountancy and business students as well as those from other disciplines like computer science and engineering, with a strong conceptual and technical foundation in key business processes and enterprise information systems, a necessary pre-requisite for effective performance of business professionals in the current digital era.

After the completion of this course, students should be able to apply their knowledge and skills to effectively evaluate business processes, and to use enterprise information systems in their future roles as business managers, professionals, and consultants.

**B) Intended Learning Outcomes (ILO)/Objectives**

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

- 1) Describe key business processes of an organization, and how the data captured flows through to financial accounting.
- 2) Model and analyze key business process activities, to identify risk and control issues related to the process.
- 3) Evaluate enterprise information systems and explain how they are used in organizations.
- 4) Use key modules of an industry-standard enterprise information systems package (e.g., SAP).
- 5) Describe Robotic Process Automation (RPA), its benefits to organizations, and be exposed to an industry-standard RPA (e.g., UiPath) for process automation.

**C) Course Content**

The course will be delivered as a series of seminars as follows:

- 13 sessions, including several lab sessions (that may be performed online)
- 4 hours per session (with online LAMS activities)
- Course starts in teaching week 1 with Seminar 1 and ends with Seminar 13 in teaching week 13, unless otherwise instructed by individual instructors. The recess week falls between teaching weeks 7 and 8.

Students will study how enterprise information systems are deployed in common business transactions. Students will learn about the information flow in fundamental accounting processes, and the major risks and controls associated with these processes and will be taught how data is captured, processed, stored, and accessed for generating management information and business reports and documents.

Students will gain hands-on training on enterprise information systems via lab sessions on SAP – an industry standard package, knowledge of enterprise information systems deployment in accounting and business processes from the seminar sessions, and an appreciation of the underlying workings of a typical enterprise information

system. This learning and experience will equip students with knowledge for more effective implementation and deployment of enterprise packages in practice.

Finally, students will be exposed to Robotic Process Automation (RPA) and will understand how to apply this technology for process improvement.

#### D) Assessment (includes both continuous and summative assessment)

Component	ILO Tested	NBS Learning Goal (Refer to Annex E for list)	Weighting	Team/Individual	Assessment Rubrics (Please insert rubrics as Appendix)
1. <i>Participation in discussions</i>	1-5	<i>Class Participation</i>	10%	<i>Individual</i>	<i>See Rubric (attached)</i>
2. <i>Online Learning</i>	1-5	<i>Acquisition of knowledge, Problem solving and decision making</i>	10%	<i>Individual</i>	-
3. <i>Course project</i> -Project report (Group) 20% -Presentation (Individual) 10%	1- 3	<i>Planning &amp; Execution Teamwork Interpersonal Skills</i>	30%	<i>Group and Individual</i>	<i>See Rubric (attached)</i>
4. <i>Final examination (open book)</i>	1-5	<i>Acquisition of knowledge</i>	50%	<i>Individual</i>	-
<i>Total</i>			<i>100%</i>		

#### E) Formative feedback

The seminars will be interactive, and students' active participation is highly encouraged.

The SAP lab exercises are designed to provide students with the required hands-on practice to learn SAP, the industry-leading ERP software package. Students will be required to complete these independently.

For the course project, students will complete a project with an actual organization. In addition to a written report, students are required to do a presentation. There will be a Q&A segment where the instructor will ask questions and provide feedback on both the content and delivery of the presentation. Students will also be required to complete a peer evaluation (see "Teamwork and Interpersonal Skills" rubric attached) and marks may be adjusted downwards based on the results of the peer evaluation.

The online learning materials provide an overview of the concepts and principles for the seminar topics. This overview critically facilitates the consequent seminar activities, including (i) critical analysis and discussion of relevant concepts, and (ii) practice of exercises for developing technical skills.

<b>F) Learning and Teaching approach</b>	
<b>Approach</b>	<b>How does this approach support you in achieving the learning outcomes?</b>
Seminar preparation and discussions	Content will be assigned prior to the seminar and students are expected to watch/read through the relevant content before each seminar. Seminar discussions allow ample opportunities for students to clarify the content and concepts; and to assess their ability to think critically and articulate clearly.
SAP lab exercises	A major learning outcome is the technical knowledge and skills in using SAP, an industry leading software. Such practical skills cannot be achieved by reading alone and requires actual hands-on practice. The various SAP lab sessions provide the opportunities for students to gain actual experience with the software.
Course Project	By working in their assigned team or group to complete an actual company project, students will get the opportunity to experience and learn about real-world situations. In addition, students will also learn to work together in their team or group, and how to coordinate, plan and execute the project collaboratively.
<b>G) Reading and References</b>	
<p>Main textbooks:</p> <ul style="list-style-type: none"> <li>❑ Romney, M. B., Steinbart, P. J., Summers, S. L. &amp; Wood, D. A. 2021. <i>Accounting Information Systems</i> (15th Edition). Pearson Education Limited (RSSW)</li> <li>❑ Magal, S. R., &amp; Word, J. 2012. <i>Integrated Business Processes with ERP Systems</i>. Wiley Publishing. (Magal)</li> <li>❑ Hall, J. A. 2019. <i>Accounting Information Systems</i> (10th Edition). Cengage. (JH)</li> </ul> <p>Readings:</p> <ul style="list-style-type: none"> <li>❑ Hammer, Michael (1990) – <i>Reengineering Work: Don't Automate, Obliterate</i></li> <li>❑ Hammer, Michael (2004) – <i>Deep Change: How Operational Innovation Can Transform Your Company</i></li> <li>❑ El Sawy, Omar A. – <i>Redesigning Enterprise Processes for E-business</i>, Chapter 3</li> </ul>	
<b>H) Course Policies and Student Responsibilities</b>	
<p>Student responsibilities include attendance, punctuality, preparation, and participation.</p> <p>(1) Attendance &amp; Punctuality: Students are required to attend all the seminars. Students are expected to be punctual and arrive before the start of class, as late arrivals will be disruptive to class activities and considered disrespectful to the instructor and fellow students. For submission of course requirements, students are required and expected to follow the submission deadlines. Instructors have the right to penalize and/or reject late submissions.</p> <p>(2) Preparation: Students are expected to prepare for each seminar by covering and working on all assigned material prior to the seminars. The quality of students' and their peers' learning will largely depend on how well-prepared students are for class.</p>	

(3) Participation: Once in class, students are expected to contribute to class discussions and exercises as well as ask questions whenever in doubt. Students are also expected to observe respectful behavior, such as raising their hand before speaking, not interrupting other students, not using electronic devices unless required for problem-solving exercises, and not causing any distractions to fellow students.

#### I) Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of their work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust, and Justice are at the core of NTU's shared values.

As a student, it is important that the student recognizes his/her responsibilities in understanding and applying the principles of academic integrity in all the work that he/she does at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. Students need to actively equip themselves with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion, and cheating. If students are uncertain of the definitions of any of these terms, they should go to the [academic integrity website](#) for more information. If students need any clarification about the requirements of academic integrity in the course they are to consult their instructor(s).

#### J) Course Instructors

Instructor	Office Location	Phone	Email	Consultation Hours
Tung Lai Lai (Course Coordinator)	S3-01B-56	6790 5727	alltung@ntu.edu.sg	By prior appointment via email
Ramchand Jagtiani	S3-B2C-103	6908 1977	jagtiani@ntu.edu.sg	By prior appointment via email
Mrs Neerja Sethi	S3-B2A-25	6790 4921	aneerja@ntu.edu.sg	By prior appointment via email
Qi Dong	S3-B2C-85		john.dong@ntu.edu.sg	By prior appointment via email

#### K) Planned Weekly Schedule

Week	Topic	ILO	Readings/ Activities
1	<p><b>Introduction and Business Processes</b></p> <p>This section provides an introduction and overview of the course, and teaches students about organizational functions, business processes and how their information needs are supported by enterprise information systems.</p> <p><b>Enhancing Business Processes through Reengineering &amp; IT</b></p> <p>This section introduces students to current IT developments and how IT can be applied to automate, improve, and redesign business processes. Students should be able to appreciate:</p>	ILO-1	<p>RSSW Ch. 1</p> <p>Hammer 1990</p> <p>Hammer 2004</p> <p>El Sawy Ch. 3</p>

	<ul style="list-style-type: none"> <li>- The key principles behind process automation, improvement, redesign, and management</li> <li>- The need to challenge assumptions underlying business processes</li> <li>- The benefits and challenges of ERP-driven redesign</li> <li>- The need for change management to support redesigned processes.</li> </ul>		
2	<p><b>Modeling Business Processes: Flowcharts</b></p> <p>This section introduces students to key concepts in modeling cross-functional transaction flows in business processes using system flowchart.</p>	ILO 1 & 2	RSSW Ch.3
3	<p><b>Controls in IT-enabled Business Processes</b></p> <p>This session provides students with an understanding of the key controls behind IT-enabled business processes. Students should be able to:</p> <ul style="list-style-type: none"> <li>- Describe the major risks that need to be guarded against in the IT-enabled business processes, in particular with a focus on revenue and expenditure cycles.</li> </ul>	ILO 1 & 2	RSSW Ch. 10
4	<p><b>ERP and SAP Navigation</b></p> <p>This session introduces students to the navigation of the SAP system and provides an overall understanding of ERP – its key components and characteristics.</p>	ILO 3 & 4	RSSW Ch. 2 Magal Ch. 2
5	<p><b>Financial Accounting and Business Reporting using ERP Systems</b></p> <p>This session provides students with an understanding of</p> <ul style="list-style-type: none"> <li>- How ERP systems can help address the problems of an un-integrated accounting and financial reporting system</li> <li>- Describe the organizational levels and master data critical for the FI module in SAP</li> <li>- How ERP systems are used to support financial reporting through built-in reports and query within SAP.</li> </ul>	ILO 3 & 4	RSSW Ch. 18 JH Ch. 8 Magal Ch. 3
6	<p><b>Fulfillment Process (1) – Sales Order and Delivery</b></p> <p>This seminar provides students with an understanding of how SAP can be used to support the revenue cycle of an enterprise. Students should be able to:</p> <ul style="list-style-type: none"> <li>- List the organizational levels that are critical for the revenue cycle</li> <li>- List the master data that are critical for the revenue cycle</li> <li>- Understand in greater detail how SAP supports different transactions in the revenue cycle.</li> </ul>	ILO 3 & 4	RSSW Ch.14 JH Ch. 4 Magal Ch. 5
7	<p><b>Fulfillment Process (2) – Billing &amp; AR Management</b></p> <p>This session provides students with an understanding of how an accounting and financial reporting system is integrated with the</p>	ILO 3 & 4	RSSW Ch. 14 JH Ch. 4 Magal Ch. 5

	<p>revenue cycle, specifically through AR management. Students should be able to</p> <ul style="list-style-type: none"> <li>- Understand the key functionalities under AR management</li> <li>- Describe the integration between the revenue cycle transactions and FI modules, and appreciate the benefits of such integration.</li> </ul>		
8	<p><b>Procurement Process using ERP</b></p> <p>This seminar provides students with an understanding of how SAP can be used to support the expenditure cycle of an enterprise. Students should be able to answer the following questions:</p> <ul style="list-style-type: none"> <li>- List the organizational levels that are critical for the expenditure cycle</li> <li>- List the master data that are critical for the expenditure cycle</li> <li>- Understand in greater detail how SAP supports different transactions in the expenditure cycle.</li> </ul>	ILO 3 & 4	RSSW Ch. 15 JH Ch. 5 Magal Ch. 4
9	<p><b>Process Enhancement &amp; Controls using ERP</b></p> <p>This seminar revisits the accounting cycle, revenue cycle and expenditure cycle and examines how the use of ERP helps to enhance business processes with automation and control process-related risks for the enterprise.</p>	ILO 3 & 4	-
10	<p><b>Robotic Process Automation (I)</b></p> <p>This seminar introduces students to key concepts of RPA and how it can be applied in business through use cases. Students will learn several functions in UiPath, an RPA software.</p>	ILO 5	TBA
11	<p><b>Robotic Process Automation (II)</b></p> <p>This seminar introduces students to automation of processes using UiPath. Students will have some hands-on practice using UiPath.</p>	ILO 5	TBA
12	<p><b>Course Review</b></p> <p>This seminar provides students with a review of the entire course, and past year exam papers.</p>	ILO 1, 2, 3 & 4	-
13	<p><b>Project Presentations</b></p>	ILO 1-5	-

**ANNEX B: ASSESSMENT CRITERIA FOR \_\_\_\_\_****Assessment Rubric 1 – for Individual Class Participation**

**Learning objective:** The ability to verbally contribute to class discussions effectively.

Traits	Performance	
<b>1. Class participation (10 marks)</b>	Evaluation: <b>Not Yet 1 2 3 4 5 6 7 8 9 10 Substantially Developed</b>	
	<b>Not Yet</b>	<b>Substantially Developed</b>
Punctuality	Always late for class (on multiple occasions)	Always on time for class
Engagement	Hardly focuses in class	Engages fully in class
Contribution frequency	Hardly speaks up / contributes in class	Speaks up / contributes in most classes
Contribution quality	Contributions lack substance	Contributions are often constructive and insightful

Assessment Rubric 2 – for Course Project (Planning & Execution)**Learning objectives:**

- 1) Describe key business processes of an organization, and how the data captured flows through to financial accounting.
- 2) Model and analyze key business process activities, to identify risk and control issues related to the process.
- 3) Evaluate enterprise information systems, and explain how they are used in organizations.

Traits	Performance	
<b>1. Engagement with host organization (Group) (4 marks)</b>  Ability to engage appropriate host organization and discuss its salient and important background information, and gain understanding of process activities.	<b>Not Yet</b> Demonstrates little understanding of the organization's context and business processes.	<b>Substantially Developed</b> Demonstrates a clear understanding of the organization's context and business processes.
	Evaluation:  <b>Not Yet   1   2   3   4   5   6   7   8   9   10   Substantially Developed</b>	
<b>2. Execution of project (Group) (16 marks)</b>  (a) Ability to conduct an analysis of the process, and to develop systems flowchart. (7 marks)  (b) Ability to recommend process improvements for greater efficiency and stronger control. (4 marks)  (c) Ability to evaluate a cloud-based ERP system and make recommendations thereof to address the company's needs. (5 marks)	<b>Not Yet</b> Provides only a partial and/or superficial analysis of the organization's process, and fails to make meaningful links to the recommendations offered.	<b>Substantially Developed</b> Provides a comprehensive and accurate analysis of the organization's process, and makes meaningful recommendations based on the organization's context.
	Evaluation:  <b>Not Yet   1   2   3   4   5   6   7   8   9   10   Substantially Developed</b>	



<p><b>3. Presentation of results (Individual) (10 marks)</b></p> <p>(a) Ability to demonstrate an in-depth understanding of the accounting package and present professionally and clearly to the audience (3 marks).</p> <p>(b) Ability to organize content coherently and signals transitions between points (2 marks).</p> <p>(c) Ability to speak at appropriate speed and volume and use correct grammar and pronunciation (3 marks).</p> <p>(d) Ability to establish eye contact and use gestures and movement to convey energy and confidence (2 marks).</p>	<p><b>Not Yet</b>                  Demonstrates inadequate understanding of the accounting package, and how it can meet the organization’s needs. Content is incoherent, speech is too fast, unclear and too soft. Minimal engagement with the audience.</p>	<p><b>Substantially Developed</b>                  Demonstrates an in-depth understanding of the accounting package and provides a comprehensive and accurate evaluation of the package based on the organization’s needs. Content is well organized, presentation is professionally delivered with good audience engagement.</p>
<p>Evaluation:</p> <p><b>Not Yet</b>   <u>1</u>   <u>2</u>   <u>3</u>   <u>4</u>   <u>5</u>   <u>6</u>   <u>7</u>   <u>8</u>   <u>9</u>   <u>10</u>   <b>Substantially Developed</b></p>		

## Assessment Rubric 3 – for Peer Evaluation (Teamwork and Interpersonal Skills)

Traits	Performance	
<p><b><u>Roles and Responsibility</u></b> Behaves professionally by upholding responsibility and assuming accountability for self and others in progressing towards the team's goal.</p>	<p><b>Not Yet</b> Unclear about his/her own role; refuses to take a role in the group; insists to work individually and has limited coordination or communication with others.</p>	<p><b>Substantially Developed</b> Always fulfills responsibilities; performs his/her role within the group with enthusiasm and demonstrates willingness to work collaboratively.</p>
<p><b>Evaluation: Not Yet 1 2 3 4 5 6 7 8 9 10 Substantially Developed</b></p>		
<p><b><u>Communication</u></b> Identifies appropriate mechanisms to coordinate and correspond with team members.</p>	<p><b>Not Yet</b> Modes of communication are not appropriate, causing confusion and miscommunication among team members.</p>	<p><b>Substantially Developed</b> Modes of communication are appropriate, and maintain timely communication and correspondence with team members.</p>
<p><b>Evaluation: Not Yet 1 2 3 4 5 6 7 8 9 10 Substantially Developed</b></p>		
<p><b><u>Conflict Resolution</u></b> Resolves conflicts using a variety of approaches.</p>	<p><b>Not Yet</b> Does not recognize conflicts or is unwilling to resolve conflicts.</p>	<p><b>Substantially Developed</b> Consistently resolves conflicts through facilitating open discussion and compromise.</p>
<p><b>Evaluation: Not Yet 1 2 3 4 5 6 7 8 9 10 Substantially Developed</b></p>		
<p><b><u>Contributions</u></b> Contributes positive input for the team; effectively utilizes one's knowledge and expertise.</p>	<p><b>Not Yet</b> Largely disinterested in working in a group and refuses to participate; observes passively or is unwilling to share information with other team members.</p>	<p><b>Substantially Developed</b> <u>Actively attends and participates in all activities and provides meaningful contribution in articulating ideas and opinions.</u></p>
<p><b>Evaluation: Not Yet 1 2 3 4 5 6 7 8 9 10 Substantially Developed</b></p>		
<p><b><u>Relationship</u></b> Maintains cooperative interaction with other team members regardless of individual /cultural differences and respects diverse perspectives.</p>	<p><b>Not Yet</b> Rarely listens to others and does not acknowledge the opinions that differ from his/her own.</p>	<p><b>Substantially Developed</b> Engages in respectful relationships with all other members in the team. Embraces and accepts diverse points of view without prejudice.</p>
<p><b>Evaluation: Not Yet 1 2 3 4 5 6 7 8 9 10 Substantially Developed</b></p>		