



# Course Specifications

<b>Course Title:</b>	IT Applications in Auditing
<b>Course Code:</b>	ACC 445
<b>Program:</b>	Bachelor of Science in Accounting
<b>Department:</b>	Accounting
<b>College:</b>	Business Administration
<b>Institution:</b>	Prince Sultan University

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## A. Course Identification

<b>1. Credit hours:</b>
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input type="checkbox"/> Elective <input checked="" type="checkbox"/>
<b>3. Level/year at which this course is offered: Year 4</b>
<b>4. Pre-requisites for this course (if any):</b> Auditing & Assurance (ACC348)
<b>5. Co-requisites for this course (if any):</b> None

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom		
2	Blended	45	100%
3	E-learning		
4	Correspondence		
5	Other		

### 7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
<b>Contact Hours</b>		
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	<b>Total</b>	
<b>Other Learning Hours*</b>		
1	Study	
2	Assignments	
3	Library	
4	Projects/Research Essays/Theses	
5	Others (specify)	
	<b>Total</b>	

\* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

## B. Course Objectives and Learning Outcomes

### 1. Course Description

To meet business objectives and to thoughtfully manage IT related business risks, it is important to effectively managing information technology (IT). This course examines the key principles related to auditing information technology processes and related controls and is designed to meet the increasing needs of audit, compliance, security and risk management professionals.

### 2. Course Main Objective

The primary objectives of the course are to:

- Establish an understanding of the IT environment and the role of the IT auditor,
- Recognize how corporate and IT governance practices impact the IT audit process,
- Develop an understanding of the IT audit process i.e., risk assessment, planning, standards, guidelines and best practices, and
- Survey IT audit approaches to: – Systems development and maintenance, – IT security, – IT service delivery and support, – Business continuity and disaster recovery, and – Data analytics and fraud detection.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge:</b>	
1.1	Understand the IT environment and the role of the IT auditor.	PLO 1.1
1.2	Identify the key principles related to auditing information technology processes and related controls.	PLO 1.1
2	<b>Skills :</b>	
2.1	Appraise an understanding of the IT audit process i.e., risk assessment, planning, standards, guidelines and best practices, and	PLO 2.1
2.2	Evaluate IT audit on Systems development and maintenance	PLO 2.1
2.3	Comprehend the relevant professional ethics and legal issues when dealing with IT Audit.	PLO 3.1
2...		
3	<b>Competence:</b>	
3.1	Demonstrate effective team work in group assignments and discussions	PLO 3.2

## C. Course Content

No	List of Topics	Contact Hours
1	<i>IT environment and IT audit</i> <ul style="list-style-type: none"> <li>- IT environment</li> <li>- The auditing profession</li> <li>- What is IT auditing?</li> <li>- IT auditing trends</li> <li>- Need for IT audit</li> <li>- Role of the IT auditor</li> <li>- The IT audit profession</li> </ul>	3
2	<i>IT audit legislations and governance</i> <i>IT crimes and cyberattacks</i>	3

	<p><i>Sarbanes Oxley</i></p> <p><i>International privacy laws</i></p>	
4	<p><b>IT audit process</b></p> <ul style="list-style-type: none"> <li>➤ Developing the IT audit plan:</li> <li>➤ Risk assessment</li> <li>➤ Audit universe</li> <li>➤ Audit planning</li> <li>➤ Other types of IT audit</li> <li>➤ COBIT</li> </ul>	4
5	<p><b>Tools and techniques in IT audit</b></p> <ul style="list-style-type: none"> <li>- Audit productivity tools</li> <li>- System documentation techniques</li> <li>- Flowcharting</li> <li>- Computer-Assisted Audit Techniques (CAATs)</li> <li>- Auditing around/through the computer</li> <li>- Computer forensic tools</li> </ul>	3
6	<p><b>IT governance and strategy</b></p> <ul style="list-style-type: none"> <li>➤ IT governance framework</li> <li>➤ IT performance metrics</li> <li>➤ Regulatory compliance and internal controls</li> <li>➤ IT strategy</li> <li>➤ IT steering committee</li> <li>➤ Communication</li> <li>➤ Operational planning</li> </ul>	3
7	<p><b>Risk Management</b></p> <ul style="list-style-type: none"> <li>- <i>Enterprise Risk Management-Integrated Framework</i></li> <li>- <i>Risk Assessment</i></li> <li>- <i>Available Guidance</i></li> <li style="padding-left: 20px;"><i>COBIT</i></li> <li style="padding-left: 20px;"><i>ISO/IEC</i></li> <li style="padding-left: 20px;"><i>National Institute of Standards and Technology (NIST)</i></li> <li>- <i>Government Accountability Office (GAO)</i></li> <li style="padding-left: 20px;"><i>American Institute of Certified Public Accountants (AICPA)</i></li> <li style="padding-left: 20px;"><i>ISACA</i></li> <li style="padding-left: 20px;"><i>Institute of Internal Auditors (IIA)</i></li> <li style="padding-left: 20px;"><i>Committee of Sponsoring Organizations of the Treadway Commission (COSO)</i></li> <li>- <i>Insurance as Part of IT Risk Assessments</i></li> </ul>	4
7	<p><b>Project Management</b></p> <ul style="list-style-type: none"> <li>- Project Management Standards, Leading Authorities, and Methodologies</li> <li>- Key Factors for Effective Project Management</li> <li>- Program Management</li> <li>- Project Management: Auditor's Role</li> <li>- Big Data Project Management</li> <li>-</li> </ul>	3
8	<p><b>System Development Life Cycle</b></p> <ul style="list-style-type: none"> <li>- System Development Life Cycle</li> </ul>	4

	<ul style="list-style-type: none"> <li>- Additional Risks and Associated Controls Related to the SDLC Phases</li> <li>- Approaches to System Development <ul style="list-style-type: none"> <li>Waterfall System Development</li> <li>Agile System Development</li> <li>Adaptive Software Development</li> <li>Joint Application Development</li> <li>Prototyping and Rapid Application Development</li> <li>Lean Software Development</li> <li>End-User Development</li> </ul> </li> <li>- IT Auditor's Involvement in System Development and Implementation</li> </ul>	
9	<p><b>Application Systems: Risks and Controls</b></p> <ul style="list-style-type: none"> <li>- Application System Risks</li> <li>- End-User Development Application Risks</li> <li>- Risks to Systems Exchanging Electronic Business Information</li> <li>- Web Application Risks</li> <li>- Application Controls</li> <li>- IT Auditor's Involvement</li> </ul>	3
10	<p><b>Change Control Management</b></p> <ul style="list-style-type: none"> <li>Importance of a Change Control System</li> <li>Change Control Management Process</li> <li>Change Control Management Procedures</li> <li>Configuration Management</li> <li>Organizational Change Management</li> </ul>	3
11	<p><b>Information Systems Operations</b></p> <ul style="list-style-type: none"> <li>- Operating Policy and Procedures</li> <li>- Data Processing</li> <li>- Protection of Data Files and Programs</li> <li>- Physical Security and Access Controls</li> <li>- Environmental Controls</li> <li>- Program and Data Backups</li> <li>- Business Continuity Plan</li> <li>- Disaster Recovery Plan</li> <li>- Auditing End-User Computing</li> <li>- Audit Involvement in Information Systems Operations</li> </ul>	4
12	<p><b>Information Security</b></p> <ul style="list-style-type: none"> <li>- Information Security</li> <li>- Information Security in the Current IT Environment</li> <li>- Information Security Threats and Risks</li> </ul>	3

	<ul style="list-style-type: none"> <li>- Information Security Standards <ul style="list-style-type: none"> <li>o COBIT</li> <li>o ISO/IEC 27002</li> <li>o NIST</li> </ul> </li> <li>- Information Security Policy</li> <li>- Information Security Roles and Responsibilities</li> <li>- Information Security Controls</li> <li>- Selection and Testing of Information Security Controls</li> <li>- Involvement in an Information Security Audit</li> </ul>	
13	<b>Systems Acquisition, Service Management, and Outsourcing</b> <ul style="list-style-type: none"> <li>- Systems Acquisition Strategy</li> <li>- Systems Acquisition Process</li> <li>- Service Management</li> <li>- Outsourcing IT Systems</li> <li>- IT Audit Involvement <ul style="list-style-type: none"> <li>o Auditing Software Acquisitions</li> <li>o Auditing Service Organizations</li> </ul> </li> </ul>	3
14	<b>Revision</b>	2
<b>Total</b>		45

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
1.1	Understand the IT environment and the role of the IT auditor.	A combination of lectures, discussion and case studies	Class test/Quiz, Assignments
1.2	Identify the key principles related to auditing information technology processes and related controls.	A combination of lectures and tutorials	Examinations, Assignments
...			
<b>2.0</b>	<b>Skills</b>		
2.1	Appraise an understanding of the IT audit process i.e., risk assessment, planning, standards, guidelines and best practices, and	A combination of lectures and case studies	Examinations, Assignments
2.2	Evaluate IT audit on Systems development and maintenance	A combination of lectures and case studies	Examinations, Assignments
2.3	Apprehend the relevant professional ethics and legal issues when dealing with IT Audit.	A combination of lectures, tutorials and problem-solving exercises	Examinations, Assignments
<b>3.0</b>	<b>Competence</b>		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.1	Demonstrate effective team work in group assignments and discussions	A combination of lectures and discussions	Class test/Quiz
...			

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Student Assessment (Participation, Assignments and attendance)	Every week	20%
2	Examination –Major I	7	20%
3	Examination -Major II	12	20%
4	Final Exam	19	40%
5			
6			
7			
8			

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	Information Technology Control and Audit (Fifth Edition) by Angel R. Otero
<b>Essential References Materials</b>	International Standards on Auditing Handbook
<b>Electronic Materials</b>	<a href="http://www.socpa.org.sa">http://www.socpa.org.sa</a> <a href="http://www.tadawul.com.sa">http://www.tadawul.com.sa</a> <a href="https://www.iaasb.org/">https://www.iaasb.org/</a> <a href="https://www.ifac.org/">https://www.ifac.org/</a> <a href="https://www.icaew.com/technical/audit-and-assurance/audit">https://www.icaew.com/technical/audit-and-assurance/audit</a> <a href="https://www.accaglobal.com/hk/en/student/exam-support-resources/fundamentals-exams-study-resources/f8/technical-articles.html">https://www.accaglobal.com/hk/en/student/exam-support-resources/fundamentals-exams-study-resources/f8/technical-articles.html</a>
<b>Other Learning Materials</b>	



## 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	Desktop that is connected to internet, projector and smart board.
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	White Board and Marker

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Achievement of Course Learning Outcome	Student	Indirect
Effectiveness of teaching and assessment	Instructor/Peer review	Direct

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

Council / Committee	Department of Accounting Council
Reference No.	Meeting No. 1
Date	August 9, 2020