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| **Instructor:** | Johan Perols | **E-mail:** | [jperols@sandiego.edu](mailto:jperols@sandiego.edu) |
| **Office:** | OH 223 | **Class Times:** | Section 1: TR 9:15-10:35  Section 2: TR 10:45-12:05 |
| **Office Hours:** | W/TH: 12:45-1:45 PM  W: 9:00-12:00 PM | **Classroom:** | OH 331 |

COURSE DESCRIPTION

Information requirements and transaction processing procedures relevant to accounting information systems. The course emphasizes accounting system design and related internal controls. The course also emphasized data analysis of transaction processing data.

MISSION STATEMENT

The mission of the USD accountancy programs is to develop accountants -- through the use of personalized, innovative teaching methods developed by faculty who are active in the production and dissemination of knowledge -- who have the skills to become professionally certified accountants and compete in a diverse and fast-changing global professional environment.

PREREQUISITES

You must have completed **ACCT 300 Intermediate Accounting I and ACCT 302 Cost Accounting** or its equivalent to be enrolled in this class. If you have not met this requirement, you will be administratively dropped from this course.

**REQUIRED TEXTS, MATERIALS**

* PowerPoint slides, study guides, and other downloads will be posted on Blackboard. This content is essential and is the only thing you need for exams.
* Systems Understanding Aid, 9th Edition, Arens and Ward (978–0–912503–57-8). Only purchase the 9th edition and make sure the practice set is new (best to purchase at the bookstore).

COURSEWORK

**Midterms and Quizzes:** There will be two exams. Each exam will contain short answer/problems and multiple choice questions. Any topic assigned for class or presented in class is possible exam material. The exams are not comprehensive and no calculators will be needed. ***If you miss an exam without prior permission, you will automatically receive an “F” grade for the exam.*** The content in the second exam is covered using a flipped classroom. To provide structure and an incentive to review online course lectures before due dates, five short quizzes will be given at the beginning of the classes when the five lecture reviews are due. Only the top four scores will count towards course grades.

**Cases/Assignments/Skills Assessments:**

**Systems Understanding Aid** *–* This exercise provides you an opportunity to gain an in depth understanding of how a traditional, financial statement oriented, accounting system operates. Various exercises include an introduction to business process controls and the forms that have traditionally provided the documentation for the accounting process and how the information in these documents are used to updated accounting journals and ledgers.

**Data Analysis** - There are four assignments designed to enhance your data analysis skills, with an emphasis on analyzing accounting processes and data. Each assignment introduces a new software application. These software applications provide complimentary functionality and will give you a relatively comprehensive toolset to use for solving real world problems more effectively and efficiently. See below for a high-level overview of each assignment. The assignments have a take-home assignment that is followed by a skills tests to evaluate your skills. Both the take-home assignment and the skills tests are graded, but the bulk of points are earned on skills tests. Solutions are given for the take-home assignments and take home assignments are primarily graded based on timeliness of submissions and effort. The skills tests are administered after each respective assignment has been completed. The skills tests will contain problems related to the specific skills learned in the assignment. The completion and *understanding* of the assignments will prepare you for the skills tests.

***Excel*** - Excel is extensively used by business professionals; firms will more or less expect that you know how to use Excel. This assignment will not only introduce you to Excel, it will also teach you some of the more advanced data analysis functions in Excel, with a focus on teaching you skills that are useful to accountants. You will gain hands on experience using Excel to analyze transactional data. Some of the advanced features you will learn include vlookups, pivot tables, string and date functions, macros, if statements and conditional formatting.

***SQL*** - A large majority of business operational data and almost all accounting data are stored in traditional data systems, such as relational databases. The data in these databases are accessed using SQL and can also be further manipulated using SQL. Consequently, SQL and relational database skills are two of the most sought after skills by recruiters that hire business analytics professionals (Mamonov et al. 2014; Wixom et al. 2014). While SQL is widely used, many accountant are either not aware of the benefits SQL can provide or they lack the skills necessary to use SQL. You will be introduced to SQL and gain hands on experience using SQL to analyze transactional data. You will lean a wide variety of SQL features such as joins, find unmatched queries, case statements, complex where and having clauses, aggregate functions, views, and sub-queries.

***ACL*** - ACL is the leading software solution for independent testing and monitoring of transactional data. Major accounting firms and corporations use ACL for external and internal auditing. You will gain experience importing data and using a majority of the functions provided by ACL such as Benford’s law, join, age, histogram, statistics, profile, classify, sequence, and gap to analyze accounting data.

**Tableau** - Interactive data visualization (e.g., Tableau) is increasingly used to also explore and analyze structured data. Similarly to SQL, interactive data visualization uses filters, joins, and aggregations, but instead of producing tabular results, results are displayed as visualizations (e.g., diagrams). Interactive data visualization has quickly gained in importance (Pacampara 2014) and such skills are increasingly required by employers looking to hire data analytics professionals (Mamonov et al. 2014). Tableau and other interactive data visualization tools are also increasingly used in both industry and public accounting.

**Attendance/Quizzes:** I do not take attendance.

EVALUATION

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| Exam 1 | 15 points |
| Exam 2 | 11 points |
| Quizzes (top four, one point each) | 4 points |
| Systems Understanding Aid | 10 points |
| Excel/SQL/Tableau/ACL - Skills Tests (each 15 points) | 60 points |
|  | 100 points |

**GRADING**

Grades are determined based on the scale below. **I do not round up or down**, the points you earn determine your course grade.

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| 93% or better | A |
| 90% – 93% | A- |
| 87% – 90% | B+ |
| 83% – 87% | B |
| 80% – 83% | B- |
| 77% – 80% | C+ |
| 73% – 77% | C |
| 70% – 73% | C- |

COURSE OBJECTIVES

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| **Key Objectives of the Bachelor of Accountancy Program** | **Specific Functional Competencies and Technical Skills Addressed in the Course** | **Level of Emphasis and**  **Expected Measurable Outcomes** |
| 1. Develop Technical Accounting Measurement and Reporting Skills | 1. Events that trigger financial and non-financial transactions and how these events are organized to form the revenue cycle and the procurement cycle. 2. General controls and application controls in the revenue cycle and the procurement cycle. 3. Internal controls reporting requirements and internal controls frameworks. 4. Documentation of internal controls using control matrices. | **Major Emphasis**  Students should be able to:  outline tasks performed and functional departments in the revenue cycle and the procurement cycle;  describe accounting records documents, journals and accounts needed for audit trails, records, decision making and financial reporting;  perform manual processing of purchases and sales, including completing source documents, updating journals and ledgers, and performing controls;  describe revenue and procurement cycle controls; and  define key features of the COSO internal control frameworks and Sections 302/404 of SoX. |
| 2. Develop Business Writing and Oral Communication Skills |  | Some Emphasis  Students should develop their abilities to work in small groups*.* |

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| **Key Objectives of the Bachelor of Accountancy Program** | **Specific Functional Competencies and Technical Skills Addressed in the Course** | **Level of Emphasis and**  **Expected Measurable Outcomes** |
| 3. Develop Skills to Utilize and Leverage Technology in the Accountancy Profession | 1. Fundamentals of Database Management Systems and the Relational Model. 2. Transaction system modeling using flowcharts. 3. Data analysis using Microsoft SQL, Microsoft Excel, ACL, and Tableau. | **Major Emphasis**  Students should be able to:  describe problems inherent in the flat file approach to data management that gave rise to the database concept;  outline relationships among the defining elements of the database environment;  list and summarize anomalies caused by unnormalized databases and the need for data normalization;  analyze transaction data using SQL functions such as joins, find unmatched, case statements, text functions, complex where clauses, aggregate functions, and having; and  analyze transaction data using Microsoft Excel functions such as vlookups, pivot tables, lists, string and date functions, macros, if statements and conditional formatting; and  import data and analyze transaction data using ACL functions such as Benford’s law, join, age, histogram, statistics, profile, classify, sequence, and gap.  Create data stories in Tableau and be able to load, join, and transform data and create LOD statements, dual-axis graphs, control charts, filter based on group ranks, use of marks area, etc. |
| 4. Develop Leadership and Interpersonal Skills |  | Some Emphasis  Students should be able to work in teams as a part of assignments. |
| 5. Skills to Critically Analyze Information | 1. Business process improvement and reengineer. 2. Evaluation of internal controls. 3. Development of models (flowcharts, business process maps, and entity relationship diagrams) from descriptions of policies and procedures where several modeling alternatives are possible. | **Major Emphasis**  Students should be able to:  describe, analyze and evaluate business cycle models and related controls;  analyze and synthesize information related to business cycles and controls using various modeling techniques; and  discuss alternative modeling and control design solutions, and advantages and disadvantages of each. |
| 6. Develop Ethical Attitudes and Values |  | **Some Emphasis**  **Students should be able to:**  **recognize ethical issues related to information systems; and**  **recognize the relations among ethics, fraud and internal controls.** |

**ACADEMIC INTEGRITY POLICY**

The University of San Diego policy on the Integrity of Scholarship contained in the *Undergraduate Bulletin* is explicitly a part of this course. As per the *Undergraduate Bulletin,* “Academic dishonesty is an affront to the integrity of scholarship at USD and a threat to the quality of learning. To maintain its creditability and uphold its reputation, the University has procedures to deal with academic dishonesty which are uniform and which all should understand.” Violations of academic dishonesty include the following: Serious violations include the following acts: (1) intentional giving or use of external assistance during an examination, (2) intentional falsification or invention of data, citation or other authority in an academic exercise, (3) unauthorized collaboration, (4) plagiarism, (5) intentional and unauthorized taking or concealment of library or course materials, (6) unauthorized access of an instructor's files or computer account, and (7) any other intentional violation of rules or policies established in writing by a course instructor. This course implements the following additional policy: students are prohibited from redistributing any course content.

Deviations from the standards of this policy will result in sanctions including “reduction in grade of the affected person in the course or exercise; the requirement that the affected person withdraw from the course or exercise; the requirement that all or part of the course or exercise be retaken; the requirement that the person engage in additional work in connection with the course or exercise.” The University may also decide to apply additional penalties. You are encouraged to obtain a full copy of the policy. If you have any doubts about whether a particular activity violates the academic integrity policy, please consult me to obtain an interpretation.

TENTATIVE COURSE OUTLINE

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| **Dates** | **Class Topic & Activities** | **Due** |
| 1/28/2020 | Course Introduction |  |
| 1/30/2020 | Introduction to AIS and Transaction Processing | Study Guide 1 – AIS Intro and Transaction Processing |
| 2/4/2020 | Excel Take-Home Assignment |  |
| 2/6/2020 | Excel Take-Home Assignment | Questions 1-13 (without Excel Instructions 'additional exercises') |
| 2/11/2020 | Excel Take-Home Assignment | Excel Instructions 'additional exercises' in questions 1-13 |
| 2/13/2020 | **Excel Skills Test** |  |
| 2/18/2020 | Documents and Accounting Records | Study Guide 2 – Documents and Records |
| 2/20/2020 | Introduction to Internal Controls and COSO | Study Guide 3  – SOX, Internal controls, and COSO |
| 2/25/2020 | **Exam 1** | Study Guides 1 – 3 |
| 2/27/2020 | **Quiz**: Introduction to AIS Modeling Revenue Flowcharting Exercise | Study Guide 4  Review Introduction to AIS Modeling Lecture |
| **March 3 and 5 – Spring Break** | | |  |  |
| 3/10/2020 | Music Source Modeling Exercise | Revenue Cycle Flowcharting Exercise  Review Revenue Flowcharting Exercise Walkthrough Tutorial |

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| **Dates** | **Class Topic & Activities** | **Due** |
| 3/12/2020 | Music Source Exercise Walkthrough Modeling Case Assigned | Music Source Modeling Exercise |
| 3/17/2020 | **Quiz:** Revenue Cycle Processing and Accounting Records Lecture  SUA Revenue Transactions | Study Guide 5  Review Revenue Cycle Processing and Accounting Records Lecture |
| 3/19/2020 | SUA Revenue Transactions/  Modeling Case Q&A | Modeling Case |
| 3/24/2020 | **Quiz:** Revenue Cycle Controls  SUA Revenue Transactions | Study Guide 6  Review Revenue Cycle Controls Lecture |
| 3/26/2020 | EY Accounting Analytics Presentation | **SUA** |
| 3/31/2020 | **Quiz:** Expenditure Processing and Accounting Records  SUA Expenditure Transactions | **SUA Revenue Transactions**  Study Guide 7  Review Expenditure Processing and Accounting Records Lecture |
| 4/2/2020 | **Quiz**: Expenditure Controls  SUA Expenditure Transactions | Study Guide 8  Review Expenditure Controls Lecture |
| 4/7/2020 | **Exam 2** | Study Guides 5 - 8; Flowcharting; Control Design Evaluation |
| **April 9 – Easter Break** | | |
| 4/14/2020 | SQL Take-Home Assignment | Queries 1-10 (without SQL Instructions 'additional exercises') |
| 4/16/2020 | SQL Take-Home Assignment | Queries 10-19 (without SQL Instructions 'additional exercises') |
| 4/21/2020 | SQL Take-Home Assignment | SQL Instructions 'additional exercises' |
| 4/23/2020 | **SQL Skills Test** |  |
| 4/28/2020 | Tableau Take-Home Assignment | Data Loading and Data Transformation and Visual Analytics tutorials  Problems 1-3 |
| 4/30/2020 | Tableau Take-Home Assignment | Problems 4-16 |
| 5/5/2020 | **Tableau Skills Test** |  |
| 5/7/2020 | ACL Take-Home Assignment  Location: Serra 156B | Initial Registration (submit a screenshot showing that you have successfully started ACL) |
| 5/12/2020 | ACL Take-Home Assignment  Location: Serra 156B | Part 1(submit screenshots showing your work) |
| Finals: **ACL Skills Test**  Section 1: 5/21/2020 9:00 AM - 10:00 AM (notice that the start time is 9:00 rather than 8:00)  Section 2: 5/19/2020 11:00 AM - 12:00 PM  Location Maher 114 | | |

\* Items in bold are graded

**Course Overview/Learning Modules**:

