Financial Information Systems (OMIS 150 / ACTG 155)

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Contents

Motivation

Financial information systems (FIS) are **the neural network of business organizations**. They record the financial impact of every business transactions and translate the consolidated impact into actionable information on cash-flow, revenue, profitability, and taxation for executives, shareholders, and external stakeholders.

Today, with businesses generating up to one million transactions each day, FIS are the cornerstone of effective and accurate financial reporting on the strategic level but also for day-to-day operations. Additionally, FIS

are an important element in ensuring regulatory compliance. Modern FIS allow you to investigate, audit, and optimize business processes using financial information.

Understanding the fundamentals of FIS, the relationship of FIS and business processes, and being able to analyze FIS using data analysis techniques help you to become an invaluable addition to any business organization.

Learning objectives

The domain of financial information systems (FIS) is complex and changes quickly with an increasing rate of innovations on the horizon. The main objective of this course is to provide you with strong fundamentals that help you to navigate through this complex world.

Upon successful completion of the course, you will be able to:

- analyze business problems using FIS,
- demonstrate a moderate level of comfort in working with SAP ERP and data analysis techniques,
- evaluate FIS technology for integrated business processes.

The chances are high that you will be working with FIS throughout your career. This course enables you to establish a competitive advantage in the global marketplace.

Course Logistics

Prerequisites

Please review the SCU undergraduate bulletin for prerequisites. Exceptions need approval by the program office. They will contact me if needed.

Textbook

Required: Understanding ERP Systems: Integrated Business Processes with ERP Systems by Simhar R. Magal and Jeffrey Word, Wiley, 2012. ISBN: 978-0-470-47844-8.

Optional: SAP ERP FICO: SAP ERP Financial Accounting and Controlling: Configuration and Use Management by A. Okungbowa, apress, 2015. ISBN: 978-1484207178. (This book is available online through the SCU library and serves as a reference to the master data and processes in SAP ERP FICO. This book is not required.)

All other readings and course materials will be available in Camino.

Technology

1. We use SAP systems illustrate core concepts of the class and to practice the use of information systems in common business processes. You need to obtain access to our SAP system (accessible only with SCU ID).
2. We use basis data analytics technology (Spreadsheet Software, Python Pandas) to analyze data generated by FIS. I assume that you have some version of spreadsheet software is installed on your computer. We use Google Colaboratory for more advanced data analysis. **No worries**, no programming skills are prerequisite to this course.

Communication

I am committed to your learning success. Please feel free to contact me with any questions regarding this course. If I am not able to help you myself, I will forward your request to someone who can.

1. If you have general questions about course material, assignments, etc. please write them into this FAQ document (accessible only with SCU ID).
2. Before you write an email, please read and comment in the FAQ document (accessible only with SCU ID).
3. If you send me an email that contains questions of interest to the whole class, I will answer them in the FAQ document (accessible only with SCU ID).
4. My office hours are Mondays, Wednesdays, and Fridays before class from 12:00pm to 1:00pm in my office. It is ok to bring your lunch ;). Please make an appointment here. I am also available for 30 minutes after each class.
5. Upon request, I am also available outside of my office hours. Your meeting request must have a specific agenda. I am available via phone, zoom, or face-to-face.
6. I post all course material, course information, announcements, and updates on Camino. Please make sure that your correct email address is listed in Camino so that you do not miss important information.

Class Meetings

Class meetings are **Mondays, Wednesdays, and Fridays**, **1:00 PM to 2:05 PM** in **Bannan Engineering, ENGR 325 (Third floor)**.

Each class during the week has a **theme**:

- Class meetings on **Monday** focus on the a specific **business process** and its financial implications.
- Class meetings on **Wednesday** focus on the **architecture** of FIS to implement and automate the specific business process.
- Class meetings on **Friday** focus on **integrating** the discussion of the week.

Assignments

> *"What it boils down to is one per cent inspiration and ninety-nine per cent perspiration." (Thomas Edison)*

Your mastery of the learning objectives will be examined through exams, homework, and a team project.

The following table links the learning objectives of this class with the assignments and shows the maximum number of points that you can achieve of each assignment in the final grade.

Learning Objective	Assignment	Max. Points
Analyze business problems using FIS	4 Take Home Exams + Final Exam	40
Demonstrate a moderate level of comfort in working with SAP ERP and data analysis techniques.	5 Homework Assignments	30
Evaluate FIS technology for integrated business processes.	5 Deliverables for Team Project	30
Total		**100**

The final grade distribution is as follows.

Points	Letter Grade
100-94	A
>94-90	A-
>90-87	B+
>87-84	B
>84-80	B-
>80-77	C+
>77-74	C
>74-70	C-
>70-67	D+
>67-64	D
>64-60	D-
>60	F

My grading criteria are as follows:

- **A grades** (4.0) reflect work that meets all assignment objectives at the highest possible level and sometimes goes beyond that. The submitted work is of superior quality and could be used in productive environments with no or minimal revisions. Typically, no more than 40% of participants in a course receive an A grade.
- **B grades** (3.0) reflect work that meets all assignment objectives at a level that is above average but not exceptional. The submitted work shows high levels of competency and could be used in productive environments with some editing. Typically, no more than 80% of participants in a course receive an B grade or better.
- **C grades** (2.0) reflect work that meets all course objectives at an average level but is not exceeding expected standards. The submitted work lacks a clear in-depth understanding of the subject and could be used in productive environments only with extensive editing.
- **D grades** (1.0) reflect work that barely meets course objectives. Submissions regularly show a lack of clear understanding of the subject. Participation in class aregularly require repeated requests by the instructor.
- **F grades** (0.0) reflect work that does not meet course objectives and is below minimum standards. Submissions are late without prior consultation with the instructor, miss the assignment objectives, or show a clear lack of learning progress. Also, repeated violations of the academic integrity standards result in an overall F grade.

I reserve the right to change the grading to accommodate special circumstances and opportunities. Any changes, however, will be discussed and announced in class and on Camino.

Exams

In the exams you will demonstrate your ability to analyze business problems from an FIS perspective. Throughout the quarter, you will complete **five** (5) exams:

- Exams 1 to 4 are take-home exams.
- Exams 1 to 4 are administered **online** and have to be completed **before** the due dates.
- Exams 1 to 4 consist of a **short case description** with **5 multiple choice questions**.
- Exams 1 to 4 have a time limit of **15 minutes**.
- Exams 1 to 4 will be published thursdays before the deadline.
- Exam 5 is an in-class exam.
- Exam 5 consists of a **short case description** with **20 multiple choice questions**.
- Exam 5 is comprehensive.
- Exam 5 has a time limit of **60 minutes**.
- All exams are **open book**.

- Exams are **individual work**. You must not share solutions with fellow students. Please review the academic integrity rules below.
- We may discuss the exercises during class to discuss common issues and frequently made mistakes.

PLEASE NOTE:

For Exam 1 to 4, I will **not** accept late submission for the exams without prior notice or without a doctor's note. I am aware that sometimes life goes crazy but please notify me in advance and we will work it out.

Exam	Due	Max. Points
1	April, 16 2018 (1:00 PM)	5
2	April, 23, 2018 (1:00 PM)	5
3	April, 30, 2018 (1:00 PM)	5
4	May, 7, 2018 (1:00 PM)	5
5	May, 16, 2018 (In Class)	20
Total		**40**

Homework

Five (5) homework assignments help you to acquire a moderate level of comfort in working with SAP ERP and data analytics. You will face increasingly difficult problems as we progress in the quarter.

- To complete the exercises, you must obtain access to our SAP system (accessible only with SCU ID). .
- To complete the exercises 4 and 5, you need access to Google Colaboratory.
- You will complete the exercises at your own pace and submit your results via Camino on or before the due dates.
- We may discuss the exercises during class to discuss common issues and frequently made mistakes.

PLEASE NOTE:

I will **not** accept late submission for the homework without prior notice or without a doctor's note. I am aware that sometimes life goes crazy but please notify me in advance and we will work it out.

Homework	Due	Max. Points
1	April, 18 2018 (1:00 PM)	5
2	May, 2 2018 (1:00 PM)	5
3	May, 18 2018 (1:00 PM)	5
4	June, 1 2018 (1:00 PM)	5
5	June, 11 2018 (11:59 PM)	10
Total		**30**

Team project

The objective of this project is to assess your ability to evaluate FIS technology for integrated business processes. Furthermore, the team project allows you to develop a deep understanding of the FIS industry and its technological developments.

- The result of your team project is a set of three **interesting**, **non-trivial**, and **somewhat unexpected** findings.
- It is your responsibility to explain and present **why** your findings are interesting, non-trivial, and somewhat unexpected.
- You communicate your findings in the following deliverables:
  - an online report,
  - an in-class presentation, and
  - a video or podcast that summarizes the online report.
- You will work in teams of **five students** on a topic from the list below.
- Multiple teams may work on the same topic.

The following table provides an overview of the deliverables for the team project.

Project Phase	Due	Max. Points
Problem Statement	April, 13 2018 (1:00 PM)	4
Literature & Data	April, 27 2018 (1:00 PM)	4
Report Draft and Storyboard	May, 11 2018 (1:00 PM)	6
Peer Review & In-class Presentation	May, 30 2018 (1:00 PM)	6
Polished Report & Video or Podcast	June, 13 2018 (11:59 PM)	10
Total		**30**

Please choose a topic for your team project from the following list:

- Block chain and distributed ledgers
- Big Data and In-memory databases
- Fraud Analytics
- Internet of Things
- FIS and Supply Chains
- Suggest your own topic

Each of the topics is just a start. You will use the problem statement to develop a precise topic that is related to FIS. If you want to work on another topic, please contact me as soon as possible.

Problem Statement

The problem statement should outline your project and develop a precise area of interest. Think about the following questions:

- What is your area of interest?
- Why is this an important area?
- What you want to explore in this area?
- What could be implications of your exploration for businesses? Which businesses?
- What is the general outline for your exploration?

I will evaluate your project statement based on the following criteria.

Criteria	Metrics	Max. Points
Content	Understandability (0.5), Completeness (0.5)	1
Persuasiveness	Clarity (0.5), Argumentation (0.5)	1
Evidence	Sources (1)	1
Style	Professionality (0.5), Originality (0.5)	1
Total		**4**

Literature & Data

Your arguments are only as strong as your evidence. You will collect **at least 20** resources on your area of interest. Think about the following issues:

- The quality of your resources (Blogs, Company Whitepapers, Consultancy Reports, Market Research studies, Datasets, Academic literature)
- The novelty of your resources (Publication Year, Reception in the Media)
- The content of your resources (Research, Opinions, Journalism)

The result of this phase is an annotated list of literature. The list should contain the following elements:

- An appropriate and consistent reference (Author, Year, Medium, Source, Link)
- An evaluation of the quality (using a set of chosen quality criteria)
- An annotation that summarizes the key findings of the reference
- Your critical reflection of the key findings

I will evaluate your literature and data phase based on the following criteria.

Criteria	Metrics	Max. Points
Research Strategy	Clarity (0.5), Efficiency (0.5)	1
Quality of Evidence	Clarity (0.5), Quality (0.5), Reflection (2)	3
Total		**4**

Report Draft and Storyboard

The report draft summarizes your preliminary findings in written form. The storyboard organizes your video or podcast in sequence. Think about the following issues:

- What are your core findings?
- Why are your findings **interesting**, **non-trivial**, and **somewhat unexpected**?
- How would you organize the findings for maximum impact on the reader/viewer?

The result of this phase is a written report of at least 3,000 words but no more than 5,000 words. The storyboard should account for at least 15 minutes of video or podcast (Roughly 1 minute per sequence).

I will evaluate this phase based on the following criteria:

Criteria	Metrics	Max. Points
Organization	Structure of report (1)	1
Finding 1	Persuasiveness (1)	1
Finding 2	Persuasiveness (1)	1
Finding 3	Persuasiveness (1)	1
Storyboard	Structure (1), Originality (1)	2
Total		**6**

Peer Review and In-class Presentation

Peer review is a critical component in developing high-quality work products. Think about the following issues:

- Does the report convey **interesting**, **non-trivial**, and **somewhat unexpected** findings?
- Does the report explain why the findings are **interesting**, **non-trivial**, and **somewhat unexpected**?
- What kind of evidence does the report use to back up the findings?

- What are your specific suggestions to improve the report?

Please note that peer review component is an individual deliverable and will be individually graded.

I will evaluate your peer review using the following criteria:

Criteria	Metrics	Max. Points
Depth	Level of detail (1)	1
Critic	Assessment of weaknesses (1)	1
Specificity	Specific recommendations for improvement (1), Implementability of recommendations (1)	2
Total		**4**

The in-class presentation should summarize your findings in no more than 10 minutes.

I will evaluate your presentation using the following criteria:

Criteria	Metrics	Max. Points
Progress	Improvements since the last deliverable (1)	1
Professionality	Style (0.5), Structure (0.5)	1
Total		**2**

Polished Report and Video or Podcast

The final report and video or podcast must be online by the deadline. I will evaluate the final deliverable based on the following criteria.

Criteria	Metrics	Max. Points
Progress	Improvements in Problem Statement (1), Improvements in Literature and Data (1), Improvements in Findings (1)	3
Peer Review	Improvement based on peer review (1), Documentation of how peer review was used (1)	2
Video or Podcast	Content (1), Effectiveness (1)	2
Professionality	Style (1), Structure (1), Polishing (1)	3
Total		**10**

How to get an A in this course

I firmly believe that mastery of data science requires constant practice. You will ace this course if you:

- Adhere to the academic integrity standards outlined below.
- Be ready for class meetings, which means you have done the homework and read the textbook.
- Participate in the class discussions, ask questions, and share experiences.
- Support your teammates (If you can explain it to a fellow student, you know that you have understood it yourself).
- Start early on the assignments, **seek feedback from me, the TA, and other sources**.
- Continuously think about **why** you are doing something in your assignments. This is far more important than **what** you are doing.
- Answer the **'boss question'** before submitting **any** deliverable: Would you send your submission **as is** to your boss or to a recruiter? If not, please do not submit it.

Course Schedule

Week	Class Meeting	Topic	Exam (Points)	Homework (Points)	Team Project (Points)
1	April, 4 (Wed)	Introduction	-	-	-
1	April, 6 (Fri)	Business Process Integration	-	-	-
2	April, 9 (Mon)	Enterprise Systems	-	-	-
2	April, 11 (Wed)	FIS Architecture	-	-	-
2	April, 13 (Fri)	Data Management	-	-	TP1 (4)
3	April, 16 (Mon)	Accounting	EX1 CHP 1+2 (5)	-	-
3	April, 18 (Wed)	Financial Documents	-	HW1 (5)	-
3	April, 20 (Fri)	Ledgers	-	-	-
4	April, 23 (Mon)	Procurement	EX2-CHP 3 (5)	-	-
4	April, 25 (Wed)	Material Master Data	-	-	-
4	April, 27 (Fri)	Procurement Process	-	-	TP2 (4)
5	April, 30 (Mon)	Fulfillment	EX3-CHP 4 (5)	-	-
5	May, 2 (Wed)	Business Partner Data	-	HW2 (5)	-
5	May, 4 (Fri)	Fulfillment Processes	-	-	-
6	May, 7 (Mon)	Inventory	EX4-CHP 5 (5)	-	-
6	May, 9 (Wed)	Inventory Master Data	-	-	-
6	May, 11 (Fri)	Inventory Processes	-	-	TP3 (6)
7	May, 14 (Mon)	Review	-	-	-
7	May, 16 (Wed)	Exam	EX5-COMP (20)	-	-
7	May, 18 (Fri)	Introduction to FIS Analytics	-	HW3 (5)	-
8	May, 21 (Mon)	FIS Analytics Case Study 1	-	-	-
8	May, 23 (Wed)	FIS Analytics Case Study 1	-	-	-
8	May, 25 (Fri)	FIS Analytics Case Study 1	-	-	-
9	May, 30 (Wed)	Team presentations	-	-	TP4 (6)
9	June, 1 (Fri)	Team presentations	-	HW4 (5)	-
10	June, 4 (Mon)	FIS Analytics Case Study 2	-	-	-
10	June, 6 (Wed)	FIS Analytics Case Study 2	-	-	-
10	June, 8 (Fri)	FIS Analytics Case Study 2	-	-	-
11	June, 11 (Mon)	-	-	HW5 (10)	-
11	June, 13 (Wed)	-	-	-	TP5 (10)
-	-	Total = 100 points	40	30	30

I reserve the right to change the schedule to accommodate special circumstances and opportunities. Any changes, however, will be discussed and announced in class and on Camino.

Academic Integrity

The Academic Integrity pledge is an expression of the University's commitment to fostering an understanding of and commitment to a culture of integrity at Santa Clara University. The Academic Integrity pledge, which applies to all students, states:

> *"I am committed to being a person of integrity. I pledge, as a member of the Santa Clara University community, to abide by and uphold the standards of academic integrity contained in the Student Conduct Code."*

You are expected to uphold the principles of this pledge for all work in this class. For more information about Santa Clara University's academic integrity pledge and resources about ensuring academic integrity in your work, see www.scu.edu/academic-integrity.

In particular, I expect that you give credit to any material (including but not limited to journal articles, web article, blog posts, images, data sets, libraries, APIs, and any media) that you have used for completing any assignment in this class. Being able to give credit by referencing sources consistently and correctly is evidence of mastery of a topic. It shows that you are able to construct original arguments that are backed with verifiable evidence. Failing to give credit is a sign of an inadequate learning progress. It shows that you have not understood the topic well enough to formulate your own arguments in relation to already existing ideas.

During your work in this class, you will use, modify, or extend digital content that you have found online. You will also use libraries, APIs, code snippets, and data sets that have been created by others. In every piece of work (presentations, assignments, etc.), you must acknowledge work, source code, data sets, and any other content that was not produced by you. Acknowledgements must be easily identifiable, inseparable from your content, and must not violate licenses.

Failure to provide appropriate acknowledgements will result in an F grade for that assignment. Repeated failure to provide appropriate acknowledgements will result in an F grade for the entire course.

During the first class, we will discuss this digital content policy. After this class, I will strictly enforce this policy. If you have doubts, contact me.

Course Conduct

My responsibility

I will support you in your learning in this class and beyond to the best of my abilities. If I am not able to help you myself, I will identify someone who can. I will evaluate your contribution solely based on the standards set by this syllabus. Changes to the syllabus will be highlighted, discussed during class sessions, and will be published on Camino.

Your responsibility

By enrolling in this class, you agree to the requirements stated in this syllabus. You will operate with integrity in your dealings with me and your fellow students. You will engage the learning materials with appropriate attention and dedication and maintain their engagement when challenged by difficult learning activities. You will contribute to the learning of others and you will perform to standards set by this syllabus.

Mutual respect is the foundation of this course. No one will be criticized for being wrong. Appropriate conduct includes honesty, self-respect, respect for others, and compliance with university policies and standards. Computers in the classroom should be used only for completing course-related work and for taking notes; cell phones must be turned off or muted.

Attendance Policy

Please let me know via email during the first two weeks of the course if you have any conflicts between a course element (class meeting, assignment) and another vital commitment (another course, work, university-related extracurricular activities, religious commitments). At my discretion, I will you provide with alternative means to complete the course element.

I am aware that many of you have multiple commitments. You should attend at least 80 percent of all scheduled class meetings. If you miss more than 20 percent of scheduled classes, you will receive reduction by one letter grade.

University Policies

Disability Resources

If you have a disability for which accommodations may be required in this class, please contact Disabilities Resources (Benson Hall 216, 408-554-4109) as soon as possible to discuss your needs and register for accommodations with the University. If you have medical needs related to pregnancy, you may also be eligible for accommodations. If you have already arranged accommodations through Disabilities Resources, please discuss them with me during my office hours as soon as possible.

While I am happy to assist you, I am unable to provide accommodations until I have received verification from Disabilities Resources. If you are in doubt of whether you are eligible for accommodations, I encourage you to contact Disabilities Resources (Benson Hall 216, 408-554-4109). The Disabilities Resources office would be grateful for advance notice of at least two weeks.

Accommodations for Pregnancy and Parenting

In alignment with Title IX of the Education Amendments of 1972, and with the California Education Code, Section 66281.7, Santa Clara University provides reasonable accommodations to students who are pregnant, have recently experienced childbirth, and/or have medically needs related to childbirth. Pregnant and parenting students can often arrange accommodations by working directly with their instructors, supervisors, or departments. Alternatively, a pregnant or parenting student experiencing related medical conditions may request accommodations through Disabilities Resources (Benson Hall 216, 408-554-4109).

Discrimination and Sexual Misconduct (Title IX)

Santa Clara University upholds a zero-tolerance policy for discrimination, harassment and sexual misconduct. If you (or someone you know) have experienced discrimination or harassment, including sexual assault, domestic/dating violence, or stalking, I encourage you to tell someone promptly. For more information, please consult the University's Gender-Based Discrimination and Sexual Misconduct Policy at http://bit.ly/2ce1hBb or contact the University's EEO and Title IX Coordinator, Belinda Guthrie, at 408-554-3043, bguthrie@scu.edu. Reports may be submitted online through https://www.scu.edu/osl/report/ or anonymously through Ethicspoint https://www.scu.edu/hr/quick-links/ethicspoint/

Acknowledgement

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