



Digital Systems

1.1 Introduction to MIS

FOX
MIS

Welcome!

Spring 2022

FOX
MIS

Introduction to Instructor

Marie-Christine Martin

- ❖ 20+ years of experience in the IT industry
- ❖ E-mail: mcmartin@temple.edu
- ❖ Office: Speakman 209J
- ❖ Office Hours:
 - By appointment



My Background

- **Education**

- ❖ BS Industrial Engineering
- ❖ MBA, Finance

- **Pre-Temple**

- ❖ IBM (Canada, USA & Singapore)
- ❖ HP Global
- ❖ Oracle, USA
- ❖ Self Employed Consultant



- **Adjunct Faculty**

- ❖ Temple University, MIS

- **Full-Time Faculty Temple University**

- ❖ Undergraduate - MIS
- ❖ Graduate - FOX Business School MBA and Master In Management (MiM)
- ❖ Director of MIS Masters Programs





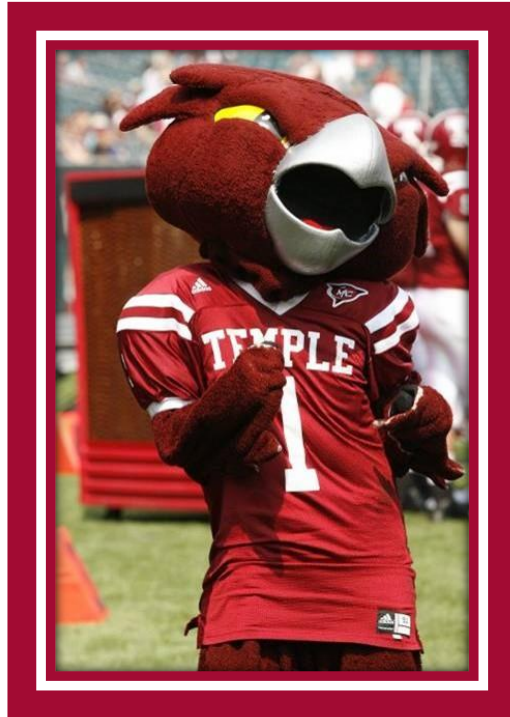
Course Support: Information Technology Assistants (ITAs)

- **Ariella Izbinsky**

Ariella.Izbinsky@temple.edu

Office Hours:

by appointment



- **Mariia Prikhodko**

Mariia.Prikhodko@temple.edu

Office Hours:

by appointment



ITA – Ariella Izbinsky

- ◎ Senior MIS Major
- ◎ Hometown: Bucks County, PA
- ◎ Fun fact: I have 2 nephews and I speak Russian fluently
- ◎ *ITA for MIS 2901 and MIS 2101*
- ◎ Fox Peer Academic Advisor – might see me in the office 😊
- ◎ Association for Information Systems (AIS)
 - Optimize Consulting Group PM
- ◎ Office Hours: by appointment
- ◎ Email: ariella.izbinsky@temple.edu



ITA – Mariia Prikhodko

- ◎ Senior MIS & RMI Dual Major
- ◎ Hometown: Born in Russia, raised in Thailand
- ◎ Hobbies: World travel, reading books, my adorable puppy
- ◎ *ITA for multiple MIS courses*
- ◎ Post-Grad: Risk Analyst
- ◎ Office Hours: by appointment
- ◎ Email: Mariia.Prikhodko@temple.edu



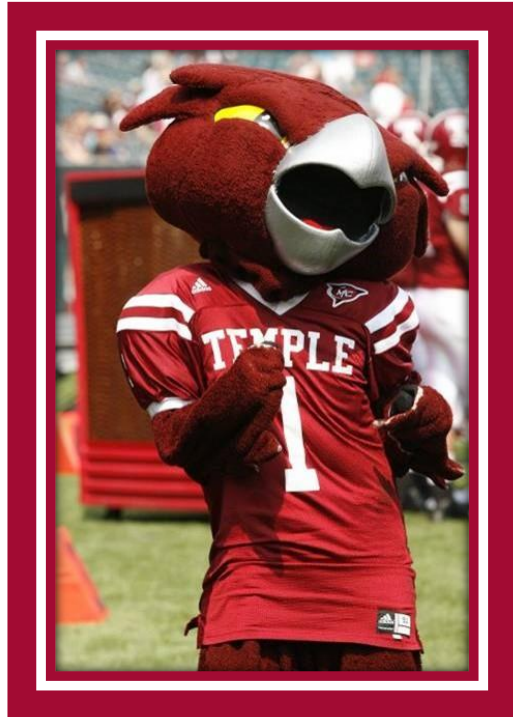
Course Support: Information Technology Assistants (ITAs)

- **Anna Boykis**

Anna.Boykis@temple.edu

Office Hours:

by appointment



- **Najuk Patel**

Najuk.Patel@temple.edu

Office Hours:

by appointment



***“Tell me and I forget.
Teach me and I remember.
Involve me and I learn.”***

- Benjamin Franklin

Managing Expectations

- **This class is unique!**
- **We will work through challenges together...plan on it!**
- **You will find the class engaging and fun!**
- **You will acquire knowledge and skills that you will use in future classes and your career!!!**

Course Highlights

- **Systems Analysis**
- **Process Mapping (Modeling with swim lanes & entity relationship diagrams)**
- **Digital Product Management**
- **Information Systems CRM & ERP, Data Analytics & SCM**
- **Platforms & Digital Business models, including API's**
- **Cyber security and the Enterprise plus AI**
- **Programming including JavaScript, HTML & CSS**

Course Objectives

- **Explore the systems which organizations use to create their digital products**
- **Explore the platforms which these digital systems are built upon**
- **Explore the API ecosystems by which systems extend their reach and capability.**
- **Discuss cyber security including risks & responses surrounding digital products**
- **Introduction to the creation of software**
- **Learning the basics of programming in JavaScript**

Graded Components

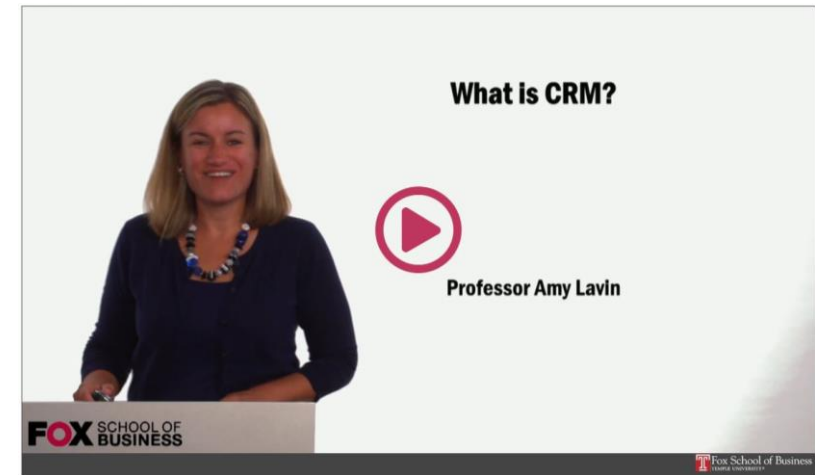
Component	Percentage
In-Class Activities & Worksheets (approximately 17) * must be present in class to earn credit	10%
Assignments (11) ** no late assignments accepted – no exceptions!	30%
Exam #1 (50 minutes)	20%
Exam #2 (50 minutes)	20%
Exam #3 (50 minutes – held during finals week)	20%

*In-Class activities must be submitted while in class. (Exceptions will be provided for Covid-19 mandatory quarantines)

**Completed assignments will not be returned in class. Grades will be posted to the gradebook. Please note that two weeks after a grade is posted, the grade will be considered “final.”

Readings & Videos – Part 1

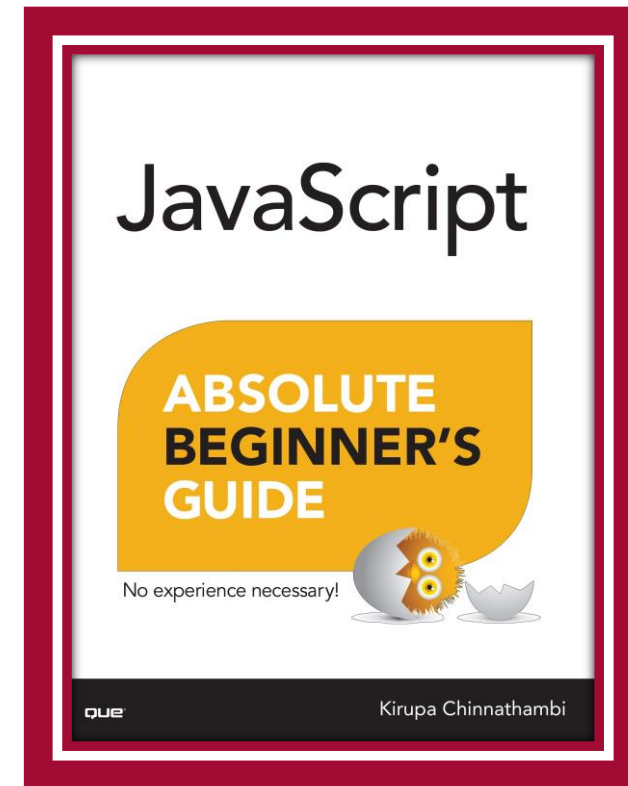
- **No required texts the first 2/3's of the semester!**



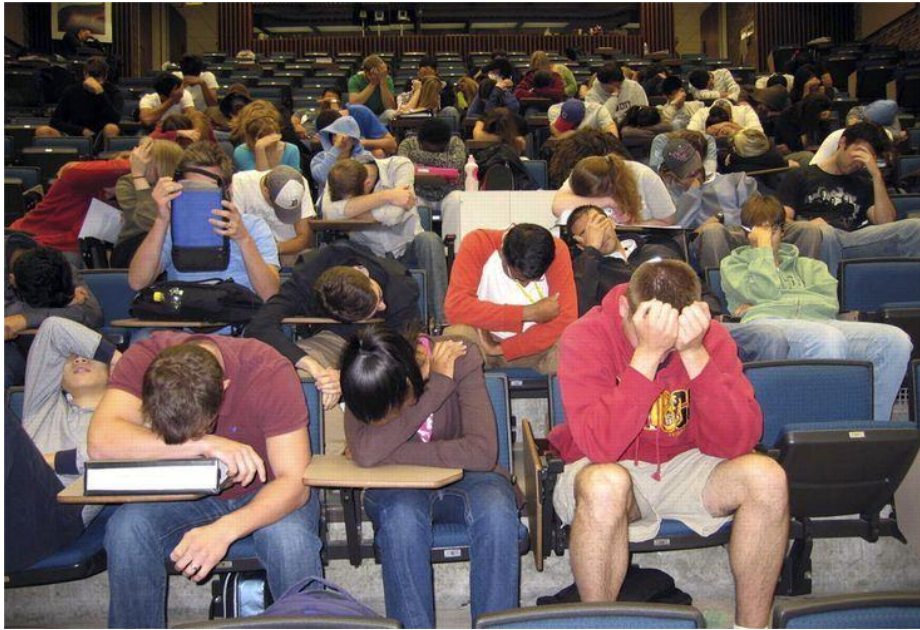
- **Engaging collection**
- **Current content**
- **Available for Free!!!**

Readings & Videos – Part 2

- **JavaScript**
 - Create simple JavaScript programs
 - Prompt users for input
 - Utilize loops
 - Process Information



Lecture vs. Activities



Source: <https://www.theodysseyonline.com/11-things-college-lecture-hall>

- **3 Hours of zzzzzzzzz's**



- **1 Hour Discussion**
- **2 Hours of Activity**

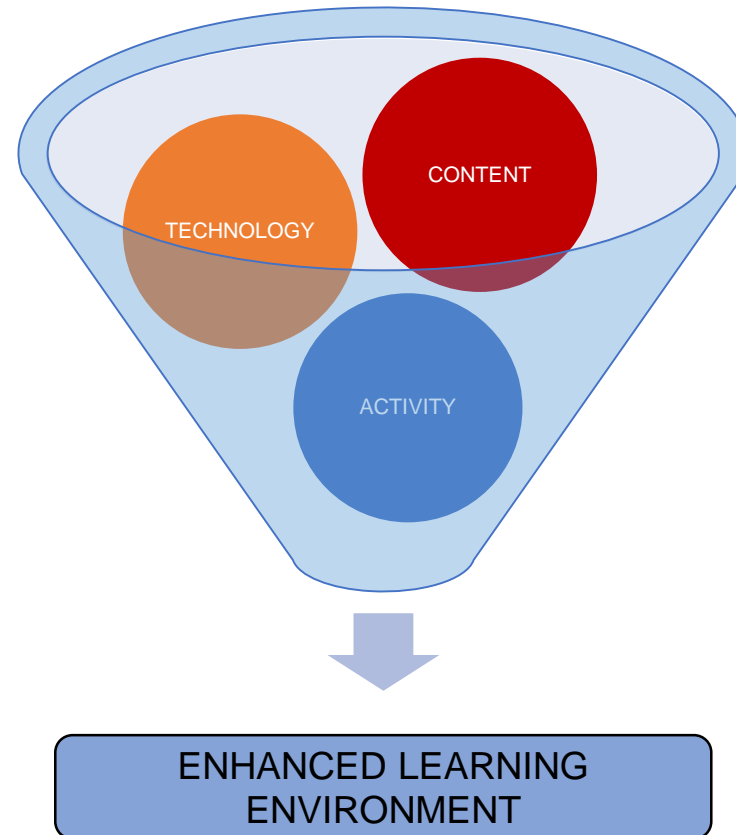
Active Learning Components

TECHNOLOGY

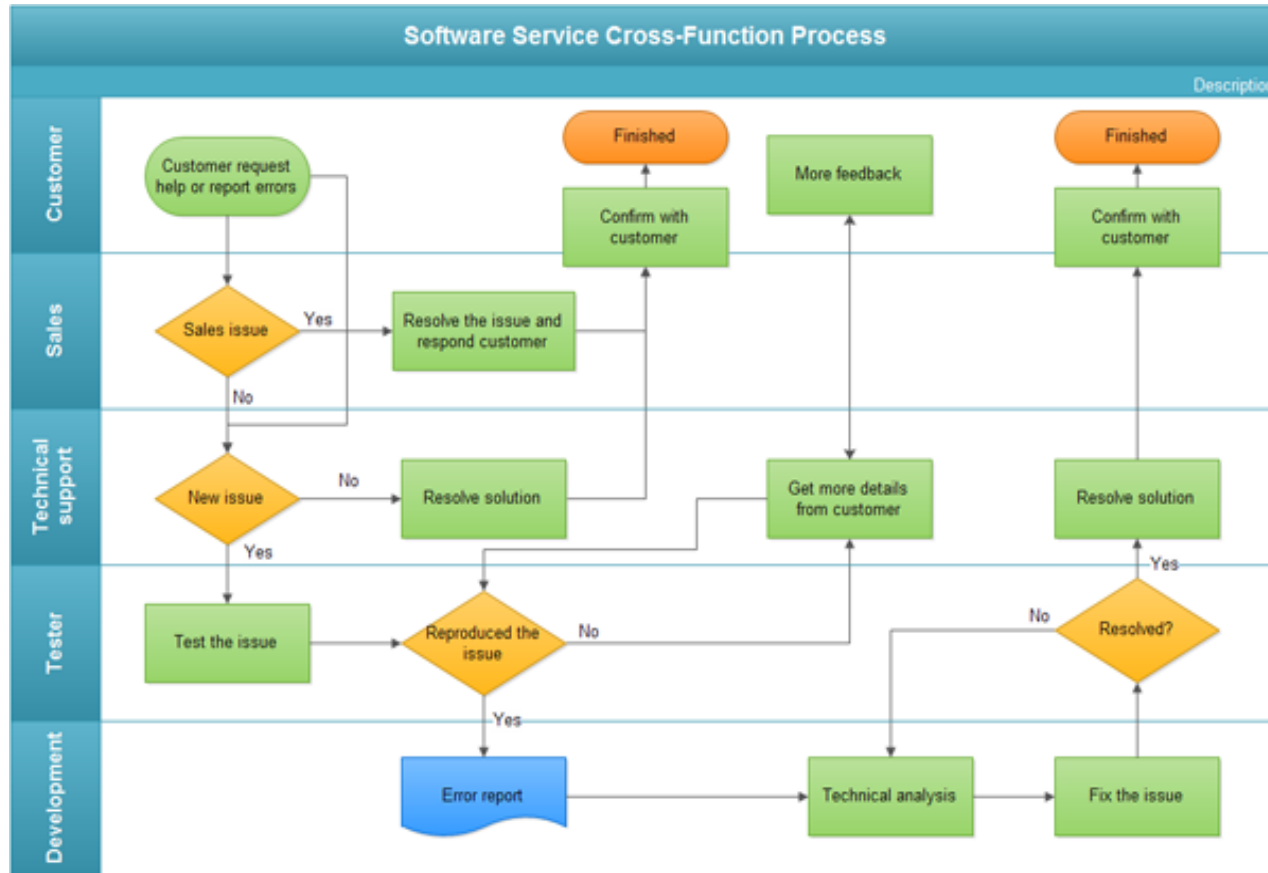
CONTENT

ACTIVITY

The Active Learning Funnel



The In-class Activity



- Process Diagrams
 - Swim lane diagram
- Real life scenarios
- Knowledge Application
- Problem Solve
- Synthesize Solutions

The In-class Activity – Canvas

Quiz Instructions

After completing this activity you will be able to:

- State a key fact about this course, its instructor, and its subject
- List basic questions that can be applied to nearly any situation

Question 1 0 pts

Step 1: Prepare three questions (individually)

1. A question about this course
2. A question about the instructor
3. A question about Information Systems (IS)

HTML Editor

B I U A A I [List Icons] [Table Icon] [Link Icon] [Image Icon] [Video Icon] [Globe Icon] [YouTube Icon] [Dropdown] Paragraph [Close Icon]

0 words

- **Reinforce assigned materials**
 - Readings
 - Videos
 - Lecture
- **Exam Preparation**
- **Work in teams**
- **Must be present in class**



ASSOCIATION FOR
INFORMATION SYSTEMS

Information Systems Job Index

Careers in Information Systems



Fox School of Business
TEMPLE UNIVERSITY®



Read the full report at isjobindex.com

Based on 1420 recent graduates from 43 universities across the U.S.

The 2019 IS Job Market is Steady



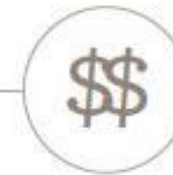
Job Placement Rate

	At Graduation	6-Months after Graduation
Bachelor's:	70%	69%
Master's:	47%	81%



Confidence in Job Market

Bachelor's:	64%
Master's:	55%



Average Salary

Bachelor's:	\$65,314
Master's:	\$84,113

IS Students are Happy About Their Future Jobs



Satisfaction & Enthusiasm about Job Offer

Bachelor's:	83%
Master's:	70%

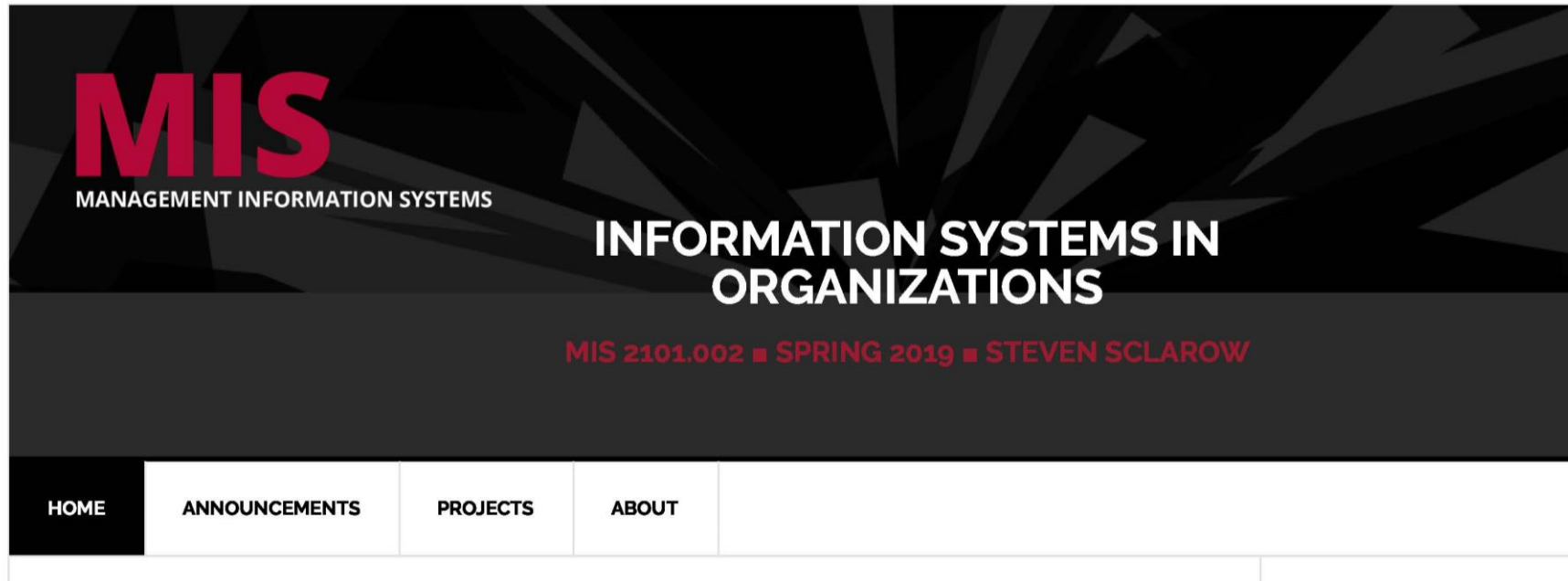


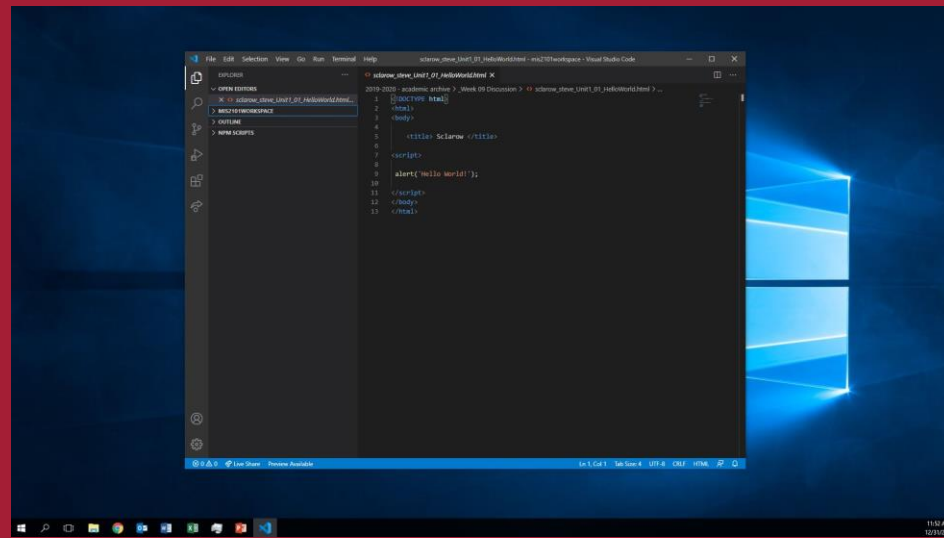
Offer from Appealing Organization

Bachelor's:	89%
Master's:	75%

Class Site Review

- <https://community.mis.temple.edu/mis2101sec003spring2022/>





Course Overview Video Due tonight!!

Spring 2022

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ROADMAP

START

Week 1:

Introduction & Systems Analysis

- Course Description
- Systems Thinking

Assignments #01 & 02

Week 2:

Digital Product Management & Introduction to Process Mapping

- Max Labs 1a & 1b
- Systems & Processes
- Swim Lane Diagrams

Assignment #03

Week 3:

Data Modeling with Entity Relationship Diagrams

- Swim Lane Diagrams
- ERD Diagrams

Assignment #04

Week 4:

Digital Systems – Learn IT! #1

- ERD Diagrams
- Learn IT Kickoff

Assignment #05

Week 5:

Exam #1, Max Labs & Information Systems: Part I & II

- CRM & ERP

*Exam: check course site
Assignment #06

Week 9:

Exam #2 & JavaScript Unit #1

- Parts I & II
- Hello World, Variables

*Exam: check course site

Week 8:

Information Systems & Cybersecurity

- Protection Protocols
- Artificial Intelligence

Assignment #08

Week 7:

Platforms & Digital Business Models: Part I & II

- Platforms & Digital Models
- APIs

Week 6:

Information Systems: Parts I - III

- Data Analytics
- SCM

Assignment #07

Week 10:

JavaScript Unit #2 Functions

- Values & Variables
- Operator types
- Strings

Assignment #9

Week 11:

JavaScript Unit #3 Logical Operators & Conditional Logic

- Logical Operators
- Conditional Types

Week 12:

JavaScript Unit #4 Loops

- Intro to Loops
- While and Do

Assignment #10

Week 13:

JavaScript Unit #4 Working with Loops & HTML & CSS Unit

- Writing the code
- HTML & CSS Basics

Week 14:

HTML & CSS Unit (continued)

- HTML & CSS Basics
- Course Reflection

Assignments #11
*Final Exam: check course site

FINISH



KEEP
CALM
I SEE
YOU ON
WEDNESDAY



Digital Systems

1.2 What are Systems?

**FOX
MIS**

ROADMAP

START

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Introduction & Systems Analysis

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Assignments #11
*Final Exam: check course site

FINISH

Business Systems Innovation Labs

Pre-lab Pre-flight Checklist

Max's Distinctive, Impressive BizTech Student Blog

Day 1 - Introduction Context

The, relatively obscure, history of the term "business systems innovation" will be covered in this pre-lab. It's a term that you'll hear a lot in the course, so it's important to understand what it means. It's a term that you'll hear a lot in the course, so it's important to understand what it means. It's a term that you'll hear a lot in the course, so it's important to understand what it means.

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"Distinctive, Impressive BizTech Student Blog" (Backstory)

SJSU Business Systems student Max sets out to blog her class, stumbles into a startup adventure, and invites you to follow along.

Prep: What do you need to start?

To get the most out of this pre-lab, you need a healthy curiosity, a sense of humor and a little imagination. Focus, read for understanding, and put yourself in Max's shoes so you don't just read it—you *experience* it.

Max Labs

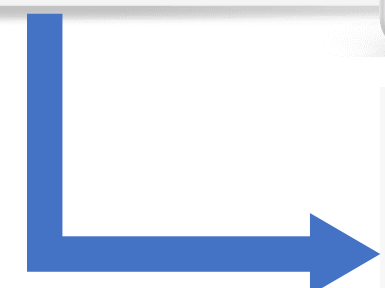
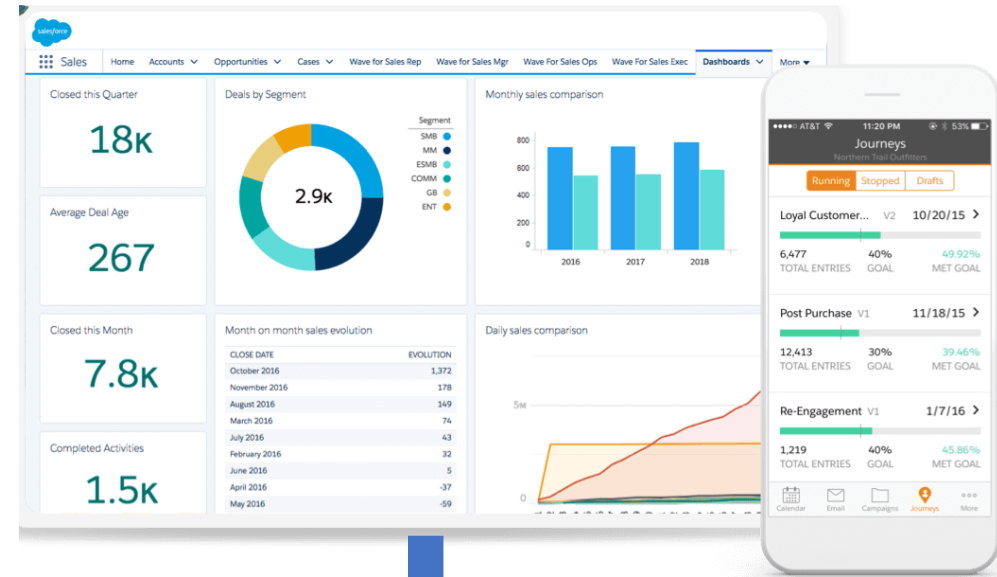
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What is MIS?

Using Information Technology to solve business problems.

- MIS is not Computer Science
- It's about business where we train people to do what?
- Use technology to solve day-to-day business problems



Sources: https://c1.sfdcstatic.com/content/dam/web/en_us/www/images/products/what-is-salesforce/whatis-jumbo-astro-product.png

https://www.kindpng.com/picc/m/568-5683178_real-cash-stack-100-dollar-bill-hd-png.png

World View – A collection of “Systems”

Systems = people + process + technology

- Manipulation of information = value
- Managed by MIS professionals
- Systems surround us 24/7
- Application Program Interface (API's)



Source: <https://www.aecom.com/ca/management-information-systems-mis/>

Understanding Systems

Buying textbooks on Amazon

- What was part of that system?
- Log-in (multiple steps)
- Search
- Shopping Cart
- Purchase (Multiple steps)
- What else???

The screenshot shows an Amazon search results page for the query "javascript absolute beginner's guide / kirupa chinnathambi". The page features a navigation bar at the top with the Amazon Prime logo, a search bar containing the query, and a "Stock up for college" banner. Below the navigation bar, there is a "1 result for 'javascript absolute beginner's guide / kirupa chinnathambi'" section. The main content area displays three sponsored book listings:

- O'REILLY** Explore further Javascript resources. This section includes three book covers: "JavaScript: The Definitive Guide: Activate Your Web Pages (Definitive Guides)", "Secrets of the JavaScript Ninja", and "Rediscovering JavaScript: Master ES6, ES7, and ES8".
- JavaScript Absolute Beginner's Guide** by Kirupa Chinnathambi | Jul 18, 2016. This listing shows a 4.5-star rating (29 reviews), a paperback price of \$19.06 (originally \$29.99), and a Kindle price of \$14.39 (originally \$23.99). It is sponsored by O'Reilly Media.
- JavaScript: Programming Basics for Absolute Beginners (Step-By-Step) (Volume 1)** by Nathan Clark | Aug 16, 2017. This listing shows a 4.5-star rating (33 reviews), a paperback price of \$16.38, and a Kindle price of \$14.39 (originally \$23.99). It is sponsored by Nathan Clark.
- Programming for Beginners: 3 Books in 1- HTML+CSS+JavaScript (Basic Fundamental Guide for Beginners)** by MG Martin | Sep 18, 2018. This listing shows a 4.5-star rating (13 reviews), a paperback price of \$24.99, and a Kindle price of \$14.39 (originally \$23.99). It is sponsored by MG Martin.

The left sidebar contains a "Department" section with a list of categories: Books, JavaScript Programming, Introductory & Beginning Programming, Computers & Technology, Web Development & Design Programming, Web Services, Programming Languages, Kindle Store, JavaScript Programming, Computer Programming, and Web Programming. Below this is an "Avg. Customer Review" section with three star ratings and "Up" buttons. The "Computer User Books" section lists "Beginners & Seniors". The "Accessibility Features" section includes a checkbox for "Screen Reader Supported". The "Condition" section lists "New" and "Used".

Understanding Systems (cont.)

Buying lunch

- What was part of that system?
- Take the order
- Hand order to cook
- Prep to-go bag
- Order cooked (multiple steps)
- What else???



Understanding Systems (cont.)

Describe the Process of Ordering

- What keeps info accurate?
 - Data
- Who is involved?
 - Customer ♦ Store ♦ Warehouse Mgr. ♦ Admin ♦ UPS driver...
- How much effort?
 - None...it's automated!
 - Technology !!!

Report incorrect product information.

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The new tech-assisted approach that...
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Jon Duckett
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Ivelin Demirov
★★★★☆ 418
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David Flanagan
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Supercharge the client state in your React apps

Getting Started with React Native
Ethan Holmes

Learn JavaScript VISUALLY with Interactive Exercises: The Beautiful New Way to

Eloquent JavaScript, 3rd Edition: A Modern Introduction to

Google Apps Script for Beginners
Serge Gabet

Web Development with ReasonML: Type-Safe, Functional Programming

Building Enterprise JavaScript Applications: Learn to build and deploy

**“information system –
an integrated set of components for
collecting, storing, and processing data
and for providing information, knowledge,
and digital products.”**

- Encyclopedia Britannica

API's Case Study: UBER

Requesting a ride?

- Describe what happens...
 - What are these systems?
 - How do they work?



Source: <https://www.okta.com/security-blog/2019/05/how-uber-takes-advantage-of-the-api-economy/>

SDLC methodologies

- Waterfall
- Agile
- Lean
- Scrum
- DevOps



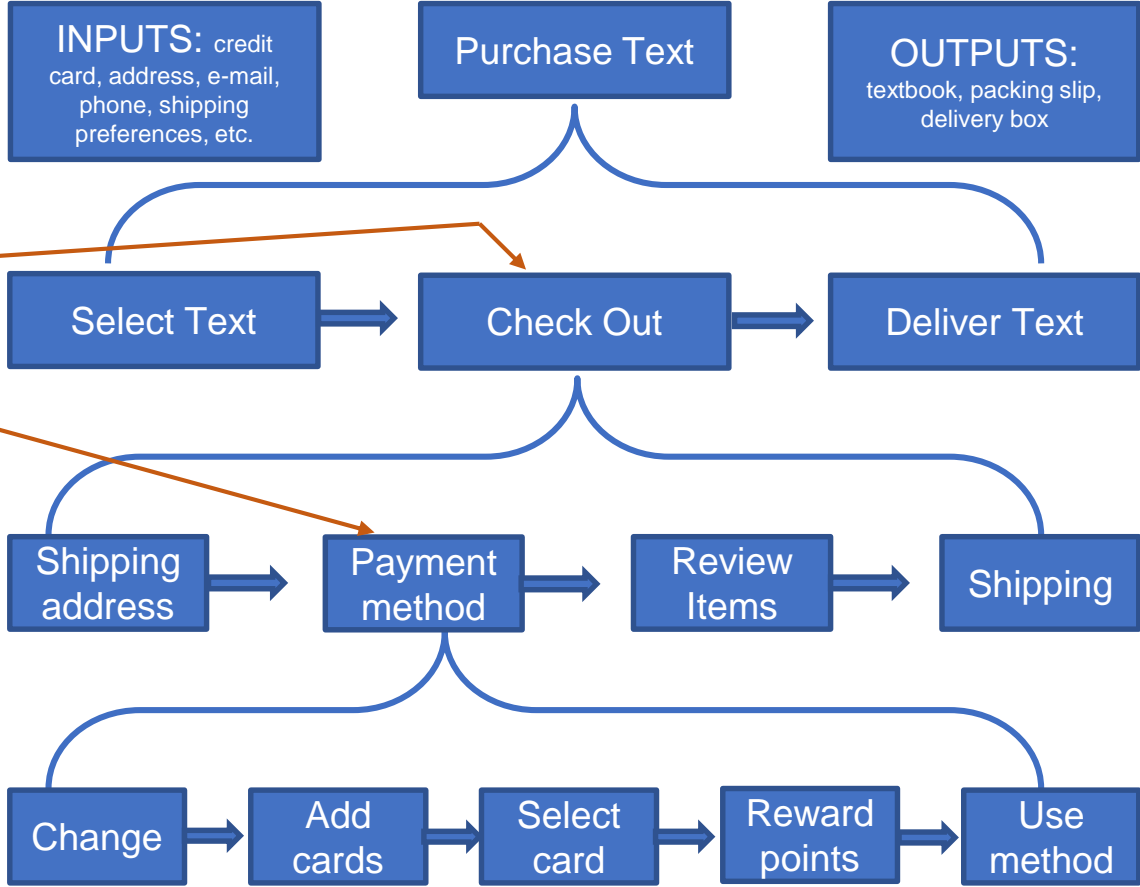
Image: <http://www.xanadutec.com/software-as-a-service.html>

“Once a Product Manager / Technologist understands the *business problem*, they can architect a solution.”

- Mart Doyle

Process Decomposition

- **Single entity**
- **Subsystem**

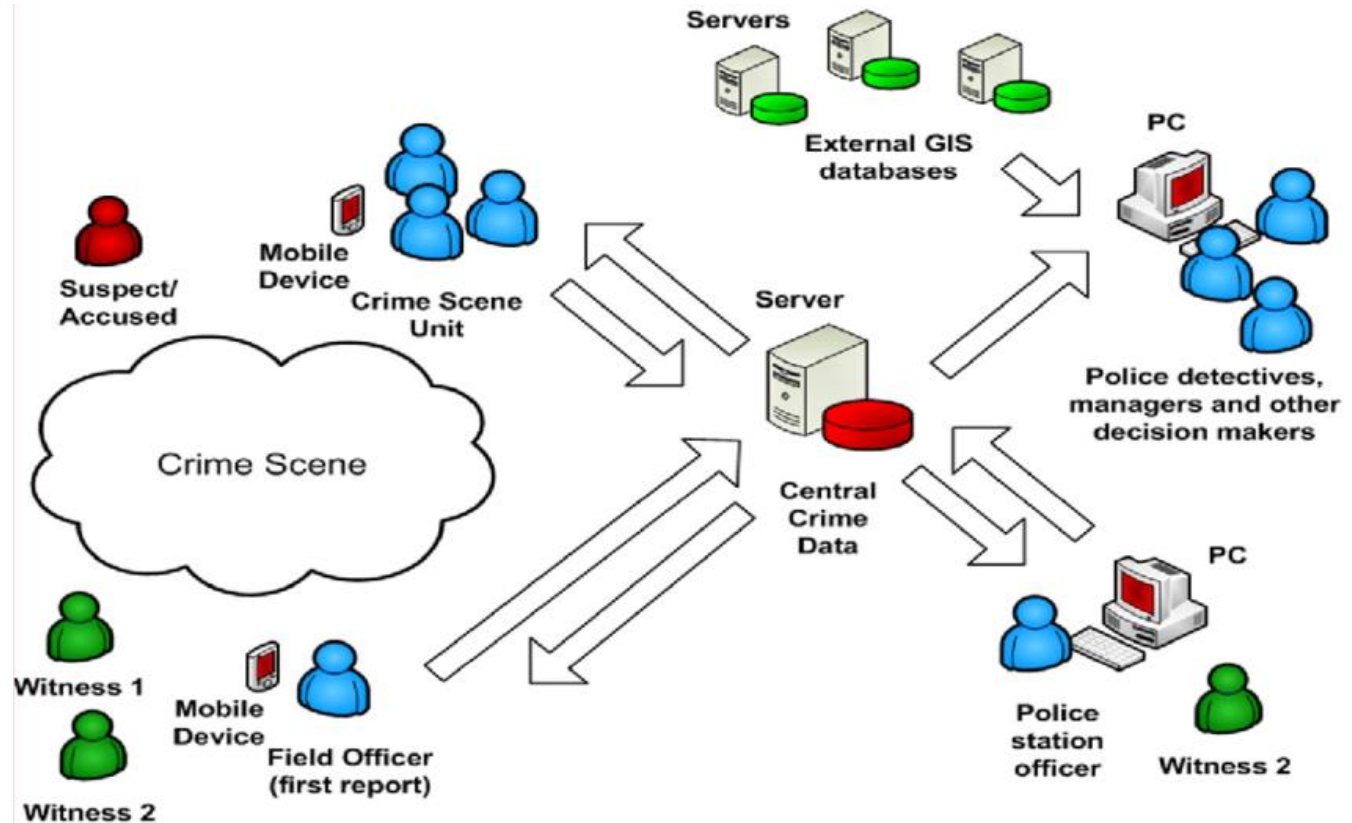


“Systems Architecture is a response to the conceptual and practical difficulties of the description and the design of complex systems.”

- Boris Golden

Systems Architecture

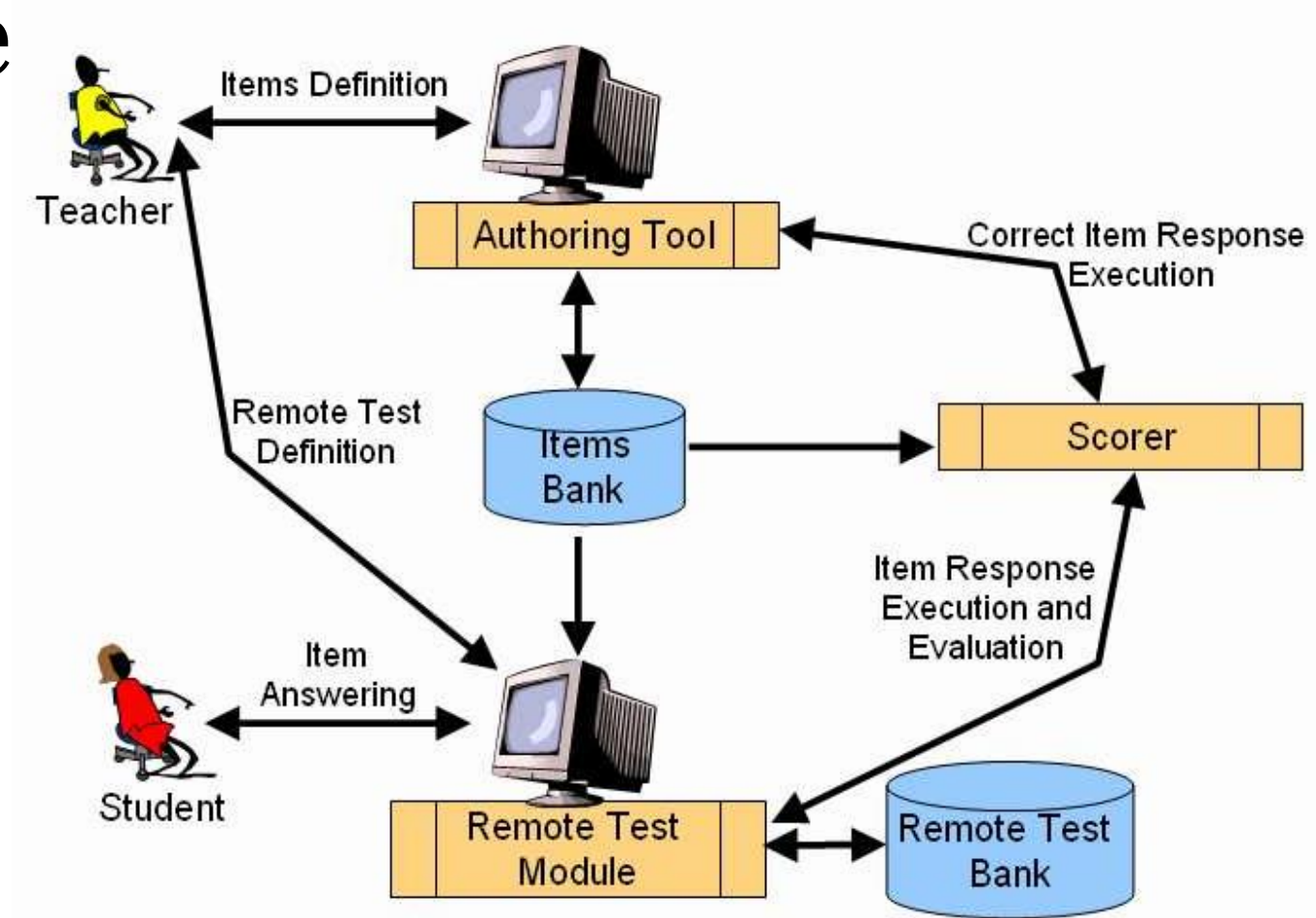
- Conceptual Diagram
- Structural components
- Identify/Solve Problems
- Existing or New
- Communication tool



Source: https://www.researchgate.net/figure/Conceptual-System-Architecture_fig2_327987580

Systems Architecture

- **Test question defined**
 - Authoring tool
- **Remote test created**
 - Test module
- **Student responses**
 - Test module
- **Execution & Evaluation**



Source: <http://spmarchitecture.com/systems-architecture/system-architecture-learning-environment-for-automatic-rating-64721-2/>

More to Come

Prepare with Readings & Videos before next week!!!