Introduction & Syllabus

University of Calgary

Schulich School of Engineering

ENSF 607 Advanced Software Design and Architecture

Tim Reimer MScIS, MBA

timothy.reimer@ucalgary.ca

Outline

- What is ENSF 607?
- Required Material
- Instructor Background
- Course Evaluation and Grading
- Course Philosophy

What is ENSF 607?

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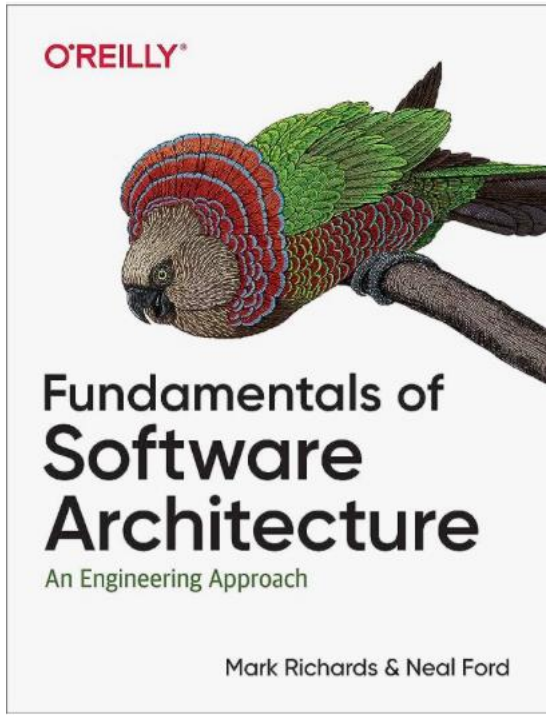
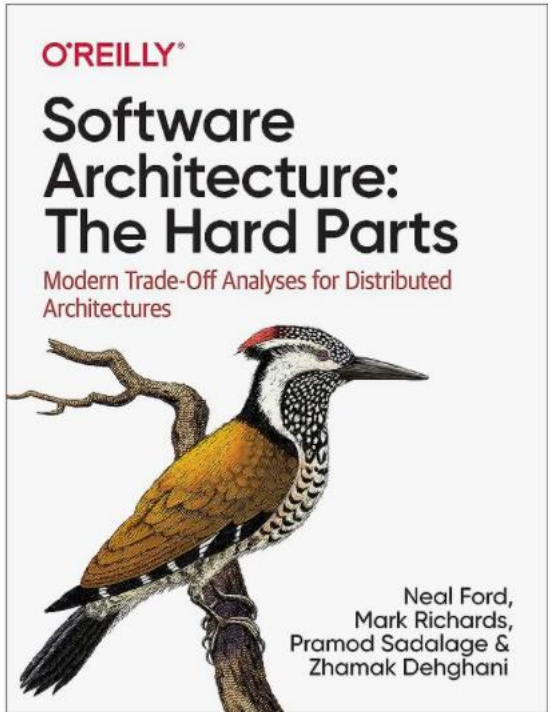
- Officially speaking:

A study of software design topics including abstraction, modularity, design patterns, software modelling, architectural patterns.

This course may not be repeated for credit.

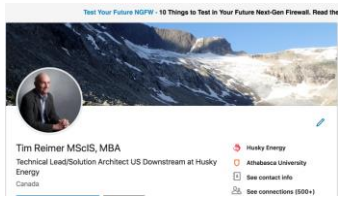
Supporting Material





Why Am I Qualified to Teach This Course?

- You have a right to know your instructors credentials, experience and skills
  - Credentials: MScIS, MBA Athabasca University
  - Certifications: PMP, TOGAF, ITIL
  - Work Experience: Over 30 years experience as
    Solution Architect, Project Manager, Enterprise Architect
  - Company web site: www.infoprag.com
  - Linkedin
    https://www.linkedin.com/in/tim-reimer-mscis-mba-35254a/



Current Roles

- Enrolled in the PhD program of the UfC Department of Electrical and Software Engineering
- Instructor for MRU Factory of Mathematics and Computing
- Instructor at Dhillon School of Business / UfL for Management of Information Systems
- Tutor University of Athabasca Faculty of Science. “Software Engineering for Emerging Technologies”
- Technical Lead for Husky Energy US Downstream

Some of the company's I was engaged with

Government of Canada / Gouvernement du Canada

Operating Instructions for your instructor

- I respond to “Tim” or, if you insist, “Mr. Reimer”
- I prefer email (from your UfC account please)
  - Timothy.reimer@ucalgary.ca
- My office hours are somewhat flexible, since I’m not on campus. Email me and we will find a time to meet via ZOOM

Topic of Lectures

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- Basic Concepts of Software Architecture
- Architecture Styles 1
- Architecture Styles 2
- Software Architecture Presentation & Execution
- Software Development Patterns
- Project Management & Operations
- Data Modeling
- Data Management
- Domain Driven Design
- Reactive Applications

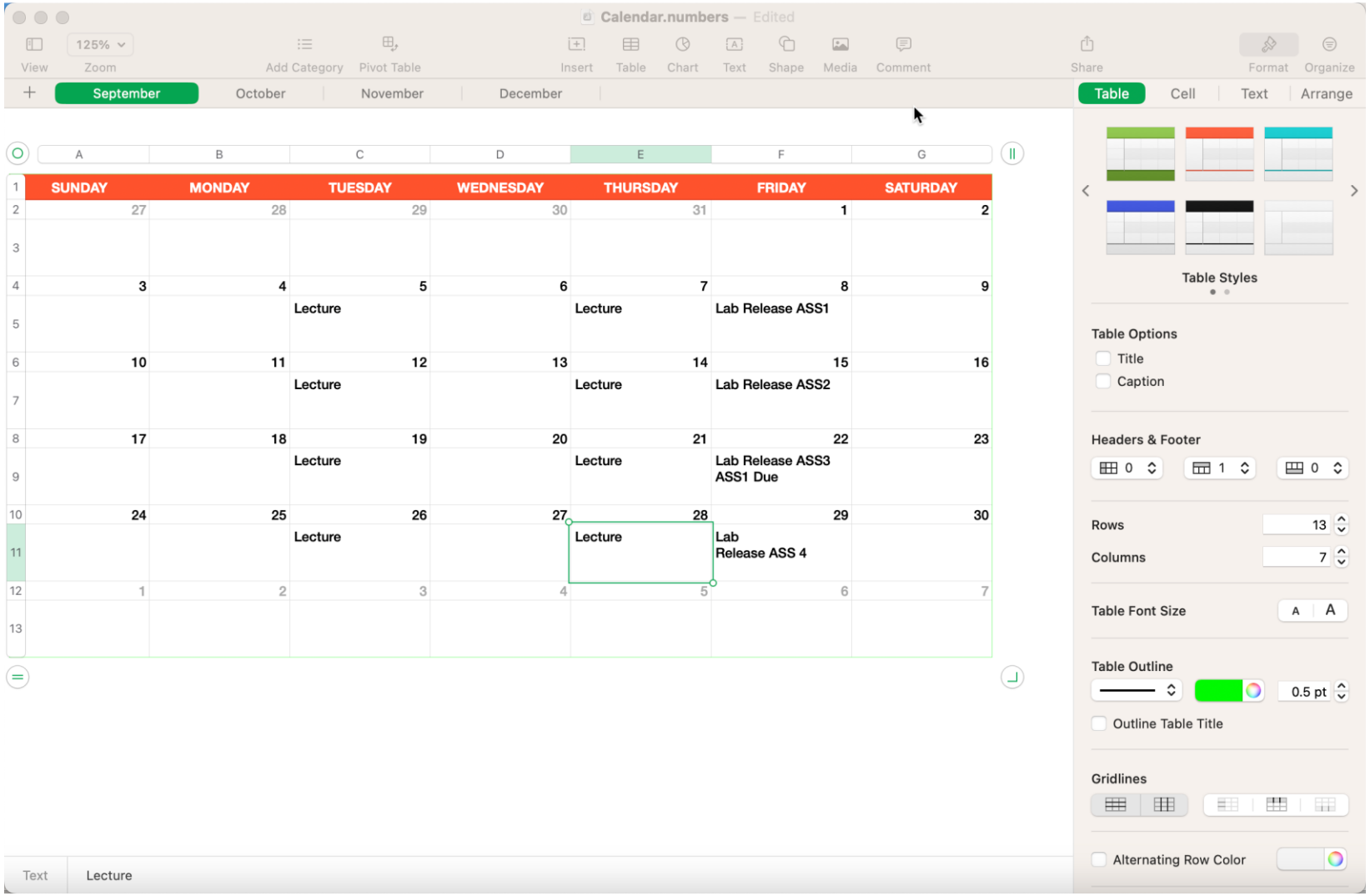
Topic of Lectures cont'd

- C4
- Enterprise Application Integration
- Data Conversion
- Landscape Management
- Data Warehouses
- Data Mesh
- Security
- Cloud Computing

Method of Assessment

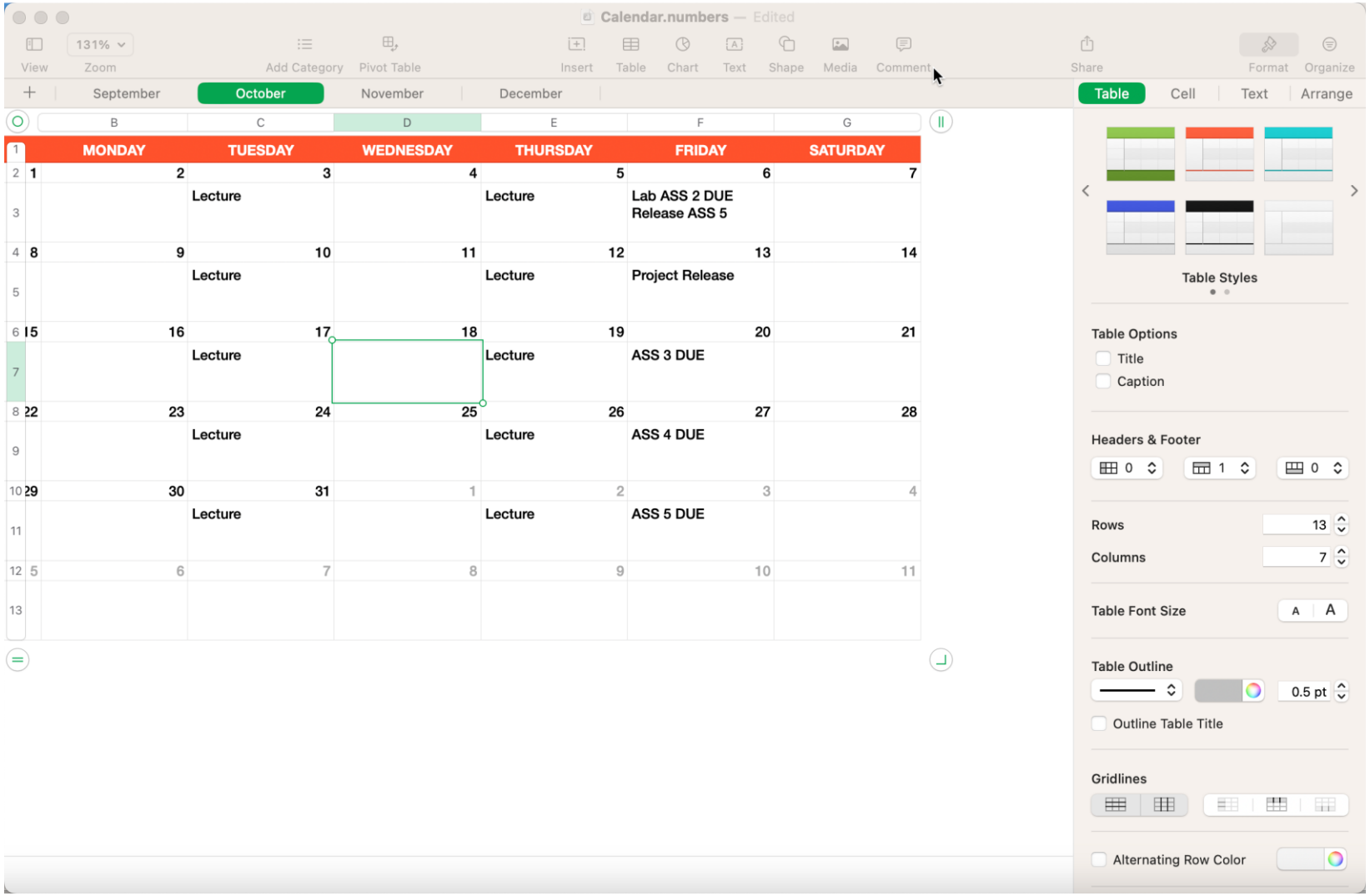
ASSESSMENT	Due Date	Type	WEIGHT towards Final Course Grade
Assignments 1	Sep 22, 2023	Single	10%
Assignment 2	Oct 6, 2023	Group	10%
Assignment 3	Oct 20, 2023	Group	10%
Assignment 4	Oct 27, 2023	Single	10%
Assignment 5	Nov 3, 2023	Single	10%
Project	Nov 24, 2023	Group	20%
Assessment Test	Nov 9, 2023		30%
Total			100%

Course Schedule September 2023

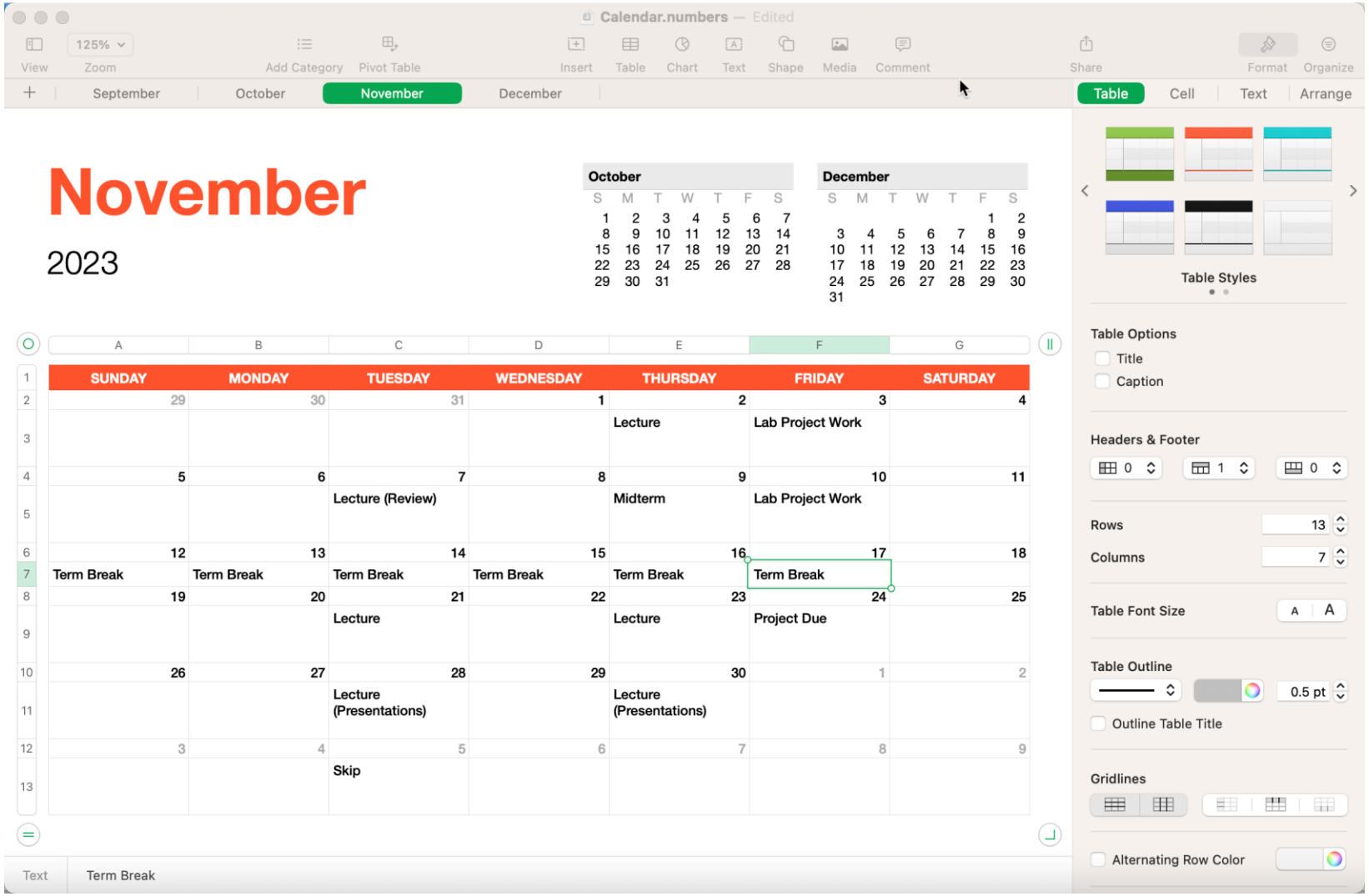


	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
2	27	28	29	30	31	1	2
3							
4	3	4	5	6	7	8	9
5			Lecture		Lecture	Lab Release ASS1	
6	10	11	12	13	14	15	16
7			Lecture		Lecture	Lab Release ASS2	
8	17	18	19	20	21	22	23
9			Lecture		Lecture	Lab Release ASS3 ASS1 Due	
10	24	25	26	27	28	29	30
11			Lecture		Lecture	Lab Release ASS 4	
12	1	2	3	4	5	6	7
13							

Course Schedule October 2023



Course Schedule November 2023



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
29	30	31	1	2	3	4
				Lecture	Lab Project Work	
5	6	7	8	9	10	11
		Lecture (Review)		Midterm	Lab Project Work	
12	13	14	15	16	17	18
Term Break	Term Break	Term Break	Term Break	Term Break	Term Break	
19	20	21	22	23	24	25
		Lecture		Lecture	Project Due	
26	27	28	29	30	1	2
		Lecture (Presentations)		Lecture (Presentations)		
3	4	5	6	7	8	9
		Skip				

Your TA's

- Rubya Afrin rubyn.afrin@ucalgary.ca
- Fuzzy Shahidi faezehsadat.shahidi@ucalgary.ca

- The TA's will mark all assignments.
- Will supervise the lab sessions.
- Provide D2L support.
- The TA's should be the first line of contact for questions.

Key to Success

- Review material and try to understand
- Come prepared to demonstrate your knowledge
- Be prepared to analyze, synthesize and evaluate information in class.
- Participate in the lab hours.
- Attend class (virtual)
- Stay engaged – ASK QUESTIONS!!
- **Apply the learnings in your labs**
- **If you don't understand something → Ask questions**

A Word about Plagiarism & Academic Dishonesty

- Academic Dishonesty and Plagiarism **will not be tolerated and will automatically result in a zero grade for the submission**. Any student caught plagiarizing may also be subject to additional University sanctions.
- No **tertiary** sources are to be used in your papers (see the rubric for more details)

Course Philosophy

- This course is designed to introduce you to programming
- Assignments and evaluation will be geared towards this aim
- I am here to help you succeed, and the onus is on **you as the student** to seek assistance from the TA
- Your TA is Mohamed Elamien Mohamed
  mohamed.elamienmoham@ucalgary.ca
- ***I want everybody to pass the course, but I need your help!!!***

Summing it Up....

- Outcome: Get a basic understanding of programming a computer
- Read widely – curiosity will serve you well in your career
- Be prepared to work hard and practice
- Ask questions and provide your insight

Questions