

SWEN20003  
Object Oriented Software Development

Lecture 1: Introduction

Semester 1, 2019

# Teaching Staff

## Lecturers:

- Matt De Bono (debonom@unimelb.edu.au)
- Shanika Karunasekera

## Tutors:

- Eleanor McMurtry (Head Tutor)
- Abigail Yuan
- Naufal Setiawan
- Nathan Gellie
- Jenny Yan

## Consultation hours

- Matt: Tuesday, 9am-11am Doug McDonell 4.19
- Eleanor: Monday, 1pm-2pm, Doug McDonell 4.19

# About Me

## Boring stuff

- Studied Bachelor of Science (Electrical Systems) and Master of Engineering (Mechatronics) at Melbourne
- Tutored computer science/programming since 2013
- Graduated in 2015
- Cert II in Creative Media (Modelling and Animation)

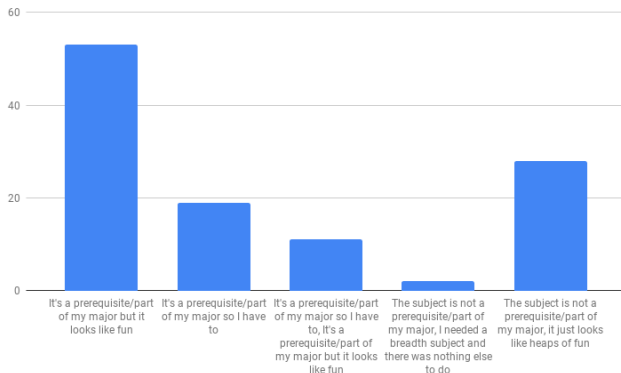
# About Me

## Fun facts:

- Dancer (social/competitive) and teacher
- Event manager
- Founder of two startups
- Will *occasionally* swear in lectures (sorry in advance)
- You will 100% find superhero/pop culture references in lectures/examples *#SorryNotSorry*
- Really hate job hunting...
- Least favourite question is “What do you do?”

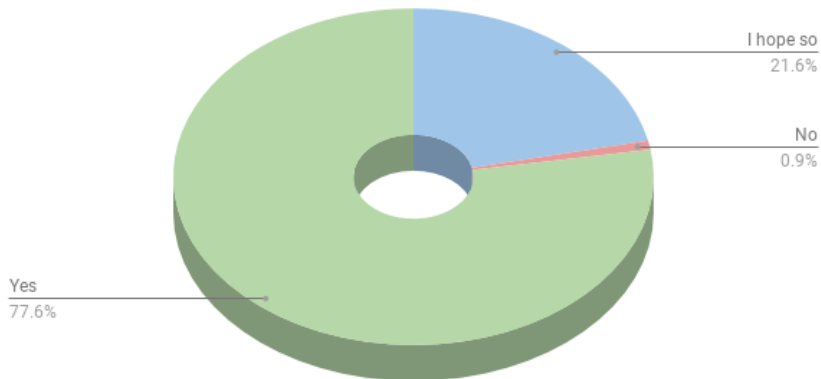
# SPARK STARTER

# Survey Results - Why you enrolled



- I can't pick between data science and CS major so I'm doing it for both reasons; it's required but also, why would anyone interested in computers not want to take the subject???
- For the cool lecturer ;-)

# Survey Results - This subject is useful



# Survey Results - What you hope to learn

## The Good:

- Duh...
- Duh...
- If you're not solving problems you're doing it wrong
- Brief discussion in later weeks
- All projects are assessed for quality
- Occasional mention, guest lecture
- Much more “thinking” and design in projects
- We have one lecture on git and other tools



# Survey Results - What you hope to learn

## The Bad:

- “How to bake an easy flourless orange cake”
- “I have no idea”
- “My goal is prove that the assignment could be done without constructing any class”
- “I have no idea what the contents of this subject are”
- “JavaScript”

# Survey Results - What you hope to learn

## The Hopeful:

- “Be clever”
- “Learning how to work with minimum sleep”
- “Reading?”
- “Typing?”
- “To be able to effectively design and implement web based programs”
- “A shared excitement for Endgame and the final season of GoT”

# Survey Results - Rumours and Gossip

- Java
- It's useful
- It's hard ( "Tough as balls" )
- It's good/fun ( "It's one of the best subjects in computing and software systems major" )
- You make games
- Memes
- Lecturer is okay

**Overwhelming answer:** I've heard nothing

# Survey Results - Superhero Highlights

- Iron Guy
- Ezio (Assassin's Creed)
- My mum (not my mum...)
- Trees
- Sleep
- Jack Jack (The Incredibles)
- Klaus (Umbrella Academy)
- Batman (sigh, budget Iron Man)
- Peppa Pig
- "The Flash because as a Gen Z, I have no patience for anything, hence, fast is good"
- Thor/Captain America/Doctor Strange/Spider-Man/Wonder Woman/Deadpool/Superman
- Iron Man (correct answer)
- Trump

# Survey Results - GoT Highlights

- “Jon Snow bc i know nothing”
- “Jon Snow because I want to sleep with my aunt”
- “Dead”
- “Wishing I wasn’t a Game of Thrones character”
- “Maybe I’ll start watching now...”
- Most common were **Arya, Jon, Tyrion, Danaerys**

# SES Feedback

	S2 2017	S1 2018	S2 2018
Q01 (Intellectually stimulating)	4.1	4.3	4.0
Q02 (Well coordinated)	4.0	4.0	4.0
Q03 (Learning resources)	4.0	4.3	3.9
Q04 (Well taught)	4.0	4.2	4.0
Q05 (High standard)	4.3	4.2	4.2
Q06 (Useful assessment)	4.2	4.2	4.0
Q07 (Valuable feedback)	3.7	3.8	3.7
Q08 (New ideas)	4.3	4.4	4.3
Q09 (Applies to practice)	4.3	4.3	4.2
Q10 (Learning community)	4.0	3.8	3.8

# SES Feedback

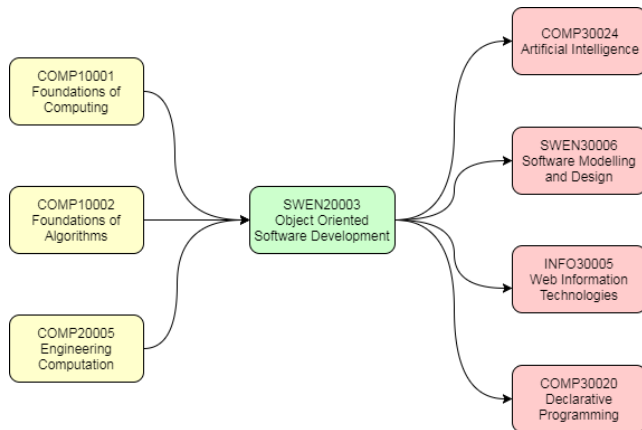
## Negative:

- Lectures finished early
- Better feedback on assessment
- More connected workshops
- Could be more collaborative
- Matt's jokes are painful
- Test was too hard

## Positive:

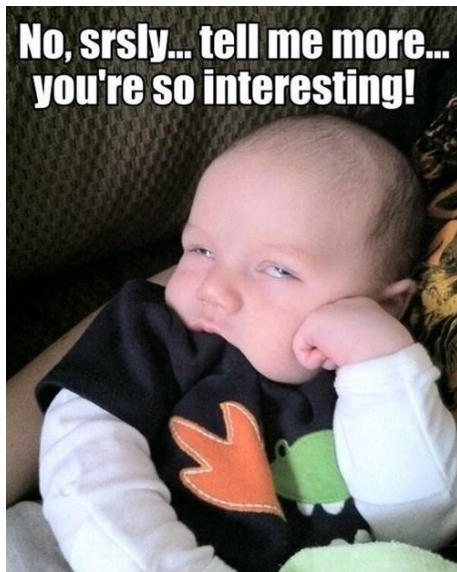
- Grok was a very useful tool, let us learn at our own pace
- The project! It's really fun, stimulating, and challenging
- This subject is perhaps the best subject I have done in all my years in university
- Fun and engaging lecturer with really clear and concise lecture notes. Projects were also great fun
- The lectures were really enjoyable and fun - Matt is an excellent lecturer

# OOSD in Context





# Learning Outcomes



# Real World Outcomes

On completion of this subject you will be able to:

- *Write* complex solutions in Java
- *Use* an Integrated Development Environment to develop software
- *Abstract* a problem specification into *classes*
- *Design* a software solution, not just write it
- *Apply* programming techniques, frameworks, and conventions, to other Object Oriented languages

# Lecture Schedule

Block	Week	Date	Lectures	Assessment
<i>Introduction</i>	1	March 4th	Introduction	
<i>OOP/Java Foundations</i>		March 5th	Classes and Objects	
	2	March 11th	"Primitive Classes"	
		March 12th	Input and Output	
	3	March 18th	Arrays	
		March 19th	Files	
	4	March 25th	Methods and Variables	
		March 26th	Privacy and Mutability	
<i>Abstraction</i>	5	April 1st	Inheritance	
		April 2nd	Abstract Classes	
		April 5th		Project 1 Released (11:59pm)
	6	April 8th	Interfaces	
		April 9th	Software Tools	
<i>Advanced OOP and Software Design</i>	7	April 15th	UML	
		April 16th	No Lecture	Mid-Semester Test
		April 19th		Project 1 Due (11:59pm)
				Project 2 Released (11:59pm)
			Mid-Semester Break	
	8	April 29th	Generics I	
		April 30th	Generics II	
		May 3rd		Project 2A Due (11:59pm)
	9	May 6th	Exceptions	
		May 7th	Design Patterns I	
	10	May 13th	Design Patterns II	
		May 14th	Software Testing and Design	
	11	May 20th	Games and Asynchronous Programming	
		May 21st	Advanced Java Concepts	
		May 24th		Project 2B Due (11:59pm)
<i>Wrap Up</i>	12	May 27th	Guest Lecture	
		May 28th	Project Awards and Final Exam	

# Workshops

Each week there will be a 2 hour workshop

- **Friday workshops start in week 1**; all other workshops start in week 2
- In most cases the first hour of the workshop will be a tutorial which will be followed by a lab session
- The workshop will contain exercises that will help you get a better understanding of the topics discussed in the lectures through hands on applications
- Doing these exercises by yourself will be important for you to understand the concepts, and for your projects and final examination

# Assessment

Project 1 8%

Project 2A 6%

Project 2B 16%

Mid-semester Test 10%

Final Exam 60%

## **Hurdle:**

To pass the subject, students must obtain at least 50% overall, 15/30 in project work, and 35/70 in the mid-semester test and end-of-semester written examination combined.

# Assessment

Project 1 Due 11:59pm, Friday 19th of April (Week 7)

Project 2A Due 11:59pm, Friday 3rd of May (Week 8)

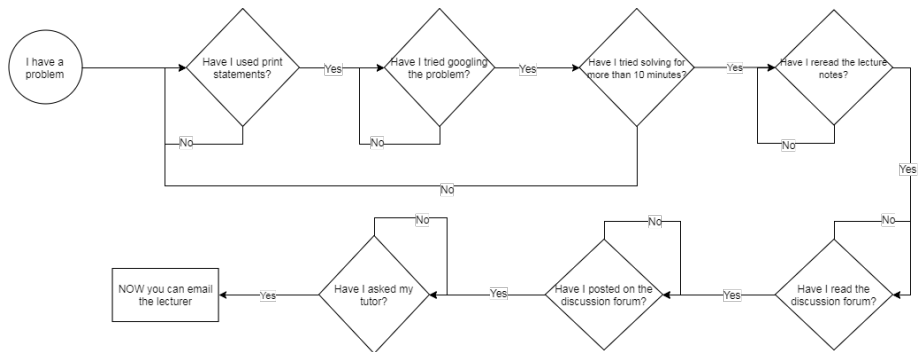
Project 2B Due 11:59pm, Friday 24th of May (Week 11)

Mid-semester Test Tuesday, Week 7 (details TBD)

# Textbook

- The subject content will be based off Absolute Java by Walter Savitch. You can buy the textbook (4th edition or higher) if you wish, but this is **not required**.

# Solving Problems





# Solving Problems

Please follow the steps in the diagram; ignore it at your own peril.

Tutors have been advised that responding to students with a “*Let Me Google That For You*” link is perfectly acceptable. We will sass you.

Make good use of the discussion forums, tutors will be monitoring it regularly.

# Editing Tools

- Any new language has a learning curve
- To reduce the impact, we'll be using Grok **until week 4**
- In week 4 and beyond, we will start to use Eclipse, an Integrated Development Environment (IDE)
- You will need to use an IDE for the Projects

# Academic Misconduct

- Work with friends if you like on **workshop** questions
- All **assessed** work (projects) is to be done by you alone
- You can discuss overall approach to solving problems with peers or others
- **Do not** show your code to peers, in person or electronically, or ask peers for code
- When in doubt, ask lecturer or tutor
- Sophisticated software is used to identify cheating
- Cheating is grounds for disciplinary action; repeat offence is grounds for expulsion
- See <https://academichonesty.unimelb.edu.au/>

# Expectations

- Your attendance will be rewarded with memes and all the worst-best dad jokes
- Ask questions, **lots** of questions
- Your tutors are the best resource for **specific** questions, particularly regarding the projects
- Attend the workshop you are enrolled in; if you have issues, please email me

# Student Representatives

- Renaldi Gondosubroto (rgondosubro@student.unimelb.edu.au)
- Ayesha Ahmed (ayeshaa1@student.unimelb.edu.au)

# Extra Resources

Practice (and exam-like) problems:

- Hackerrank
- Codecademy
- Codesignal

## **Fun Fact Fridays**

Random articles, blogs, videos, etc. related to tech/programming/startups... If you find something interesting, send it to me!

*Or...* if you'd like to write something, let me know!

# Project Sneak Peak

# That's a Wrap!

Welcome to SWEN20003!

Friday workshops start **this week**;  
all other workshops start in **Week 2**!