

Programming Fundamentals

An Introduction to the module

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Agenda

- *Module Structure / Approach:*
 - *Introducing your lecturers*
 - *Structure of the module*
 - *Troubleshooting labs*
 - *Module assessment*
 - *Ethos*

Introducing your lecturers

Colm Dunphy

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- Email: cdunphy@wit.ie

Diarmuid O'Connor

- Profile: https://www.wit.ie/about_wit/contact_us/staff_directory/diarmuid-oconnor
- Email: doconnor@wit.ie

Structure of the module

12 weeks of delivery

Lectures

Labs

Mon
12:15 –
2:00

Wed
12:15 –
2:00

Tues (A)
12:15 -
1:45

Tues (B)
1:45 -
3:15

Thurs(A)
10:45 -
12:15

Fri (B)
10:45 -
12:15

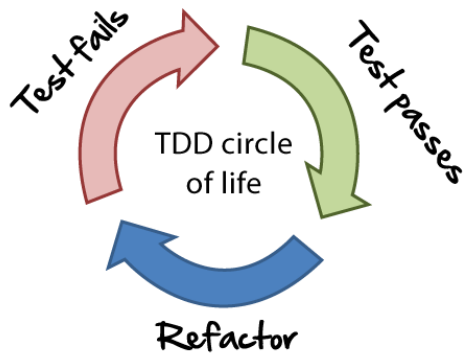
Structure of the module



Adobe[®] Connect[™]



Structure of the module



JUnit



Week Starting...	Topic	IDE	Assessment (100% CA)
Week 1 (22 nd Jan)	Static and Animated Drawings, Sequence, Data Types	Processing	
Week 2 (29 th Jan)	Selection (if), Iteration (loops), Events	Processing	
Week 3 (5 th Feb)	Using and Writing Methods	Processing	
Week 4 (12 th Feb)	Strings, Classes, Objects	Processing	<i>Assign 1 spec released</i>
MIDTERM (19 th Feb)	MIDTERM	MIDTERM	
Week 5 (26 th Feb)	Primitive Arrays and More on Classes	Processing	
Week 6 (5 th March)	Building the Game of Pong (released end of week 4)	Processing	
Week 7 (12 th March)	IntelliJ, Basic I/O, Array Recap, Collections (ArrayList)	IntelliJ	<i>Assignment 1 due Sunday</i>
Week 8 (19 th March)	Collections (ArrayList), Menu Driven Apps, Persistence	IntelliJ	<i>Assign 2 spec released</i>
EASTER (26 th March)	EASTER HOLIDAYS	EASTER	
EASTER (2 nd April)	EASTER HOLIDAYS	EASTER	
Week 9 (9 th April)	XML, Exceptions, Collections (Maps, Sets)	IntelliJ	<i>Assign 2 due Sunday</i>
Week 10 (16 th April)	Inheritance, Polymorphism, Abstraction	IntelliJ	<i>Assign 3 spec released</i>
Week 11 (23 rd April)	TDD and JUnit	IntelliJ	
Week 12 (30 th April)	Interfaces	IntelliJ	<i>Assign 3 due Sun 20th May</i>


Assignment structure

- 100% Continuous Assessment (CA).
- 3 assignments:
 - Assignment 1 (30%) – due Sunday 18th March, 5PM
 - Assignment 2 (20%) – due Sunday 15th April, 5PM
 - Assignment 3 (50%) – due Sunday 20th May, 5PM
- Hard deadlines; extensions only permitted if [mitigating circumstances](#) apply.
- Individual assignments (no team-based ones).
- Submit via Moodle assignment dropboxes.


Troubleshooting labs

...during the lab sessions


Post the issue in Slack; think of it as asking a question in a traditional classroom. Include any screen shots, screen recordings, etc you think might help solve the problem.



We encourage classmates to help each other, so if you know the answer to another student's issue, please do respond.



All our responses will be via Slack so that all students can see the resolution.



Note: for private issues, chat is also possible with us privately in Slack (or email).

Troubleshooting labs

...outside of the lab sessions

Search Slack Chatroom



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graph TD; A[Search Slack Chatroom] --> B[Check Google / StackOverflow (or equivalent) for possible solution]; B --> C[Post the issue in Slack Chatroom];
```

Check Google / StackOverflow (or equivalent) for possible solution

Post the issue in Slack Chatroom

Ethos

- Self-directed learning outside of lectures / labs.
- Inquisitive and motivated.
- Helpful to peers.
- Engagement and staying current with the module.
- All work submitted must be your own work.
 - Note: all code/approaches given in the module by us can be re-used / re-purposed in your assignments.

Introduction to Processing



What is Processing?



“Processing is a programming language,
development environment,
and online community.”

[Source: https://processing.org/](https://processing.org/)

- Some online examples developed using Processing:

<http://www.thesheepmarket.com/>

<http://balldroppings.com/js/>

<http://www.openprocessing.org/browse/>

What is Processing?



Processing...

...can be used to develop static or interactive online material and data visualisations.

...is often used by visual artists.

...produces visual and interactive representations of programming code.



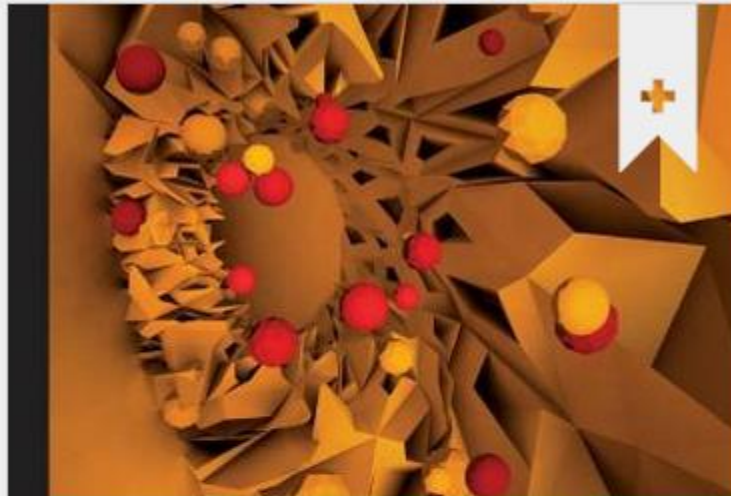
What is Processing?

- Different programming languages can be used with Processing e.g. :
 - Java: we will use this language.
 - JavaScript
 - Python
 - CoffeeScript
 - Etc.

Why are we using Processing?

*Processing is increasingly used
to teach computer
programming fundamentals
(<https://processing.org/overview/>)*

Some eBooks in WIT library



Quick answers to common problems

Processing 2: Creative Programming Cookbook

Over 90 highly-effective recipes to unleash your creativity with interactive art, graphics, computer vision, 3D, and more

Jan Vantomme

[PACKT] open source*
PUBLISHING



Cool projects that will push your skills to the limit

Processing 2: Creative Coding

Learn Processing with exciting and engaging projects to make your computer talk, see, hear, express emotions, and even design physical objects

HOTSHOT

Nikolaus Gradwohl

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PUBLISHING

We will start coding in Processing
in the afternoon session



Questions?

