INSY07002 Concurrent Programming

Transcript Title	Concurrent Programming

Full Title	Concurrent Programming

Attendance	N/A	Discipline	Information Systems
Coordinator	Alan Ryan	Department	Information Technology

Official Code	INSY07002	NFQ Level	07	ECTS Credit	10

Module Description

This module is designed to equip learners with the advanced features required to build comprehensive Java applications.

Learning Outcomes

On completion of this module the learner will/should be able to

1. Develop innovative and customised solutions using Internationalization.
2. Select and implement measures to enable multithreading in order to make applications more responsive and interactive.
3. Demonstrate a critical comprehension of applications developed in Java with networked support.
4. Deploy appropriate theory, practices and tools for the implementation of robust Java solutions.

Teaching and Learning Strategies

The module is 100% assessed by continuous assessment of laboratory/workshop based assignments and assessments. The module will be delivered through a combination of lectures, lab-lectures and practical classes. The lectures and lab-lectures will drive the content, which will then be reinforced in the practical classes. Self-directed learning will be strongly encouraged throughout this module.

Assessment Strategies

Learners must achieve at least 40% in the module. There is no terminal examination. The module is 100% assessed by continuous assessment of laboratory/workshop based assignments and interim assessments.

Assessment Facilities

Computer laboratory.

Indicative Syllabus

Internationalisation.

Understanding internationalisation.

Working with Locales.

Formatting dates, times, currency, percentage and numeric values using Locale objects.

Using Resource Bundles.

Threading.

Thread concepts.

Creating tasks and threads.

Thread pools.

Thread synchronisation.

Deadlock.

Lambdas and Streams.

Introduction to lambda expressions.

How to use the Predicate interface.

Introduction to using streams.

Streams V's collections.

Reflection.

Introduction to reflection

Classes, constructors, fields, getter/setters.

Annotations.

Generics and arrays.

Java Networking.

Socket and datagram applications.

Client/server applications.

Serving multiple clients.

Sending and receiving multiple objects over a network.

CourseWork / Assessment Breakdown	
CourseWork / Continuous Assessment	100 %

Coursework Assessment Breakdown

Description	Outcome Assessed	% of Total	Assessment Week
Continuous Assessment	1,2,3,4	100	Ongoing

End Exam Assessment Breakdown

Description	Outcome Assessed	% of Total	Assessment Week

Full Time Mode Workload

Type	Location	Description	Hours	Frequency	Avg Wkly Wrkld
Laboratory Practical	Computer Laboratory	Practical	1	Weekly	1.00
Lab based Lecture	Computer Laboratory	Lab Lecture	2	Weekly	2.00

Total Average Weekly Learner Workload 3.00 Hours

Module Book Resources

None

Module Alternate Book Resources

None

Module Other Resources

None

Module Resources

Module URLs

http://docs.oracle.com/javase/8/docs/api/
http://www.lynda.com/
http://moodle.lit.ie/

Additional Information

None

ISBN BookList

Book Details

Joel Murach 2015 *Murach's Beginning Java with NetBeans* Mike Murach & Associates ISBN-10 1890774847 ISBN-13 9781890774844

Paul Deitel 2011 *Java How to Program (early objects) (Deitel)* Prentice Hall ISBN-10 ISBN-13

Programme Membership

Code	Intake Year	Programme Title
LC_KINTE_K08MY	201600	Bachelor of Science (Honours) in Internet Systems Development
LC_KINTE_J07MY	201600	Bachelor of Science in Internet Systems Development