M A S S E Y U N I V E R S I T Y
COLLEGE OF SCIENCES
Paper Guide 2015

Paper Number and Title: 159234 Object-Oriented Programming

Credits value: 15 **Semester:** 1
Campus: Albany **Mode:** Internal

Calendar Prescription:
Introduction to Object-Oriented programming; classes, objects, templates, inheritance, polymorphism, iterators, object libraries.

Pre-requisites: 159.101,159.102
Restrictions: 159.211,159.270

E-Learning Category: Partially Taught Online
All materials will be available on Stream. Students should visit the159.234 Stream page at least two times per week during the Semester. Stream login page:
https://stream.massey.ac.nz/login/index.php

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Office hours: Wednesday 11:15-12:15
Tutor: TBA

Learning Outcomes:

Students who successfully complete this paper should be able to:
1. Design and implement C++ programs using object-oriented programming techniques.
2. Design and implement C++ programs , using inheritance, polymorphism, exception handling.
3. Design and implement programs, using templates and the STL object library.

Alignment of Assessment to Learning outcomes

Assessment Description	**Learning outcome**			**Contribution to Paper Mark**
Assessment	1.	2.	3.	
Assignment #1	x			10 %
Assignment #2	x	x	x	10 %
Term test	x	x		20%
Final Exam	x	x	x	60%
				100%

Assessments and Deadlines

Assessment	**Due Date / Deadline**	**Late Penalty**	**Paper completion requirement**
Assignments 1, 2	**See last page of this document**	**5 % per hour late**	
Term test			
Final exam			**Yes**

The turnaround time for assignments will be no more than three weeks from the due date. It is important to note that the specified timeframe applies only to those assignments submitted by the due date, and does not necessarily apply to those submitted late.

Solutions-to assignments, tutorial exercises (eventual--past exams or tests) will be discussed during lectures/labs. **No solutions** will be put on Stream and **no printed solutions** will be given out-**please do not ask for them!**

Final examination dates:
http://www.massey.ac.nz/massey/learning/exams/exam_home.cfm

Past exam papers:
http://www.massey.ac.nz/massey/learning/exams/before-your-exams/past-exam-papers/past-exam-papers_home.cfm

Timetable:
http://www.massey.ac.nz/massey/learning/timetables/class-timetable_home.cfm

Textbook:
There is no required textbook for this course**. The notes from the 159.234 Massey University Stream page should be the main source of information**. Solutions for assignments test and exam questions should use the knowledge and the programming style presented in these lecture notes or during lecture and lab discussions.

Optional materials:
From Massey University Library:

1. Programming : principles and practice using C++ , by Bjarne Stroustrup, 2014
2. The C++ programming language by Bjarne Stroustrup,2013
3. C++ : how to program by Deitel and Deitel
4. C++ programming : from problem analysis to program design by D. S. Malik,2014
5. C++ for C programmers by Ira Pohl, 1999
6. Java programming : from problem analysis to program design by D.S. Malik, 2014
7. Java : how to program, Pearson/Prentice Hall by Deitel & Deitel, c2010 or later

From Internet:

1. http://www.cplusplus.com/doc/
2. http://www.stroustrup.com/
3. http://docs.oracle.com/javase/tutorial/index.html
4. **http://www.oracle.com/technetwork/java/javase/jdk-7-readme-429198.html**
5. http://java.com/en/download/manual.jsp
6. http://docs.oracle.com/javase/tutorial/getStarted/cupojava/win32.html

Software:

1) GCC- C++ compiler for Windows; the GCC compiler and a Text Editor (SciTE)
http://cs-alb-pc3.massey.ac.nz/software/gcc48.exe
2) JDK7 (or JDK8) can be downloaded from:
http://www.oracle.com/technetwork/java/index.html
Or follow the instructions presented at:
http://docs.oracle.com/javase/tutorial/getStarted/

Conditions for Aegrotat Pass and Impaired Performance:

If you are prevented by illness, injury or serious crisis from attending an examination (or completing an element of assessment by the due date), or if you consider that your performance has been seriously impaired by such circumstances, you may apply for aegrotat or impaired performance consideration. You must apply on the form available from the Examinations Office, the Student Health Service or the Student Counseling Service.

Plagiarism:
Massey University, College of Sciences, has taken a firm stance on plagiarism and any form of cheating. Plagiarism is the copying or paraphrasing of another person's work, whether published or unpublished, without clearly acknowledging it. It includes copying the work of other students. Plagiarism will be penalized; it is likely to lead to loss of marks for that item of assessment and may lead to an automatic failing grade for the paper and/or exclusion from reenrollment at the University.

Grievance Procedures:

A student who claims that he/she has sustained academic disadvantage as a result of the actions of a University staff member should use the University Grievance Procedures. Students, whenever practicable, should in the first instance approach the University staff member concerned. If the grievance is unresolved with the staff member concerned, the student should then contact the College of Sciences office on his/her campus for further information on the procedures, or read the procedures in the University Calendar.

Have a successful and enjoyable semester!
Dr. E. Calude
Feb 2015

		159.234 S1-2015 Syllabus	Subject to change-all changes will be announced in lectures.		
Week NR	Dates	**Topics**			Ass due Sun noon
1	**23-Feb**	**1** Prgr paradigms	**2** Review procedural prdg	**3** Variables, functions in C++	
2	**2-Mar**	**4** Encapsulation	**5** Constructors	**6** Const correctness	
3	**9-Mar**	**7** Modularity	**8** Interfaces and implementations	**9** Class design	A1 part 1 15-Mar
4	**16-Mar**	**10** Static members	**11** Friendship	**12** Operator overloading	
5	**23-Mar**	**13** Static members	**14** Memory management	**15** Rule of 3/rule of 5	A1-part 2 29-Mar
6	**30-Mar**	**16** **Term test--30 Mar**	**17** Inheritance basic	**18** Inheritance and operators	NO LAB
Easter break--3 Apr 15--19 Apr 2015					
7	**20-Apr**	**19** Abstract classes	**20** Polymorphism	**21** Polymorphism	A2-part 1 26-Apr
8	**27-Apr**	**22** Anzac day-No lecture	**23** Multiple inheritance	**24** Templates (fc)	
9	**4-May**	**25** Class templates	**26** Relationship	**27** Exceptions	
10	**11-May**	**28** STL containers	**29** STl-iterators	**30** STL-algorithms	A2-part 2 17-May
11	**18-May**	**31** Java-classes	**32** Java inheritance	**33** Java generics and exceptions	
12	**25-May**	**34** Other OO prg lang	**35** Review	**36** Course wrap-up	Extra A 31-May

Study break--1 Jun 15--7 Jun 2015; Sem ends 20 Jun2015