

**UNIVERSITY OF THE FREE STATE**  
**DEPARTMENT OF COMPUTER SCIENCE AND INFORMATICS**  
**CSIS1624 (2015)**  
**ADVANCED PROGRAMMING AND PROBLEM SOLVING**  
**MODULE GUIDE**

**A. CONTACT DETAILS**

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Lecturer: Prof. Pieter Blignaut  
Office: WWG 313  
Telephone: 051 401 2754  
E-mail: [pieterb@ufs.ac.za](mailto:pieterb@ufs.ac.za)  
Consulting Hours: Per appointment

Assistant: Ms. Sandra Louro  
Office: WWG 319  
Telephone: 051 401 2236  
E-mail: [2010014484@ufs4life.ac.za](mailto:2010014484@ufs4life.ac.za)

**B. MODULE OBJECTIVE**

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This module is on NQF level 6. This module is a continuation of CSIS1614 and deals with information systems and problem solving in business and scientific environments. Advanced object oriented concepts, debugging, storing data in files and access to simple databases are discussed.

**C. MODULE OUTCOME**

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At the end of the course the student should:

- understand the concepts of collections, strings and arrays;
- be able to design and implement a class that includes data fields, properties and methods;
- understand advanced OO concepts such as abstraction, encapsulation, inheritance and polymorphism;
- be able to read from and write to text files and binary files;
- understand the basics of databases and how to connect to a database from C#.

**D. COMMUNICATION**

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Attendance of theory classes and practical sessions is compulsory. You will be largely disadvantaged if you miss a class. Do not get behind with the work! Contact the lecturer or assistant in time if you have any problems with the work. Attendance of practicals or assistance at other subjects or probation (for example education students) are not acceptable excuses.

You get an e-mail address when you register, for example 2001234567@ufs4life.ac.za. When you activate your student card at the Thakaneng Bridge, your e-mail address will be activated as well. Appointments with the lecturer must be scheduled by e-mail. Read your e-mail regularly. We don't send e-mails to other addresses than the ufs4life.ac.za domain.

It is the responsibility of the student to ensure that he/she receives all the information in connection with this module that is provided during the theoretical classes, on the department's network, on the notice board in the Mathematical Sciences Building on the third floor, in the calendar or by e-mail.

All enquiries should be addressed to the assistant before you consult the lecturer.

You must at all times have this guide as well as a pen with you when you consult the lecturer or the assistant.

## E. STUDY MATERIAL

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- We will use the following book during this module:  
Blignaut, Pieter. 2014. Be Sharp with C#. University of the Free State. The book is available directly from the lecturer as well as at Van Schaik at the Thakaneng Bridge.
- Supplementary notes, practical assignments, solutions to tests and practical assignments, etc. will periodically be posted on the departmental FTP server (<http://csi.ufs.ac.za/courses/CSIS1624/2015>). You are responsible to ensure that you receive everything in time and study them.
- CSIS1624 will be using C# (C sharp) as language for all programming. This is part of the Microsoft Visual Studio 2013 package. Students who are registered for CSIS1624 can obtain the software free of charge.
- Tutor classes will be arranged for students who need extra help. Times and venues will be communicated as soon as the information is available.

## F. CONTACT SESSIONS

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This module consists of three theoretical periods per week and one practical session of 3 hours per week. Attendance of theoretical classes and practical sessions is compulsory.

	1	2	3
<b>Afrikaans</b>	Mondays 12:10 – 13:00, FGG378	Wednesdays 10:10 – 11:00, FGG378	Thursdays 13:10 – 14:00, FGG378
<b>English</b>	Mondays 07:10 - 08:00, FGG378	Wednesdays 13:10 – 14:00, FGG378	Thursdays 09:10 – 10:00, FGG378
<b>Practicals</b>	Mondays, 14:10 – 17:00, 17:10 – 20:00		

## G. LABORATORY USAGE

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All practicals as well as tests and examinations will be done in the Computer Science Labs (WWG225 & 316) during the assigned practical sessions. To be able to use the Labs, you must bring proof of registration as well as a signed copy of the laboratory rules to the secretary (WWG312) prior to attending the first practical session.

## H. ASSESSMENT

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### Module mark

The module mark will be determined through the best ten of twelve class tests and two module tests. All tests will have a practical as well as written component. See the module calendar below for the dates of the class tests and module tests.

Class attendance : 10% of module mark  
Class tests : 30% of module mark (Average of best 8 class tests out of 10 opportunities)  
Module test 1 : 30% of module mark  
Module test 2 : 30% of module mark.

- You must write all module tests and class tests. Failure to do any module test will result in a result of incomplete for the module and you may not write exam. Failure to do a class test will result in a zero mark for the specific test.

- Your course will be incomplete if
  - you did not attend at least 80% of all lectures
  - you fail to write any of the module tests (or a sick test instead of one module test)
  - you fail to write at least eight class tests.
- Students who register late will not be accommodated. This is not a text book subject that you can catch up in own time. If you are late, you are out!
- Not tests will be marked if you are not registered for CSIS1624.

The module mark will be available on 23 October 2015 on the notice board. No marks will be provided over the telephone

### **Promotion, tests and exam**

- **NB: This is NOT a promotion module.** All students will have to write the examination.
- See the module calendar for details on the dates of tests. The dates are set centrally by a Faculty committee and we may not change test dates.
- Besides the weekly practical tests, you will write two three-hour semester tests as well as a three hour exam paper during the November examination opportunity.
- Class tests 2 and 3 are combined into a single three-hour paper on the work of CSIS1624. This is the only class test for which a valid doctor certificate will be accepted.
- All assessments will include a written and practical component and will be taken in the department's laboratory facilities.
- The module mark and examination mark each contributes 50% towards the final mark for CSIS1624.
- Marks for tests, examinations and assignments may be held back if required so by the administration of the university in cases of students not registered for the module or outstanding fees.

### **Sick test**

If you have a valid doctor certificate for any module test or the compulsory class test 3&4 and submitted it within 48 hours after the test, you will be allowed to write the sick test on 17 October. Note, however, that the sick test will cover all the work of the entire semester and not only the work of the test that you missed.

The sick test policy of the Department of Computer Science and Informatics is published on the notice board on the third level of the Mathematical Sciences Building and will be strictly applied. Only in the following circumstances will students qualify for a sick test:

1. In the event of absence of a module tests due to illness. A valid medical certificate, wherein the doctor stipulates the diagnosis of illness and that you are not in a position to write a module test, must be submitted within 48 hours after the test. Please note that the lecturer might call the doctor to confirm the legality of the medical certificate. A certificate that reads "As I was informed" is not valid. The doctor must examine you and must stipulate the nature and seriousness of the disease.
2. With the death of any of your immediate family. You are required to hand in a certified copy of the relevant death certificate to the lecturer within 48 hours after the test.

Note also the following conditions:

1. Should you qualify for the sick test and you do not write the test on the given date and time, no further tests will be set up.
2. Participation in sport, cultural activities, the attendance of weddings, or transport problems etc. are not valid reasons for the absence of tests.
3. No member of the Student Representative Council or House Committee may give you permission not to write a test or examination.

## H. MODULE CALENDAR

WEEK	DATE	LECTURES	PRACTICALS & TESTS
1	20, 22, 23 July	Ch 10 (Arrays)	
2	27, 29, 30 July	Ch 10 (Arrays)	
	27 July		Class test 1-2 (Ch 1-10)
3	3, 5, 6 August	Ch 10 (Arrays)	
	3 August		Class test 3 (Ch 10)
4	12, 13 August	Ch 10 (Arrays)	
5	17, 19, 20 August	Ch 11 (OO)	
	17 August		Class test 4 (Ch 11)
6	24, 26, 27 August	Ch 11 (OO)	
	24 August		Class test 5 (Ch 11)
7	31 Aug, 2, 3 September	Ch 12 (Advanced OO)	
	31 August		Module test 1 (Ch 10, 11)
8	7, 9, 10 September	Ch 12 (Advanced OO)	
	7 September		Class test 6 (Ch 12)
9	14, 16, 17 September	Ch 13 (Files)	
	14 September		Class test 7 (Ch 12)
10	21, 23 September	Ch 13 (Files)	
	21 September		Class test 8 (Ch 13)
11	28, 30 Sep, 1 October	Ch 13 (Files)	
	28 September		Class test 9 (Ch 13)
12	12, 14, 15 October	Ch 14 (Databases)	
	12 October		Class test 10 (Ch 14)
13	19, 21, 22 October	No classes	
	19 October		Module test 2 (Ch 11 - 14)
	21 October		Sick test
	23 October	Semester ends	
	__ November	Examination in the departmental laboratories	

## I. CODE OF CONDUCT

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### Copying, Collaboration and Plagiarism

- Copying implies that programming code, text, images, etc. submitted as being your own work while it is partially or wholly that of another person. Minor changes to hide the copying do not nullify the copying.
- Collaboration implies that the student received assistance from one or more persons (including students in the class, people outside the class, the lecturer, other CSI staff members, the student assistants, an Internet chat room, etc.) in completing an assignment.
- Plagiarism can be defined as the deliberate copying, writing or presenting as one's own the information, ideas or phrasing of another person without proper acknowledgment of the true source.
- Should the work of two or more individual students be identical or very similar, the possibility of copying and/or collaboration will be investigated.

Assignments where copying, collaboration or plagiarism can be proved will not be accepted. This will result in the student's module being marked as incomplete. The student will, however, be given an opportunity to resubmit the assignment (or a similar assignment) to the satisfaction of the lecturer to reverse the incomplete. A mark of 0 will be awarded for resubmitted assignments. This is in accordance with the university's Plagiarism Prevention Policy.

### Illegal behaviour

The following is a non-exhaustive list of offences and the Department of Computer Science and Informatics reserves the right to amend or add to the list of offences at the discretion of the departmental management. Offences which arise and are not explicitly listed here will be subject to the same disciplinary measures as other offences of comparable nature.

- The following offences are regarded as Level 1 (minor) offences. Repeated transgression of these rules will be regarded as a Level 2 (serious) offence.
  - Eating and drinking in the laboratories.
  - Littering
  - Making or causing unnecessary noise in the building. The academic nature of the environment should be respected at all times.
- The following offences are regarded as Level 2 (serious) offences. A first offence will be handled internally in the department. A second transgression will be reported to the university's disciplinary committee for further investigation and action.
  - Allowing non-CSI students into the laboratories.
  - Logging on for non-CSI students.
  - Failing to change your Blackboard or Novell password to something other than your student number or failing to keep your passwords secret.
  - Copying of module evaluations, written assignments, practical assignments or evaluations from another student.
  - Allowing other students to copy your work or sharing your work with other students or assisting other students to complete their assignments.
  - Collaboration on individual assignments (both written and practical).
  - Plagiarism as defined above.
  - Downloading, installing or use of non-departmental software on the laboratory computers, e.g. games, music, torrents, etc.
- The following offences are regarded as Level 3 (very serious) offences. Students will be reported immediately to the university's disciplinary committee for further investigation and action. Students should take note that this could result in expulsion from the university.
  - Identity theft, e.g. logging into Blackboard using the credentials of another student.
  - Watching pornography.
  - Copying during examination sessions or final assessments.



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**PERSONAL DETAILS**

Student number \_\_\_\_\_

Surname \_\_\_\_\_

Initials \_\_\_\_\_

Title \_\_\_\_\_

First name \_\_\_\_\_

Address during semester \_\_\_\_\_  
\_\_\_\_\_

Telephone numbers \_\_\_\_\_ (cell)  
\_\_\_\_\_ (home / residence)  
\_\_\_\_\_ (parents)

E-mail \_\_\_\_\_

Preferred instruction medium  Afrikaans  English

I have received the CSIS1624 (2015) module guide. I understand the contents thereof and I will abide by the rules as stipulated.

Signature \_\_\_\_\_

Date \_\_\_\_\_