WESTERN SYDNEY
UNIVERSITY

School of Computer, Data and Mathematical Sciences

Learning Guide

300130 Internet Programming
Spring 2020

Unit Details

Unit Code:	300130
Unit Name:	Internet Programming
Credit Points:	10
Unit Level:	3
Assumed Knowledge:	Basic knowledge on Internet browsing and any object-oriented programming language.

Note: Students with any problems, concerns or doubts should discuss those with the Unit Coordinator as early as they can.

Unit Coordinator

Name: Dr Chun Ruan
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Consultation Arrangement:
To be announced via vUWS

Edition: Spring 2020

Contents

Note: The relevant Learning Guide Companion supplements this document

1 About Internet Programming

1.1 An Introduction to this Unit

This unit offers students basic concepts and latest technologies of internet programming and web-based application development. Utilising one of the popular internet programming languages, such as Java, it aims to develop the programming skills and methodologies required for both client-side and server-side programming as well as general purpose programming. The range of topics covered by the unit includes HTML, XML, Java applets, desktop application in Java, servlets, JavaServer Pages and JDBC.

1.2 What is Expected of You

Study Load

A student is expected to study an hour per credit point a week. For example a 10 credit point unit would require 10 hours of study per week. This time includes the time spent within classes during lectures, tutorials or practicals.

Attendance

It is strongly recommended that students attend all scheduled learning activities to support their learning.

Online Learning Requirements

Unit materials will be made available on the unit's vUWS (E-Learning) site (https://vuws.westernsydney.edu.au/). You are expected to consult vUWS at least twice a week, as all unit announcements will be made via vUWS. Teaching and learning materials will be regularly updated and posted online by the teaching team.

Special Requirements

Essential Equipment:
Not Applicable
Legislative Pre-Requisites:
Not Applicable

Policies Related to Teaching and Learning
The University has a number of policies that relate to teaching and learning. Important policies affecting students include:

- Assessment Policy
- Bullying Prevention Policy and
- Guidelines
- Enrolment Policy
- Examinations Policy
- Review of Grade Policy
- Sexual Harassment Prevention Policy
- Special Consideration Policy
- Student Misconduct Rule
- Teaching and Learning - Fundamental Code
- Student Code of Conduct

Academic Integrity and Student Misconduct Rule
In submitting assessments, it is essential that you are familiar with the policies listed above and that you understand the principles of academic integrity. You are expected to act honestly and ethically in the production of all academic work and assessment tasks, submit work that is your own and acknowledge any contribution to your work made by others.

Important information about academic integrity, including advice to students is available at https://www.westernsydney.edu.au/studysmart/home/academic_integrity_and_plagiarism. It is your responsibility to familiarise yourself with these principles and apply them to all work submitted to the University as your own.

When you submit an assignment or product, you will declare that no part has been: copied from any other student's work or from any other source except where due acknowledgement is made in the assignment; submitted by you in another (previous or current) assessment, except where appropriately referenced, and with prior permission from the Unit Coordinator; written/produced for you by any other person except where collaboration has been authorised by the Unit Coordinator.

The Student Misconduct Rule applies to all students of Western Sydney University and makes it an offence for any student to engage in academic, research or general misconduct as defined in the Rule.

The University considers plagiarism, cheating and collusion as instances of academic misconduct. The University also considers submitting falsified documentation in support of applications for special consideration, including sitting of deferred examinations, as instances of general misconduct. You should be aware that changes were made to the Student Misconduct Rule commencing 1 January 2020 that provide for minimum sanctions that apply to certain conduct, including the provision of falsified documentation to the University.

You are strongly advised to read the Student Misconduct Rule and the Inappropriate Behaviour Guidelines at the commencement of each session to familiarise yourself with this process and the expectations of the University in relation to work submitted for assessment.

1.3 Changes to Unit as a Result of Past Student Feedback

The University values student feedback in order to improve the quality of its educational programs. The feedback provided helps us improve teaching methods and units of study. The survey results inform unit content and design, learning guides, teaching methods, assessment processes and teaching materials.

You are welcome to provide feedback that is related to the teaching of this unit. At the end of the semester you will be given the opportunity to complete a Student Feedback on Unit (SFU) questionnaire to assess the unit. You may also have the opportunity to complete a Student Feedback on Teaching (SFT) questionnaire to provide feedback for individual teaching staff.

As a result of student feedback, the following changes and improvements to this unit have recently been made:

- Lectures and practicals have been updated

2 Assessment Information

2.1 Unit Learning Outcomes

Upon successfully completing this unit, students will be able to:

	Outcome
1	Explain the basic principles and concepts in programming design and implementation for the Internet.
2	Write programs that efficiently utilize basic data structures and algorithms, applets, threads, and basic GUI components.
3	Design web pages by using web forms, applets and CGI scripts.
4	Apply the Java features for Internet application development, including Servlets, JSP, and JDBC.
5	Explain the concepts of encapsulation, inheritance and polymorphism in terms of the design and implementation of Java classes and applications.
6	Use Java API packages.

2.2 Approach to Learning

- Two hour lecture per week.

- Two hour tutorial and lab practical per week

Practical sessions will be scheduled for 12 weeks of the semester beginning in the 2nd week; less any class times falling on public holidays. Lectures are designed to present and explore the theory and practice of Java programming techniques. Tutorials and lab practicals will enable students to investigate, practice and implement the java programming techniques presented in the lecture.

2.3 Contribution to Course Learning Outcomes

3506: Bachelor of Computer Science

Course Learning Outcomes	ULO 1	ULO 2	ULO 3	ULO 4	ULO 5	ULO 6
1. Communicate in a professional manner with others at all levels within and beyond the industry and across discipline, cultural and national boundaries, orally, in writing and through presentations.	Introduced					
2. Perform work of high quality with an awareness of the professional code of conduct, professional and personal ethics, and the legal and social implications of technological change and professional practice		Developed				
3. Work independently and as a member of a team, including cross-discipline teams, and plan, manage and report on personal and project deliverables			Developed	Developed		
4. Plan, implement and monitor systems to provide appropriate and ongoing quality assurance in respect to all work undertaken			Developed	Developed		Developed
5. Demonstrate an understanding of a variety of computer systems, their capabilities and limitations	Developed				Developed	

3634: Bachelor of Computer Science (Advanced)

Course Learning Outcomes	ULO 1	ULO 2	ULO 3	ULO 4	ULO 5	ULO 6
1. Communicate in a professional manner with others at all levels within and beyond the industry and across discipline, cultural and national boundaries, orally, in writing and through presentations.	Introduced					
2. Perform work of high quality with an awareness of the professional code of conduct, professional and personal ethics, and the legal and social implications of technological change and professional practice		Developed				
3. Work independently and as a member of a team, including cross-discipline teams, and plan, manage and report on personal and project deliverables			Developed	Developed		

4. Plan, implement and monitor systems to provide appropriate and ongoing quality assurance in respect to all work undertaken			Developed	Developed		Developed
5. Demonstrate an understanding of a variety of computer systems, their capabilities and limitations	Developed				Developed	
6. Understand and appreciate the directions of current research in their chosen discipline						

3639: Bachelor of Information and Communications Technology

Course Learning Outcomes	ULO 1	ULO 2	ULO 3	ULO 4	ULO 5	ULO 6
1. Explain the complex networks involved when dealing with people, business and government in the context of ICT development, support and service provision.	Introduced				Introduced	
2. Evaluate the technological and software core of ICT theory and practice analysing and designing applications		Developed	Developed		Developed	
3. Apply the knowledge and skills required for the development of new applications and new application areas		Developed	Developed	Developed		Developed
4. Innovate by keeping up to date with the rapid development in technology and practice across the ICT domain, as an extension of their current understandings and the ability to find innovative ICT solutions and move the ICT field forward.			Developed	Developed		
5. Perform work of high quality with an awareness of the professional code of conduct, professional and personal ethics, and the legal and social implications of technological change relating to privacy of information and professional practice.	Introduced					

3684: Bachelor of Information and Communications Technology (Advanced)

Course Learning Outcomes	ULO 1	ULO 2	ULO 3	ULO 4	ULO 5	ULO 6
1. Explain the complex networks involved when dealing with people, business and government in the context of ICT development, support and service provision.	Introduced				Introduced	
2. Evaluate the technological and software core of ICT theory and practice analysing and designing applications		Developed	Developed		Developed	

3. Apply the knowledge and skills required for the development of new applications and new application areas		Developed	Developed	Developed		Developed
4. Innovate by keeping up to date with the rapid development in technology and practice across the ICT domain, as an extension of their current understandings and the ability to find innovative ICT solutions and move the ICT field forward.			Developed	Developed		
5. Perform work of high quality with an awareness of the professional code of conduct, professional and personal ethics, and the legal and social implications of technological change relating to privacy of information and professional practice.	Introduced					

2.4 Assessment Summary

The assessment items in this unit are designed to enable you to demonstrate that you have achieved the unit learning outcomes. Completion and submission of all assessment items which have been designated as mandatory or compulsory is essential to receive a passing grade.

To pass this unit you must:

- Achievement of at least 50% overall.

- Satisfactorily complete all assessment items.

In order to qualify for a passing grade in the unit a student must satisfy the School that they have appropriately completed all assessment items of the unit. Satisfactory completion of an assessment item includes a full attempt at the work designated and the demonstration of an appropriate level of knowledge of the assessment content. Failure to do so will result in a 'Fail' grade, regardless of the total mark achieved in the unit by the student.

Item	Weight	Due Date	ULOs Assessed	Threshold
Individual assignment	15%	5:00 pm Monday 14/09/2020	2, 3	No
Group assignment	25%	5:00 pm Monday 19/10/2020	4, 6	No
Three practical exercises	15%	Refer to the Table of Activities	2, 5, 6	No
Final examination	45%	Final exam period	1, 2, 4, 5	No

Feedback on Assessment

Feedback is an important part of the learning process that can improve your progress towards achieving the learning outcomes. Feedback is any written or spoken response made in relation to academic work such as an assessment task, a performance or product. It can be given to you by a teacher, an external assessor or student peer, and may be given individually or to a group of students. As a Western Sydney University student, it is your responsibility to seek out and act on feedback that is provided to you as a resource to further your learning.

In this unit, you can expect written feedback on your assignments on vUWS. Further informal feedback on assessments will also be provided in tutorials/lectures.

2.5 Assessment Details

2.5.1 Individual assignment

Weight:	15%
Type of Collaboration:	Individual
Due:	5:00 pm Monday 14/09/2020
Submission:	Online via vUWS
Format:	Programming project
Length:	10-15 hours of work
Curriculum Mode:	Practical

The assignment is a small individual programming project designed to investigate, practise and implement the techniques presented in the lectures. Further details will be posted on the unit's vUWS site.

Resources:

Lecture notes, turorials/practicals, textbook, additional readings on java.

Marking Criteria:

Criteria	High Distinction	Distinction	Credit	Pass	Unsatisfactory
Programming project requirements	Demonstrates complete understanding of the project. All requirements of the project are included in program/report.	Demonstrates considerable understanding of the project. Most requirements of the project are included in program/report.	Demonstrates well understanding of the project. Many requirements of the project are included in program/report.	Demonstrates partial understanding of the project. Some requirements of the project are included in program/report.	Demonstrates no or little understanding of the project. Most requirements of the project are missing from program/report.

2.5.2 Group assignment

Weight:	25%
Type of Collaboration:	Group
Due:	5:00 pm Monday 19/10/2020
Submission:	Online via vUWS
Format:	Programming project
Length:	900-1800 words
Curriculum Mode:	Practical

The assignment is a group project designed to investigate, practise and implement the techniques presented in the lectures. Both client-side and server-side programming will be investigated, such as networking, JDBC, Servlet and JSP etc. Students may form a group of no more than 3 people to undertake the assignment together, and may also choose to work entirely on their own if they wish. Further details will be posted on the unit's vUWS site.

Resources:

Lecture notes, tutorials/practicals, textbook, additional readings on java.

Marking Criteria:

Criteria	High Distinction	Distinction	Credit	Pass	Unsatisfactory
Programming project requirements	Demonstrates complete understanding of the project. All requirements of the project are included in program/report.	Demonstrates considerable understanding of the project. Most requirements of the project are included in program/report.	Demonstrates well understanding of the project. Many requirements of the project are included in program/report.	Demonstrates partial understanding of the project. Some requirements of the project are included in program/report.	Demonstrates no or little understanding of the project. Most requirements of the project are missing from program/report.

2.5.3 Three practical exercises

Weight:	15%
Type of Collaboration:	Individual
Due:	Refer to the Table of Activities
Submission:	Online via vUWS
Format:	Short answer questions and small programming tasks
Length:	1-2 hours of work each
Curriculum Mode:	Practical

Three selected practical exercises will be marked during scheduled lab sessions. The practical exercises include short answer questions and/or small programming tasks. Your programs will need to be demonstrated in the scheduled lab sessions. Without prior arrangements email submissions will NOT be accepted.

Resources:

Textbook, lecture notes, additional readings on java.

Marking Criteria:

Criteria	High Distinction	Distinction	Credit	Pass	Unsatisfactory
Short answer question / programming task requirements	Demonstrates complete understanding of the problem. All requirements of the question/task are included in response/program.	Demonstrates considerable understanding of the problem. Most requirements of the question/task are included in response/program.	Demonstrates well understanding of the problem. Many requirements of the question/task are included in response/program.	Demonstrates partial understanding of the problem. Some requirements of the question/task are included in response/program.	Demonstrates no or little understanding of the problem. Most requirements of the question/task are missing from response/program.

2.5.4 Final examination

Weight:	45%
Type of Collaboration:	Individual
Due:	Final exam period
Submission:	Online via vUWS
Format:	Open Book Exam
Length:	2 hours
Curriculum Mode:	Final Exam

It is a two-hour open-book exam. It is designed to test students capabilities in all areas presented in the unit. Final examination will include all the material covered in the lectures, practical exercises, and any additional reading indicated during the semester.

Resources:

Lecture notes, tutorials/practicals, textbook, assignments, sample exam questions, additional readings on java.

Marking Criteria:

Criteria	High Distinction	Distinction	Credit	Pass	Unsatisfactory
Examination questions	85-100% of the solutions to examination questions correct.	75-84% of the solutions to examination questions correct.	65-74% of the solutions to examination questions correct.	50-64% of the solutions to examination questions correct.	0-49% of the solutions to examination questions correct.

2.6 General Submission Requirements

Submission

- All assignments must be submitted by the specified due date and time.
- Complete your assignment and follow the individual assessment item instructions on how to submit. You must keep a copy of all assignments submitted for marking.

Turnitin

- The Turnitin plagiarism prevention system may be used within this unit. Turnitin is accessed via logging into vUWS for the unit. If Turnitin is being used with this unit, this means that your assignments have to be submitted through the Turnitin system. Turnitin from iParadigms is a web-based text-matching software that identifies and reports on similarities between documents. It is also widely utilised as a tool to improve academic writing skills. Turnitin compares electronically submitted papers against the following:
  - Current and archived web: Turnitin currently contains over 24 billion web pages including archived pages
  - Student papers: including Western Sydney University student submissions since 2007
  - Scholarly literature: Turnitin has partnered with leading content publishers, including library databases, text-book publishers, digital reference collections and subscription-based publications (e.g. Gale, Proquest, Emerald and Sage)

- Turnitin is used by over 30 universities in Australia and is increasingly seen as an industry standard. It is an important tool to assist students with their academic writing by promoting awareness of plagiarism.By submitting your assignment to Turnitin you will be certifying that:
  - I hold a copy of this assignment if the original is lost or damaged
  - No part of this assignment has been copied from any other student's work or from any other source except where due acknowledgement is made in the assignment
  - No part of the assignment has been written for me by any other person/s
  - I have complied with the specified word length for this assignment
  - I am aware that this work may be reproduced and submitted to plagiarism detection software programs for the purpose of detecting possible plagiarism (which may retain a copy on its database for future plagiarism checking).

Self-Plagiarising

- You are to ensure that no part of any submitted assignment for this unit or product has been submitted by yourself in another (previous or current) assessment from any unit, except where appropriately referenced, and with prior permission from the Lecturer/Tutor/Unit Co-ordinator of this unit.

Late Submission

- If you submit a late assessment, without receiving approval for an extension of time, (see next item), you will be penalised by 10% per day for up to 10 days. In other words, marks equal to 10% of the assignment's weight will be deducted from the mark awarded.
- For example, if the highest mark possible is 50, 5 marks will be deducted from your awarded mark for each late day.
- Saturday and Sunday are counted as one calendar day each.
- Assessments will not be accepted after the marked assessment task has been returned to students.
- This is consistent with Clause 51 of the Western Sydney University's Assessment Policy - Criteria and Standards-Based Assessment.

Extension of Due Date for Submission

Extensions are only granted in exceptional circumstances. To apply for an extension of time, locate an application form via the Western Sydney University homepage or copy the following link:
https://www.westernsydney.edu.au/currentstudents/current_students/forms

Application forms must be submitted to the Unit Coordinator/Convenor. Requests for extension should be made as early as possible and submitted within policy deadlines. Appropriate, supporting documentation must be submitted with the application. An application for an extension does not automatically mean that an extension will be granted. Assessments will not be accepted after the marked assessment task has been returned to students.

Resubmission

Resubmission of assessment items will not normally be granted if requested.

Application for Special Consideration

It is strongly recommended that you attend all scheduled learning activities to support your learning. If you have suffered misadventure, illness, or you have experienced exceptional circumstances that have prevented your attendance at class or your completion and submission of assessment tasks, you may need to apply for Special Consideration via the Western Sydney University website. http://www.westernsydney.edu.au/currentstudents/current_students/services_and_facilities/special_consideration2 or the Student Centre/Sydney City Campus Reception. Special Consideration is not automatically granted. It is your responsibility to ensure that any missed content has been covered. Your lecturer will give you more information on how this must be done.

3 Teaching and Learning Activities

Weeks	Lecture	Prac/Lab	Assessments Due
Week 1 20-07-2020	Lect 1 Unit Introduction and java basics	No Prac/lab	
Week 2 27-07-2020	Lect 2 OOP and exceptions	Prac/lab 1	
Week 3 03-08-2020	Lect 3 GUI	Prac/lab 2	
Week 4 10-08-2020	Lect 4 Events Handling	Prac/lab 3	- Three practical exercises
Week 5 17-08-2020	Lect 5 HTML, CGI	Prac/lab 4	
Week 6 24-08-2020	Lect 6 Java threads	Prac/lab 5	- Three practical exercises
Week 7 31-08-2020	Lect 7 Networking	Prac/lab 6	
Week 8 07-09-2020	Lect 8 JDBC	Prac/lab 7	
Week 9 14-09-2020	Lect9 Servelet and JSP	Prac/lab 8	- Individual assignment
Week 10 21-09-2020	Lect 9 Java beans	Prac/lab 9	- Three practical exercises
Week 11 28-09-2020			
Week 12 05-10-2020	Lect 11 Java security	Prac/lab 10	
Week 13 12-10-2020	Lect 12 Review	Prac/lab 11	
Week 14 19-10-2020	Flexible	Prac/lab 12	- Group assignment
Week 15 26-10-2020			

Weeks	Lecture	Prac/Lab	Assessments Due
Week 16 02-11-2020			
Week 17 09-11-2020			

The above timetable should be used as a guide only, as it is subject to change. Students will be advised of any changes as they become known on the unit's vUWS site.

4 Learning Resources

4.1 Recommended Readings

Essential Reading

Deitel, P. J., & Deitel, H. M. (2018). *Java how to program. Early objects* (11th ed.). Pearson.

Additional Reading

Campione, M., Walrath, K., & Huml, A. (1999). *The Java tutorial continued: the rest of the JDK*. Addison-Wesley.

Darwin, I. F. (2020). *Java Cookbook* (4th ed.). O'Reilly Media, Inc.

Dean, J. (2019). *Web programming with HTML5, CSS, and JavaScript*. Jones & Bartlett Learning.

Deitel, H. M., Deitel, P. J., & Santry, S. (2002). *Advanced Java 2 platform: how to program*. Prentice Hall.

Deitel, P. J., Deitel, H. M., & Deitel, A. (2012). *Internet & World Wide Web : how to program* (5th ed.). Pearson.

Gallardo, R., Hommel, S., Kannan, S., Gordon, J., & Zakhour, S. (2015). *The Java tutorial : a short course on the basics* (6th ed.). Addison-Wesley.

Hall, M., & Brown, L. (2001). *Core Web programming* (2nd ed.). Sun Microsystems Press.

Hall, M., Brown, L., & Chaikin, Y. (2003). *Core Servlets and JavaServer Pages: Volume 1: Core Technologies* (2nd ed.). Prentice Hall PTR.

Kurniawan, B. (2015). *Java : A Beginner's Tutorial* (4th ed.). Brainy Software.

Kurniawan, B. (2015). *Servlet and JSP : a tutorial* (2nd ed.). Brainy Software Inc.

Liang, Y. D. (2020). *Introduction to JAVA programming and data structures : comprehensive version* (12th ed.). Pearson.

Marc Loy, P. N., & Leuck, D. (2020). *Learning Java: An Introduction to Real-World Programming with Java* (5th ed.). O'Reilly Media, Inc.