



**Modules available in the School of Computing
during the Academic Year 2010/2011
on the French Semester Four Programme**



List of 5 ECTS Modules to be offered to French students coming to the School of Computing in January 2011 to complete the Fourth Semester of the DUT in the School of Computing of Teesside University.

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University of Teesside

UTREG Online Module Specification

Advanced Java Programming (10 Credits)

SITS Module Code	COM2042-N	Status	New
UTREG Number	6343	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module covers two advanced topics relevant to software development. Students will be introduced to concurrent programming and multi-agent systems (MAS).</p> <p>Assessment for this module will be by 100% in course assessment (ICA).</p>		
Keywords	Java, programming, concurrency, agents, MAS, middleware		
Module Leader	TRURAN, MARK School of Computing		
Module Tutors	TRURAN, MARK School of Computing		
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode

Delivery Pattern (Total no of hours per module)

Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Java Programming (COM1044-N) or Web Programming (MUL1031-N) or Programming (VIS1038-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to introduce the student to</p> <ol style="list-style-type: none"> 1. Concurrent programming and the implementation of multi-threaded Java applications. 2. The concept of software agents and the architecture of multi-agent systems (MAS).
Indicative Content
<p>Indicative Content</p> <p>This module will cover the following topics:</p> <ul style="list-style-type: none"> ▪ Concurrency <ul style="list-style-type: none"> • Threads, synchronization, scheduling, deadlock, livelock. ▪ Agents <ul style="list-style-type: none"> • The Boris agent platform • Software agents and multi-agent systems (MAS)
Teaching Resources
<p><u>Lectures</u></p> <p>A lecture room with projection facilities, network access and the following software –Java Development Kit (JDK), NetBeans IDE (latest versions).</p>

Practicals

A Linux or Windows programming laboratory with dual screen monitors and the following software - Java Development Kit (JDK), NetBeans IDE (latest versions).

Learning Strategy

Students will be introduced to theoretical concepts through practical demonstrations in lectures. Laboratory sessions will develop the student's understanding of these concepts through problem based learning. A significant proportion of this learning in this module will be student-centred. Students will be expected to engage in 2-3 hours individual, self-led activity per week outside of class. This activity will be supported and encouraged through the University's online learning environment.

Learning Outcomes

Knowledge & Understanding

1. Demonstrate an understanding of concurrency and code synchronisation.

Cognitive & Intellectual Skills

2. Evaluate a simple agent based application.

Practical & Professional Skills

3. Design and implement a simple agent based application.

Key Transferable Skills

Assessment

Assessment Strategy

Students will be assessed by a single in-course assessment (ICA) worth 100% of the overall mark for the module. The ICA will assess all learning outcomes. It will be submitted at the end of the academic year.

The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with threshold Standards.

Assessment Criteria

Assessment criteria will be supplied with the assignment brief.

Indicative Resources

Purchase

None

Essential

Deitel, P.J. and Deitel, H.M. (2010) *Java: How to Program*. 8th ed. Upper Saddle River, N.J.; Harlow: Pearson Education.

Wooldridge, M.J. (2009) *An Introduction to Multiagent Systems*. 2nd ed. Chichester: Wiley.

Recommended

Liang, Y.D. (2009; 2008) *Introduction to Java Programming: Comprehensive Version*. 7th ed. Upper Saddle River, N.J.; London: Pearson Prentice Hall.

Journals

None

Electronic

Suitable open source Java IDE such as:

NetBeans – <http://netbeans.org>

Eclipse – <http://www.eclipse.org>

Latest version of the Java Development Kit:

<http://java.sun.com/javase/downloads/index.jsp>

E-learning@tees (VLE) – <https://eat.tees.ac.uk>

Sun Java Tutorial – <http://java.sun.com/docs/books/tutorial>

Accessibility

Accessibility Statement

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University of Teesside

UTREG Online Module Specification

Artificial Intelligence Programming (10 Credits)

SITS Module Code	VIS2093-N	Status	New
UTREG Number	6358	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module introduces students to the tools and techniques required to build practical solutions to many well established problems in Artificial Intelligence (AI).</p> <p>The problems covered will span across AI issues in both Computer Science and Computer Games. The module introduces important issues (e.g. knowledge representation and inference) which underpin much of symbolic AI.</p> <p>The module is assessed by in-course assessment.</p>		
Keywords	Symbolic Computation, Knowledge Representation, Search, Inference, Computer Games, Lisp		
Module Leader	LYNCH, SIMON School of Computing		
Module Tutors			
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode	
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Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Java Programming (COM1044-N) or Web Programming (MUL1031-N) or Programming (VIS1038-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to :</p> <ol style="list-style-type: none"> 1. Introduce the main concepts of symbolic computation. 2. Investigate the practical tools and techniques required for building AI solutions. 3. Provide an introduction to knowledge representation. 4. Provide an introductory course in using Lisp as a practical language for developing AI software.
Indicative Content
<ul style="list-style-type: none"> ▪ Introduction to Common Lisp : basic language features, creating data and functions, pattern matching and other tools for AI programming. ▪ Symbolic computation and symbolic representations : building and manipulating representations in Common Lisp (tuples, association lists, constructing & applying planning operators). ▪ Problem solving and inference methods: search mechanisms and planning (means-end analysis, operator structure and application). ▪ Knowledge representation: schemes and inference mechanisms; computational representation; styles of representation (e.g. facts and rules, logic, semantic nets).
Teaching Resources

Lectures and Laboratories require:

PC stations with:
Windows OS (XP or later)
Access to the SCM Unix and PC networks
Allegro Common Lisp with access to specified packages and extensions.

Learning Strategy

The module will be delivered by a series of lectures which support a small number of medium scale, practical, problem based learning exercises which require students to investigate a problem and build a solution using Lisp. Where practical, students will use test-driven development and other agile methods.

Learning Outcomes

Knowledge & Understanding

1. Demonstrate how to program a simple agent (robotic agent or game non-player character) to act upon its environment.

Cognitive & Intellectual Skills

Practical & Professional Skills

2. Create small scale AI systems to solve problems, plan sequences of actions or play games.

Key Transferable Skills

3. Research appropriate resources.
4. Produce documentation for software design.

Assessment

Assessment Strategy

This module is assessed by group in-course assessment. This will assess the students' ability to design and develop solutions to problem based learning exercises. The students will also be required to provide a group report (1000-1500 words), written and presented to a professional standard, to discuss and critically evaluate the development process of their solutions.

The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with Threshold Quality Standards.

Assessment Criteria

Assessment criteria will be supplied with the assignment brief.

Indicative Resources

Purchase

None.

Essential

None.

Recommended

Finlay, J. and Dix, A.J. (1996) *An Introduction to Artificial Intelligence*. London: Routledge.

Luger, G.F. (2009) *Artificial Intelligence: Structures and Strategies for Complex Problem Solving*. 6th ed. Boston: Pearson Addison-Wesley.

Rich, E. and Knight, K. (1991) *Artificial Intelligence*. 2nd ed. New York; London: McGraw-Hill.

Russell, S.J. and Norvig, P. (2003) *Artificial Intelligence: A Modern Approach*. 2nd ed. Upper Saddle River, N.J.; Great Britain: Prentice Hall.

Journals

None.

Electronic

ACM Digital Library – <http://lis.tees.ac.uk/online/display.cfm?title=ACM>

IEEE Xplore - <http://www.tees.ac.uk/lis/online/display.cfm?title=IEEE>

Relevant conference proceedings:

Advances in Computer Entertainment Technology (ACM ACE) – available through ACM Digital Library - <http://lis.tees.ac.uk/online/display.cfm?title=ACM>

Association for the Advancement of Artificial Intelligence - <http://www.aaai.org/Library/conferences-library.php>

Artificial Intelligence and Interactive Entertainment

Autonomous Agents and Multi-Agent Systems - <http://www.springerlink.com/content/1387-2532>

Accessibility

Accessibility Statement

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University of Teesside

UTREG Online Module Specification

Conceptual Design & Creativity (10 Credits)

SITS Module Code	MUL2037-N	Status	New
UTREG Number	6355	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module takes as its starting point the principal elements of design and design strategies such as branding and goes on to explore their use in the creative output of individual artists and designers working in industries such as filmmaking, graphics, advertising, photography and web design.</p> <p>The module will facilitate students in developing their own design strategies and to consider their own design within a conceptual framework. Composition, graphic design (traditional, hand-drawn and digital), uses of colour, found objects and text are all considered from a more abstract perspective.</p> <p>The focus of Conceptual Design and Creativity is on exposure to the creative process and exploration of professional techniques. The module will encourage students to engage critically with existing work, selecting elements as appropriate to their own overall design concept.</p> <p>100% in-course assessment which will assess all learning outcomes. All students will be provided with a full and detailed brief outlining requirements and assessment criteria.</p>		
Keywords	Art, Design, Branding, composition, typography new media design		
Module Leader	MURRAY, STEPHEN School of Computing		
Module Tutors	PEARSON, ELAINE School of Computing		
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100

Assessment Regulations	2004 UG Module
Assessment Pattern	ICA 100%
Assignment Submission	School
Available as Open/Distance Learning?	No
Is Re-submission possible?	No
Roll On/Roll Off?	No
Compensatable	Always Non-Compensatable

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Additional Comments	

Aims

Module Aims
<p>This module aims to:</p> <ol style="list-style-type: none"> 1. Focus on the creative output of artists and designers in a variety of disciplines analysing technique and theoretical /conceptual ideas. 2. Analyse creative strategies such as Branding & Perceived Value 3. Develop the students' ability to create, select and display an ambitious and innovative body of work that represents their solutions and strategy effectively

Indicative Content

An aspect of multimedia will be covered each week from a theoretical/conceptual viewpoint in both the lecture and practical sessions.

- Where does contemporary design originate, Between Broadcast and Print?
- Text The rise of the popular magazine
- The Movie Poster: a fundamental combination of text, typography, photography, digital and proactive illustration. Image context including colour theory and image narrative.
- Composition and new media
- Design Classics
- Rich Content Web 2.0 and selling
- What is Perceived Value?

Teaching Resources

Lectures

A lecture theatre that has full multimedia capacity with Quicktime and sound. DVD and Video facility with Photoshop, Flash.

Practicals

Photoshop, Flash, Illustrator sound authoring software, a lab that has the facility to upload such elements as fonts and brushes and other elements so that the students can tailor the software to their needs and be creative.

Learning Strategy

The module will be taught by a combination of lectures, practical sessions and critique of work. Some on line content will be used via Blackboard.

The lectures in this module will be very image rich and require a high degree of student participation. Demonstrations of the creative use of software will be given and students will be encouraged to actively engage in the creative process taking place within the lecture.

Practical sessions will be supported through the use of work sheets which will be appropriately tailored to the various skill levels in relevant software packages (such as Photoshop, Flash and Illustrator). Work will be regularly critiqued and students will be encouraged to find individual uses for the assets created.

Learning Outcomes

Knowledge & Understanding

1. Demonstrate the ability to illustrate conceptual ideas through contemporary and traditional skills.

Cognitive & Intellectual Skills

2. Formulate a design strategy

Practical & Professional Skills

3. form a solution to a design remit

Key Transferable Skills

Assessment

Assessment Strategy

Assessment will be 100% individual ICA.

By negotiation with the tutors in stages:

- Agree a field of study based on a particular design discipline.
- Agree on a content/strategy of work.
- In a written report, of a negotiated length (minimum 1500 words) depending on the production of a prototype element, produce a rationale for the chosen method, appropriate research and explain the choice of materials.

Assessment Criteria

Assessment criteria will be supplied with the assignment brief.

Indicative Resources

Purchase

None.

Essential

Droste, M. (2006) *Bauhaus 1919- 1933*. Taschen 25 anniversary ed. Cologne, Germany: Taschen.

Glaser, M., Ilic, M. and Heller, S. (2005) *The Design of Dissent*. Gloucester, Mass.: Rockport Publishers.

Recommended

Kelby, S. (2009) *Photoshop CS4 Down & Dirty Tricks*. Indianapolis, Ind.: New Riders.

Museum Ludwig Cologne (2005) *20th Century Photography : Museum Ludwig Cologne*. Cologne: Benedikt Taschen Verlag.

Phaidon Design Classics. (2006)Vols. 1, 2 and 3. London; New York: Phaidon Press

Journals

Computer Arts
Computer Arts Projects
Creative Review

Electronic
None.

Accessibility

Accessibility Statement
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University of Teesside

UTREG Online Module Specification

SQL Programming (10 Credits)

SITS Module Code	COM2045-N	Status	New
UTREG Number	6350	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module develops skills in programming for server-side database systems. The target language is SQL. Programs will be developed as reusable persistent stored transactions/procedures. All aspects of SQL are covered i.e. systems configuration, data definition, data manipulation, data management and access control.</p> <p>The material will be taught using practical examples and exercises. The module is suitable for trainee database system managers, existing database system managers requiring skills update, trainee database programmers, people wishing to deepen their understanding of database systems, people that want to make more effective use of existing database systems, and people wishing to understand the activities of contracting staff.</p> <p>Assessment will be solely based on in-course practical work. All course material will be in electronic form.</p>		
Keywords	SQL, Database		
Module Leader	BIRTLE, MALCOLM School of Computing		
Module Tutors			
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Additional Comments	

Aims

Module Aims
<p>This module aims to enable students to develop server-side database programming skills for:</p> <ol style="list-style-type: none"> 1. Data definition using SQL. 2. Data manipulation using SQL. 3. Data management using SQL.
Indicative Content
<ul style="list-style-type: none"> • Data Independence, Decoupling • Database Definition: Logical schemas, batches, scripts, stored procedures and transactions. Create, alter, insert, update, delete and drop commands. • Data Manipulation: From, where, group by, having, select, distinct, order by. Aggregate functions, set operators and sub-queries. • Integrity, Access control and general data management: Grants, constraints and triggers. • Database System Configuration and Optimisation: Indexing, clustering and physical schema definition.

Teaching Resources

Lectures

Lecture theatre

Practicals

A laboratory with server-side database and associated development tools is required for this module

Learning Strategy

Material will be delivered by a lecture followed by an intensive practical laboratory session. Exercises will be carried out using industrially relevant contexts. Formative feedback will be offered on all exercises carried out.

Learning Outcomes

Knowledge & Understanding

Cognitive & Intellectual Skills

Practical & Professional Skills

Key Transferable Skills

Assessment

Assessment Strategy

All learning outcomes will be assessed in a single in-course assessment that will require student to construct, populate and interrogate a server-side database system using SQL.

The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with Minimum Standards.

Assessment Criteria

Assessment criteria will be provided with the assessment brief, related to the set tasks, stating how marks will be allocated.

Indicative Resources

Purchase
None
Essential
None
Recommended
Connolly, T.M. and Begg, C.E. (2010) <i>Database System : A Practical Approach to Design, Implementation and Management</i> . 5th ed. Boston, Mass. ; London: Addison-Wesley.
Journals
None
Electronic
Transact-SQL Reference - http://msdn.microsoft.com/en-us/library/ms189826(SQL.9.0).aspx

Accessibility

Accessibility Statement
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University of Teesside

UTREG Online Module Specification

Enterprise Project (10 Credits)

SITS Module Code	MUL2040-N	Status	New
UTREG Number	6362	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module will allow the students to develop their understanding of the work place, the management of projects as well as solving specific business issues / requirements.</p> <p>The module will focus on project management skills that will be acquired through working on business-like projects as part of a multi-competencies team. Business issues such as cyber ethics and accessibility will be taken into consideration as part of the project.</p> <p>Students will be given the opportunity to further develop their Personal Development Planning skills and contribute to the ongoing development of their e-portfolio. There is an emphasis on the development of employability skills including CV creation, and on raising awareness of the enterprise support available at the University for students. This module will provide opportunities for the students to work on their interpersonal skills, presentation and writing skills as well as improving their research abilities. Moreover, this module will allow each student to self assess their competences in key aspects of the module, draw up an action plan which will help them reach their short, medium or long term goals. Reflections based on students learning and acquired competencies will be a central part of the module.</p>		
Keywords	Project Management, industry, teamwork, professional skills.		
Module Leader	PEARSON, ELAINE School of Computing		
Module Tutors			
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations			
Assessment Pattern			
Assignment Submission			

Available as Open/Distance Learning?	No
Is Re-submission possible?	No
Roll On/Roll Off?	No
Compensatable	Always Non-Compensatable

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites
Co-Requisites
Other Requirements
Students should have previous experience in working in groups and have produced a basic CV and have started on the production of an e-portfolio.
Additional Comments

Aims

Module Aims
<p>This module aims to:</p> <ol style="list-style-type: none"> 1. Provide the students with a better understanding of the work place through links with industries at different stages in the module. 2. Develop project management skills based on industry like projects. 3. Give the opportunity to understand teamwork and take an informed decision when forming a professional team. 4. Open the students mind towards business issues, accessibility and cyber ethics. 5. Provide the opportunity to apply design / technical skills to a project. 6. Improve students' communication skills (listening, writing, presenting etc). 7. Develop the employability skills of the student.

8. Develop the students' understanding of enterprise and the ways in which the university can support students interested in enterprise.
9. Provide an opportunity for the student to further develop their Personal Development Planning and contribute to the ongoing development of their e-portfolio.

Indicative Content

1. The project life cycle, including project planning, milestones and project reporting
2. Use of project management tools e.g. Gantt Charts, Pert charts, Microsoft project.
3. Developing Business proposals, business problem definition, business solutions design
4. Consultancy skills
5. Team working & group formation
6. Creating accessible online applications
7. Cyber ethics
8. Personal Development Planning including e-portfolio, portfolio of work, (self-assessment e.g. Skills Audit), reviewing formative feedback, reflection, action planning, goal setting, time management.
9. Employability including CVs, careers guidance, placement, and further development of portfolio of work.
10. Enterprise including making students aware of the support available at the University such as the Student Enterprise Programme and Enterprise Development Programme, and the activities available to help development of entrepreneurial skills (funding, intellectual property, branding, financial modelling, business intelligence, sales and marketing).

Teaching Resources

Practicals

A studio (with standard multimedia image, including Microsoft project for teamwork and small group presentations e.g. computer pods and seminar corner).

Learning Strategy

The module will adopt a flexible approach to timetabled classes. Face-to-face lectures will be delivered on key topics and virtual lectures will be used to facilitate e-learning and online collaborative activities. Supervised laboratory sessions will be used to facilitate practical work with ongoing formative feedback. Students will be expected to engage with the module outside of class time, either on individual research and assignment work, collaboratively within the VLE or face-to-face at mutually agreed meetings. Opportunity will also be provided by means of appropriate careers workshops and online resources to support students creation of their personal development portfolios.

Although this module will cover specific knowledge areas such as 'industry', project management and team work there will be an opportunity for the students to negotiate some of their learning e.g. user interface, specific technical tools etc.

Learning Outcomes

Knowledge & Understanding

1. Write appropriate project management plans.

Cognitive & Intellectual Skills

2. Design business solutions to requirements.
3. Examine the implications of accessibility and cyber ethics within the design process.

Practical & Professional Skills

4. Apply project management techniques to industry-like projects.
5. Demonstrate implementation skills in appropriate areas.

Key Transferable Skills

6. Write and present appropriate business documentation.
7. Reflect on individual learning and develop an action plan to achieve goals.

Assessment

Assessment Strategy

This module will be assessed with an in-course assessment (ICA) running through the year. The overall ICA work will be split up into manageable tasks, each one focusing on one aspect of the module. These tasks will be assessed through reports, presentations or discussions type activities, and detailed assessment criteria will be provided to the students.

The students will be required to work in industry like teams. Both group work and individual work will be assessed and count towards the final mark. The mark attributed to the group work will not exceed 30% of the overall mark.

The module will include several formative feedback sessions throughout the year. The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with Threshold Quality Standards.

Assessment Criteria

Assessment criteria will be supplied with the assignment brief.

Indicative Resources

Purchase

None.

Essential

England, E. & Finney, A. (2007) *Managing Interactive Media: Project Management for Web and Digital Media*. 4th edn. Addison Wesley.

Pinto, J. (2007) *Project Management: Achieving Competitive Advantage and MS Project*. Pearson Education.

Recommended

Murch, R. (2001) *Project management: best practices for IT professionals*. Prentice Hall.

Burdman, J. (1999) *Collaborative Web Development: Strategies and Best Practices for Web Teams* Addison Wesley.

Thatcher, J. (2003) Constructing Accessible Web Sites. Apress.

Stamatoudi, I. (2002) Copyright and multimedia products : a comparative analysis. CambridgeUniversity Press.

Journals

None

Electronic

VLE <http://eat.tees.ac.uk>
e-portfolio support materials <http://eat.tees.ac.uk>
Academic Skills <http://eat.tees.ac.uk>
DISSC Study Skills website <http://dissc.tees.ac.uk/>
BCS <http://www.bcs.org/>
Intellectual Property <http://www.ipo.gov.uk/whatis.htm>;

Accessibility

Accessibility Statement

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University of Teesside

UTREG Online Module Specification

Information Systems Security (10 Credits)

SITS Module Code	COM2047-N	Status	New
UTREG Number	6353	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module covers a range of issues in computer security and information security. These include access control, technologies used to implement security measures, models of security and cryptography. How security systems fail is covered, along with related areas such as the legal and ethical background and physical security.</p> <p>Students are assessed by a single ICA.</p>		
Keywords	security, access control, ethics, management, design, operations		
Module Leader	BROOKE, PHIL School of Computing		
Module Tutors	EAGLE, DAVE School of Computing LONGSTAFF, JIM School of Computing BROWN, ALISON School of Computing		
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode	
Delivery Pattern (Total no of hours per module)	

Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Additional Comments	

Aims

Module Aims
<p>This module aims to:</p> <ol style="list-style-type: none"> 1. Introduce students to a range of security definitions, problems and technologies. 2. Identify issues and state best practice in security management. 3. Apply security concepts and practices and evaluate their effectiveness. 4. Explain and justify system designs to account for security issues. 5. Identify ethical and legal issues in security.
Indicative Content
<ol style="list-style-type: none"> 1. Purpose of security in computing and IT. 2. Concepts of risk, threat, vulnerability, exploitation, confidentiality, integrity, availability and accountability. 3. Concepts in operations security: security policies, user error, programmer error, malware. 4. Physical and environmental issues. Relation to disaster recovery, continuity and resilience. 5. Relevant law & ethical issues. 6. Security features in operating systems, databases, etc., particularly access control for data and system resources (mandatory, discretionary and role-based access) and privilege management. 7. Models of security, including multilevel security, BLP, Chinese Walls. 8. Cryptography (overview only). 9. User authentication technologies (passwords, secret knowledge, tokens, biometrics). 10. Technical safeguards for systems (backup, anti-virus, firewalls, proxy servers, IDS). 11. Issues with network protocols. Tunnelling protocols, security extensions to existing protocols. 12. System design and evaluation, including Common Criteria and related standards. 13. Response to security incidents, computer forensics.
Teaching Resources

Lab session requirements: Networked PC lab with provision for isolation from other labs and allowing students to have administration rights. Laid out so that seminar-style discussions are feasible.

Learning Strategy

The concepts and methods are introduced primarily through lectures. A range of case studies and examples will be introduced in both lectures and tutorials. Students will be expected to carry out their own research and present their findings. A small number of practical examples will be given.

Learning Outcomes

Knowledge & Understanding

1. Demonstrate an understanding of standard security-related terms, and apply them to simple and moderately complex problems.

Cognitive & Intellectual Skills

2. Select and justify appropriate security techniques in simple and moderately complex problems.

Practical & Professional Skills

3. Design a small application with security characteristics.

Key Transferable Skills

4. Effectively communicate design rationales, comparisons and alternatives.

Assessment

Assessment Strategy

The assessment for the module will involve a single ICA involving a written design exercise, submitted towards the end of the module.

The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with Threshold Quality Standards.

Assessment Criteria

Assessment criteria will be supplied with the assignment briefing.

Indicative Resources

Purchase

None.

Essential

Anderson, R. (2008) *Security Engineering: A Guide to Building Dependable Distributed*

Systems. 2nd ed. New York: Wiley

Recommended

Journals

Computers & Security.

Electronic

News groups.
News://comp.risks

Accessibility

Accessibility Statement

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University of Teesside

UTREG Online Module Specification

Mobile Games Programming (10 Credits)

SITS Module Code	VIS2094-N	Status	New
UTREG Number	6359	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module will provide the student with an overview of the technologies available for developing games for mobile platforms.</p> <p>The module will also provide an understanding of the issues faced when programming for a mobile device, through the use of suitable platforms and middleware.</p> <p>Among the themes covered will be the design of user interfaces, quality of services in mobile networks, and concurrency and mobility issues.</p> <p>Assessment will be done through an in-course assessment. One element of the ICA will require the development of a simple 2D game. Another element will involve personal research.</p>		
Keywords	Games Programming, Mobile Devices, Java, iPhone, Android		
Module Leader	BOSSER, ANNE-GWENN School of Computing		
Module Tutors			
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Java Programming (COM1044-N) or Web Programming (MUL1031-N) or Programming (VIS1038-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to:</p> <ol style="list-style-type: none"> 1. Extend the students' programming skills and knowledge in the field of games for mobile devices. 2. Enable students to develop game prototypes for mobile devices using suitable middleware and platforms.
Indicative Content
<ul style="list-style-type: none"> ▪ Programming for embedded systems ▪ High level platforms and middleware for mobile devices, such as J2ME, MIDP Game API ▪ Mobile networks ▪ Human Computer Interfaces for pocket-sized mobile devices ▪ Games development for limited platforms ▪ Emerging game genres for mobile devices: multiplayer mobile games and location-aware games, use of augmented reality and pattern recognition

Teaching Resources

Lectures

A lecture room the specified source code editor / IDE, appropriate cell phone emulators and java software development kit (SDK).

Practicals

A programming laboratory with the specified source code editor / IDE, appropriate cell phone emulators and java software development kit (SDK).

Learning Strategy

There will be weekly lectures and practicals, providing respectively knowledge in the field of mobile games, and an opportunity to apply this knowledge under the guidance of the tutors.

Students will be expected to carry out personal research on emerging technologies and share their findings in the classroom.

Practicals will be used to extend the students' abilities in programming game applications using industry-standard middleware, as well as for consolidating their understanding of the issues described during lectures.

Learning Outcomes

Knowledge & Understanding

1. Identify key technologies for the development of mobile games

Cognitive & Intellectual Skills

2. Design human computer interface systems compatible with the use of mobile devices as gaming platforms.

Practical & Professional Skills

3. Demonstrate the ability to develop a game for a mobile device using a suitable middleware.

Key Transferable Skills

4. Investigate and provide a critical description for a given related technology or technical issue.

Assessment

Assessment Strategy

The assessment will be 100% ICA based. The ICA will be composed of two elements:

- The students will have to carry out a personal piece of research on a given technology or issue in the field of mobile game development and deployment. The hand-in will consist in a poster summarising the findings, as well as a short list of references. Students will present this poster in class to their peers during a short 10 minute presentation (40%) This component will assess LOs 1 and 4.
- Students will have to hand-in a mobile game prototype, demonstrating their abilities to develop an application considering the device limitations. (60%) This component will assess

LOs 2, and 3.

The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with Minimum Standards.

Assessment Criteria

Assessment criteria will be supplied with the assignment briefs.

Indicative Resources

Purchase

None.

Essential

Ableson, W.F., Collins, C. and Sen, R. (2009) *Unlocking Android : A Developer's Guide*. Greenwich, Conn.: Manning. (2nd ed. Due Oct 2010)

Bloch, J. (2008) *Effective Java : Programming Language Guide*. 2nd ed. Upper Saddle River, N.J.: Addison-Wesley.

Dalrymple, M. and Knaster, S. (2009) *Learn Objective-C on the Mac*. Berkeley, Calif.: Apress.

Mark, D. and LaMarche, J. (2009) *Beginning iPhone Development: Exploring the iPhone SDK*. Berkeley, Calif.: Apress.

Recommended

None.

Journals

None.

Electronic

None.

Accessibility

Accessibility Statement

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University of Teesside

UTREG Online Module Specification

Multimedia Production and Practice (10 Credits)

SITS Module Code	MUL2038-N	Status	New
UTREG Number	6356	Academic Year	2011/2
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module aims to extend students' skills in an authoring environment. A range of techniques for development will be introduced and applied.</p> <p>Students will be introduced to a variety of methods of multimedia development, e.g. dynamic content creation, using external media, communicating with external applications and developing for different platforms.</p> <p>The assessment will require students to apply skills developed during the module in the production of multimedia applications for different platforms (desktop, mobile and web)</p>		
Keywords	Multimedia application development, prototype, scripting, testing, evaluation, AIR, mobile		
Module Leader	WEBB, EILEEN School of Computing		
Module Tutors	GROVES, ALEX School of Computing		
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2011/12	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience with Interactive Multimedia (MUL1026-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to:</p> <ol style="list-style-type: none"> 1. Increase expertise in at least one multimedia authoring environment. 2. Increase awareness and experience of a range of application areas and platforms for multimedia software. 3. Develop an understanding of authoring environments and their current usage in multi-platform development (mobile, e.g Flash Lite, desktop e.g. AIR, browser e.g. swf). 4. Encourage a culture of peer critique and a reflective approach to development. 5. Encourage the incorporation of current commercial multimedia activities in multimedia development.
Indicative Content
<ul style="list-style-type: none"> ▪ Construction of prototype using appropriate software tools. ▪ Evaluation of multimedia products using evaluation criteria and techniques ▪ Analysis of multimedia in a commercial environment

- Multimedia Development
 - Object oriented scripting, prototyping, testing, evaluation
- Creating dynamic multimedia applications, utilising external resources
 - ctionscript, XML, CSS, media editing and management, platform requirements e.g. online, offline, mobile, PDA, phone.

Teaching Resources

Lectures

Lecture room with, Adobe Suite CS4, and all relevant multimedia plug-ins.

Practicals

A multimedia lab with standard multimedia image and projection facilities.

Learning Strategy

The module will adopt a Blended Learning Approach including a flexible approach to timetabled lectures. Face-to-face lectures will be delivered on key topics and virtual lectures will be used to facilitate e-learning activities. Supervised laboratory sessions will be used to facilitate practical work with ongoing formative feedback. Students will be expected to engage with the module outside of class time within the VLE.

Learning Outcomes

Knowledge & Understanding

1. Demonstrate an understanding of the theoretical and technological issues in relation to interactive multimedia applications development, incorporating external media and embedded logic.

Cognitive & Intellectual Skills

2. Critique a range of multimedia products using appropriate criteria.

Practical & Professional Skills

3. Demonstrate effective use of multimedia authoring tools in the:
 - a. Management of internal components
 - b. Creation of scripts and management of external components

Key Transferable Skills

4. Document the development process, incorporating reflection on how commercial activities have influenced student's own practice.

Assessment

Assessment Strategy

100% individual in-course assessment consisting of two elements.

Assessment Criteria
Assessment criteria will be supplied with the assignment.

Indicative Resources

Purchase
None.
Essential
None.
Recommended
Chun, R. and Adobe (2009) <i>Adobe Flash CS4 Professional : The Official Training Workbook from Adobe Systems</i> . San Jose: Adobe.
Huddleston, R. (2009) <i>ActionScript: your visual blueprint for creating interactive projects in Flash CS4 Professional</i> . Wiley (Not yet available from the Library).
Powers, D. (2006) <i>PHP Solutions : Dynamic Web Design made Easy</i> . Berkeley, CA: Friends of ED.
Schaeffer, M. and Adobe (2009) <i>Adobe Flash CS4 Professional how-Tos : 100 Essential Techniques</i> . Berkley, Calif.: Peachpit.
Webster, S., Yard, T. and McSharry, S. (2008) <i>Foundation ActionScript 3.0 with Flash CS3 and Flex</i> . Berkeley, CA: Friends of ED.
Journals
.net available in print and partially online at http://www.netmag.co.uk Advances in Multimedia DigitalArts Smashing Magazine – http://www.smashingmagazine.com (Not available from the Library)
Electronic
Adobe – http://www.adobe.com Flash Kit, A flash Developer Resource – http://www.flashkit.com E-learning@tees (VLE) – https://eat.tees.ac.uk

Accessibility

Accessibility Statement
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University of Teesside

UTREG Online Module Specification

Networks and Communications (10 Credits)

SITS Module Code	COM2048-N	Status	New
UTREG Number	6357	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	This module introduces the student to the fundamentals of data communications, examining the characteristics of modern network transmission media (cable and wireless) and explores the issues relating to error control. The module is assessed by a single time-constrained examination at the end of the academic year.		
Keywords	Data communications, Wireless communications,		
Module Leader	GOODGE, JOHN School of Computing		
Module Tutors	MARSHALL, BOB School of Computing ISRAR, NAUMAN School of Computing		
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	End Assessment 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Networks and Computer Security (COM1049-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to provide students with:</p> <ol style="list-style-type: none"> 1. Introduce students to the concepts of continuous and discrete time domain waveforms, signalling and transmission characteristics. 2. Enable students to learn about modern digital communications including an understanding of contemporary protocols and standards. 3. Enable students to learn about factors that affect network performance and how to plan and implement networks to address these. 4. Enable students to learn how network factors impact on real-time broadcasting.
Indicative Content
<ol style="list-style-type: none"> 1. Communication Networks : LANs, WLANs, WANs, Internet, Intranet, Multimedia networks, business networks. 2. Media: UTP, Fibre, Wireless - radio transmission, PSTN/Broadband (ADSL), Error Control - detection and correction, Signals, Data rates, Data transmission. 3. Protocols/Technologies: Ethernet (including fast, switched Gigabit), TCP/IP (IPv4 and IPv6), IEE 802.11, IEE 802.16, QOS, Streaming (RTSP), Analogue-to-digital and digital-to-analogue encoding, Audio, video digitisation, video compression.VoIP.
Learning Strategy

Taught material will be delivered through lectures and lab based practicals and tutorials. This material will be supported with relevant and current texts and articles in the specific subject areas. Videos will be used to support lecture material.

Tutorial paper-based exercises will be used to support the taught material. Short research exercises may be used to examine areas of current interest.

Learning Outcomes

Knowledge & Understanding
1. Examine the mechanisms and limitations of data transmission in computer networks for a range of different media.
Cognitive & Intellectual Skills
2. Evaluate recent developments in computer communications and networking.
3. Use appropriate network measurement parameters to analyse network performance.
Practical & Professional Skills
4. Use appropriate communications measurement parameters to analyse data transmission performance.
Key Transferable Skills
5. Appraise the technologies used to develop wired and wireless networks.

Assessment

Assessment Strategy
All the module learning outcomes will be assessed in a 1 and half hour examination. An allocation of marks will be given on the examination paper. Written feedback will be given.
The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with Threshold Quality Standards.
Assessment Criteria
Assessment criteria will be supplied prior to the examination.

Indicative Resources

Purchase
None.
Essential
Forouzan, B.A. (2006) <i>Data Communications and Networking</i> . 4th ed. London: McGraw-Hill.
Tanenbaum, A.S. (2003) <i>Computer Networks</i> . 4th ed. Upper Saddle River, N.J.: Prentice Hall PTR.

Recommended

Buchanan, W. (2000) *Distributed Systems and Networks*. London: McGraw-Hill.

Comer, D. (2005) *Network Systems Design using Network Processors: Intel IXP 2xxx Version*. 2nd ed. Prentice Hall.

Forouzan, B.A. and Fegan, S.C. (2003) *Local Area Networks*. International ed. Boston, MA. ; London: McGraw-Hill.

Halsall, F. (2005) *Computer Networking and the Internet*. 5th ed. Harlow: Addison-Wesley.

Kaufman, C., Perlman, R. and Speciner, M. (2002) *Network Security: Private Communication in a Public World*. 2nd ed. Upper Saddle River, N.J.: Prentice Hall.

Kurose, J.F. and Ross, K.W. (2009) *Computer Networking : A Top-Down Approach*. 5th ed. Upper Saddle River, N.J.; Harlow: Pearson Education.

Journals

IEEE/ACM transactions on networking
IEEE Network

Electronic

Internet Engineering Task Force.
<http://www.ietf.org>

IEEE 802 LAN/MAN Standards Committee.
<http://www.ieee802.org>

The Internet Society.
<http://www.isoc.org>

World Wide Web Consortium (W3C).
<http://www.w3.org>

Internet Corporation for Assigned Names and Numbers.
<http://www.icann.org>

Accessibility

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University of Teesside

UTREG Online Module Specification

Network & Systems Administration (10 Credits)

SITS Module Code	COM2043-N	Status	New
UTREG Number	6346	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module introduces students to the key aspects of network and systems administration. This will include a study of network security including virus protection, attack by hackers and denial of service attacks.</p> <p>The importance of the secure storage and backup of user data will be addressed, along with network performance analysis and quality of service issues.</p> <p>The significance of licenses and legality (or otherwise) of user software will be investigated.</p> <p>The module will be assessed by a single time-constrained exam, which will assess all learning outcomes.</p>		
Keywords	Network administration, Systems administration, Account management, Network supervision.		
Module Leader	ISRAR, NAUMAN School of Computing		
Module Tutors			
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	End Assessment 100%		
Assignment Submission			
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Introduction to Networks & Computer Security (COM1049-N)	
Additional Comments	

Aims

Module Aims
<ol style="list-style-type: none"> 1. To introduce students to the broad principles of managing and administering a Local Area Network (LAN). 2. To introduce students to the concepts of operation and use of different reliable storage and backup facilities. 3. To further develop a critical awareness of the main issues involved in network security, including virus protection, attack by hackers and denial of service attacks, in the context of systems administration.
Indicative Content
<p>General network security issues, including: Viruses, Trojans, Worms etc - detection and prevention, Firewalls, Denial of service attacks etc.</p> <p>Data Protection act, Freedom of Information act, Computer Misuse act etc Software piracy, Software Audit, Network & local licences, copyright issues.</p> <p>Network backup and storage: techniques and policies.</p> <p>Email systems management, SMTP, PoP3, IMAP operation and specification, Mail Lists, Attachments, SPAM, SPAM filtering, profanity filtering, etc.</p> <p>Network Quality of Service issues, Network performance analysis.</p>

Teaching Resources

Lectures

Lecture theatre

Practicals

The School's Network Lab.

Learning Strategy

Specific features of this module are lectures supported by paper-based tutorials and laboratory exercises which will be supplemented by additional material on the School's Intranet.

Taught materials will be supported and reinforced with relevant and current texts and articles in the specific subject areas.

Learning Outcomes

Knowledge & Understanding

1. Explain the factors associated with the security of a computer network, and identify vulnerable areas and applications.
2. Identify the legal issues surrounding network system administration.

Cognitive & Intellectual Skills

Practical & Professional Skills

3. Use key principles to identify the relative advantages and disadvantages of a wide range of storage and backup facilities.
4. Compare a range of network performance analysis and quality of service tools.

Key Transferable Skills

Assessment

Assessment Strategy

The module will be assessed by one time constrained one and half hour examination.

Assessment Criteria

Assessment criteria will be supplied prior to the examination.

Indicative Resources

Purchase

None

Essential
None
Recommended
Frisch, A. (2002) <i>Essential System Administration</i> . 3rd ed. Beijing ; Farnham: O'Reilly. Tanenbaum, A.S. (2003) <i>Computer Networks</i> . 4th ed. Upper Saddle River, N.J.: Prentice Hall PTR.
Journals
None
Electronic
IEEE/ACM Transactions on Networking http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=90

Accessibility

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University of Teesside

UTREG Online Module Specification

Programming for Mobile Devices (10 Credits)

SITS Module Code	COM2044-N	Status	New
UTREG Number	6347	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	In this module, students will learn how to develop software applications for <i>mobile devices</i> (e.g. cell phones) using the Java programming language.		
Keywords	Java, programming, Java ME, mobile devices, midlets		
Module Leader	TRURAN, MARK School of Computing		
Module Tutors			
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Java Programming (COM1044-N) or Web Programming (MUL1031-N) or Programming (VIS1038-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to:</p> <ul style="list-style-type: none">▪ Provide students with an introduction to the development of applications specifically intended for mobile devices (e.g. cell phones, PDAs, car navigation systems), using Java ME (Micro Edition).▪ Introduce students to the constraints involved when developing applications for devices with limited resources (e.g. memory, CPU, power, screen size).▪ Demonstrate the interaction between applications running on client-side mobile devices and server side applications.
Indicative Content
<p>This module will cover the following topics</p> <ul style="list-style-type: none">▪ The Java platform, Micro Edition (ME).<ul style="list-style-type: none">• Mobile device hardware/software constraints• Developing and testing MIDlets• MIDlet lifecycle• User interface elements• Connectivity and RMS
Teaching Resources

Lectures

A lecture room with projection facilities, network access and the following software –Java Development Kit (JDK), Java ME, NetBeans IDE (latest versions).

Practicals

A Linux programming laboratory with dual screen monitors and the following software - Java Development Kit (JDK), Java ME, NetBeans IDE (latest versions).

Learning Strategy

Students will be introduced to theoretical concepts through practical demonstrations in lectures. Laboratory sessions will develop the student's understanding of these concepts through problem based learning. A significant proportion of this learning in this module will be student-centred. Students will be expected to engage in 2-3 hours individual, self-led activity per week outside of class. This activity will be supported and encouraged through the University's online learning environment.

Learning Outcomes

Knowledge & Understanding

1. Distinguish software development for mobile devices from software development for desktop machines.

Cognitive & Intellectual Skills

2. Select the appropriate Java API classes for a given task

Practical & Professional Skills

3. Construct a software application suitable for a mobile device using the Java programming language in accordance with a detailed specification.

Key Transferable Skills

4. Produce high quality software documentation.

Assessment

Assessment Strategy

Students will be assessed by a single in-course assessment (ICA) worth 100%

The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with threshold Standards.

Assessment Criteria

Assessment criteria will be supplied with the assignment brief.

Indicative Resources

Purchase

None

Essential

Deitel, P.J. and Deitel, H.M. (2010) *Java: How to Program*. 8th ed. Upper Saddle River, N.J.; Harlow: Pearson Education.

Knudsen, J. (2008) *Kicking Butt with MIDP and MSA : Creating Great Mobile Applications*. Boston, MA: Addison-Wesley.

Recommended

Horstmann, C.S. and Cornell, G. (2008) *Core Java : Volume II: Advanced Feature*. 8th ed. Upper Saddle River, NJ.: Prentice Hall.

Horstmann, C.S. and Cornell, G. (2008) *Core Java. Vol. 1, Fundamentals*. 8th ed. Upper Saddle River, NJ. ; London: Sun Microsystems.

Journals

None

Electronic

Suitable open source Java IDE such as:

NetBeans – <http://netbeans.org>

Eclipse – <http://www.eclipse.org>

Latest version of the Java Development Kit and Java EE:

<http://java.sun.com/javase/downloads/index.jsp>

E-learning@tees (VLE) – <https://eat.tees.ac.uk>

Sun Java Tutorial – <http://java.sun.com/docs/books/tutorial>

Accessibility

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Further advice is available from the University Student Services staff.

University of Teesside

UTREG Online Module Specification

Rapid Development Systems (10 Credits)

SITS Module Code	MUL2039-N	Status	New
UTREG Number	6360	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This course considers the development of information systems. It will take a tools driven approach to client-focussed data-driven information systems development and will consider the utilisation of pre-built and plug-in application components to.</p> <p>An individual in-course assignment will assess the student's ability to design and construct an application using appropriately selected tools.</p>		
Keywords	Development, Information Systems, Applications, Components		
Module Leader	KHAN, ZAFAR School of Computing		
Module Tutors			
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0

Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Rapid Development Tools (COM1045-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to:</p> <ol style="list-style-type: none"> 1. Explore data-driven application development 2. Demonstrate the use of advanced user controls to create rich user interfaces. 3. Demonstrate how to utilise pre-built components within an information system. 4. Utilise legacy systems and code generation tools
Indicative Content
<ol style="list-style-type: none"> 1. Designing a quality information system. 2. Introduction to advanced application development tools, such as Visual Studio 2008 or similar. 3. Introduction to utilising web services and pre-built components. 4. Advanced user interface controls. 5. Using appropriate code generation tools to produce actions, events and functions.
Teaching Resources
<u>Lectures</u>
A projection platform that is capable of supporting Visual Studio 2008, Microsoft SQL Server Management studio and Silverlight development environments.
<u>Practicals</u>
Visual Studio 2010 Microsoft SQL Server Management Studio IIS 6 or 7 Secure Shell FTP Dual Screen Systems

Learning Strategy

Following an initial presentation of an aspect of the course each week, students will be expected to work in groups, with the worksheets provided. Responses to the activities and exercises within the worksheets will enable continuous monitoring of the students' progress.

Learning Outcomes

Knowledge & Understanding

1. Understand the typical software architecture of a data-driven information system.

Cognitive & Intellectual Skills

2. Design and construct a data-driven information system using components and web services.

Practical & Professional Skills

3. Demonstrate the use of appropriately selected tools, user interface controls and components to construct an information system for data input and output.

4. Apply the use of test plans to produce robust information systems

Key Transferable Skills

5. Produce documentation in a defined house style.

Assessment

Assessment Strategy

One in-course assessment worth 100%, which will require individual students to design and construct an application using appropriately selected tools.

The School operates a standard procedure for providing (at least) a minimum level of feedback to students in line with Threshold Quality Standards.

Assessment Criteria

Assessment criteria will be supplied with the assignment brief.

Indicative Resources

Purchase

None.

Essential

None.

Recommended

Beres, J., Evjen, B and Rader, D (2010) *Professional Silverlight 4*. Wiley. (To be published August 2010)

Britton, C. and Doake, J. (2006) *Software System Development : A Gentle Introduction*. 4th ed. Maidenhead: McGraw-Hill Education.

Stahl, T. and Völter, M. (2006) *Model-Driven Software Development : Technology, Engineering, Management*. Hoboken, NJ: John Wiley.

Journals

None.

Electronic

Microsoft Developer Network
<http://www.msdn.com>

Other web based references may be used: details to be supplied at the time of course delivery to ensure the references are current.

Intranet and Blackboard based lecture, tutorial and self study support materials.

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University of Teesside

UTREG Online Module Specification

Systems Development Methods (10 Credits)

SITS Module Code	COM2046-N	Status	New
UTREG Number	6351	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>This module introduces students to systems development life cycles and methods (methodologies). Through a case study approach it looks at the role of tools and techniques within the framework of specific methods and provides students with practical experience in learning and using selected system modelling techniques from a range of methods. The module offers practical experience of tools to support the process of systems development. In addition, the module provides students with the knowledge and skills required to evaluate a method critically in the context of different systems development situations.</p> <p>The module will be assessed by an in-course assessment.</p>		
Keywords	Requirements, engineering, systems, analysis, design, development, methods, methodologies, modelling		
Module Leader	MARSHALL, ANNETTE School of Computing		
Module Tutors			
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Systems Design (COM1047-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to provide students with:</p> <ol style="list-style-type: none"> 1. An understanding that the development of different types of computer system requires the use of different types of life cycles, methods, tools and techniques. 2. Knowledge and practical skills concerning systems development methods, tools and techniques. 3. The ability to evaluate a method critically. 4. Experience of working in groups.
Indicative Content
<ol style="list-style-type: none"> 1. The suitability of life cycles to different types of computer systems development projects. 2. Methods currently in use in the computer industry, eg December, IBM, RAD, XP, Scrum and those proposed by academic researches, eg WebML, SWM, and the application of those methods to different types of computer systems development projects. 3. Tools and techniques from some of those methods.
Teaching Resources

Lectures and Seminars

Use of a general purpose teaching room with access to the internet and modelling software.

Practicals

Use of an internet lab with suitable modelling software.

Learning Strategy

Practical experience of methods, their tools and techniques is via case study work, with debrief and feedback in weekly seminars and/or practical sessions and specified lectures. Formal teaching is complemented by tutor availability for individual/group feedback. Much of the work is student-centred.

Learning Outcomes

Knowledge & Understanding

1. Demonstrate an understanding of the role of life cycles, methods, tools and techniques in systems development.

Cognitive & Intellectual Skills

2. Critically evaluate a method in relation to particular systems development requirements.

Practical & Professional Skills

3. Apply a method, its tools and techniques to a system development situation.

Key Transferable Skills

4. Research one or more methods, their uses, limitations, tools and techniques.
5. Work in groups to apply systems analysis and design skills to a case study.

Assessment

Assessment Strategy

Assessment will be by one in-course assessment, covering all learning outcomes and making use of a single case study outlining a systems development scenario. The ICA will consist of 2 elements.

For element one students will work in groups to apply one or more methods to the case study scenario and to critically evaluate the method(s) used and their experience of group working. These elements cover learning outcomes 2, 3 and 5, accounts for 50% of the marks and is submitted part way through the module.

For element two students will work individually to demonstrate an understanding of the role of life cycles, methods, tools and techniques in systems development and to research a method, its uses, limitations, tools and techniques. This element covers learning outcomes 1 and 4, comprises a 1,000 word report, accounts for 50% of the marks and is submitted towards the end of the module.

Assessment Criteria

Assessment criteria will be supplied with the assignment brief.

Indicative Resources

Purchase

None.

Essential

None.

Recommended

Avison, D.E. and Fitzgerald, G. (2006) *Information Systems Development: Methodologies, Techniques & Tools*. 4th ed. Maidenhead: McGraw-Hill Education.

Bennett, S., McRobb, S. and Farmer, R. (2006) *Object-Oriented Systems Analysis and Design using UML*. 3rd ed. London: McGraw-Hill.

Dennis, A., Wixom, B.H. and Roth, R.M. (2006) *Systems Analysis Design*. 3rd ed. Hoboken, N.J.: John Wiley & Sons.

Hoffer, J.A., George, J.F. and Valacich, J.S. (2007) *Modern Systems Analysis and Design*. 5th ed. Upper Saddle River, NJ.: Prentice Hall.

Pressman, R.S. (2010) *Software Engineering: A Practitioner's Approach*. 7th ed. Boston, Mass.; London: McGraw-Hill Higher Education.

Journals

Journals and technical white papers as appropriate.

For example:

<http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=71151>

<http://www.methodsandtools.com/archive/archive.php>

<http://www.devwebpro.com/devwebpro-39-20070406TheSystemDevelopmentLifeCycleofWebDevelopment.html>

<http://www.ambysoft.com/essays/agileLifecycle.html>

Electronic

VLE (eg Blackboard e@T)

<http://www.december.com/web/develop/> for the John December method

<http://intranet.scm.tees.ac.uk/users/u0000589/wsd/swm.htm> for the SWM method

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University of Teesside

UTREG Online Module Specification

Web Authoring (10 Credits)

SITS Module Code	MUL2036-N	Status	New
UTREG Number	6354	Academic Year	2010/1
Date of Official Approval			
School	School of Computing		
Module Descriptor	<p>The module will focus upon 'Web 2.0 Rich Internet Application Development'. We will provide the students with the necessary skills to be able to develop these new generation websites and desktop based web applications. In addition, this will provide an opportunity to be at the forefront of developments, especially 'using the internet as a development platform', and 're-use of RIA (eg. Google APIs)'. The module will adapt to new trends in terms of internet technology.</p> <p>Students are assessed by a single ICA.</p>		
Keywords	CSS, XHTML, Rich Internet Applications, (RIA), Web 2.0		
Module Leader	BINGHAM, ANDREW School of Computing		
Module Tutors	MOONEY, CAROL School of Computing		
External Examiners			

Module Occurrence

Year	Location	Period	Min. Students	Max. Students
2010/11	Teesside University Main Campus	Term 2	20	999

Module Values

Type	Level	Credit	Learning Hours
Standard Module	Level 5 (I) Intermediate, DipHE, FND, HND	10	100
Assessment Regulations	2004 UG Module		
Assessment Pattern	ICA 100%		
Assignment Submission	School		
Available as Open/Distance Learning?	No		
Is Re-submission possible?	No		
Roll On/Roll Off?	No		
Compensatable	Always Non-Compensatable		

Delivery Mode			
Delivery Pattern (Total no of hours per module)			
Lecture	1	Tutorial/Seminar	0
Science Laboratory	0	IT Laboratory	1
Studio	0	Open Distance Learning	0
Practice	0		

Requisites

Pre-Requisites	
Co-Requisites	
Other Requirements	
Students should have experience of Web Project (MUL1029-N)	
Additional Comments	

Aims

Module Aims
<p>This module aims to:</p> <ol style="list-style-type: none"> 1. Demonstrate how 'rapid prototyping' can be used as a mechanism to implement solutions for the web and desktop environments. 2. Provide students with the necessary advanced skills in the area of Cascading Style Sheets, to enable the separation / uncoupling of presentation from data. 3. Establish the need to use an 'integrated development environment' for implementation. 4. Highlight the need to exploit new generation applications in their implementation approach, including web as a development platform for desktop applications. 5. Be technologically driven by solely focusing on the implementation process, and technologies.
Indicative Content
<ul style="list-style-type: none"> ▪ Writing CSS to control <ul style="list-style-type: none"> - Presentation - Element control - Interactions ▪ XHTML <ul style="list-style-type: none"> - Standards based implementation - Working with DOM nodes and trees

- Rich Internet Applications
 - Ajax
 - Three Tier Dynamic Web Development
 - APIs
 - Mash-ups
 - XML
- Web As A Development Platform
 - Adobe Flash
 - Adobe Air

Teaching Resources

Lectures

1. Standard Lecture Theatre with access to the software listed below;
2. Non web based tools (e.g. Email, FTP, SSH).
3. Dynamic HTML enabled Web Browsers (eg. Mozilla Firefox, Internet Explorer).
4. Web Site Development tools (eg. Adobe Flash, Adobe Dreamweaver).
5. Rich Internet Application Development Tools (eg, Adobe Flash, Adobe Air)
6. Asset creation tools (eg. Adobe Photoshop, Adobe Fireworks).
7. Access to a MySQL database.
8. Access to PHP.

Practicals

1. A PC at an appropriate specification to run multiple applications, eg, Dreamweaver, Flash and Air. Min 2gb Memory.
2. A web lab or similar ♦ to facilitate peer learning.
3. Non web based tools (e.g. Email, FTP, SSH).
4. Dynamic HTML enabled Web Browsers (eg. Mozilla Firefox, Internet Explorer).
5. Web Site Development tools (eg. Adobe Dreamweaver).
6. Rich Internet Application Development Tools (eg, Adobe Flash, Adobe Air)
7. Asset creation tools (eg. Adobe Photoshop).
8. Access to a MySQL database.
9. Access to PHP.

Learning Strategy

Will use Blended Learning with e-learning approaches. Lectures limited to key lectures on specific areas. Practical sessions used to facilitate project work / ongoing formative feedback. Students will be expected to engage with the module outside of class time within the VLE. There will be an opportunity for formative feedback on the moodboard in class.

Learning Outcomes

Knowledge & Understanding

1. Identify different web technologies and apply appropriate solutions to a range of application requirements.
2. Recognise and adopt the three tier development approach used in dynamic web development.

Cognitive & Intellectual Skills

3. Compile appropriate code bases using a range of server side and client side technologies for a variety of platforms.
4. Develop modular programming solutions, ensuring a scalable and re-usable code base within their application development.

Practical & Professional Skills

Key Transferable Skills

Assessment

Assessment Strategy

Individual project based assessment.

The module will be assessed by in-course assessment (ICA): Students will design and develop a web application appropriate to a given platform (web and desktop). This will incorporate both the theoretical and practical components of the module, such as writing functions for the development of interactions with the database and other code bases such as consuming a web service. Clear assessment marking criteria will be presented within the ICA specification.

Assessment Criteria

Assessment criteria will be provided, related to the set tasks, stating how marks will be allocated.

Indicative Resources

Purchase

Chun, R. and Adobe (2009) *Flash CS4 Professional Advanced: For Windows and Macintosh*. Berkeley, Calif.: Peachpit Press

Essential

Negrino, T. and Smith, D. (2009) *Dreamweaver CS4 for Windows and Macintosh*. Berkeley, Calif.: Peachpit Press

Ullman, L. (2009) *PHP for the Web*. 3rd ed. Berkeley, Calif.: Peachpit Press

Recommended
None.
Journals
None.
Electronic
E-learning@tees (VLE) – https://eat.tees.ac.uk

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