

Subject Code	LSGI4292	Internet and Mobile GIS	
Credit	3	Syllabus designer(s)	Geoffrey Shea
Level	4	Pre-requisites	(1) LSGI2222 Fundamentals of GIS; (2) LSGI326 Cartography
Weight	0.4	Assessment Method	Continuous assessment: 100%
Contact Hour	Lect/Tut : 26 PW : 26		

PART A – Subject specific information

Aims

This subject focuses on the development of pocket PC-based applications. The subject allows students gain first-hand experience in apply mobile computing technology to the task of GIS applications. Class discussions and group projects will promote English communication and cooperative attitudes and behaviour of working with others.

Outcomes of professional/academic knowledge and skills

At the end of this subject students who gain a pass will be able to:

- Develop systems with XML and WML (L2)
- Confidently carry out Internet programming (L3)
- Confidently implement pocket PC applications (L3, L4)

Keyword Syllabus

- A. Concepts and protocols of Internet**
- B. 3-tier client/server Internet computing architecture**
- C. Internet and mobile GIS technologies**
 - a. Extensible Markup Language (XML)
 - b. Geography Markup Language (GML)
 - c. Scalable Vector Graphics (SVG)
 - d. Wireless Markup Language (WML)
- D. Internet programming**
 - a. Web authoring and scripting environment
 - b. Web database programming
 - c. Online spatial editing/updating
 - d. Pocket PC database applications
 - e. Wireless Application Protocol (WAP) programming
 - f. Mobile device programming on Windows CE
- E. Introduction to Web Services**

Content Distribution

A	B	C	D	E
5%	5%	35%	50%	5%

PART B - Teacher specific information

Teaching and Learning Methods

A combination of lectures, demonstrations, tutorials and hands-on exercises will be used. Students are expected to gain more hands-on experience through formal practical sessions and completion of group project. Assignments are designed to reinforce in class lectures. Group project is designed to develop students' knowledge and skills in 3 aspects: (1) Problem solving techniques and critical evaluation; (2) Integration of different technologies acquired in class lectures; and (3) Team work and group presentation.

Assessment Methods

The understanding of the theories, techniques and methodology will be examined through phase tests and assignments. The mastery of skills and techniques will be examined by practical sessions and assignments. The critical analysis, confident application of skills, design of projects, and team member's contribution are examined by a group project.

Phase Tests	
#1	20%
#2	25%
Assignments	20%
Group Project	35%

Reading List

Supplementary:

1. Ellen Pearlman (2003). SVG for Web Developers, Prentice Hall.
2. Yao, P. (2004). .NET compact framework programming with Visual Basic .NET, Addison-Wesley.
3. Eaglestone, B. (2001). Web database systems, McGraw-Hill.
4. Buyens, J. (2002). Web database development step by step .NET edition, Microsoft Press.
5. Fraser, S. and S. Livingstone (2002). Beginning VB.NET XML: Essential XML skills for VB.NET programmers, Wrox.
6. Wyke, R.A. et al. (2002). XML Programming, Microsoft Press.
7. Forsberg, C. and A. Sjostrom (2002). Pocket PC development in the enterprise: mobile solutions with Visual Basic and .NET, Addison-Wesley.
8. Grattan, N. (2002). Pocket PC, Handheld PC developer's guide with Microsoft eMbedded Visual Basic, Prentice Hall.
9. Tiffany, R. (2003). SQL Server CE database development with the .NET compact framework, Apress.
10. Watt, A. et al. (2003). SVG unleashed, SAMS.
11. Makofsky, S. (2004). Pocket PC network programming, Addison-Wesley.

