

## COURSE SYLLABUS/DESCRIPTION

Department and Course Number	ISQA 4130/8136
Course Title	Information Technology for Development
Course Coordinator	Peter Wolcott & Sajda Qureshi
Total Credits	3.0
Date of Last Revision	4/29/09

### 1.0 Course Description:

1.1 Overview of content and purpose of the course (Catalog description).

Information Technology for Development (ITD) is the implementation and evaluation of information technology infrastructures to stimulate economic, social and human development. In this service-learning course, students will learn and apply ITD concepts for developing and adding value through IT by working with small business entrepreneurs in Omaha or rural Nebraska. Students will evaluate micro-business technology needs, prepare business technology plans, provide training, and implement appropriate solutions, to the extent possible within a semester class.

One of the main objectives of this course is to train student to apply their IT skills in ways that enable micro-enterprises to adopt IT in innovative ways. In doing so, the students learn to appreciate the challenges of entrepreneurship and develop technical training and trust building skills to address IT needs.

1.2 For whom course is intended.

This course is intended for undergraduate and graduate students in Information Systems, Computer Science, Business Administration, Public Administration, and other areas who wish to learn the challenges, concepts, and skills associated with stimulating developing using information technology.

1.3 Prerequisites of the course (Courses).

Admission to one of the programs identified in 1.2, and permission of the instructors.

1.4 Prerequisites of the course (Topics).

While there are no firm prerequisites, familiarity with personal computers, web development, software development, database management, networking are desirable.

1.5 Unusual circumstances of the course.

This is a service learning course. A great deal of the course involves interaction with micro-enterprise owners in the community. A critical aspect of IT for Development and this course in

particular is learning to build relationships and communicate clearly in a cross-cultural setting. Students are likely to work with entrepreneurs who have different life experiences, beliefs, values, expectations, and technical expertise. Students will need to learn to appreciate these differences and use this understanding to develop productive relationships and contextually appropriate solutions. Client satisfaction with students' efforts will be taken into consideration when evaluating student work in the course.

## **2.0 Objectives:**

- 2.1 List of performance objectives stated in terms of the student educational outcomes.
  - 2.1.1 Learn about the theories, concepts and practices of using information technology to bring about economic, human, and social development.
  - 2.1.2 Gain insight into the history, culture, and economy of North Omaha, South Omaha, or rural Nebraska
  - 2.1.3 Understand the challenges and opportunities facing micro-enterprises in North, South Omaha, or rural Nebraska
  - 2.1.4 Evaluate the information and technology needs of a micro-enterprise
  - 2.1.5 Apply IT for Development principles to develop a business technology plans, provide necessary training, and implement appropriate solutions for a micro-enterprise.

## **3.0 Content and Organization:**

- 3.1 List of major topics to be covered in chronological sequence (specify number of weeks on each).
  - 3.1.1 What is *information technology for development* (2 weeks)
  - 3.1.2 Application of information technology for development (1 week)
  - 3.1.3 The global ITD landscape (1 week)
  - 3.1.4 Microenterprises and entrepreneurship (1 week)
  - 3.1.5 Information systems in microenterprises (1 week)
  - 3.1.6 Measuring return on investment and the impact of IT on development (1 week)
  - 3.1.7 Technology assimilation and adoption (1 week)
  - 3.1.8 Business technology plan development (1 week)

Note: much of the second half of the class is spent working on projects with microenterprise partners in the community, and discussing these experiences in the class. Topics are covered as the situation warrants during these weeks.

## **4.0 Teaching Methodology:**

- 4.1 Methods to be used.
  - 4.1.1 Lecture
  - 4.1.2 Group discussion

- 4.1.3 Field trips
  - 4.1.4 Guest speakers
  - 4.1.5 Service learning project in the community
  - 4.1.6 Reflective learning
- 4.2 Student role in the course.  
Students participate in discussions, carry out projects in the community, reflect on the relationships between the classroom content and their experiences in the community. Students research solutions to issues faced by micro-enterprises and prepare both specific solutions for particular microenterprises as well as general knowledge modules that can be used more broadly.
- 4.3 Contact hours.  
Three hours per week.

**5.0 Evaluation:**

- 5.1 Type of student projects that will be the basis for evaluating student performance, specifying distinction between undergraduate and graduate, if applicable. For Laboratory projects, specify the number of weeks spent on each project).
- 5.1.1 A journal. Critical reflection is a vital part of service learning. It is critical reflection that provides the transformative link between the action of *servicing* and the ideas and understanding of *learning*. Through reflection, the student considers what has occurred, what it means, and how one should respond. Students are expected to reflect on their experiences following every class and every meeting with the client. Journals will be collected and graded periodically throughout the semester.
  - 5.1.2 An ITD Knowledge Base Module. Students will research solutions to some commonly encountered technology-related challenges and develop a module consisting of an analysis of alternative solutions and a tutorial for implementing one of them.
  - 5.1.3 An individualized IT-based solution to a pressing problem or opportunity faced by a microenterprise. Students will work together with a microenterprise in the Omaha community or rural Nebraska.
  - 5.1.4 (graduate students only) Business Technology Plan. Students will prepare an analysis and plan for future information technology use by a specific microenterprise.
  - 5.1.5 Project report and presentation.
- 5.2 Basis for determining the final grade (Course requirements and grading standards) specifying distinction between undergraduate and graduate, if applicable.

GRADE COMPONENT	UG STUDENTS	G STUDENTS
Answers to Discussion Questions/participation	50	50
Keep a journal	150	100

ITD Knowledge Base Module	250	200
Business Technology Plan	n/a	200
IT-based solution	300	200
Project report & presentation	250	250
TOTAL	1000	1000

### 5.3 Grading scale and criteria.

POINTS	LETTER GRADE
960-1000	A+
920-969	A
890-919	A-
860-889	B+
820-859	B
790-819	B-
760-789	C+
720-759	C
690-719	C-
660-689	D+
620-659	D
590-619	D-
<590	F

## 6.0 Resource Material

- 6.1 Textbooks and/or other required readings used in course.
- 6.1.1 Anonymous. (2006). From Online to Helpline; Face Value. *The Economist*, 380 (8489), 58.
- 6.1.2 Brynjolfsson, E., & Yang, S. (1996). Information Technology and Productivity: A Review of the Literature. *Advances in Computers*, 43, 179-214.
- 6.1.3 Duncombe, R., & Heeks, R. (2002). Enterprise across the Digital Divide: Information Systems and Rural Microenterprise in Botswana. *Journal of International Development*, 14 (1), January, 61-74.
- 6.1.4 Furuholt, B., & Ørvik, T.U. (2006). Implementation of Information Technology in Africa: Understanding and Explaining the Results of Ten Years of Implementation Effort in a Tanzanian Organization. *Information Technology for Development*, 12(1), 45-62.
- 6.1.5 Grosh, B., & Somolekae, G. (1996). Mighty Oaks from Little Acorns: Can Microenterprise Serve as the Seedbed of Industrialization? *World Development*, 24(12), 1879-1890.
- 6.1.6 Honig, B. (1998). What Determines Success? Examining the Human, Financial, and Social Capital of Jamaican Microentrepreneurs. *Journal of Business Venturing*, 13(5), 371-394.

- 6.1.7 Levy, M., Powell, P., & Yetton, P. (2002). The Dynamics of SME Information Systems. *Small Business Economics* 19(4), 341-354.
- 6.1.8 Lichtenstein, G.A., & Lyons, T.S. (2001). The Entrepreneurial Development System: Transforming Business Talent and Community Economies. *Economic Development Quarterly* 15(1), 3-20.
- 6.1.9 Qureshi, S. (2005). How Does Information Technology Effect Development? Integrating Theory and Practice into a Process Model. *Proceedings of the Eleventh Americas Conference on Information Systems (AMCIS), Omaha, NE: Association for Information Systems.*
- 6.1.10 Qureshi, S., Kamal, M., & P. Wolcott. (2009). Information Technology Therapy for Competitiveness in Micro-Enterprises. *International Journal of E-Business Research*, 5(1), 117-140.
- 6.1.11 Riemenschneider, C.K., Harrison, D.A., & Mykytyn, P.P. (2003). Understanding It Adoption Decisions in Small Business: Integrating Current Theories. *Information & Management*, 40(4), 269-285.
- 6.1.12 Schreiner, M., & Woller, G. (2003). Microenterprise Development Programs in the United States and in the Developing World. *World Development* 31(9), 1567-1580.
- 6.1.13 Steinberg, J. (2003). Information Technology & Development Beyond "Either/Or". *The Brookings Review* 21(2), 45.
- 6.1.14 Vargas, C.M. (2000). Community Development and Micro-Enterprises: Fostering Sustainable Development. *Sustainable Development* 8(1), 11-26.
- 6.1.15 Warschauer, M. (2003). Demystifying the Digital Divide. *Scientific American* 289(2), 42.
- 6.1.16 Wolcott, P., Kamal, M. & S. Qureshi (2008). Meeting the Challenges of ICT Adoption by Micro-enterprises. *Journal of Enterprise Information Management*. 21(6).
- 6.1.17 World Bank, (2003). *ICT & Development: Enabling the Information Society* The World Bank Group, Global Information & Communication Technologies Department, p. 83.
- 6.2 Other suggested reading materials, if any.
- 6.3 Other sources of information.
- 6.4 Current bibliography of resource for student's information.
  - 6.4.1 Arce, A. (2003). Re-approaching social development: a field of action between social life and policy process. *Journal of International Development*, 15(7), 845-861.
  - 6.4.2 Avgerou, C.(1998) How can IT enable economic growth in developing countries? *Information Technology for Development*, (8:1).
  - 6.4.3 Braa, J. Monteiro, E. & S. Sahay. (2004). Networks of Action: Sustainable Health Information Systems across Developing Countries. *MIS Quarterly*, 28(3), 337-363.
  - 6.4.4 Cecchini, S. & C. Scott, (2003). Can information and communications technology applications contribute to poverty reduction? Lessons from rural India. *Information Technology for Development*, 10(2), 73-85.

- 6.4.5 Gonzalez, C. (2008). Nebraska's poverty rate rises; Iowa's falls. *Omaha World Herald*, 1-2.
- 6.4.6 Lee, Y. C. (2003). *The Role of ICT in Enhancing the Achievement of the Millennium Development Goals*, UN Millennium Project Presentation to the World Trade Organization.
- 6.4.7 Minges, M., Gray, V. & E. Magpantay. (2003). *World Telecommunication Development Report 2003: Access Indicators for the Information Society*. Geneva: International Telecommunications Union.
- 6.4.8 Qiang, C., Pitt, A., & S. Ayers. (2003). *Contribution of Information and Communication Technologies to Growth*. (World Bank Working Paper No. 24). World Bank. <http://lnweb18.worldbank.org/ict/projects.nsf/WSISPublication>
- 6.4.9 Reinhard, N., & Macadar, M.A. (2006). Governance and management in the Sao Paulo Public Telecenter Network., *Information Technology for Development*, 12(3), 241-246.
- 6.4.10 Salvador, T., Sherry, J., & A. Urrutia, (2005). Less Cyber, More Café Enhancing existing small businesses across the digital divide with ICTs. *Information Technology for Development*, 11(1).
- 6.4.11 Schumpeter, J. A. (2002). The Theory of Economic Development. *Industry and Innovation*, 9(1/2) 93-145.
- 6.4.12 Sen, A. (1999). *Development as Freedom*. Oxford: Oxford University Press.
- 6.4.13 Walsham, G. and S. Sahay. (2006). Research on information systems in developing countries: Current landscape and future prospects. *Information Technology for Development*, 12(1). 7-24.