Online GIS Education

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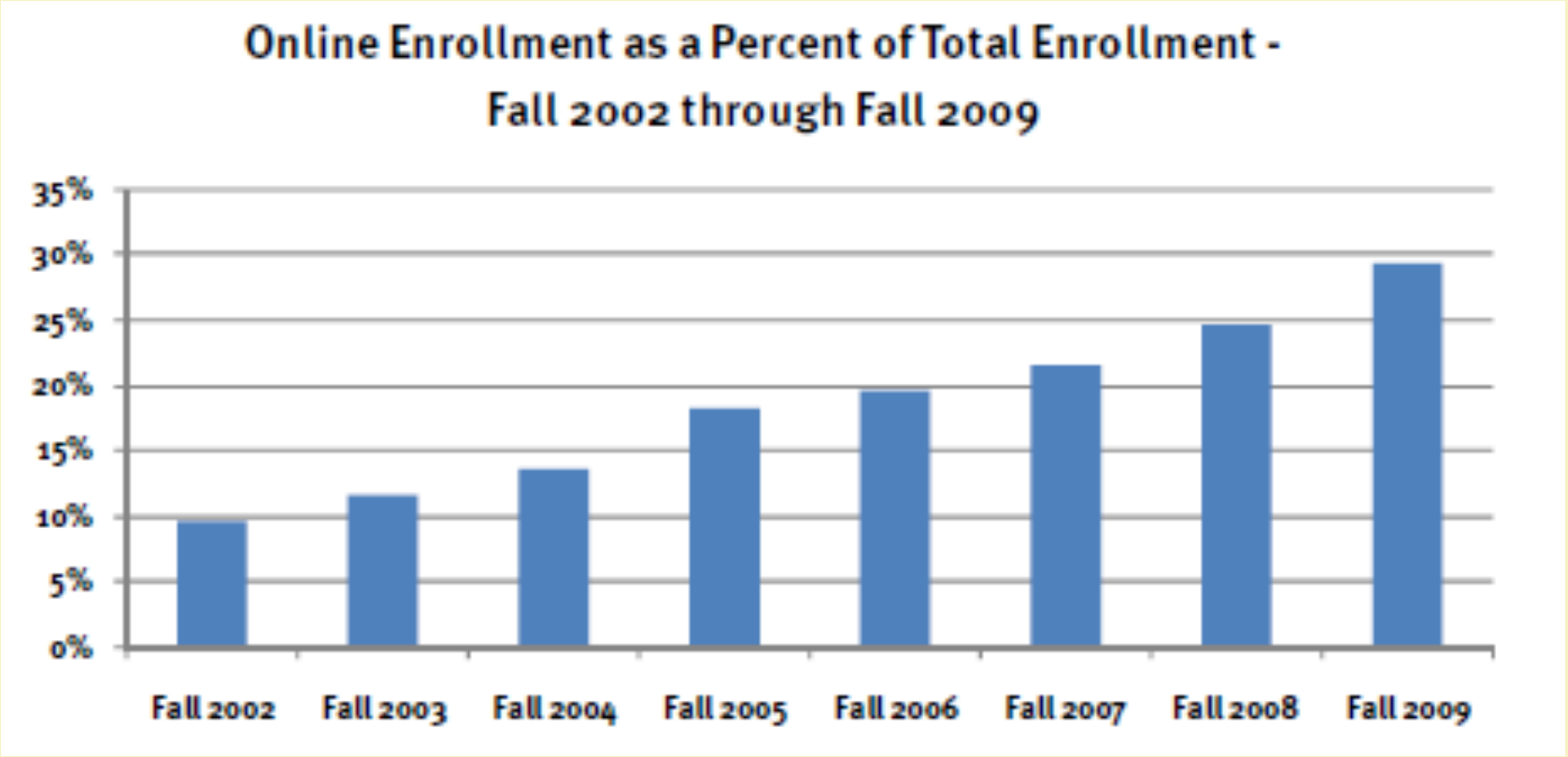
Department of Construction Sciences
Columbus State Community College, Columbus, OH, USA

Types of Online Learning

Proportion of Content Delivered Online	Type of Course	Typical Description
0%	Traditional	Course with no online technology used — content is delivered in writing or orally.
1 to 29%	Web Facilitated	Course that uses web-based technology to facilitate what is essentially a face-to-face course. May use a course management system (CMS) or web pages to post the syllabus and assignments.
30 to 79%	Blended/Hybrid	Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings.
80+%	Online	A course where most or all of the content is delivered online. Typically have no face-to-face meetings.

Class Differences: Online Education in the United States, 2010
http://www.usdla.org/assets/pdf_files/2010%20Sloan-C%20Report%20on%20Online%20Education%20Enrollment.pdf

Growth Trend in Learning Online



Class Differences: Online Education in the United States, 2010
http://www.usdla.org/assets/pdf_files/2010%20Sloan-C%20Report%20on%20Online%20Education%20Enrollment.pdf

Why Rapid Growth?

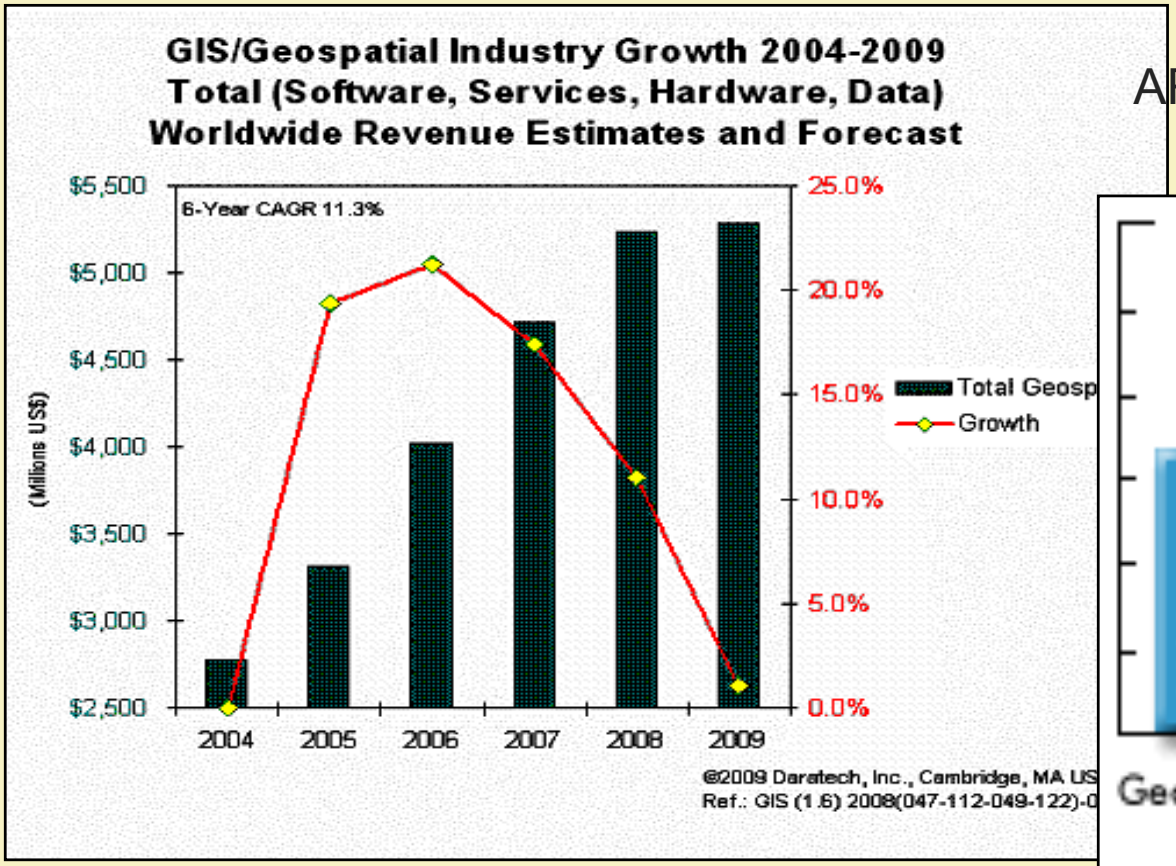
- Significant development in computer and telecommunication technologies
- Innovation in course management systems
  - Blackboard, Angel
- Expansion of web conferences and online meetings
  - Elluminate Live, WebEx
- Benefits for students
  - “Different time and different place” vs. “same time and same place”
  - Flexible schedule
  - Studying at multiple schools at once
  - Economic benefits

Why Rapid Growth?

- Economic benefits for both educational institutions and companies
- Economic downturn
  - *Poor economic times are good for higher education!*
- Predicted growth in job markets
  - Health Care
  - Advanced Manufacturing
  - Information Technology
  - Transportation
  - Military
  - Geospatial Technology

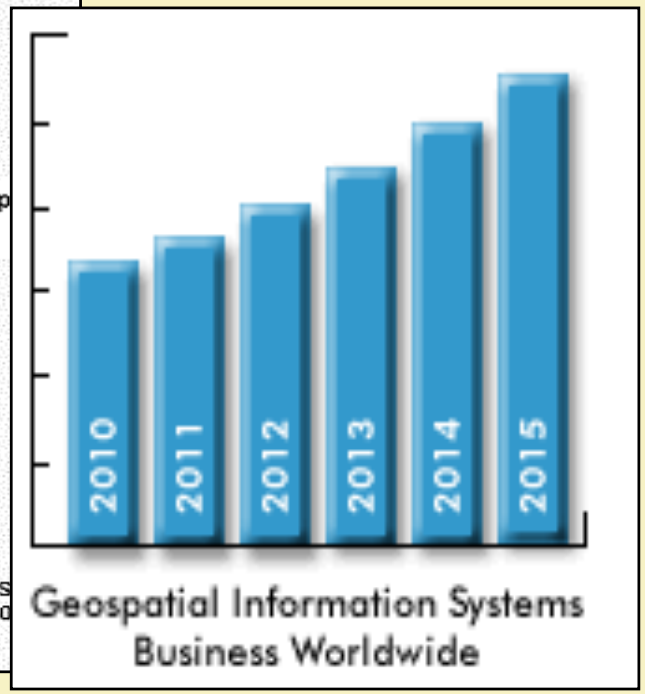
Geospatial Market Outlook

Daratech's Report in 2008, Worldwide



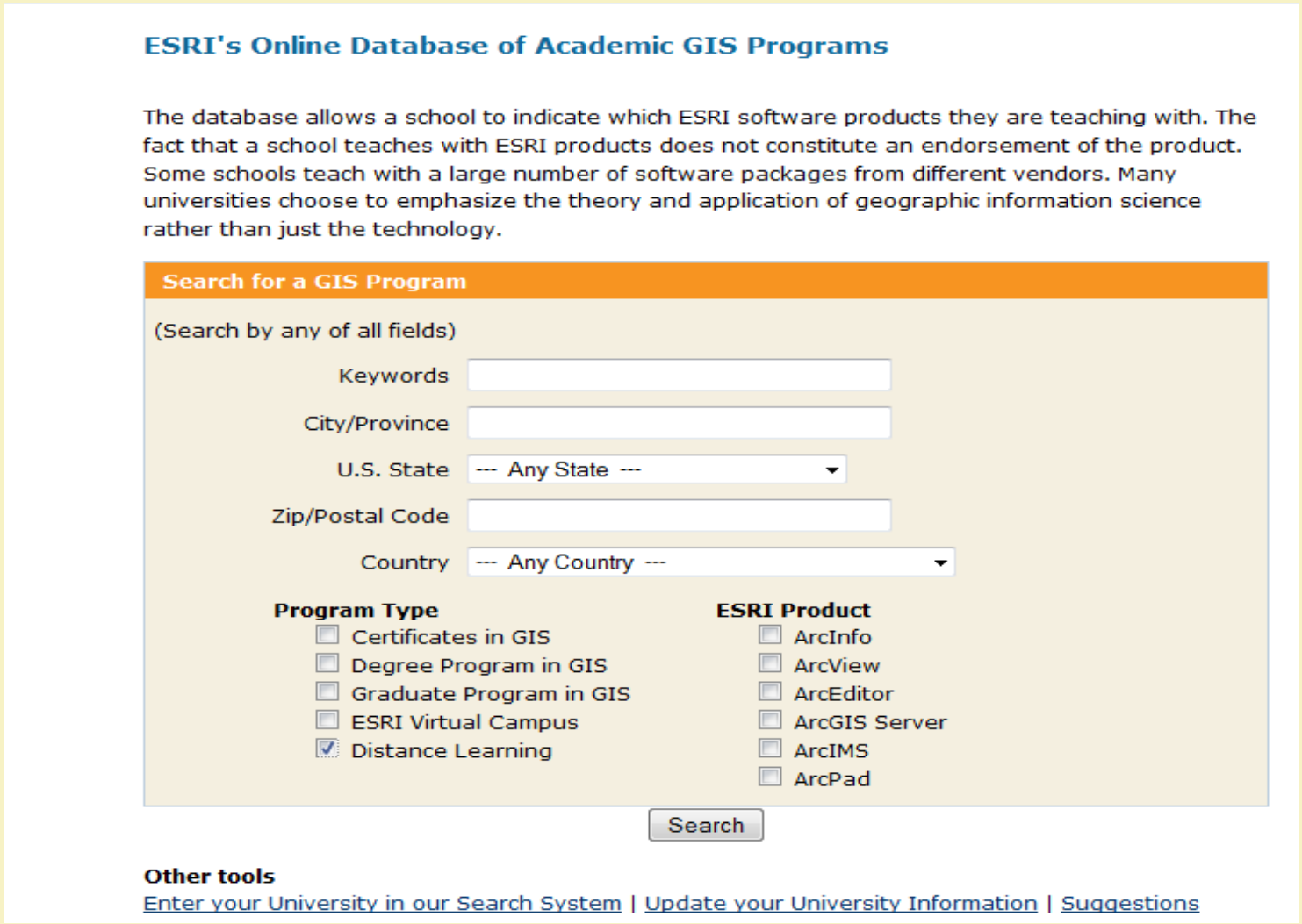
http://www.gpsworld.com

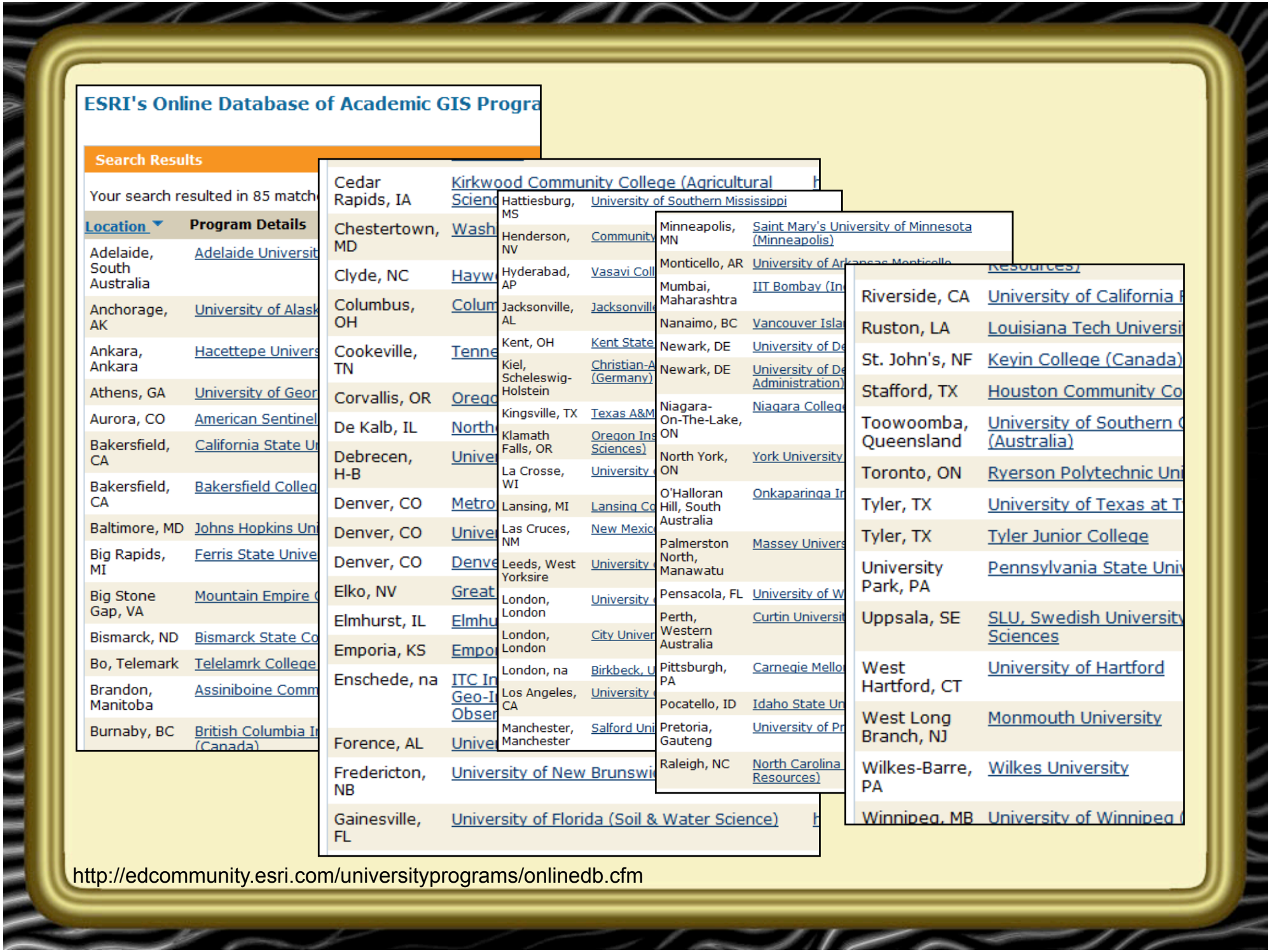
ARC's Report in Dec. 2010, Worldwide



http://www.arcweb.com

Universities/Colleges with Online GIS Programs





http://edcommunity.esri.com/universityprograms/onlinedb.cfm

GIS Certificate and Masters Prog

GIS Certificate and Masters Programs

last updated January 09, 2011

The following information is a simple collection of known websites
No endorsement or evaluation of these programs is implied by their inclusion

Note that there are also Bachelor's programs in GIS, but they are not include

Index

- US on-campus masters programs
- US on-campus certificate programs
- Canadian on-campus certificate and masters programs
- Other country on-campus certificate and masters programs
- Distance learning programs
- Related certificates
- GIS education needs surveys

- *IMPORTANT* - April 2003 summary of Diploma, Certificate and Degree progra world prepared by Brian Berdusco. Full report from 2003 MSc thesis (zip file of document) and html of the table (large document, loads slowly).

- See also lists of links maintained by:
  - GISOnline Graduate Courses
  - GeoCommunity

http://www.ucgis.org/priorities/education/GIS_Cert+Masters_Prog/certificates.htm#DistanceLearning

Distance learning/On-line programs

NOTE: For more information on individual graduate courses an

Birkbeck College, London UK
- http://www.bbk.ac.uk/Departments/Geography/online.htm

California State University Bakersfield, USA
- http://academic.csub.edu/~vkohli/giscert.html

Charles Sturt University, Australia
http://clio.mit.csu.edu.au/gis

Curtin University, Australia
http://www.cage.curtin.edu.au/gis/distance.htm

University of Denver
- Certificate of Advances Studies in Geographic Information Sy
- Masters Degree in Geographic Information Science
- http://www.du.edu/gis/

Elmhurst College, Elmhurst IL - Certificate in GIS (hybrid online
- http://www.elmhurst.edu/~geo/GISCertProgram.html

ESRI Virtual Campus
- http://campus.esri.com/

Johns Hopkins University - post-baccalaureate Certificate in Ge
- http://advanced.jhu.edu/academic/environmental/gis/

University of Leeds - postgraduate programs in GIS
- http://www.geog.leeds.ac.uk/odl/

University of North Dakota - Graduate Certificate in GIScience
- http://distance.und.edu/degree/?id=geoinfoscience2

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ONLINE DEGREES » MASTER OF GEOGRAPHIC INFORMATION SYSTEMS

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- FAQs
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Course Schedule
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PRINT

Students in the MGIS program must take 6 credits at the 500 level and a minimum of 12 additional credits at the 500 level or above.

Required Courses (23–26 credits)		
GEOG 482	**The Nature of Geographic Information** Orientation to the properties of geographic data and the practice of distance learning.	2 credits
GEOG 483	**Problem Solving with GIS** How geographic information systems facilitate data analysis and communication to address common geographic problems. Prerequisite: GEOG 482	3 credits
GEOG 484	**GIS Database Development** Database design, creation, and maintenance, and data integration using desktop GIS software. Prerequisite: GEOG 483	3 credits
GEOG 583	**Geospatial System Analysis and Design** Systematic approach to requirements acquisition, specification, design and implementation of geospatial information systems. Prerequisite: GEOG 484	3 credits
GEOG 584	**Geospatial Technology Project Management** Principles of effective project management applied to the design and implementation of geospatial information systems.	3 credits
GEOG 586	**Geographical Information Analysis** Choosing and applying analytical methods for geospatial data, including point pattern analysis, interpolation, surface analysis, overlay analysis, and spatial autocorrelation. Prerequisite: GEOG 485, GEOG 486, or GEOG 487	3 credits
GEOG 596A	**Individual Studies — Peer Review** Preparation and presentation of a proposal for an individual capstone project.	3 credits (may be repeated up to 9 credits)
GEOG 596B	**Individual Studies — Capstone Project** Preparation and delivery of a formal professional presentation of the results of an individual capstone project.	3 credits (may be repeated up to 9 credits)

http://www.worldcampus.psu.edu/MasterinGIS.shtml

UNIGIS *International*

Postgraduate Courses in Geographical Information Systems

Welcome to the home of UNIGIS International. UNIGIS is a worldwide network of educational institutions which offer distance learning courses in GIS. Institutions within the UNIGIS network offer internationally recognised qualifications for GIS professionals and those seeking to enter the field. For information about courses available near you please contact your local site or the Central UNIGIS Office.

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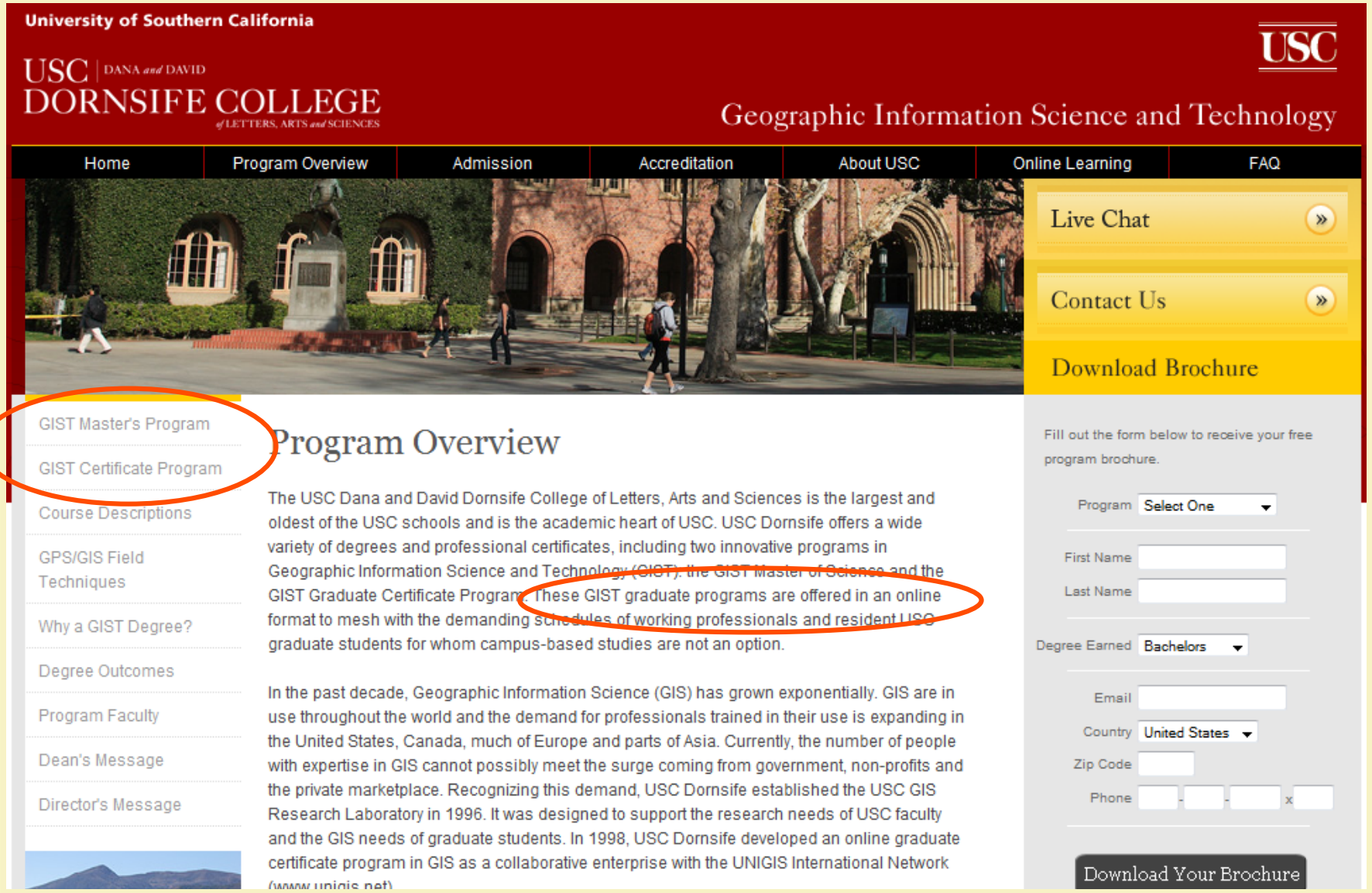
http://www.unigis.org/



http://gis.usc.edu/program-overview/

VANCOUVER ISLAND UNIVERSITY

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Enjoy the journey.

Advanced Diploma in GIS Applications

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ADGISA

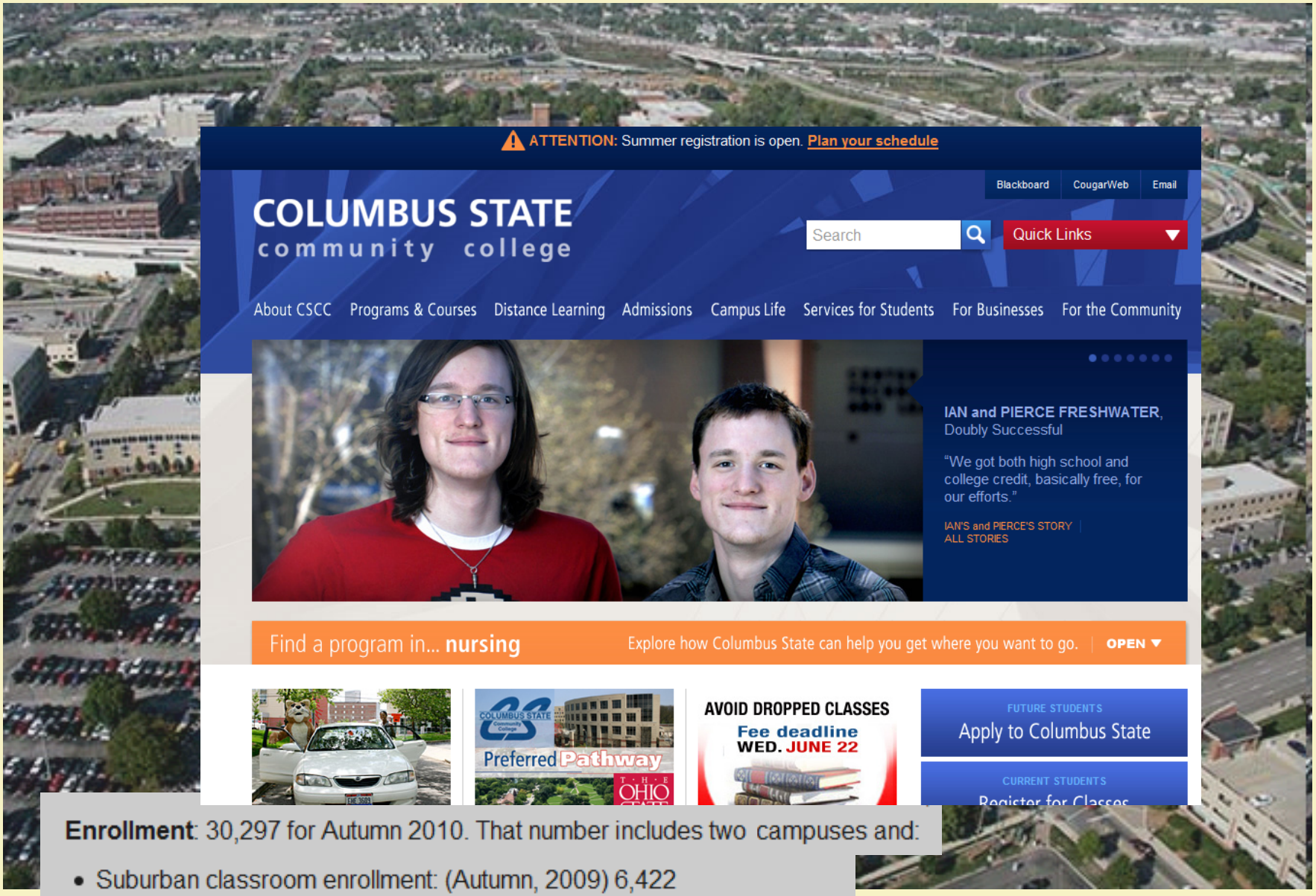
- Program Courses
- Admission Requirements
- Equipment and T
- [+] Fees
- Start Date and Application Dead
- How to Apply
- Information for International Students
- Practicum Information
- Graduation Requirements

- [+] Fees
- Start Date and Application Deadline
- How to Apply
- Information for International Students
- Practicum Information
- Graduation Requirements
- Career Opportunities
- About the Instructors
- Frequently Asked Questions
- What Students Say
- Explore GIS
- [+] About Nanaimo
- GIS Information Sheet: Face To Face Fall 2010

outcomes are the same. Each course is worth 3 credits, with the exception of GEOG 591 - GIS Applications Project - which is worth 9 credits.

Face-to-Face	Online
GEOG 501 Foundations of Geographic Information Systems	GEOG 501 Foundations of Geographic Information Systems
GEOG 511 Geodatabases	GEOG 511 Geodatabases
GEOG 521 General Spatial Analysis	GEOG 521 General Spatial Analysis
GEOG 523 Advanced Applied Spatial Analysis	GEOG 523 Advanced Applied Spatial Analysis
GEOG 531 Visual Programming for GIS	GEOG 524 Remote Sensing and Digital Image Processing
GEOG 581 Management Issues In GIS	GEOG 525 **Global Positioning Systems (GPS) and Survey Analysis**
GEOG 591 GIS Applications Project: Practicum	GEOG 530 Programming Foundations
GEOG 593 Internet GIS	GEOG 531 Visual Programming for GIS
	GEOG 581 Management Issues In GIS
	GEOG 593 Internet GIS

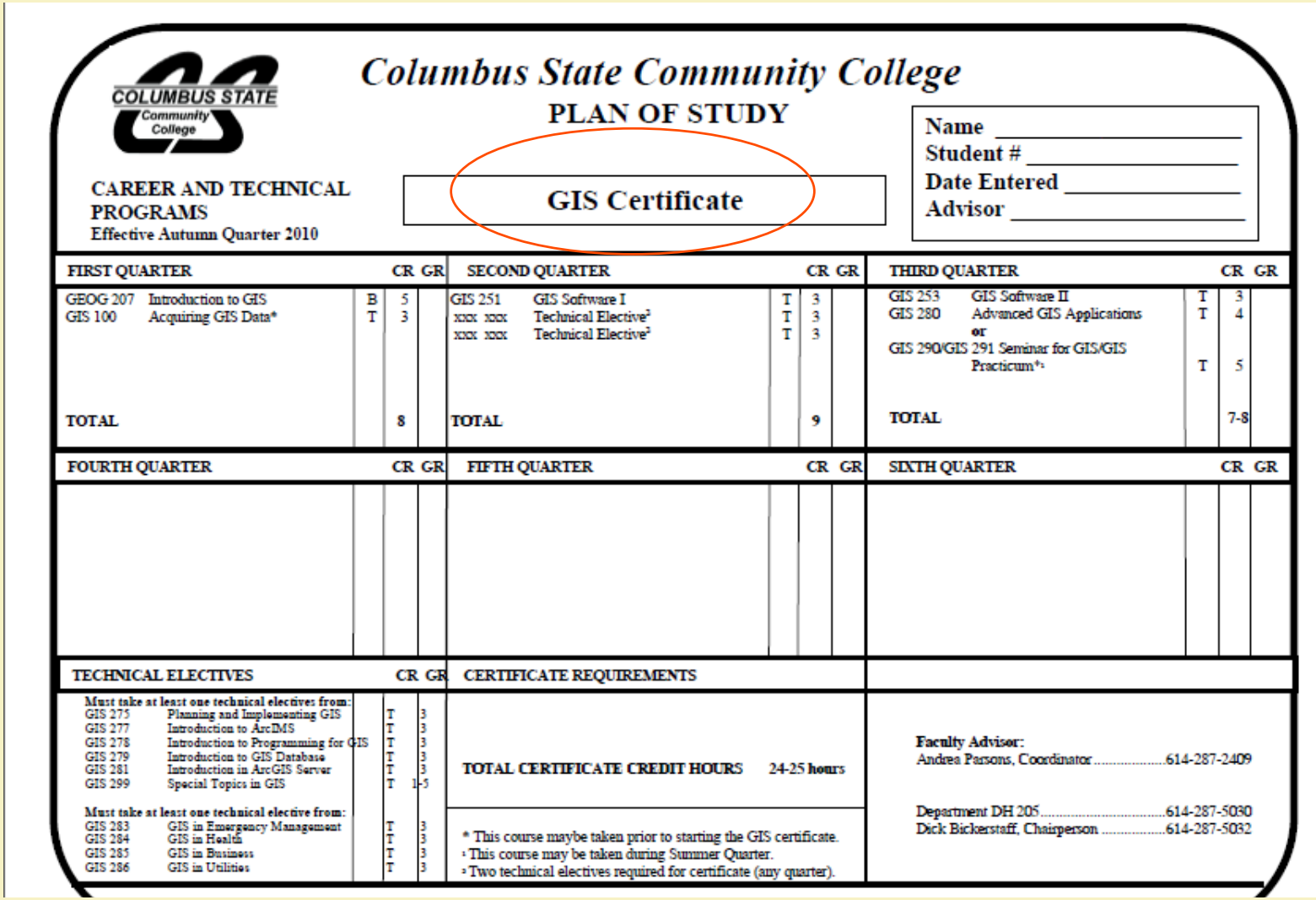
http://www.viu.ca/adgisa/index.asp



Enrollment: 30,297 for Autumn 2010. That number includes two campuses and:

- Suburban classroom enrollment: (Autumn, 2009) 6,422
- Distance learning students (2008) 8,965

GIS Certificate Online Courses at CSCC



Columbus State Community College

PLAN OF STUDY

COLUMBUS STATE Community College

CAREER AND TECHNICAL PROGRAMS
Effective Autumn Quarter 2010

GIS Certificate

Name _____
Student # _____
Date Entered _____
Advisor _____

FIRST QUARTER			CR	GR
GEOG 207	Introduction to GIS	B	5	
GIS 100	Acquiring GIS Data*	T	3	
TOTAL			8	

SECOND QUARTER			CR	GR
GIS 251	GIS Software I	T	3	
xxx xxx	Technical Elective[2]	T	3	
xxx xxx	Technical Elective[2]	T	3	
TOTAL			9	

THIRD QUARTER			CR	GR
GIS 253	GIS Software II	T	3	
GIS 280	Advanced GIS Applications	T	4	
	or			
GIS 290/GIS 291	Seminar for GIS/GIS Practicum*,1	T	5	
TOTAL			7-8	

FOURTH QUARTER	CR	GR

FIFTH QUARTER	CR	GR

SIXTH QUARTER	CR	GR

TECHNICAL ELECTIVES			CR	GR
Must take at least one technical electives from:				
GIS 275	Planning and Implementing GIS	T	3	
GIS 277	Introduction to ArcIMS	T	3	
GIS 278	Introduction to Programming for GIS	T	3	
GIS 279	Introduction to GIS Database	T	3	
GIS 281	Introduction in ArcGIS Server	T	3	
GIS 299	Special Topics in GIS	T	1-5	
Must take at least one technical elective from:				
GIS 283	GIS in Emergency Management	T	3	
GIS 284	GIS in Health	T	3	
GIS 285	GIS in Business	T	3	
GIS 286	GIS in Utilities	T	3	

CERTIFICATE REQUIREMENTS

TOTAL CERTIFICATE CREDIT HOURS 24-25 hours

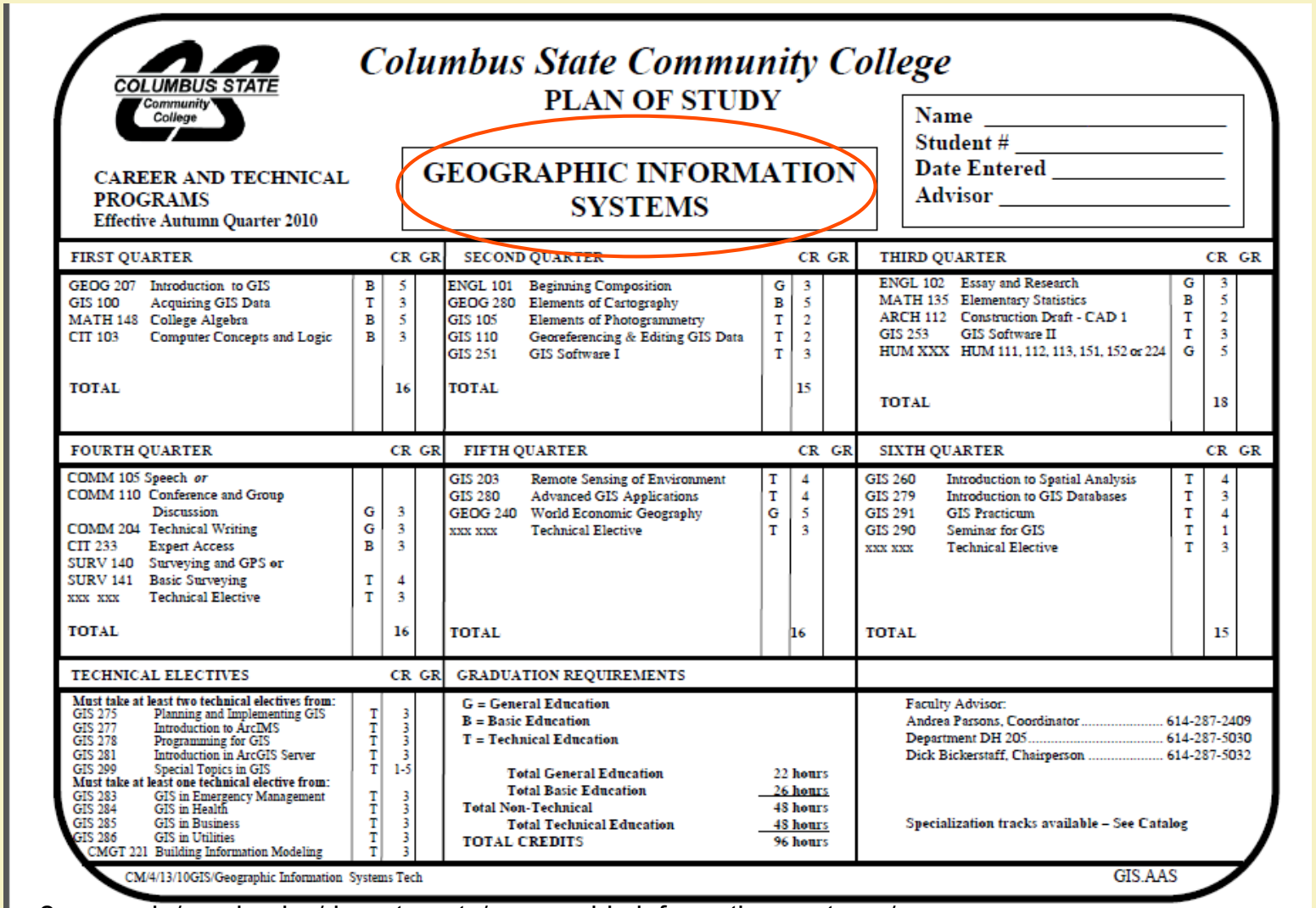
* This course maybe taken prior to starting the GIS certificate.
[1] This course may be taken during Summer Quarter.
[2] Two technical electives required for certificate (any quarter).

Faculty Advisor:
Andrea Parsons, Coordinator 614-287-2409

Department DH 205.....614-287-5030
Dick Bickerstaff, Chairperson 614-287-5032

http://www2.cscc.edu/academics/departments/geographic-information-systems/

GIS Associate Degree Online Courses at CSCC



COLUMBUS STATE Community College

Columbus State Community College

PLAN OF STUDY

CAREER AND TECHNICAL PROGRAMS
Effective Autumn Quarter 2010

GEOGRAPHIC INFORMATION SYSTEMS

Name _____
Student # _____
Date Entered _____
Advisor _____

FIRST QUARTER			CR	GR
GEOG 207	Introduction to GIS	B	5	
GIS 100	Acquiring GIS Data	T	3	
MATH 148	College Algebra	B	5	
CIT 103	Computer Concepts and Logic	B	3	
TOTAL			16	

SECOND QUARTER			CR	GR
ENGL 101	Beginning Composition	G	3	
GEOG 280	Elements of Cartography	B	5	
GIS 105	Elements of Photogrammetry	T	2	
GIS 110	Georeferencing & Editing GIS Data	T	2	
GIS 251	GIS Software I	T	3	
TOTAL			15	

THIRD QUARTER			CR	GR
ENGL 102	Essay and Research	G	3	
MATH 135	Elementary Statistics	B	5	
ARCH 112	Construction Draft - CAD 1	T	2	
GIS 253	GIS Software II	T	3	
HUM XXX	HUM 111, 112, 113, 151, 152 or 224	G	5	
TOTAL			18	

FOURTH QUARTER			CR	GR
COMM 105	Speech *or*			
COMM 110	Conference and Group Discussion	G	3	
COMM 204	Technical Writing	G	3	
CIT 233	Expert Access	B	3	
SURV 140	Surveying and GPS or			
SURV 141	Basic Surveying	T	4	
xxx xxx	Technical Elective	T	3	
TOTAL			16	

FIFTH QUARTER			CR	GR
GIS 203	Remote Sensing of Environment	T	4	
GIS 280	Advanced GIS Applications	T	4	
GEOG 240	World Economic Geography	G	5	
xxx xxx	Technical Elective	T	3	
TOTAL			16	

SIXTH QUARTER			CR	GR
GIS 260	Introduction to Spatial Analysis	T	4	
GIS 279	Introduction to GIS Databases	T	3	
GIS 291	GIS Practicum	T	4	
GIS 290	Seminar for GIS	T	1	
xxx xxx	Technical Elective	T	3	
TOTAL			15	

TECHNICAL ELECTIVES			CR	GR
Must take at least two technical electives from:				
GIS 275	Planning and Implementing GIS	T	3	
GIS 277	Introduction to ArcIMS	T	3	
GIS 278	Programming for GIS	T	3	
GIS 281	Introduction in ArcGIS Server	T	3	
GIS 299	Special Topics in GIS	T	1-5	
Must take at least one technical elective from:				
GIS 283	GIS in Emergency Management	T	3	
GIS 284	GIS in Health	T	3	
GIS 285	GIS in Business	T	3	
GIS 286	GIS in Utilities	T	3	
CMGT 221	Building Information Modeling	T	3	

GRADUATION REQUIREMENTS

G = General Education
B = Basic Education
T = Technical Education

Total General Education	22 hours
Total Basic Education	26 hours
Total Non-Technical	48 hours
Total Technical Education	48 hours
TOTAL CREDITS	96 hours

Faculty Advisor:
Andrea Parsons, Coordinator 614-287-2409
Department DH 205 614-287-5030
Dick Bickerstaff, Chairperson 614-287-5032

Specialization tracks available – See Catalog

CM/4/13/10GIS/Geographic Information Systems Tech

GIS.AAS

http://www2.cscc.edu/academics/departments/geographic-information-systems/

Required Skills

Technical Requirements

Technical Requirements for Web-based Courses

Web-based Courses

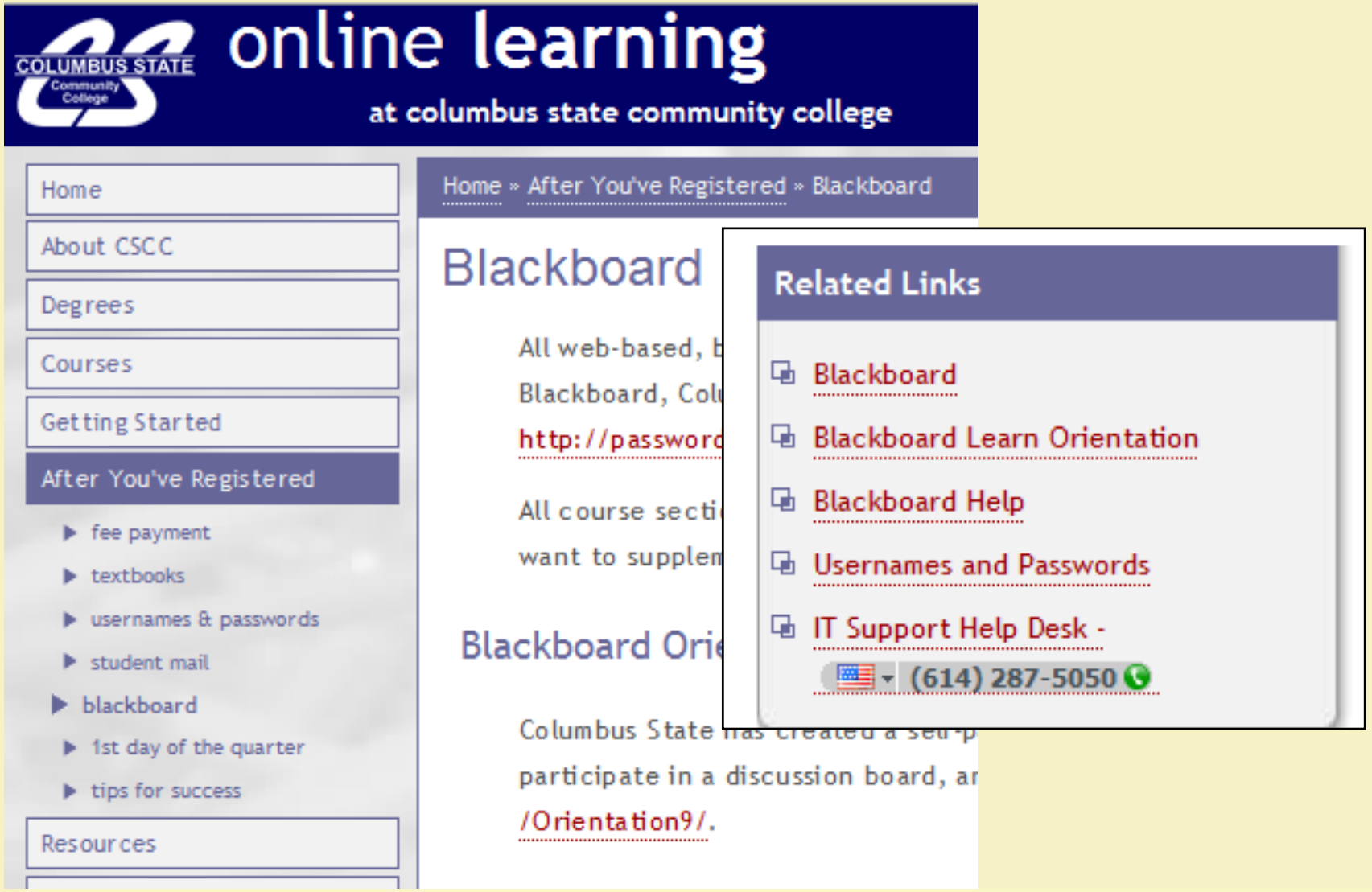
Web-based Component Requirements

For courses, you need to have:

- A Computer that is less than 3 years old
- Internet Access
- A compatible Internet Browser

	Download
Microsoft PowerPoint Viewer 98 for Macs	...
Microsoft Excel Viewer 2003	...
Microsoft PowerPoint Viewer 2003	...
Microsoft Word Viewer 2003	...
Microsoft PowerPoint Animation Viewer	...
SnapShot Viewer for Microsoft Access	...
Open Office	...

Technical Requirements



Technical Requirements

Letter mailed to students on the first day of the quarter

Spring Quarter, 2011

Dear GIS 260 Students,

Welcome to this course! I have enclosed ArcGIS Desktop - ArcInfo 10 software from ESRI for your use in this course.

IMPORTANT NOTES:

1.) Included in this mailing are instructions for installation. Please follow them step by step. *For those of you who have installed the software prior to this, it is important to note that you will need to register your software first.*
2.) If you have a previous version of this software, you will want to uninstall that software before installing this version.
3.) There is a second DVD of tutorial data. Please do a complete installation of that as well. Use the default location.

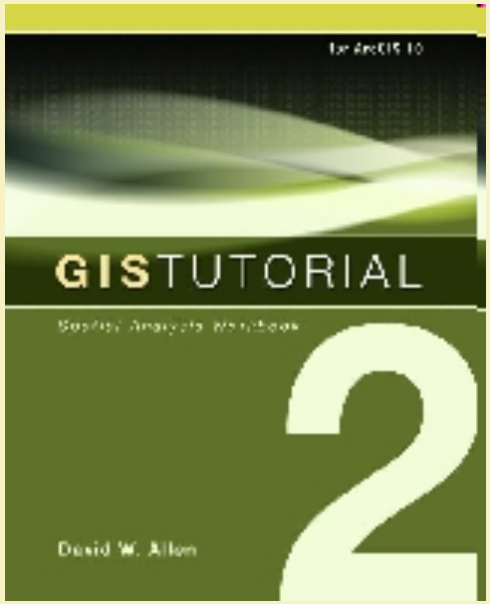
There will be pdf lectures available to you during the quarter. You must use the lectures provided on Blackboard as the primary source. If you would like to print copies of the lectures and assignments out, feel free to come to campus and use any of our computer labs to do this.

You will be required to buy the "GIS Tutorial 2 – Spatial Analysis Workbook updated for ArcGIS 10, by David W. Allen, 2nd Edition, Esri Press, 2010, 340 pages, ISBN: 9781589482586 for this course. Please VERIFY the edition is correct and that the ISBN is exactly the same. Please note that you do not need to install the software in the back of this book, please use the software provided. If you have software already installed, I would uninstall it and install the software provided. You can purchase the book from the CSCC bookstore, at Amazon or at ESRI Press. We work with this book within a week or two into the course, so please do not wait until the last minute to get it.

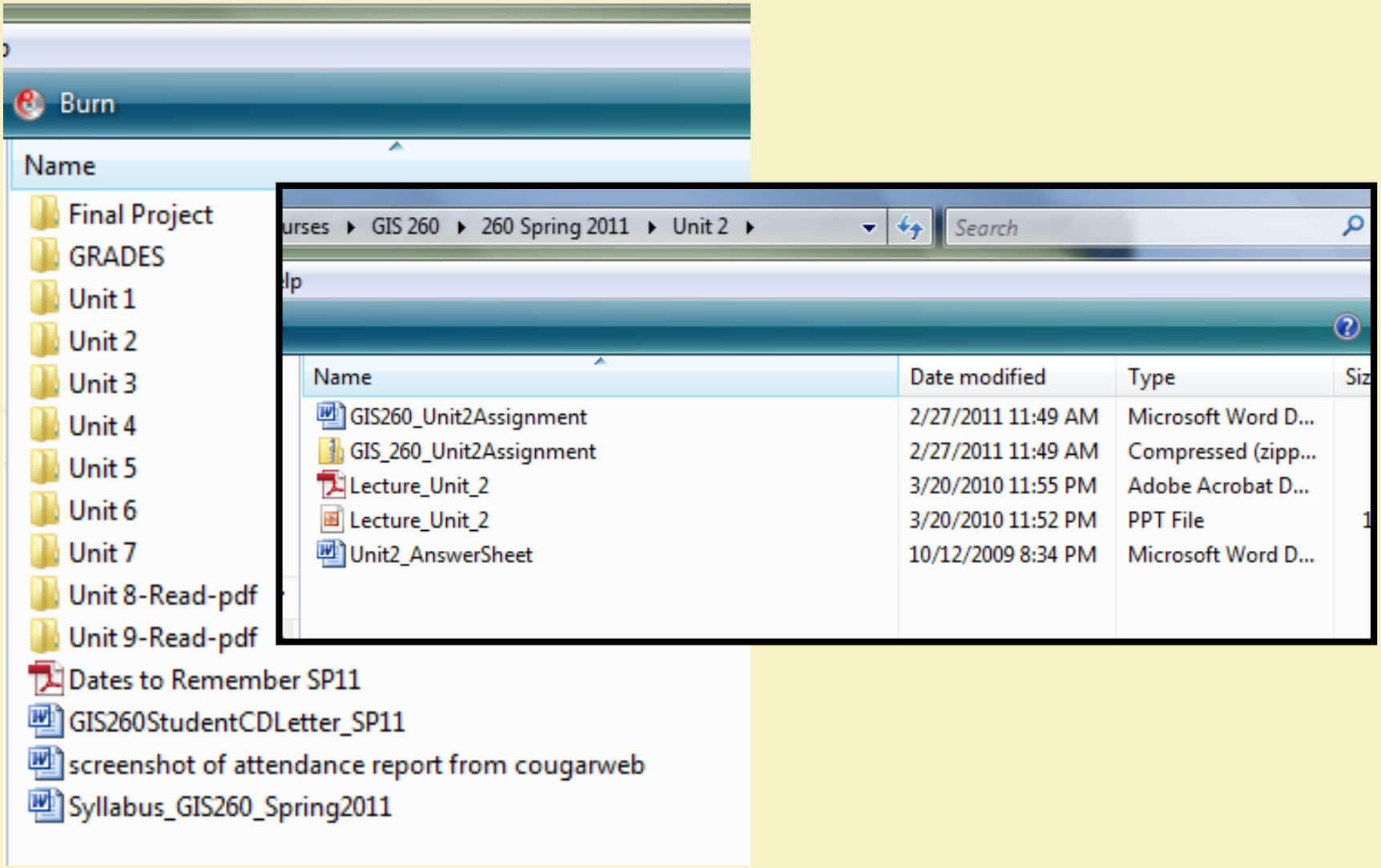
Here is the link for Amazon:
http://www.amazon.com/GIS-Tutorial-Spatial-Analysis-Workbook/dp/1589482581/ref=sr_1_1?s=books&ie=UTF8&qid=1299874187&sr=1-1

This class takes a lot of work and we get off to a fast start. Expect to work at least 10 hours a week on class material. Please feel free to contact me during the quarter whenever you need help – that is what I am here for. I look forward to working with you. Have a great quarter!

Dr. Fatemeh Masouleh
fmasoule@cscc.edu
Adjunct Instructor, Geographic Information Systems

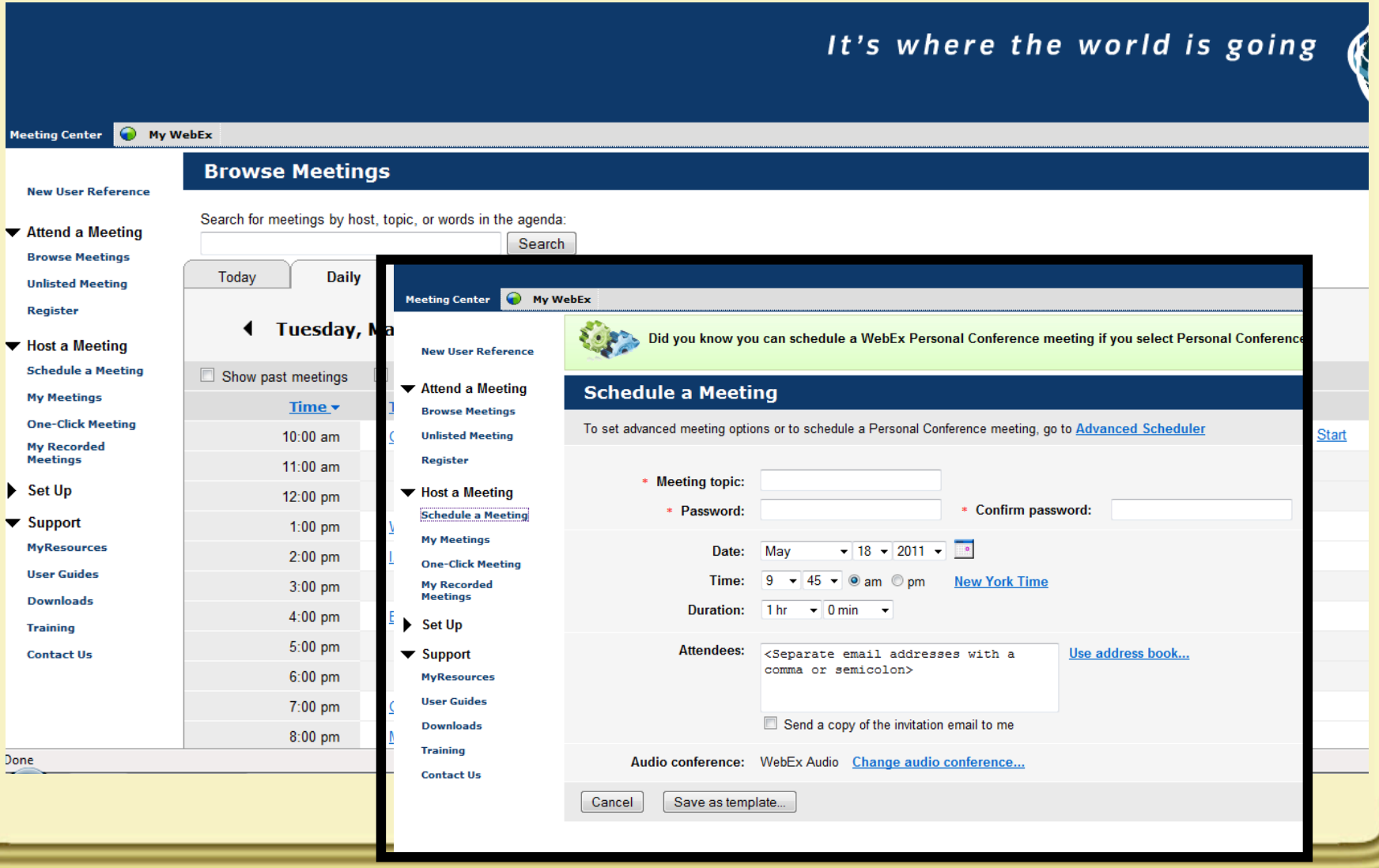


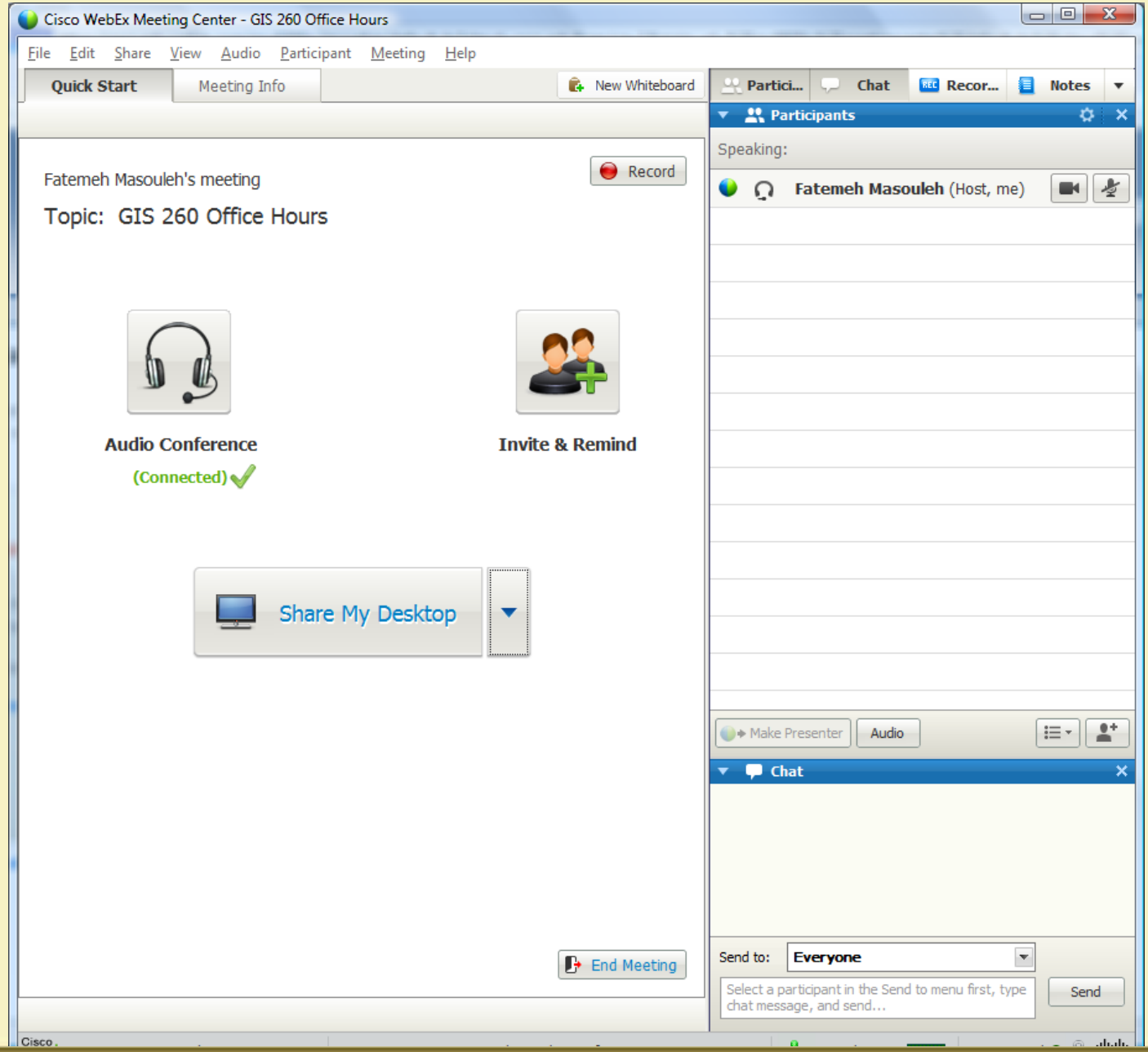
Course Materials



Lets take a look at Blackboard

Online Meetings & Desktop Share; WebEx




Cisco WebEx Meeting Center - GIS 260 Office Hours
File Edit Share View Audio Participant Meeting Help
Quick Start
Meeting Info
New Whiteboard
Partici...
Chat
Recor...
Notes
Participants
Speaking:
Fatemeh Masouleh (Host, me)
Fatemeh Masouleh's meeting
Record
Topic: GIS 260 Office Hours
Audio Conference
(Connected)
Invite & Remind
Share My Desktop
End Meeting
Make Presenter
Audio
Chat
Send to:
Everyone
Select a participant in the Send to menu first, type chat message, and send...
Send