

Purpose

The purpose of this document is to capture the details and tasks essential to create a successful high school dual credit agreement. The bottom line goal of the Brookhaven College (BHC) Geospatial Technology Program (GTP) is to create a career pathway for local high school students by integrating with area high school career and technical programs.

Overview Calendar Plan

This calendar and the related course matrix are the result of meetings with varied area ISDs. The most logical sequence of study, given the current approved Innovative Courses (from TEA, <http://www.tea.state.tx.us/>), attached is as follows.

10th grade End of Fall/Winter – an open house at BHC GIS facility intended to help students, in January, select GIS as their intended course of study. In support of the selection process, a GIS program of study (POS), as created under the [Achieve Texas Grant Program](#). This POS was enhanced at a Feb. 2011 grant workshop, in part by BHC GIS Faculty.

Summer prior to 11th grade Fall – a compressed (two-week) BHC GISC 1125 course taught, by BHC GIS faculty, on the BHC campus, under HS Principals of Information Technology. The two-week summer program will use a modified syllabus.

11th grade Fall and Spring – BHC GISC 1141 course taught online, by BHC GIS Faculty, as Dual credit, to HS students. Students will be required, by HS, to meet, under directions of ISD staff, on HS campus regularly to follow course syllabus (syllabus to be modified to fit two HS semesters).

12th grade Fall – BHC GISC1421 course taught on BHC campus, by BHC GIS Faculty, as a dual credit section during daytime hours, to HS students.

12th grade Spring – BHC GISC2311 course taught on BHC campus, by BHC GIS Faculty, as a dual credit section during daytime hours, to HS students.

Matrix of courses, arranged by the State approved HS course numbers, the ISD approved course numbers, and the BHC course numbers follows on the next full page.

Matrix of Courses

Level	TX approved GIS course #- PEIMS, credits *		ISD course # and Contact Hours		BHC (WECM) course # and Contact Hours	
Recruiting Student interests	Host Dec open house at BHC GIS in order to have students ready for January course declarations.					
Pre-11 th Grade Summer Career Pathway	Principals of Information Technology	13027200*			Careers & Concepts in GIS – GISC 1125	16
11 th Grade All-year HS-campus Dual Credit	Geographic Information Systems	N1302805, 1 credit			Introduction to GIS - GISC 1411	80
12 th Grade Fall BHC-campus Dual Credit	Raster-based Geographic Information Systems	N1302806, 1 credit			Introduction to Raster GIS - GISC 1421	96
12 th Grade Spring BHC-campus Dual Credit	Spatial Technologies & Remote Sensing	N1302807, 1 credit			GIS Applications – GISC 2311	80

Other Discussion points

Non-GIS course work will also be offered, to help students fill out their school day, and to continue to gain college credit hours.

In order to understand the BHC GTP attached is a Curriculum Map of Geospatial Technology Program. This document lists, in a suggested order, the GTP's GISC courses and program learning outcomes, assessments and also shows the hierarchy to program content.

Many of the BHC GTP courses are also aligned to the Texas Skills Standards Board (TSSB, <http://www.tssb.org/>) Geographic Information Systems Technician. This content was created by 5 subject matter experts, one of which is the BHC GIS Faculty.

APPENDIX A_APPROVED INNOVATIVE COURSES

Currently Approved Innovative Courses (Updated July 2011)

Please direct any questions or requests for materials to the contact listed.
Districts may offer these courses without application to TEA as long as all course requirements are met.
 These requirements are available from the contact listed next to each course.

Approved Innovative Courses—Career and Technical Education (CTE)					
Course Name	PEIMS Code	AAR Abbreviation	Credits	Contact	Expiration
Agricultural Algebraic Exploration	N1300251	AGRALGEX	1	Ron Whitson	2011-2012
A hands-on algebra lab designed to help struggling students gain conceptual understanding of algebra topics and to develop an appreciation of the applicability of algebra in real world disciplines, particularly areas of agricultural interest.					
Barbering I	N1302534	BARBER1	2–3	Diane Salazar	TBD*
This course provides students with an opportunity to build self-esteem and pride in workmanship. Students will develop an understanding of the relationship between academic skills, competencies and acquisition, and ultimate career success.					
Barbering II	N1302535	BARBER2	2–3	Diane Salazar	TBD*
Students will develop employability skills necessary for entry into the workplace. Students will see the importance of staying in school and obtaining marketable skills for the field of barbering.					
Computer / Digital Forensics	N1302808	CDFOREN	1	Esther Camacho	2011-2012
This course provides students an introductory study of computer and digital forensics and digital security. Students will investigate the process of computer crime investigation, from crime scene to courtroom testimony.					
Cosmetology Facialist Specialist	N1302533	COSMETF	2–3	Diane Salazar	TBD*
The Cosmetology Facialist Specialist course offers a complete program in the science and art of esthetics. Students are exposed to the industry through salon visits and guest speakers.					
Cosmetology Manicurist Specialty	N1302531	COSMETM	2–3	Diane Salazar	TBD*
This course is a planned 600 clock hour sequence of classroom and lab instruction designed to prepare the student for the Texas Cosmetology Manicurist Specialty License exam.					
Cosmetology Shampoo and Conditioning Specialist	N1302532	COSMETS	1–2	Diane Salazar	TBD*
The Shampoo-Conditioning Specialist Program is a planned sequence of classroom and lab instruction designed to prepare the student for the Texas Department of Licensing and Regulation's Shampoo and Conditioning Specialty Certificate exam.					
Data Acquisition & Analysis	N1303750	DATAA	1	John Ellis	TBD*
Students will become familiar with standard scientific and engineering instrumentation and will work in the context of engineering design problems in disciplines such as mechanical, electrical, civil, materials, and biomedical engineering.					
Disaster Response	N1303011	DISRESP	1/2–1	Kathleen Park	TBD*
This course will train students as first responders following a major disaster, utilizing the Community Emergency Response Team (CERT) model curriculum, adopted by the Federal Emergency Management Agency (FEMA).					

*To be Determined: The expiration dates of these courses coincide with the adoption of Texas Essential Knowledge and Skills (TEKS) in the related subject area.

To access the attached full pdf document follow this link: [TEA currently approved innovative courses.](#)

APPENDIX B_GISC 1125 SYLLABUS

Dallas County Community College System – Brookhaven College

Math & Science Division

Fall 2011

CAREERS AND CONCEPTS IN GIS, GISC1125-2401

Day/Time: Lectures: Online course.
Location: eCampus 2011FA GISC-1125

Professor: J. Scott Sires
Office: EMGI H115
Office phone: 972-860-4362
Office hours: Monday None
Tuesday 3:00 p.m. – 6:00 p.m.
Wednesday None
Thursday 2:00 p.m. – 4:00 p.m.
Friday not on campus
Email: ssires@dccc.edu

Lab Coordinator: Jerry Bartz
Office: EMGI H105
Office phone: 972-860-4796
Open Lab: M T W R, 8:00 a.m. to 4:00 p.m.
Email: jbartz@dccc.edu

Textbooks: None Online content and web-available materials will be used.

COURSE INFORMATION

Number: 1125

Section: 2401

Credit Hours: 1

Description: Introduction to basic Geographic Information Systems (GIS) operations, including file management and data transfer. Students will also learn about the ways in which GIS is used in different fields including business, government, and scientific analysis. Presentations will be made by GIS professionals about career possibilities.

Prerequisites: None

Student Email: Students are to validate a secure email within eCampus; this is the primary email for our correspondence. Email is a chief communication protocol for the Geospatial Technology Program students. Students who do not validate their eCampus email **WILL** indeed miss necessary announcements. No extensions will be permitted due to a student's failure to validate and use their eCampus email.

Learning Outcomes: This course will provide the student with the career-focused concepts of Geographic Information Systems (GIS). By completing this course, students will:
Organize file structure (e.g. create directories, perform data and directory housekeeping). TSSB KA7.2
Research and explain a practical understanding of GIS concepts and applications.
Discuss and apply the technical language of GIS.
Discuss and validate the history and purpose of GIS.
Install and maintain software including service packs. TSSB KA8.2

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To access the attached syllabus pdf document follow this link: [Fall 2011 GISC 1125 Syllabus.](#)

APPENDIX C_GISC 1411 SYLLABUS

Dallas County Community College System – Brookhaven College

Math & Science Division

Fall 2011

INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

GISC1411-2401

Day/Time:	Lectures:	Online.
	Location:	N/A
Professor:	J. Scott Sires	
	Office:	EMGI H115
	Office phone:	972-860-4362
	Office hours:	Monday None
		Tuesday 3:00 p.m. – 6:00 p.m.
		Wednesday None
		Thursday 2:00 p.m. – 4:00 p.m.
		Friday not on campus
	Email:	ssires@dcccd.edu
Lab Coordinator:	Jerry Bartz	
	Office:	EMGI H105
	Office phone:	972-860-4796
	Open Lab:	M T W R, 8:00 a.m. to 4:00 p.m.
	Email:	gbartz@dcccd.edu
	NOTE: You are welcome to visit the GIS Lab on campus to get guidance and help.	
Textbooks:	Required text	<i>GIS Fundamentals A First Text on Geographic Information Systems</i> Third Edition (Bolstad, Paul, Eider Press, 2008, ISBN 978-0-9717647-2-9)
	Required text	<i>GIS Tutorial 1: Basic Workbook, Fourth Edition</i> (Gorr, Kurland, ESRI Press, 2010, ISBN 9781589482593). NOTE: this workbook includes a 6-month license of ArcGIS for your use off campus. The BHC GIS program also provides to each student a 1-year license. We suggest you use the BHC provided license and use the 6-month license for another computer, or save it for another time.

COURSE INFORMATION

Number:	GISC1411
Section:	2401
Credit Hours:	4
Description:	Introduction to basic concepts of vector GIS using industry specific software programs including nomenclature of cartography and geography.
Prerequisites:	None
Student Email:	Students are to validate a secure email within eCampus; this is the primary email for our correspondence. Email is a chief communication protocol for the Geospatial Technology Program students. Students who do not validate their eCampus email <u>WILL</u> indeed miss necessary announcements. No extensions will be permitted due to a student's failure to validate and use their eCampus email.
Learning Outcomes:	This course will provide the student with the fundamental concepts of Geographic Information Systems (GIS). By completing this course, students will: Expand a basic, practical understanding of GIS concepts and applications.

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To access the attached syllabus pdf document follow this link: [Fall 2011 GISC 1411 Syllabus.](#)

APPENDIX D_GISC1421 SYLLABUS

Dallas County Community College System – Brookhaven College

Math & Science Division

Fall 2011

INTRODUCTION TO RASTER-BASED GIS GISC1421-2501

Day/Time: Lectures: Monday & Wednesday – 6:30 p.m. to 9:40 p.m.
Location: EMGI H105

Professor: J. Scott Sires
Office: EMGI H115
Office phone: 972-860-4362
Office hours: Monday None
Tuesday 3:00 p.m. – 6:00 p.m.
Wednesday None
Thursday 2:00 p.m. – 4:00 p.m.
Friday not on campus
Email: ssires@dcccd.edu

Lab Coordinator: Jerry Bartz
Office: EMGI H105
Office phone: 972-860-4796
Open Lab: M T W R, 8:00 a.m. to 4:00 p.m.
Email: jbartz@dcccd.edu

Textbooks: Required text *GIS Fundamentals: A First Text on Geographic Information Systems*
Third Edition (Bolstad, Paul, Eider Press, 2008, ISBN 978-0-9717647-2-9)

ENVI product documentation pdf files available online.

Canada Remote Sensing Fundamentals pdf file available online.

COURSE INFORMATION

Number: GISC1421

Section: 2501

Credit Hours: 4

Description: Instruction in GIS data sets including raster-based information such as images or photographs, acquisition of such data, and processing and merging with vector data.

Prerequisites: None

Student Email: Students are to validate a secure email within eCampus; this is the primary email for our correspondence. Email is a chief communication protocol for the Geospatial Technology Program students. Students who do not validate their eCampus email ***WILL*** indeed miss necessary announcements. No extensions will be permitted due to a student's failure to validate and use their eCampus email.

To access the attached syllabus pdf document follow this link: [Fall 2011 GISC 1421 Syllabus.](#)

APPENDIX E_GISC2311 SYLLABUS

Dallas County Community College System – Brookhaven College

Math & Science Division

Spring 2011

GIS APPLICATIONS GISC 2311-2001

Day/Time: Labs: Mondays & Wednesdays 6:40 PM – 9:20 PM
Location: EMGI H105

Professor: J. Scott Sires
Office: EMGI H115
Office phone: 972-860-4362
Office hours: Monday None
Tuesday 12:50 p.m. – 3:20 p.m.
Wednesday None
Thursday 12:50 p.m. – 3:20 p.m.
Friday None
Email: ssires@dcccd.edu

Lab Coordinator: Jerry Bartz
Office: EMGI H105
Office phone: 972-860-4796
Open Lab: M T W R, 9:00 a.m. to 5:00 p.m.
Email: jbartz@dcccd.edu

Textbooks: 3 Required texts: *The ESRI Guide to GIS Analysis, Volume 1: Geographic Patterns & Relationships* (by Mitchell, Andy, ESRI Press, 2001, ISBN: 9781879102064, 190 pages)
The ESRI Guide to GIS Analysis, Volume 2: Spatial Measurements & Statistics (by Mitchell, Andy, ESRI Press, 2005, ISBN: 9781589481169, 252 pages)
GIS Tutorial 2: Spatial Analysis Workbook, Second Edition (by Allen, David, ESRI Press, 2010, ISBN: 9781589482586, 340 Pages)

COURSE INFORMATION

Number: 2311 **Section:** 2001 **Credit Hours:** 3

Description: Application of GIS technology to real workplace applications from public and private sectors. Completion of Global Positioning Systems (GPS) fieldwork required for lab exercises.

Prerequisites: None

Objectives: This course will provide the student with the intermediate to advanced applications and business cases for GIS. By completing this course, students will:
Relate to a GIS problem and develop an approach to solve the problem.
Evaluate and prioritize map feature representations relative to audience.
Understand quantities as they dictate range representations.
Optimize map elements for clarity of feature density.
Create data subsets and switch sets using proximity analysis.
Detect changes and graphically represent temporal map elements.
Represent spatial measurement and statistics.
Identify spatially significant patterns.
Identify geographic data relationships.

Outline: 17 week calendar week semester meeting on Mondays and Wednesdays.

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To access the attached syllabus pdf document follow this link: [Fall 2011 GISC 2311 Syllabus.](#)