General Information Template for Academic Program Review

Degree Area and Level:

B.S. in Geographic Information Science and Technology (CIP 11.0401) at East Carolina University

Addressing UNC Tomorrow:

This proposed program would address several Recommendations within the UNC Tomorrow Report including the components to enhance our Global Readiness (Recommendation 4.1), Our Communities and Their Economic Transformation (Recommendation 4.4), Our Health (Recommendation 4.5), and Our Environment (Recommendation 4.6).

Role of Program in Relation to State and Regional Needs:

The 2006 National Research Council report stated, "Geographic information systems (GIS), the global Positioning System (GPS), remote sensing, and other information technologies have all changed the nature of work in the mapping sciences and in the professions, industries, and institutions that depend on them for basic research and education. Today, geographic information systems have become central to the ways thousands of government agencies, private companies, and not-for-profit organizations do business. However, the supply of GIS/GIScience professionals has not kept pace with the demand generated by growing needs for more and improved geographic information systems and for more robust geographic data."

US Labor Department Analysis:

Summary – Employment of computer programmers is expected to decline slowly, decreasing by 4 percent from 2006 to 2016. The consolidation and centralization of systems and applications, developments in packaged software, advances in programming languages and tools, and the growing ability of users to design, write, and implement more of their own programs mean that more programming functions can be performed by other types of information workers, such as computer software engineers. Another factor contributing to employment decline will be the offshore outsourcing of programming jobs.

Source: http://www.occsupplydemand.org/OSD_UnitOfAnalysis.aspx?CLUSCODE=110B-11&ST=NC&PathNo=1

- Summary Data - Source: U.S. Department of Labor and America's Career InfoNet

Occupational Characteristics - North Carolina								
SOC Code	Occupation	Minimum Educ Level	2006-2016 Growth	2008 Wages				
15-1021	Computer Programmers	Bachelor's degree	Decline	\$74,400				
15-1041	Computer Support Specialists	Associate degree	Average	\$42,340				
15-1051	Computer Systems Analysts	Bachelor's degree	Faster than average	\$74,250				
15-1061	Database Administrators	Bachelor's degree	Faster than average	\$71,210				
	Network and Computer Systems Administrators	Bachelor's degree	Faster than average	\$63,470				
15-1081	Network Systems and Data Communications Analysts	Bachelor's degree	Much faster than average	\$68,110				
15-1099	Computer Specialists, All Other	Associate degree	Average	\$70,020				

Occupational Projections - North Carolina								
		Er	nploymen	it	Average Annual Openings			
SOC code	Occupation	Est 2006	Proj 2016	Change	Growth	Replace	Total	
15-1021	Computer Programmers	11,681	11,095	-5.0%		244	244	
15-1041	Computer Support Specialists	15,845	18,539	17.0%	269	489	758	
15-1051	Computer Systems Analysts	14,900	19,278	29.4%	438	395	833	
15-1061	Database Administrators	2,827	3,574	26.4%	75	30	105	
	Network and Computer Systems Administrators	7,502	9,594	27.9%	209	171	380	
1 15-1081	Network Systems and Data Communications Analysts	7,138	10,743	50.5%	361	146	506	
15-1099	Computer Specialists, All Other	3,008	3,475	15.5%	47	80	127	

Wage Trends - North Carolina							
			Median Annual Wage				Change
SOC Code	Occupation	2004	2005	2006	2007	2008	2004 to 2008
15-1011	Computer and Information Scientists, Research	\$85,750	\$87,690	\$87,460	\$91,430	\$93,170	8.7%
15-1021	Computer Programmers	\$65,560	\$65,050	\$66,940	\$71,920	\$74,400	13.5%
15-1041	Computer Support Specialists	\$41,160	\$39,930	\$40,770	\$41,230	\$42,340	2.9%
15-1051	Computer Systems Analysts	\$63,660	\$64,950	\$68,480	\$72,490	\$74,250	16.6%
15-1061	Database Administrators	\$58,710	\$61,890	\$63,860	\$66,530	\$71,210	21.3%
	Network and Computer Systems Administrators	\$61,430	\$57,010	\$59,420	\$61,140	\$63,470	3.3%
15-1081	Network Systems and Data Communications Analysts	\$61,460	\$60,710	\$62,980	\$64,220	\$68,110	10.8%
15-1099	Computer Specialists, All Other	\$64,130	\$67,950	\$68,570	\$68,130	\$70,020	9.2%
25-1021	Computer Science Teachers, Postsecondary	\$45,420	\$47,840	\$49,830	\$53,140	\$56,540	24.5%
	Computer Operators	\$31,540	\$32,540	\$33,590	\$34,730	\$34,900	10.7%
51-4012	Numerical Tool and Process Control Programmers	\$34,090	\$38,250	\$37,630	\$39,810	\$40,080	17.6%

Benchmarks for Wage Trends (all occupations)	2004	2005	2006	2007	2008	Change 2004 to 2008
North Carolina Median Wage	\$26,690	\$27,160	\$27,980	\$28,950	\$29,860	11.9%
North Carolina Mean Wage	\$33,960	\$34,460	\$35,520	\$36,900	\$38,230	12.6%
National Median Wage	\$28,770	\$29,430	\$30,400	\$31,410	\$32,390	12.6%
National Mean Wage	\$37,020	\$37,870	\$39,190	\$40,690	\$42,270	14.2%

Availability of Program Statewide (Enrollment and Degrees Awarded in Last 3 Years):

- *Public universities* Not available.
- *Private universities* Not available.

Available or not from Academic Common Market:

North Carolina does not participate in the ACM at the undergraduate level.

ECU Campus enrollment and degrees awarded in similar programs at the Bachelor level:

(Based on two CIP digits – 11 CIP is the summary group for Computer and Information Sciences and Support Services under which Geographic Information Science and Technology is a program.) Note -

The CIP for Information Technology changed from 15.1201 to 11.0103 in 2007 by General Administration.

Enrollment					Aca	demic Y	'ear		
			Fall	Spr	Fall	Spr	Fall	Spr	Fall
			06	07	07	08	08	09	09
ECU	Information Technology	BS	N/A	N/A	N/A	N/A	1	1	116
	Computer Science		5	5	6	4	5	7	14
			58	58	55	59	56	56	66

	Number of Degrees Awarded	Academic Year			
		2006-	2007-	2008-	
		2007	2008	2009	
ECU	Information Technology		N/A	29	26
	Commutan Science	BA	2	0	1
	Computer Science BS			13	28

Campus Average of enrollment and degrees awarded in this degree area at the Bachelors level:

(Based on two CIP digits – 11 CIP is the summary group for Computer and Information Sciences and Support Services under which Geographic Information Science and Technology is a program - over the last 3 Academic Years, Fall 2006-Fall 2009)

Campus Average							
	Number of	Enrollment per	Degrees Awarded				
	Active	Semester	per Year				
	Programs						
ASU	1	74	26				
ECSU	1	38	15				
ECU	2	52	24				
FSU	1	50	12				
NCA&T	1	100	24				
NCCU	2	42	10				
NCSU	1	330	118				
UNCA	2	35	17				
UNCC	1	308	83				
UNC-CH	2	39	21				
UNCG	2	86	27				
UNCP	2	22	10				
UNCW	1	28	23				
WCU	1	24	6				
WSSU	3	30	11				
Car	mpus Average:	84	28				

ECU Degree Programs added in the past three years:

- Bachelor
 - BS Applied Atmospheric Science (02/12/2010)

- BA African and African American Studies (02/09/2007)
- Master
 - MS Sustainable Tourism (01/08/2010)
- Doctoral
 - AuD Audiology (06/13/2008)

ECU Degree Programs discontinued in past three years:

- Bachelor
 - BS Marketing Education (03/20/2009)
 - BS Accounting (08/14/2009)
- Master
 - MM Music Therapy (03/20/2009)
 - MPT Physical Therapy (06/08/2007)
 - EdS Counselor Education Intermediate Degree (03/20/2009)
 - CAS Library Science Intermediate Degree (03/20/2009)
- Doctoral
 - N/A