# **General Information Template for Academic Program Review**

#### Degree Area and Level:

B.S. in Engineering (CIP 14.0101) at Western Carolina University

#### Addressing UNC Tomorrow:

This proposed program would address several Recommendations within the UNC Tomorrow Report including the components to enhance Our Communities and Their Economic Transformation (Recommendation 4.4) and Our University's Outreach and Engagement (Recommendation 4.7).

#### Role of Program in Relation to State and Regional Needs:

According to the proposal, "WCU is committed to regional stewardship and engagement. A core component of the stewardship model requires WCU to assist the region in developing a strong, diverse, sustainable, and vibrant economy. The BSE is a core component of the curriculum required to respond to changing regional needs. WCU already has invested millions of dollars in creating the Kimmel School for the specific purpose of developing outreach-based curricula. The BSE will be a very significant component of the School's curricula and it is critical to WCU supporting the region's business and industry."

# US Labor Department Analysis:

Summary – Overall engineering employment is expected to grow by 11 percent over the 2006-16 decade, about as fast as the average for all occupations. Engineers have traditionally been concentrated in slower growing or declining manufacturing industries, in which they will continue to be needed to design, build, test, and improve manufactured products. However, increasing employment of engineers in faster growing service industries should generate most of the employment growth. Job outlook varies by engineering specialty.
Source: <a href="http://www.occsupplydemand.org/OSD UnitOfAnalysis.aspx?CLUSCODE=024A-05&ST=NC&PathNo=1">http://www.occsupplydemand.org/OSD UnitOfAnalysis.aspx?CLUSCODE=024A-05&ST=NC&PathNo=1</a>

Occupational Characteristics - North Carolina						
SOC Code	Occupation	Minimum Educ Lo	evel 2008-2018 Growth	2009 Wages		
17-2199 Er	ngineers, All Other	Bachelor's degree	Little or no change	\$71,030		

Occupational Projections - North Carolina								
		Е	mploymen	nt	Average A	Annual Ope	enings	
SOC Code	Occupation	Est 2008	Proj 2018	Change	Growth	Replace	Total	
17-2199	Engineers, All Other	2,443	2,645	8.3%	20	51	71	

Wage Trends - North Carolina							
			Media	n Annua	Wage		Change
SOC Code	Occupation	2005	2006	2007	2008	2009	2005 to 2009
17-2199 E	ngineers, All Othe	r \$72,970	\$71,620	\$74,680	\$80,810	\$71,030	-2.7%

Benchmarks for Wage Trends (all occupations)	2005	2006	2007	2008	2009	Change 2005 to 2009
North Carolina Median Wage	\$27,160	\$27,980	\$28,950	\$29,860	\$30,570	12.6%
North Carolina Mean Wage	\$34,460	\$35,520	\$36,900	\$38,230	\$39,420	14.4%
National Median Wage	\$29,430	\$30,400	\$31,410	\$32,390	\$33,190	12.8%
National Mean Wage	\$37,870	\$39,190	\$40,690	\$42,270	\$43,460	14.8%

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

- *Public universities* – NCA&T received approval in January 2006 to offer the BS in Interdisciplinary General Engineering. There is not any enrollment or graduation data available for this degree program.

	Enrollment	Academic Year							
			Fall 07	Spr 08	Fall 08	Spr 09	Fall 09	Spr 10	Fall 10
ECU	Engineering, General	BS	49	60	61	68	89	99	104
NCSU	Engineering, General	BS	153	185	170	228	15	14	7
UNCA	Engineering, General	BS	N/A	N/A	10	9	17	20	17

Nu	mber of Degrees Awarded	Academic Year				
			2007- 2008	2008- 2009	2009- 2010	
ECU	Engineering, General	BS	22	19	13	
NCSU	Engineering, General	BS	8	6	10	
UNCA	Engineering, General	BS	N/A	3	5	

- Private universities – N/A

Available in Online or Distance Format from UNC institutions: According to the Distance Education Inventory, NCSU is approved to offer the BS in Engineering in Craven County.

Available from Academic Common Market: North Carolina does not participate in the ACM at the undergraduate level.

# WCU Campus enrollment and degrees awarded in similar programs at the Bachelors level: (Based on two CIP digits –14 CIP is the summary group for Engineering under which Engineering is listed as a program.)

Enrollment					Aca	demic Y	'ear		
			Fall	Spr	Fall	Spr	Fall	Spr	Fall
			07	08	08	09	09	10	10
WCU	Electrical and Electronics Engineering	BSEE	22	26	21	22	14	19	22

	Number of Degrees Awarded	1	Academic Year	r	
			2007-2008	2008-2009	2009-2010
WCU	Electrical and Electronics Engineering	BSEE	3	10	8

# Campus Average of enrollment and degrees awarded per degree program in this area at the Bachelors level over the last 3 Academic Years, Fall 2007-Fall 2010:

(Based on two CIP digits –14 CIP is the summary group for Engineering under which Engineering is listed as a program.)

Campus Average							
	Number of	Enrollment per	Degrees Awarded				
	Active	Semester	per Year				
	Programs						
ECU	1	76	18				
NCA&T	10	56	16				
NCSU	15	209	70				
UNCA	1	15	4				
UNCC	5	160	59				
WCU	1	21	7				
	Campus Average:	90	29				

#### WCU Campus Degree Programs added in the past three years:

- Bachelor
  - BA International Studies (04/09/2010)
- Master
  - N/A
- Doctoral
  - DPT Doctor of Physical Therapy (04/09/2010)

# WCU Campus Degree Programs discontinued in the past three years:

- Bachelor
  - BS Education in French, Secondary Education (03/20/2009)
  - BS Education in German, Secondary Education (03/20/2009)
  - BS Electrical and Computer Engineering technology (03/20/2009)
  - BS Telecommunications Engineering Technology (03/20/2009)
  - BS Industrial Distribution (03/20/2009)
  - BS Engineering Technologies Manufacturing (03/20/2009)
  - BS Industrial Chemistry (03/20/2009)
  - BS Social Science (03/20/2009)
  - BA Social Sciences (03/20/2009)
  - BS International Business (03/20/2009)
  - BS Clinical Laboratory Sciences (02/11/2011)
  - BA Chemistry (08/12/2011)
- Master
  - Master of Education in English, 2-Yr College Teaching (03/20/2009)
  - Master of Education in Mathematics, 2-Yr College Teaching (03/20/2009)
  - Master of Education in Physical Education, 2-Yr College Teaching (03/20/2009)
  - Master of Education in Biology, 2-Yr College Teaching (03/20/2009)
- Doctoral
  - N/A