General Information Template for Academic Program Review

Degree Area and Level:

Ph.D. in Nanoengineering (CIP 14.9999) at North Carolina A&T State 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 Citizens and Their Future: Access to Higher Education (Recommendation 4.2), Our Communities and Their Economic Transformation (Recommendation 4.4), Our Health (Recommendation 4.5), Our Environment (Recommendation 4.6), and Our University's Outreach and Engagement (Recommendation 4.7).

Role of Program in Relation to State and Regional Needs:

According to the proposal, "The Ph.D. in Nanoengineering will provide the student with both breadth and depth in the "nano" field and enable students to take research and development positions in industrial, governmental or academic research settings as well as technical leadership roles in entrepreneurial and burden sharing organizations (e.g. SEMATECH, NC Biotech, etc.). There is a wide variety of industries that use nanoengineering skills. Students may find employment in nanoelectronics, materials, aerospace, chemicals, automotive, consumers goods such as sporting goods and textiles, defense, communications, medical devices and medical diagnostic technology, pharmaceuticals including drug development and delivery, information technology, environmental engineering and energy, just to name a few."

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: http://www.occsupplydemand.org/OSD_UnitOfAnalysis.aspx?CLUSCODE=024A-05&ST=NC&PathNo=1

- *Summary Data* – Not applicable for the level of this degree.

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: Not available

NCA&T Campus enrollment and degrees awarded in similar programs at the Doctoral level:

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

Enrollment			**Academic Year**						
			Fall 07	Spr 08	Fall 08	Spr 09	Fall 09	Spr 10	Fall 10
NCA&T	Electrical and Electronics Engineering	PhD	32	32	38	37	39	37	37
	Mechanical Engineering	PhD	23	18	29	30	33	33	35
	Industrial Engineering	PhD	16	20	26	26	39	38	39
	Computational Science and Engineering	PhD	N/A	N/A	N/A	N/A	N/A	N/A	6

Number of Degrees Awarded			Academic Year		
			2007-2008	2008-2009	2009-2010
NCA&T	Electrical and Electronics Engineering	PhD	7	3	8
	Mechanical Engineering	PhD	10	6	1
	Industrial Engineering	PhD	5	6	3
	Computational Science and Engineering	PhD	N/A	N/A	N/A

Campus Average of enrollment and degrees awarded in this degree area at the Doctoral level:
(*Based on two CIP digits – 14 CIP is the summary group for Engineering under which Nanoengineering is a program - over the last 3 Academic Years, Fall 2007-Fall 2010)*

Campus Average			
	Number of Active Programs	Enrollment per Semester	Degrees Awarded per Year
NCA&T	4	25	5
NCSU	13	64	10
UNC-CH	1	44	7
UNCC	2	52	5
	Campus Average:	46	7

NCA&T Degree Programs added in the past three years:

- *Bachelor*
  - BS Motorsports Technology (11/05/2010)
  - BS Bioengineering (06/11/2010)
- *Master*
  - MS Bioengineering (06/11/2010)
  - MS Nanoengineering (02/11/2011)
- *Doctoral*
  - Ph.D Computational Science and Engineering (01/08/2010)

NCA&T Degree Programs discontinued in past three years:

- *Bachelor*
  - BS Visual Arts, Art Education (03/20/2009)
  - BS Music Education (03/20/2009)
  - BS Romance Languages and Literatures, French Secondary Education (03/20/2009)
  - BS Romance Languages and Literatures, Spanish Secondary Education (03/20/2009)
  - BS Earth and Environmental Sciences (02/11/2011)
  - BS Agricultural Economics (02/11/2011)
  - BS Family and Consumer Science Education (02/11/2011)
  - BS Technology Education (02/11/2011)
  - BS Health and Physical Education (Teaching) (02/11/2011)
  - BA Romance Languages and Literatures, French (02/11/2011)
  - BS Health and Physical Education (02/11/2011)
- *Master*
  - MS English Education (03/20/2009)
  - MS Mathematics Education (03/20/2009)
  - MS History Education (03/20/2009)
  - MS Agricultural Economics (02/11/2011)
  - MS Animal Health Science (02/11/2011)
  - MS Plant, Soil, and Environmental Sciences (02/11/2011)
  - MS Technology Education (02/11/2011)
- *Doctoral*
  - N/A