General Information Template for Academic Program Review

Degree Area and Level:

Master of Science in Electric Power Systems Engineering (CIP 14.1001) at NCSU

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) and Our Communities and Their Economic Transformation (Recommendation 4.4).

Role of Program in Relation to State and Regional Needs:

According to the proposal, "In assessing the need for training of the power engineering workforce results have indicated that on both the local and regional level there is a high demand for power engineers. According to Collaborative Economics, North Carolina's employment concentration in energy efficiency and energy has increased by nearly 80 percent between 1995 and 2007. It has been widely reported that up to 50% of power engineers will be eligible to retire within the next ten years. In addition, there is quite a large presence of companies within the close proximity of NC State University, such as ABB, SIEMENS, PSI, Elster, MegaWatt Solar, CISCO and IBM, which need the engineering workforce to develop smart grid technologies. The electric utility companies such as Progress Energy, Duke Energy, and TVA have all shown a strong interest in the proposed MS-EPSE program. Each has indicated that they will give high priority to graduates of this program when hiring."

US Labor Department Analysis:

- *Summary* – Not applicable to this degree area.

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.

NCSU Campus enrollment and degrees awarded in similar programs at the Masters level:

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

Enrollment			**Academic Year**						
			Fall 07	Spr 08	Fall 08	Spr 09	Fall 09	Spr 10	Fall 10
NCSU	Engineering, General	M	74	66	87	87	83	71	77
	Aerospace, Aeronautical and Astronautical/Space Engineering	MS	40	33	47	46	68	61	59
	Agricultural Engineering	M	0	0	0	0	8	6	11
		MS	28	30	30	26	29	27	33
	Bioengineering and Biomedical Engineering	MS	23	21	21	18	18	14	17
	Chemical Engineering	M	0	0	0	0	2	1	2
		MS	20	21	25	27	26	27	43
	Civil Engineering, General	M	0	0	0	0	0	0	0

		MS	168	168	184	173	201	197	244
	Computer Engineering, General	MS	104	84	123	93	114	96	69
	Electrical and Electronics Engineering	M	0	0	0	0	0	0	0
		MS	202	142	215	171	209	158	206
	Materials Engineering	M	0	0	0	0	0	0	0
		MS	14	13	7	4	15	13	22
	Mechanical Engineering	M	0	0	0	0	2	0	0
		MS	111	96	114	97	133	136	177
	Nuclear Engineering	M	0	0	0	0	22	19	23
		MS	33	27	25	28	18	19	19
	Textile Sciences and Engineering	M	0	0	0	0	14	14	19
		MS	74	76	87	68	69	62	83
	Industrial Engineering	M	0	0	0	0	5	15	21
		MS	49	38	69	45	61	48	54
	Manufacturing Engineering	M	43	45	48	61	53	54	42
	Operations Research	M	0	0	0	0	3	0	5
		MS	22	21	17	14	14	14	15

Number of Degrees Awarded			**Academic Year**		
			2007-2008	2008-2009	2009-2010
NCSU	Engineering, General	M	14	19	24
	Aerospace, Aeronautical and Astronautical/Space Engineering	MS	8	14	14
	Agricultural Engineering	M	5	4	0
		MS	3	12	11
	Bioengineering and Biomedical Engineering	MS	7	1	6
	Chemical Engineering	M	1	0	1
		MS	12	19	23
	Civil Engineering, General	M	49	43	45
		MS	13	6	23
	Computer Engineering, General	MS	80	72	90
	Electrical and Electronics Engineering	M	38	9	1
		MS	32	57	85
	Materials Engineering	M	4	4	4
		MS	3	5	4
	Mechanical Engineering	M	0	5	0
		MS	33	30	44
	Nuclear Engineering	M	5	2	5
		MS	11	9	4
	Textile Sciences and Engineering	M	8	11	0
		MS	18	27	35
	Industrial Engineering	M	7	15	22

		MS	13	10	8
	Manufacturing Engineering	M	22	15	25
	Operations Research	M	1	8	4
		MS	11	7	6

Campus Average of enrollment and degrees awarded per degree program in this area at the Masters level over the 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 Electric Power Systems Engineering is a program.)

Campus Average			
	Number of Active Programs	Enrollment per Semester	Degrees Awarded per Year
ECU	1	23	5
NCA&T	7	24	10
NCSU	15	71	29
UNC-CH	1	6	3
UNCC	4	47	20
Campus Average:		34	13

NCSU Campus Degree Programs added in the past three years:

- *Bachelor*
  - BS Genetics (11/13/2009)
  - BS Soil and Land Development (04/09/2010)
- *Master*
  - Master and MS Biomanufacturing (09/08/2011)
  - MA Foreign Language and Literature (02/11/2011)
  - Master of Environmental Engineering (04/09/2010)
  - MS Environmental Engineering (04/09/2010)
  - Master Geospatial Information Science and Technology (02/12/2010)
  - Master Environmental Assessment (02/12/2010)
  - MAT - Master of Arts in Teaching (10/17/2008)
  - MGIM - Master of Global Innovation Management (01/11/2008)
- *Doctoral*
  - N/A

NCSU Campus Degree Programs discontinued in past three years:

- *Bachelor*
  - BS Health Occupations Education (03/20/2009)
- *Master*
  - MEd Middle Grades (02/11/2011)
  - MS Middle Grades (02/11/2011)
  - MEd Curriculum and Instruction, English Education (02/11/2011)
  - MS Curriculum and Instruction, English Education (02/11/2011)
  - MEd Curriculum and Instruction, Reading (02/11/2011)
  - MS Curriculum and Instruction, Reading (02/11/2011)
  - MEd Curriculum and Instruction, Social Studies Education (02/11/2011)
  - MS Curriculum and Instruction, Social Studies Education (02/11/2011)
  - MA French Language and Literature (02/11/2011)

        - MA Spanish Language and Literature (02/11/2011)
        - Master Chemistry (08/13/2010)
        - MS Agricultural and Resource Economics (03/20/2009)
        - MEd in Special Education, Behavior Disorders (03/20/2009)
        - MS Behaviorally/Emotionally Handicapped (03/20/2009)
        - MEd Mentally Handicapped (03/20/2009)
        - MS Mentally Handicapped (03/20/2009)
        - MEd Specific Learning Disabilities (03/20/2009)
        - MS Specific Learning Disabilities (03/20/2009)
    - *Doctoral*
        - N/A