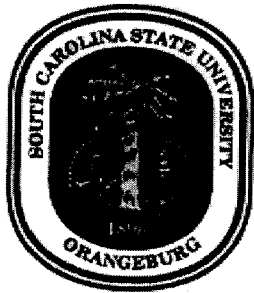


DEVELOPING THE SOUTH CAROLINA STATE UNIVERSITY NUCLEAR ENGINEERING PROGRAM

IN AGREEMENT WITH THE UNIVERSITY OF WISCONSIN - MADISON

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Presentation Overview

- The Minority/Majority University Partnerships Program
 - Program Sponsorship
- The SCSU-UW Articulation Agreement
- A Strategy for Making the Program Happen
 - Recruitment
 - Scholarships
 - Research & Collaboration with Industry
- SCSU Nuclear Energy Student Center
 - SCSU Student Section of the American Nuclear Society
- Today & Tomorrow

The Minority/Majority University Partnerships (MMUP) in Nuclear Engineering and Health Physics

- Sponsored by the U.S. Department of Energy Office of Nuclear Energy, Science and Technology (DOE/NE)
- Administered by South Carolina State University with the assistance of South Carolina Universities Research and Education Foundation (SCUREF)
- Addresses the decline in the number of independent Nuclear Engineering Programs and the increasing workforce requirements in nuclear science (e.g., new generation reactors, reactor re-licensing, waste management, biotechnology, national security, etc.)

Minority Education Awards

Minority Institutions (HBCUs, HSIs, AISES)



Nuclear Engineering Programs
Majority Universities

- Pilot Program: South Carolina State University and the University of Wisconsin – Madison
- Other MMUP:
 - University of New Mexico/New Mexico State University
 - Tuskegee University/University of Cincinnati
 - Texas A&M/Texas A&M at Kingsville/Prairie View A&M
 - North Carolina A&T/NC State University

For specific information regarding the national programs, please contact Ms. Phyllis Pelzer, papelzer@sets.scsu.edu, (803) 516-4591

The SCSU-UW Articulation Agreement

- Signed in July, 2000

- On September 5, 2002, SCSU received approval from the South Carolina Commission on Higher Education to offer the program
 - The UW once again showed support for the program in July, 2002
 - The first graduating class is expected in Summer of 2006

- BS Degree in Nuclear Engineering from SCSU/UW
- SCSU BS/UW Nuclear Engineering BS
- SCSU BS/UW Nuclear Engineering MS
- SCSU BS/UW Nuclear Engineering MS, *fast-track*

Nuclear Engineering at SCSU

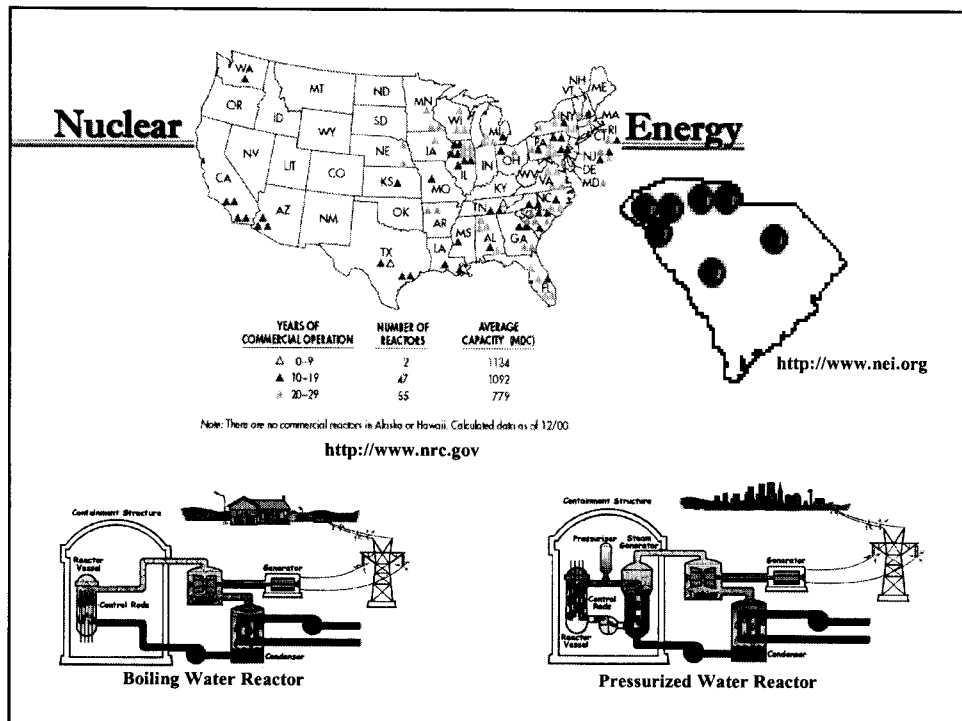
**South Carolina State University
partnering with
University of Wisconsin-Madison**

**Meeting our nation's needs to maintain and enhance the
nuclear energy knowledge base through the
diversification of the workforce**

The Nuclear Energy Industry in South Carolina

- Almost 60% of the demand for electricity in SC is provided by nuclear power
 - Seven of over 100 operating nuclear plants are in SC
 - Oconee Units have successfully renewed their operating licenses

- Westinghouse Savannah River Site is in Aiken, SC – a DOE facility with internship opportunities for faculty and students
 - Hands-on experience
 - State-of-the-art equipment



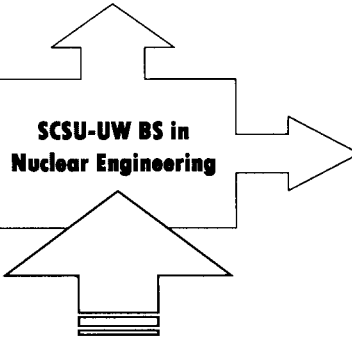
Nuclear Engineering Career Paths

GRADUATE STUDIES

University of Wisconsin – Madison University of SC Clemson University Medical University of SC
Other Universities!

INDUSTRY

Reactor operations
Health physics
Nuclear materials
Instrumentation and control



NATIONAL LABS, SITES, ORGANIZATIONS

Environmental Engineering
Energy Policy

Quality undergraduate education at an HBCU
including
hands-on reactor operations and majority
university experience

Making the Program Happen

- Successful program
 - Creating a steady pipeline of quality students who will be ready for industry and/or graduate studies, primarily in nuclear engineering

- Three-prong attack
 - Recruitment and retention of students and faculty
 - Collaboration with other universities and industry
 - Research at the undergraduate level

Recruitment

Goal

**Increase the DOE/NE Scholarship applicant pool
Increase the number of students in the program bringing
their own funds**

- Visitation of ten area high schools in Fall, 2002
- Presentations given by SCSU students who have attended nuclear energy recruiting seminar
- Solidifying contacts with high school counselors, and math and science teachers
- Expanding presentations to demonstrate the role of radiation in everyday life



DOE/NE Scholarships

LIMITED SCHOLARSHIPS ARE AVAILABLE TO QUALIFIED STUDENTS

HIGH SCHOOL STUDENTS

minimum 1000 SAT

minimum 3.0/4.0 GPA

SCSU STUDENTS

minimum 3.0/4.0 CUM, 3.0/4.0 ENGINEERING, MATH & SCIENCES

One full scholarship: ~ \$78k over 4.5 years
Reducing this is quickly becoming a priority

How?

Outside scholarships	- \$12k
In-state tuition at the UW	- \$15k
SC lottery money	- \$16k
	<hr/>
	- \$43k



DOE/NE Scholarships

ESTIMATED FULL SCHOLARSHIP FOR ONE STUDENT, 4.5 YRS

	<i>out-of-state</i>	<i>in-state</i>	<i>other scholarships</i>
SCSU Freshman Fall & Spring	\$12k	\$12k	-\$7k
SCSU Sophomore Fall & Spring	\$13.2k	\$13.2k	-\$7k
UW distance learning course	\$2k	\$0.6k	
SCSU Junior Fall & Spring	\$14.6k	\$14.6k	-\$7k
UW Junior Summer	\$6k	\$3k	
SCSU Senior Fall	\$8k	\$8k	-\$3.5k
UW distance learning course	\$2.2k	\$0.7k	
UW Senior Spring	\$13k	\$7k	
UW Senior Summer	\$6.6k	\$3.6k	
TOTAL	\$78k	\$62.7k	\$38.2k

Research & Collaboration with Industry and Academia

- Search for research solicitations (aided by SCUREF and others)
- Submission of quality research proposals by partnering with industry and majority universities
- Form collaborations with industry
 - Development of SCSU Radioisotope Lab
 - Formation of our Nuclear Engineering Sub-Committee for our Industrial Advisory Council

The SCSU Nuclear Energy Student Center

Mission

To enhance the educational experience at SCSU

Objectives

- Provide tutoring in math and science
- Develop and implement recruiting ideas
- Establish the SCSU Student Section of the American Nuclear Society
- Institutionalize research at the undergraduate level

Today

- SC Commission on Higher Education Approval (September 5, 2002)
- SCSU students successfully completed 41 units at the UW
- Program enrollment is at twelve (various options and sources of funding)
- New faculty member, Eduardo B. Farfan, PhD, University of Florida
- Relationship with Westinghouse Savannah River Site for faculty and student research participation
- Coming soon to SCSU...the SCSU Student Section of the American Nuclear Society

Tomorrow

- Major recruitment drive is underway: bringing nuclear energy to secondary schools in South Carolina
 - Exploiting nationwide connections to bring other minorities to SCSU
- Solidifying contacts with area high schools with regular visits and demonstrations
- Institutionalizing research at the undergraduate level
- Developing and maintaining solid give-and-take relationships with DOE facilities and the nuclear industry
- Establishing relationships with other Nuclear Engineering Programs

Let the journey begin...

