

Big 12 Engineering Consortium

Development & Status of the Big-12 Engineering Consortium

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University of Texas at Austin



Big 12 Engineering Consortium

Overview

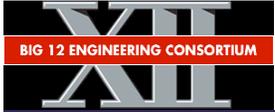
- Background & Introduction
- Consortium Structure, Policies & Procedures
- Future Plans
- Big-12 Staff Contacts

Collaborative Nuclear Education

- DOE INIE fostered nuclear collaborations
- KSU Engineering Dean desired to leverage position for intercollegiate collaboration
- Big-12 Consortium developed to strengthen nuclear educational programs by:
 - Using distance education to share expertise
 - Increasing nuclear education course offerings
 - Promoting innovation & development

Nuclear Education Context

- Nuclear Engineering majors & minors
 - Pure NE job market is not large
 - Many NE do not perform traditional NE work
 - Possible via strong interdisciplinary focus
- Nuclear Certificate or Option programs
 - Extend nuclear context to other degrees
 - Usually smaller programs & limited resources
 - Pockets of strong, focused nuclear expertise



Big 12 Engineering Consortium

Consortium Support

- Department of Energy, seed
- U.S. Department of Education Fund for the Improvement of Postsecondary Education
- NRC Curriculum Development
- Big 12 tuition structure

Targeted Student Groups

- Students in engineering disciplines required by the nuclear industry
 - Explore potential avenues of employment
 - Target attractiveness to nuclear employers
- Professionals with non nuclear degrees:
 - Align educational qualifications in nuclear workforce with industry needs
 - Retool non-nuclear workers for career change



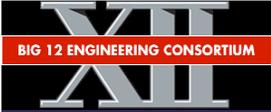
Big 12 Engineering Consortium

Caveat

The Big-12 Consortium took years to develop, and required identifying and overcoming a large set of institutional barriers.

This presentation will not cover all the issues and solutions for the sake of brevity –

and also because I don't know enough to address them adequately:



Big 12 Engineering Consortium

A few thorny issues:

Academic honesty & accountability

Grades

Scheduling

Independence & Autonomy

Institutional procedures & central coordination

Curriculum & program approval

Tuition standardization & distribution

Expectations

POLICIES AND PROCEDURES

Heritage

Membership

Consortium Governance

Consortium Operations

Program Administration

Program Faculty

Curriculum Issues

Student Issues

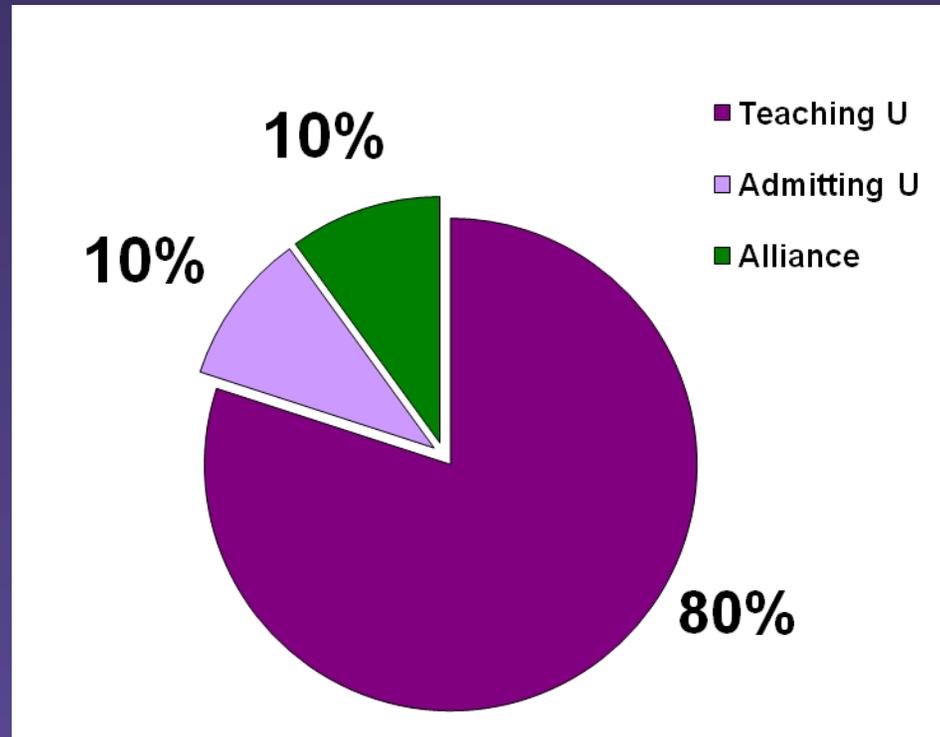
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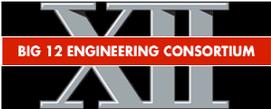


FINANCE AGREEMENT

Exchange Rate for 2009-2010
\$515/undergraduate credit hour

Share of revenue:





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Big 12 Engineering Consortium - Windows Internet Explorer

http://www.big12engg.org/

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BIG 12 ENGINEERING CONSORTIUM

- Home
- About the Consortium
- Nuclear Engineering
- Partner Universities
- Contact Us

Baylor University, Iowa State University, Kansas State University, Oklahoma State University, Texas A&M University, Texas Tech University, University of Kansas, University of Missouri-Columbia, University of Nebraska-Lincoln, University of Oklahoma, University of Texas-Austin

A Multi-State Consortium Offering Distance Programs in Engineering

In response to the increasing employer demand for employees with some nuclear training, the Big 12 Consortium is now offering students access to

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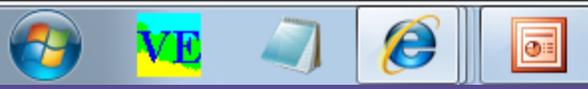
Home	<p>Baylor University, Iowa State University, Kansas State University, Oklahoma State University, Texas A&M University, Texas Tech University, University of Kansas, University of Missouri-Columbia, University of Nebraska-Lincoln, University of Oklahoma, University of Texas-Dallas</p> <p>A Multi-State Consortium Offering Distance Programs in Engineering</p> <p>In response to the increasing employer demand for employees with some nuclear training, the Big 12 Consortium is now offering students access to nuclear engineering courses. The courses are delivered via the Internet by the Big 12 Universities that have nuclear engineering programs. Read more WWW.WWW.WWW.WWW.WWW.WWW.WWW</p> <p>Are you a student at a Big 12 university?</p> <p>Do you think having a basic understanding of nuclear science will make you more attractive to future employers? Would you like to graduate with some nuclear science coursework on your transcript? If so, the Nuclear Education Program offered by the Big 12 Engineering Consortium was created for you!</p> <p>Are you a working professional?</p> <p>Are you an engineer seeking to re-tool by learning about nuclear science? Do you think some experience in nuclear engineering will help you advance your career? If so, then you should consider taking Nuclear Education courses offered through the Big 12 Engineering Consortium.</p>
About the Consortium	
Nuclear Engineering	
Partner Universities	

Contact Us

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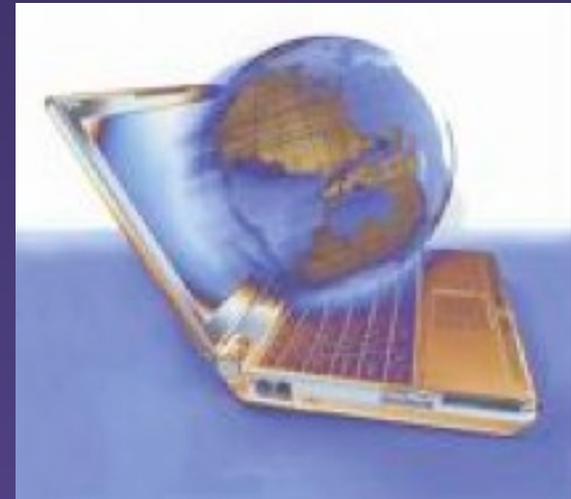


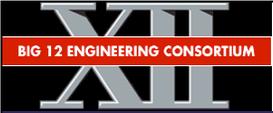
ExpanSIS Multi-Institution Data System

The screenshot shows the ExpanSIS web application interface. At the top right, there is a navigation bar with links for [home](#), [prefs](#), and [logout](#). Below this, a white box contains the text "ExpanSIS Demo". A grey bar below that displays "Institution: U1" and "Term: Fall 2006". On the left side, there is a teal sidebar menu with the following items: "Institution", "Courses", "Enrollment", "Grades", "Schedule", "Staff", "Students", "Reports", and "Institution". The main content area features the heading "Welcome to ExpanSIS" and the instruction "Choose a link from the menu to begin." At the bottom of the interface, a yellow footer bar contains the text "ExpanSIS - © 2006 Institute for Academic Alliances." and the ExpanSIS logo on the right.

Curriculum Issues

Curriculum Development and Oversight
Credit for Inter-Institutional Courses
Course Catalog
Library Support
Course Scheduling Priority
Accreditation

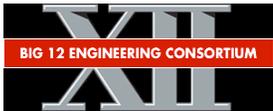




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Big 12 Nuclear Engineering Minor Program – 13-15 Credits

				
FALL	Principles of Nuclear Engineering	Energy Systems and Resources	Elements of Nuclear Engineering	Introduction to Nuclear and Radiation Engineering Concepts
	Nuclear Reactor Theory			
SPRING	Nuclear Reactor Analysis	Fulfilling Madame Curie's Dream	Elements of Nuclear Engineering	Introduction to Nuclear and Radiation Engineering Concepts
			Radiation Protection and Shielding	Nuclear Reactor Engineering



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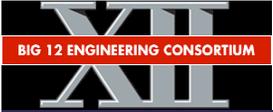
		Spring 07	Fall 07	Spring 08	Fall 08	Spring 09	Fall 09	Spring 10
BU	Students			15		90		42
ISU	Students	7	6	3		42	15	48
KSU	Students		3		9	6		15
	Teaching	27	9	45		126	15	132
OSU/OU	Students		1	3			7	12
TAMU	Students				12			
	Teaching						22	
TT	Students				1		9	12
UK	Students		6		7	1	3	2
UM	Teaching	9			6			6
UNL	Students	4	3		1	3	3	
UTA	Students	28		24		12		36
	Teaching	3	10			28		29
TOTAL STUDENTS		39	19	45	18	154	37	167



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Policies Moving Forward

- Name change is in the wings, with maybe
 - Expansion of participants
 - “Affiliate” role development
- Standalone minor
- DOE program support
- Leverage research collaborations
- Extend the concept to other disciplines



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Details Moving Forward

- Modular, 1 credit courses
- Development of distance-laboratories
 - Facility introduction & tour
 - 1/M Approach to critical
 - Temperature feedback
- 1-2 courses developed/added per year

Big 12 Consortium Staff

If your institution might be interested in participating in the soon-to-be-renamed Big 12 Engineering Consortium, please contact Staff for details

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