

Regional Center for Nuclear Education & Training



March 4, 2014
WM SYMPOSIUM
Phoenix, AZ

NSF ATE Background

- **RCNET is an National Science Foundation (NSF) Advanced Technological Education (ATE) Center.**
- **There are 39 ATE Centers across a wide range of topics with a similar mission: to strengthen the skills of technicians, whose work is vitally important to the nation's prosperity and security.**
- **In ATE centers, community colleges have a leadership role and work in partnership with universities, secondary schools, businesses, industries, and government agencies to design and carry out model workforce development initiatives.**
- **RCNET was founded in August 2011 with a \$3.1M grant from NSF to focus on the nuclear industry.**



RCNET's Mission and Goals

RCNET's Mission

To make sure the demand for skilled nuclear technicians is met in a standardized and systematic way.

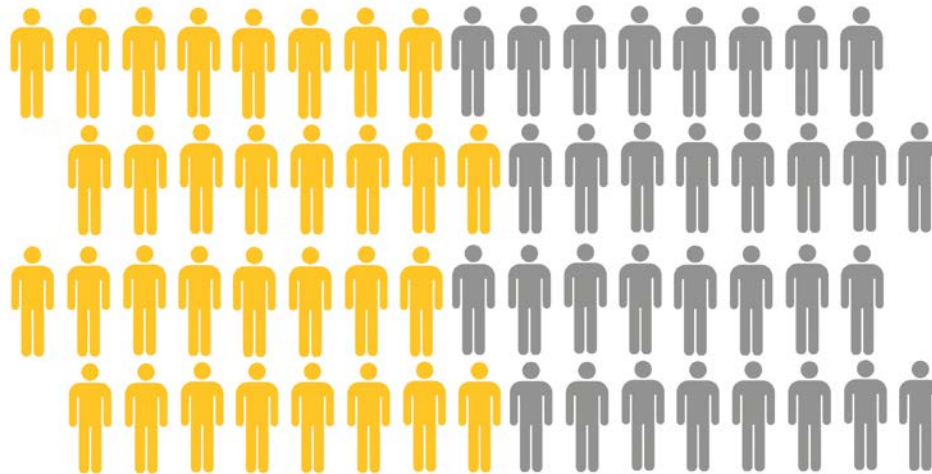


RCNET's Goals

1. Provide standardized nuclear curriculum packages.
2. Develop, categorize, and maintain a learning repository for nuclear curriculum.
3. Provide professional development for educators.
4. Embed unique training systems and 21st century technologies into the classroom.
5. Provide career and academic pathways.
6. Provide career assistance.
7. Promote nuclear energy and nuclear careers.



Nuclear Workforce Projections



**Over 41,000
workers
needed by
2030!**

Aging Workforce

- Over 40% of the current nuclear workforce will be eligible to retire in the next 5 years

New Construction

- Licenses to build 30 new nuclear power plants have been requested.

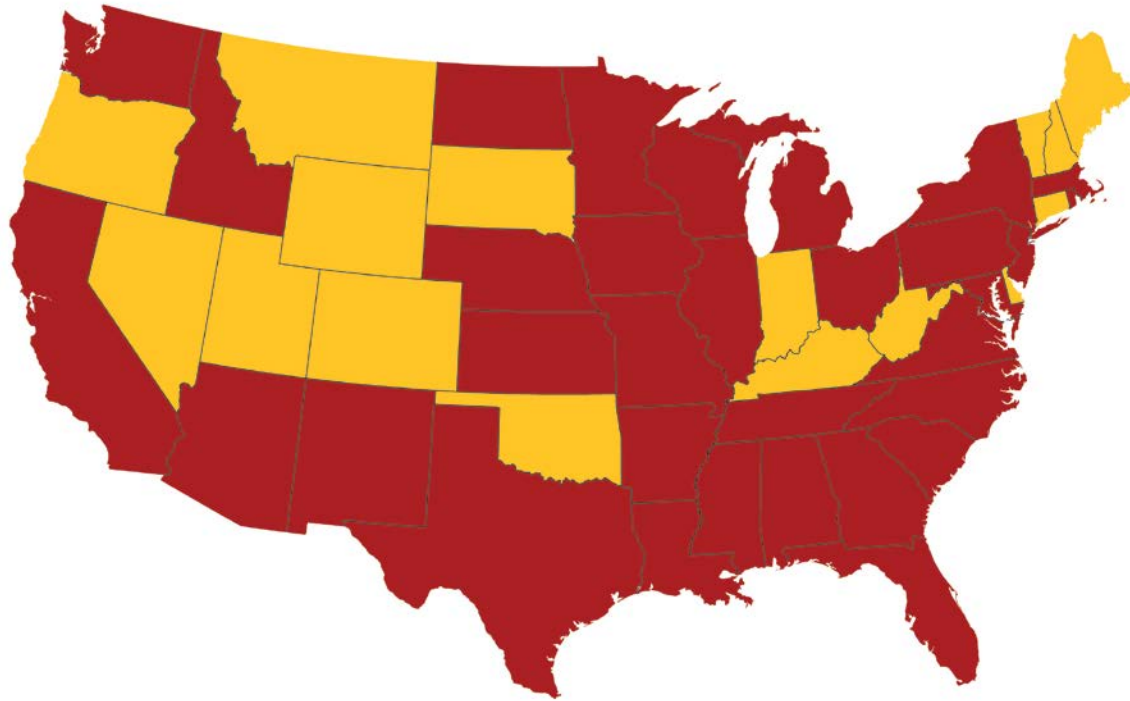
Natural Attrition

Other Industries & Overseas Competition



RCNET Partners

RCNET is headquartered at Indian River State College in Fort Pierce, FL and is a consortium of 46 colleges and universities, 30 industry partners, 13 agencies and other partners, and 28 secondary academic partners.



**** If interested in becoming a partner please contact: jbalsamo@irsc.edu**



RCNET Key Accomplishments

- Curriculum material is available and matched to for every ACAD 08-006 objective (vetted through 1st round of CRCs).
- 23 colleges have used curriculum material provided by RCNET.
- 36 colleges have attended RCNET professional development seminars.
- Finalized academic articulations with Excelsior College and working on agreements with Thomas Edison, Chattanooga State, FIU, and UF.
- Provided 37 colleges with a DVD to teach students soft skills needed to land a career in the nuclear industry (*As of 12/31/2012, 488 students have viewed the video*).
- Provided 37 colleges with DVD video teaching best practices in affective domain and creating a nuclear culture in college classroom (*As of 12/31/2012, faculty, SMEs, and trainers at 14 colleges have watched the video*).

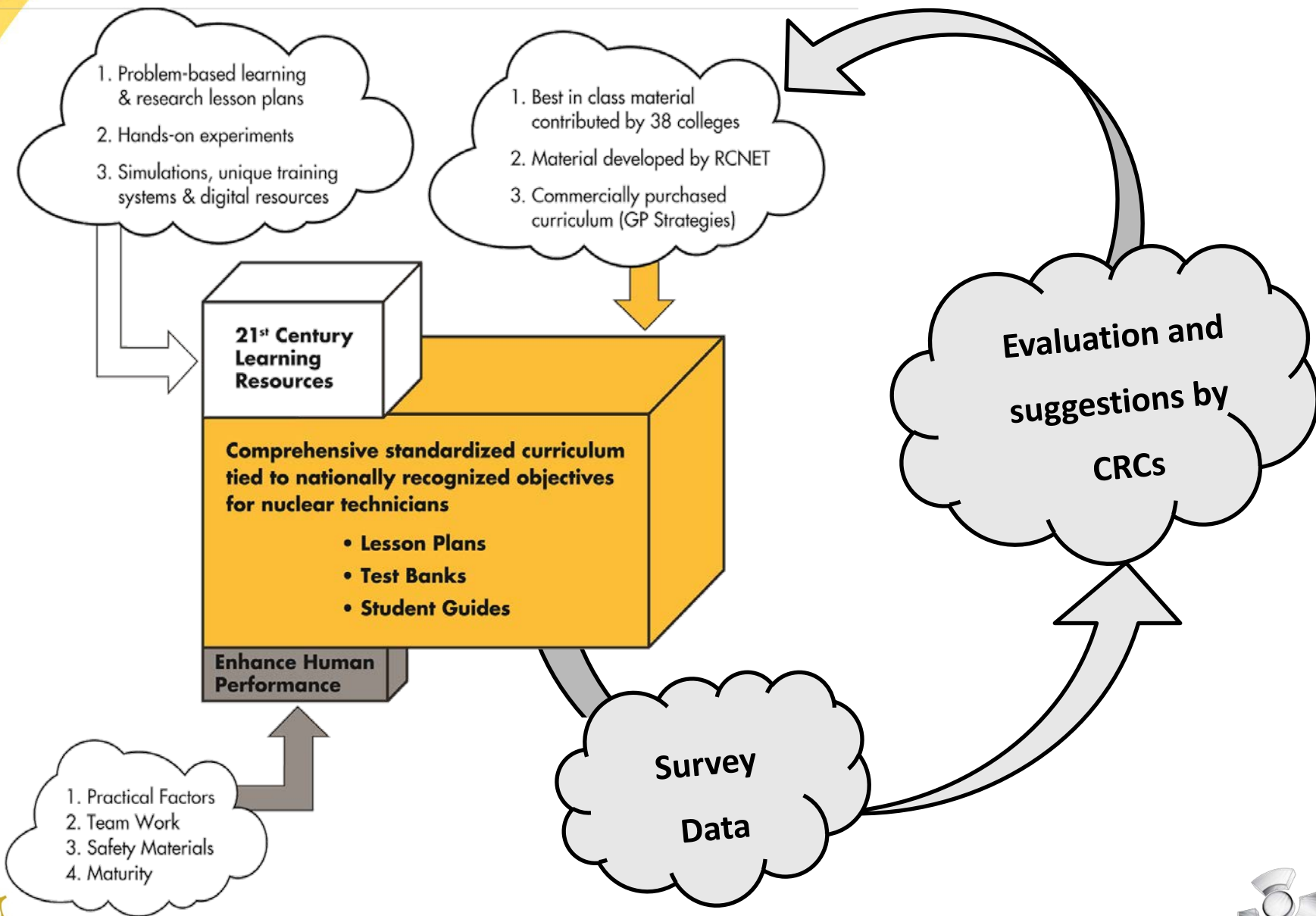


RCNET Key Accomplishments

- **Launched job board to help connect college graduates from across the nation with hiring managers.**
- **NUCP students from 9 schools have posted resumes on job board.**
- **Hiring managers from 11 nuclear utilities have been trained and given access to the job board.**
- **As of December 2012, RCNET has helped place 13 students in permanent positions outside of college area.**
- **Formed partnership with United Negro College Fund. This partnership between RCNET & UNCF will benefit all RCNET partner colleges with scholarships and recruitment assistance.**
- **Promoted NUCP / U.S. Nuclear Navy partnership as an ambassador.**
- **Presented and promoted nuclear technician training in over two dozen forums and have articles in several local and national publications.**



RCNET's Curriculum Efforts



RCNET's Curriculum Update

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ACAD 08-006 Crosswalk with CRC identified NUCP Material

This comprehensive crosswalk links ACAD 08-006 to [GP Strategies ABC Material](#), NUCP surveyed material, [NANTEL resources](#), [EPRI resources](#), web resources, and published material available to all RCNET partners. Each field links to teaching material that can be downloaded for use in your classroom.

ACADs	GP Strategies Lesson -Chapter - Objectives	Gap materials developed by RCNET and other academic partners	Textbooks and other published materials	Web Resources	NANTEL	EPRI
1.3.5 Describe the theory, construction, and application of rotating equipment, including the following:						
1.3.5.1 generators	ES-11-1, 3, 4, 5, 8, 9, 10, 11, 12	Emergency Diesel Generator Generators	Motors, Second Edition, ATP, ISBN: 978-0-8269-1982-3. Chapter 7, "Synchronous motors"	http://www.youtube.com/watch?v=NSqu_u7nYU0	Coming Soon	Coming Soon

[Click here access crosswalk](#)

Comprehensive Teaching Toolkits

Comprehensive toolkits provide materials needed to completely teach classes with preselected ACADs. These toolkits include PowerPoints, handouts, teacher guides, inks to other resources, and test banks.

1. QA/QC
2. Operations
3. INC
4. RP

Please contact Jo Ann Balsamo if you would like assistance developing toolkits to match your program.

Coming Soon

1. Simulations
2. Remote access to IRSC's flow loop
3. Active learning toolkits

Additional material to be develop or purchased by RCNET will enhance teaching toolkits by focusing on 21st century teaching strategies. Areas to be enhanced have been identified by surveys and CRC panels.



Complete Teaching Toolkits – Operation Example

- **Lead by Midland Technical College and Gary Cappuccio (20 years + in nuclear operations)**
- **Developed slides, lecture notes/plans, and testing material for 3 courses:**
 - NET-112 Nuclear Plant Components
 - NET-130 Radiological Protection
 - NET-210 Thermal Sciences
- **All course content mapped to NUCP (ACAD) Competencies and available at gonuke.org**
- **2 more courses will be developed during third year of grant and this will close gap on comprehensive toolkits for all operations material.**



RCNET's Curriculum Summary

- **Comprehensive gap analysis tying ACAD 08-006 to GP Strategies material and Best in Class NUCP material is complete!**

- **23 colleges have utilized RCNET material**

Indian River State College
Salem Community College
Wallace Community College
Augusta Technical College
Miami Dade College
Aiken Technical College
Bismarck State College
Brazosport College
Central Piedmont Community College
Chattanooga State Community College
College of Southern Maryland
Columbia Basin College

Estrella Mountain Community College
Excelsior College
Florence-Darlington Technical College
Gaston College
Lakeland Community College
Lakeshore Technical College
Linn State
Monroe County Community College
Onondaga Community College
Southeast Community College
Orangeburg Calhoun Technical College

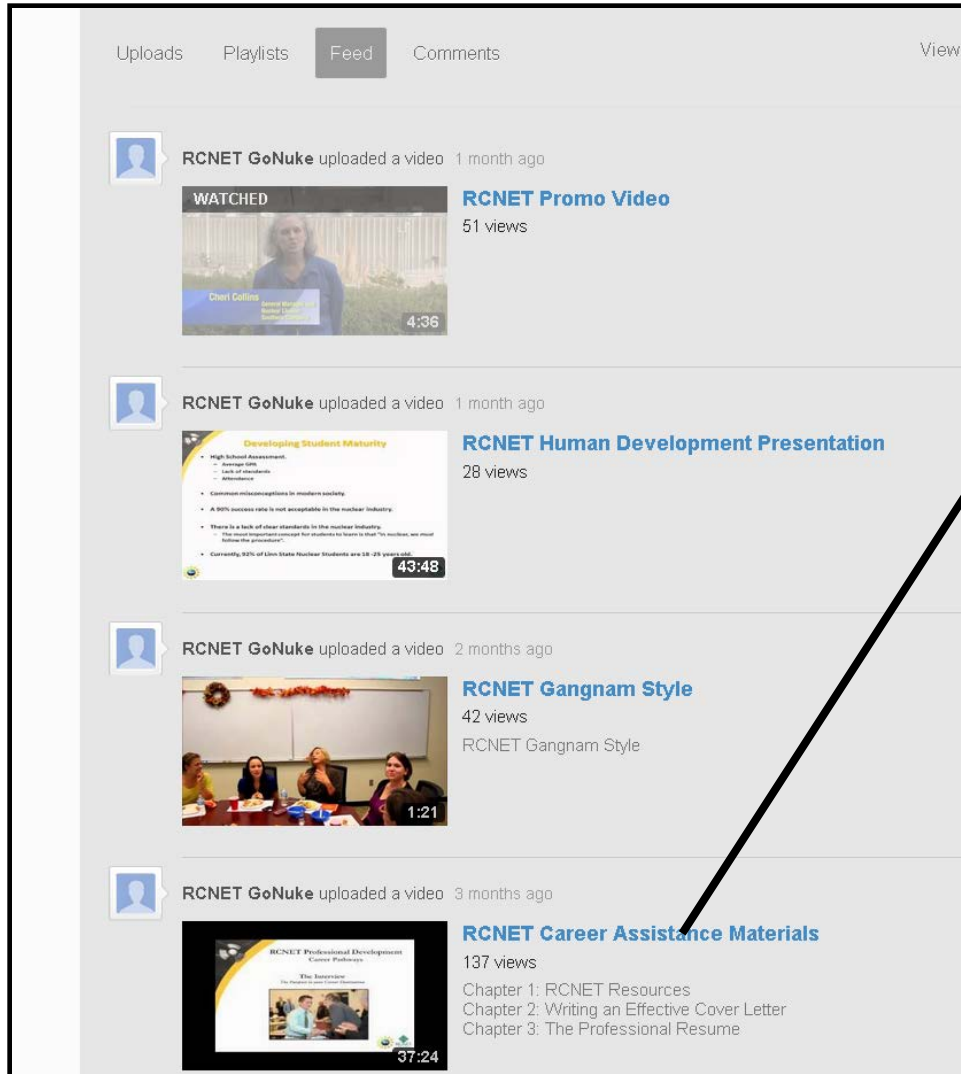
- **Academic and industry partners were surveyed to identify areas where students and teachers are struggling.**
- **ADDIE process followed and CRCs were established to review material and provide feedback.**



Other YEAR2 RCNET Resources



Other YEAR2 RCNET Resources



The screenshot shows a YouTube channel page for 'RCNET GoNuke'. The page has tabs for 'Uploads', 'Playlists', 'Feed', and 'Comments', with 'Feed' selected. There are four video uploads listed:

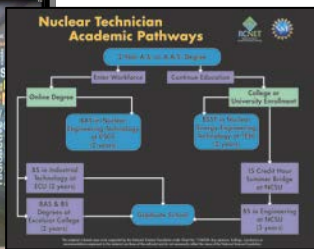
- RCNET Promo Video**: 1 month ago, 51 views. The video thumbnail shows a woman in a blue shirt. The video title is 'RCNET Promo Video' and the duration is 4:36.
- RCNET Human Development Presentation**: 1 month ago, 28 views. The video thumbnail shows a presentation slide titled 'Developing Student Maturity' with bullet points. The video title is 'RCNET Human Development Presentation' and the duration is 43:48.
- RCNET Gangnam Style**: 2 months ago, 42 views. The video thumbnail shows four women sitting at a table. The video title is 'RCNET Gangnam Style' and the duration is 1:21.
- RCNET Career Assistance Materials**: 3 months ago, 137 views. The video thumbnail shows a presentation slide titled 'RCNET Professional Development Career Pathways'. The video title is 'RCNET Career Assistance Materials' and the duration is 37:24. Below the title, the video content is summarized as: Chapter 1: RCNET Resources, Chapter 2: Writing an Effective Cover Letter, Chapter 3: The Professional Resume.

- How to dress for an interview.
- It is a bad idea to dip during an interview.



Other YEAR2 RCNET Resources

Product(s)	Target Audience	Type & Location of Materials
Marketing & outreach materials	Academic and industry outreach specialists	RCNET and partner's marketing material including videos, brochures, fact sheets, images, and other printed material available at gonuke.org .
Job bank	NUCP graduating students & hiring managers	At gonuke.org website. NUCP graduating students can load their resume and hiring managers can sort and search through it on this protected site.
Academic & career flowcharts	NUCP students	Flow charts on career and academic pathways are available on the gonuke.org website



Regional Center for Nuclear Education & Training

Mission
To make sure the demand for skilled nuclear technicians is met in a standardized and systematic way.

Goals

1. Provide standardized curriculum for maintenance, operations, radiation protection, and QA/QC technicians.
2. Develop, organize, and maintain a learning repository for nuclear curricula.
3. Provide professional development.
4. Provide remote access and lesson plans to enable unique training systems.
5. Provide career pathways and professional development for students and technicians.

Partners

Workshops throughout the United States should be held.



GoNuke.org Resume Bank

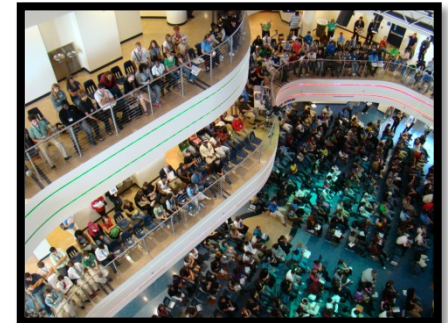
RCNET recently help place 13 graduates that couldn't find local employment!

- **NUCP students from 9 schools have posted resumes on the job board.**
 - a. Aiken Technical College
 - b. Augusta Technical College
 - c. Columbia Basin College
 - d. Dakota County Technical College
 - e. Gaston College
 - f. Indian River State College
 - g. Miami Dade College
 - h. Monroe County Community College
 - i. Orangeburg Calhoun Technical
- **Hiring managers from 11 nuclear utilities/vendors have been trained and given access to the job board.**
 - a. DTE Energy
 - b. ATC
 - c. Duke Energy
 - d. Arizona Public Service
 - e. BHI Energy
 - f. Wallace
 - g. DTE Energy
 - h. OCC
 - i. SCANA
 - j. Southern Co
 - k. FPL
- **RCNET helped place 13 students in permanent positions outside of college area.**
- **If interested, please email Jo Ann Balsamo at jbalsamo@irsc.edu for access.**



Year2 Outreach Activities

- Presentations, booth, or both at 9 different conferences (AACC, NSF, ANS, CONTE, PowerGen, ACTE, NCPN, HP, and DOE).
- Formed multiple partnerships to leverage outreach activities across the nuclear industry (CASEnergy, ANS, CEWD, CORD, other ATE Centers....).
- Multiple publications including Greenwire, Cover of CCTimes, and local print media across nation.
- Co-hosted evaluation webinar and session at NSF PI Conference with Evaluate.
- Won Chancellor of Florida & AACC award for best industry/academic partnership.
- Presented to government officials about RCNET including Governor Whitman, Senator Rubio and Congressmen West & Murphy.

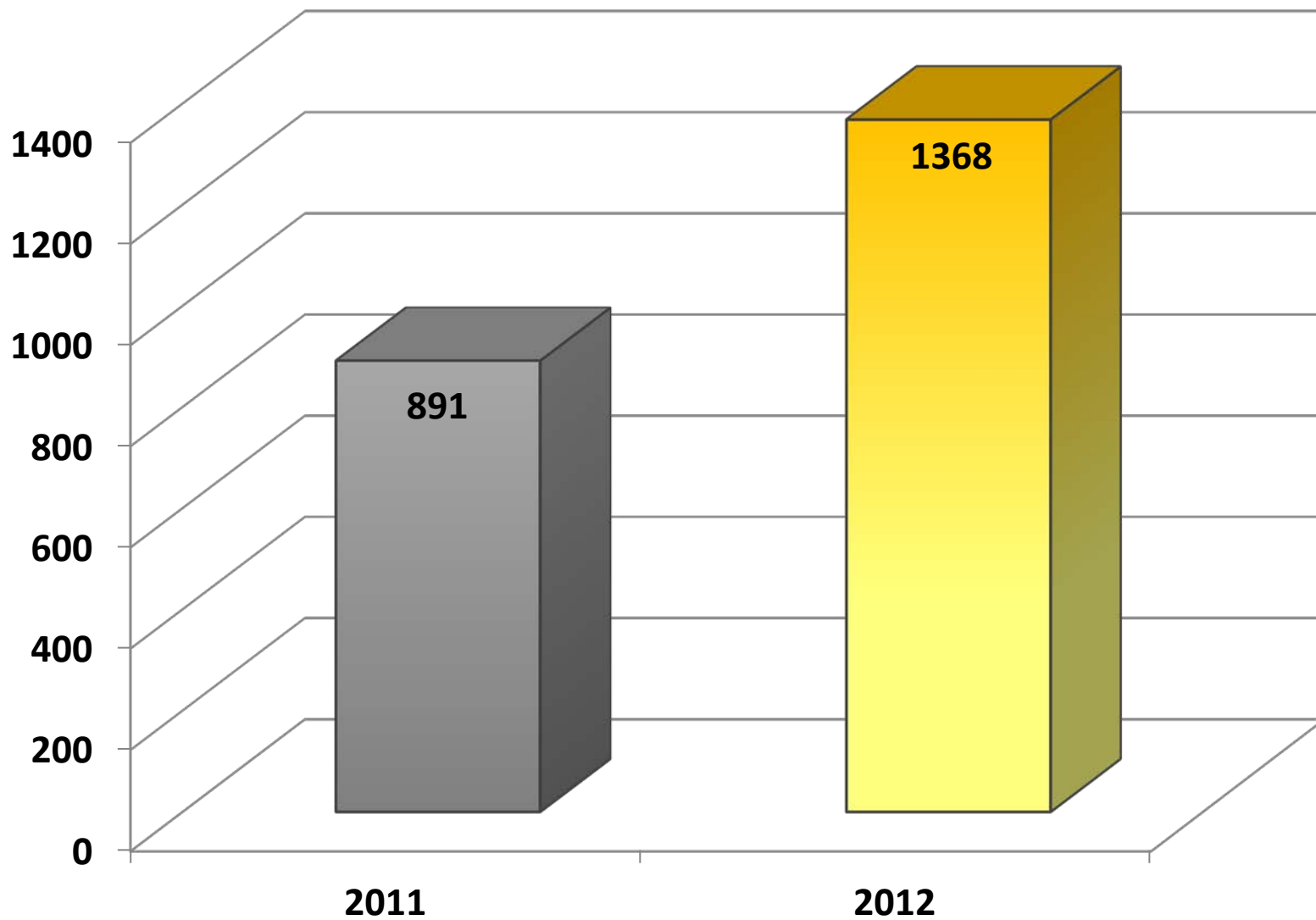


Year2 Secondary Activities

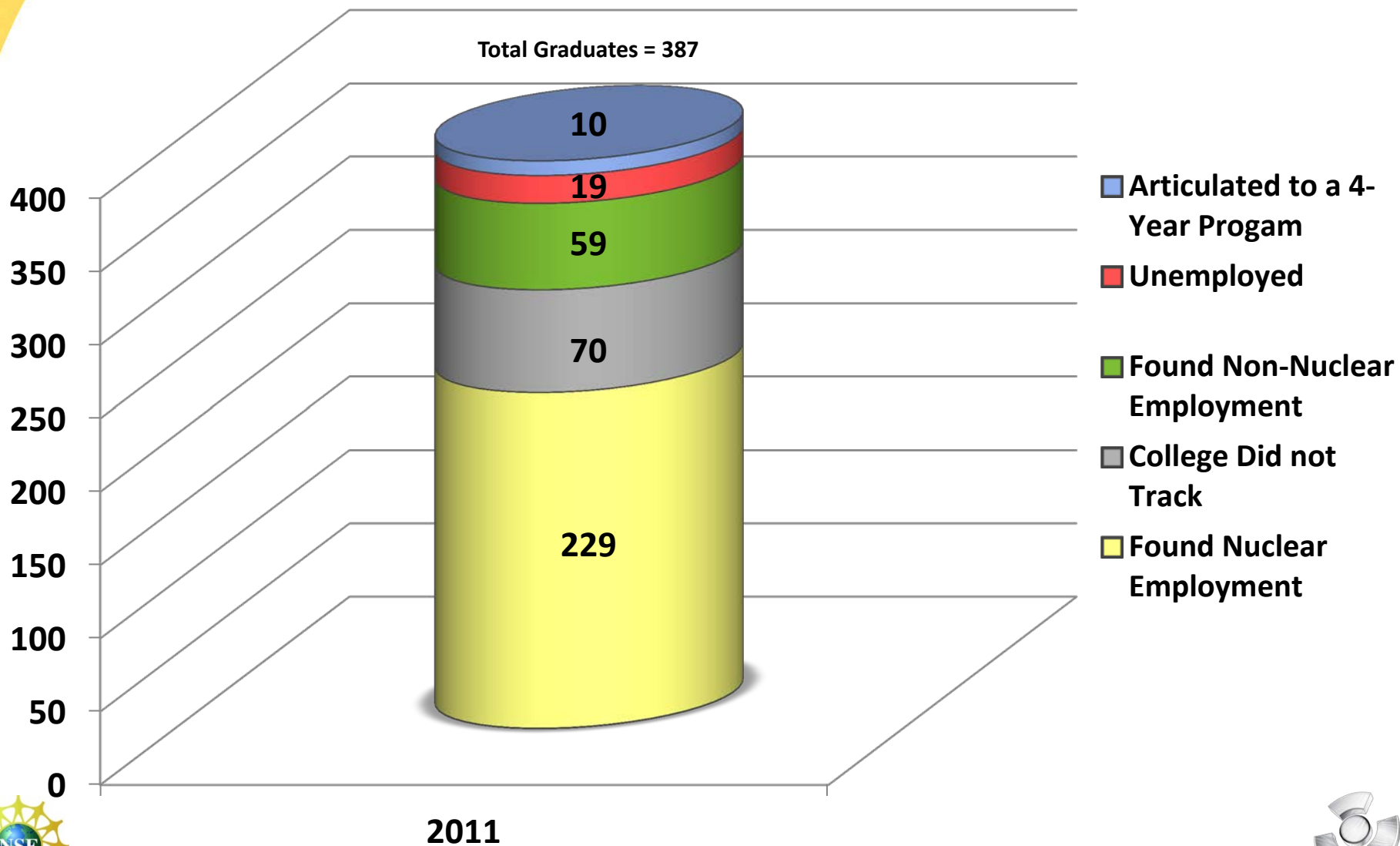
- **MOU for GP Strategies material required each partner expand nuclear outreach (26 more ambassadors)**
- **Preliminary data several thousand students were introduced to nuclear concepts from K-12 grade thanks to RCNET and partner colleges!**



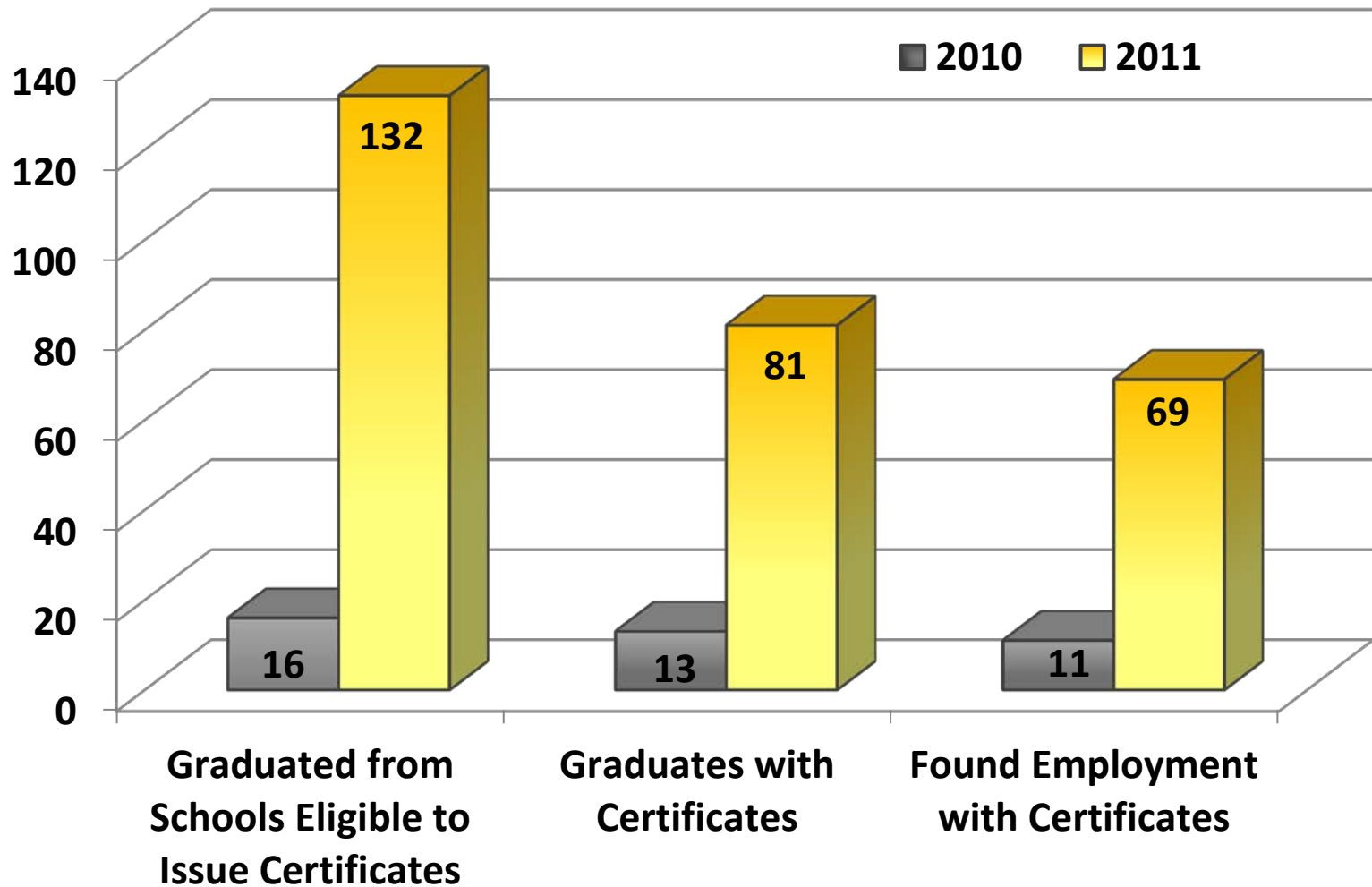
Total Enrollments (36 schools)



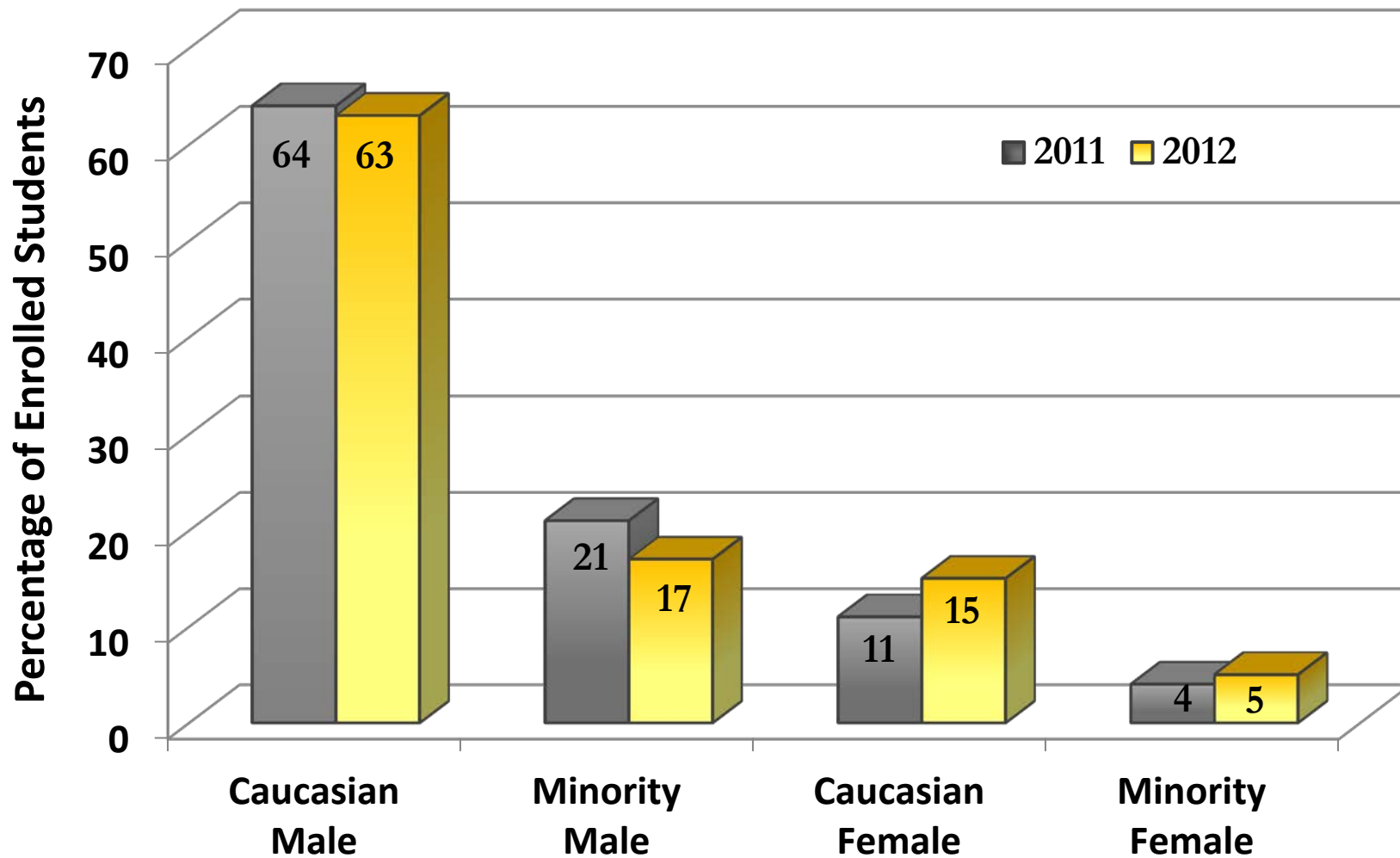
Employment Metrics



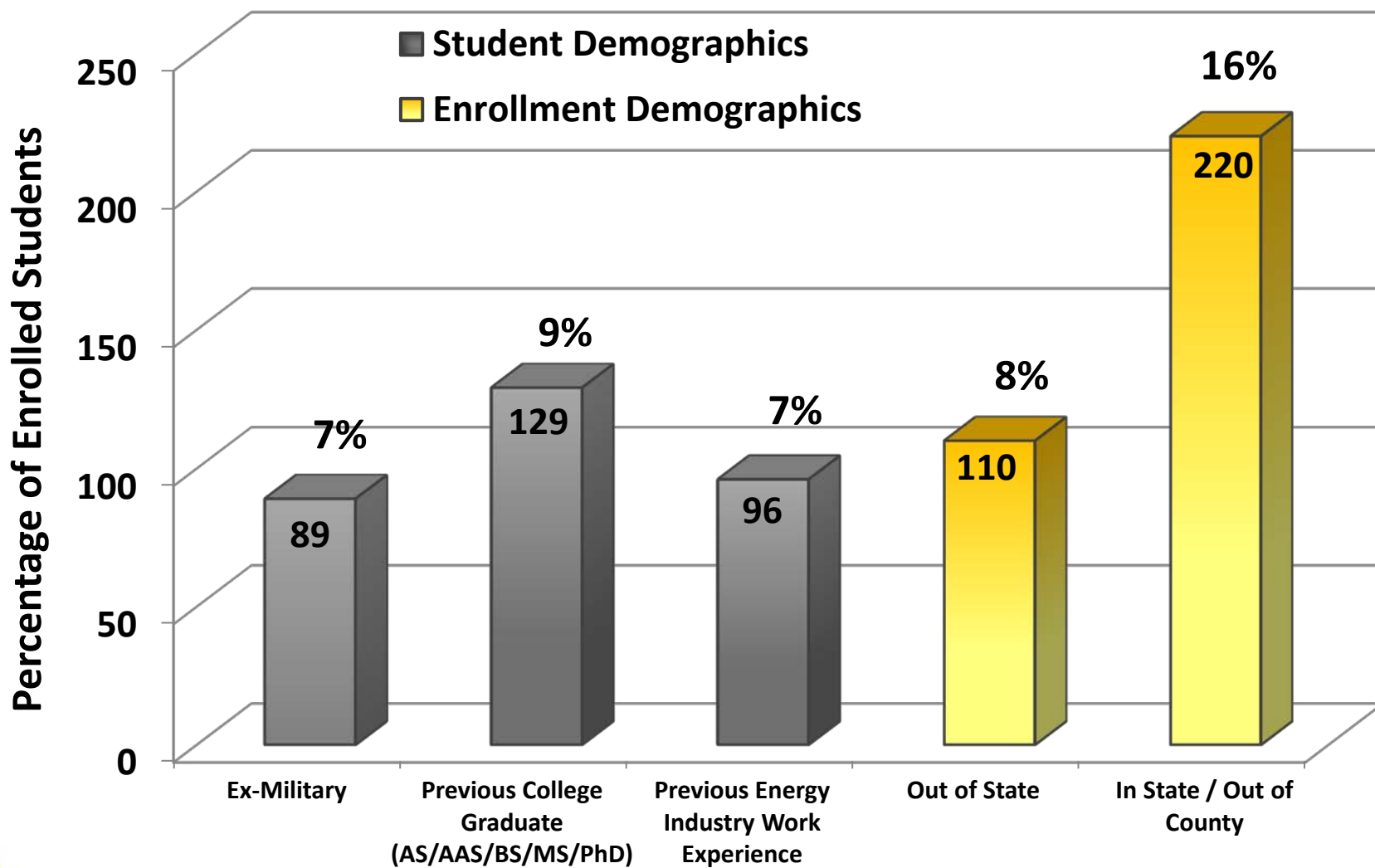
NUCP Certificates



Enrollment Diversity



2012 Demographics



Thank You

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www.gonuke.org

