CSN Academic Program Review

Presentation to the NSHE ARSA Subcommittee
November 29, 2018

Purpose of CSN's Program Review

- **Purpose-** To improve the quality of academic programs.

Academic Program Reviews:

o provide informative analysis and evaluation to assist the college in identifying program strengths, suggest areas for improvement, and make commendations and recommendations.

o evaluate the relevance of the academic program to community needs and the academic needs of the college.

o are faculty driven with the review process involving faculty from the program being reviewed, and external review from other institutions if possible.
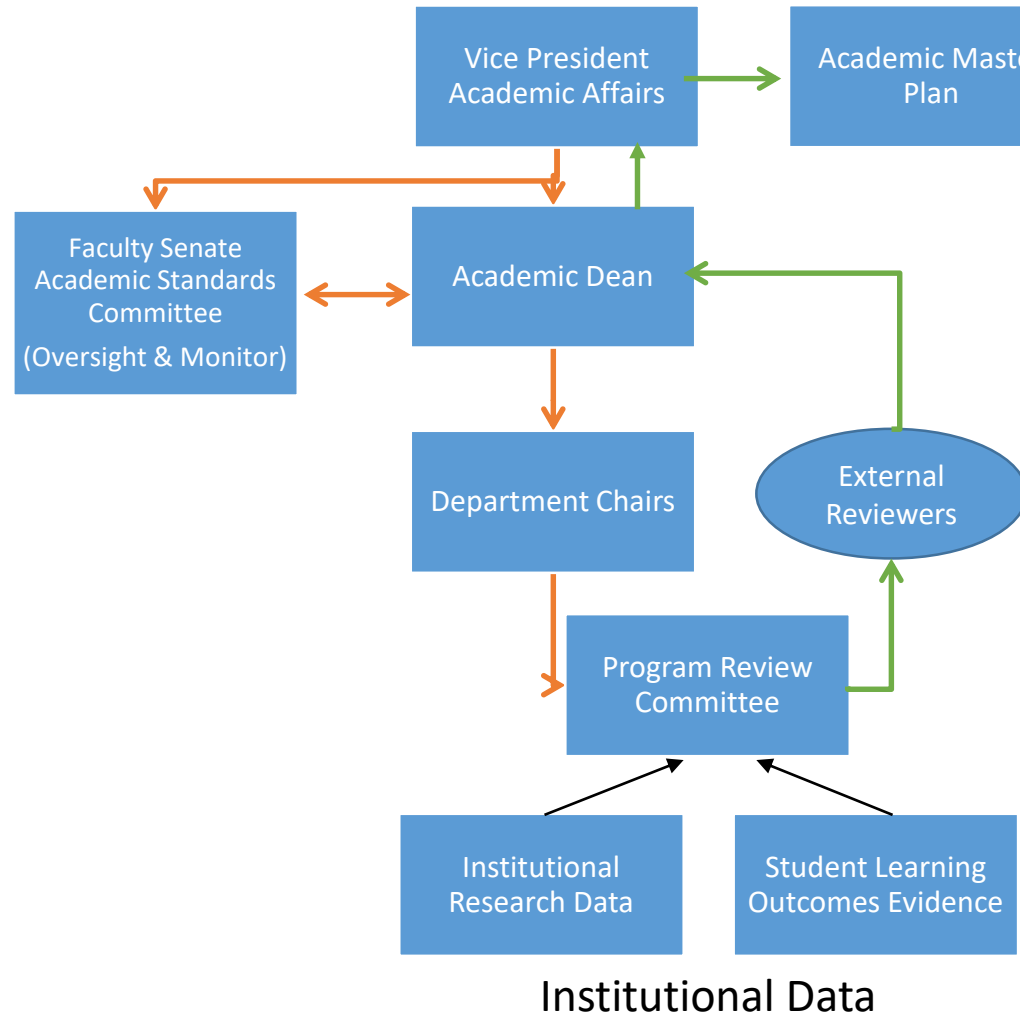
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Timeframe/Scheduling of CSN's Program Review

CSN ACADEMIC PROGRAM REVIEW SCHEDULE									
	2015-2016	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Advance & Applied Technology				X			DUE		
Arts & Letters	X					DUE			
Education, Behavior & Social Sciences		X						DUE	
Health Sciences					X			DUE	
Business, Hospitality, & Public Services		X				DUE			
Science & Mathematics			X				DUE		
General Education									DUE

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CSN Academic Programs

Academic School	Number of Programs	Number of Transfer Degrees	Number of AAS Degrees	Number of Certificate of Achievement	School Enrollment Fall '17- Spring '18 (FL '16 - SP '17)	School FTE Fall '17- Spring '18 (FL '16 – SP '17)
Advanced & Applied Technology	72	0	42	30	13,087 (13,198)	2710.1 (2719.4)
Arts & Letters	14	10	2	2	48,208 (49,212)	10,173.2 (10,353.3)
Business, Hospitality, & Public Service	35	4	15	16	21,372 (22,817)	4,173.9 (4,436.1)
Education, Behavior, & Social Sciences	31	17	10	4	41,398 (41,867)	8,364.3 (8,419.6)
Health Sciences	25	5	13	7	13,741 (14,336)	1,894.3 (1,973.4)
Science & Mathematics	3	3	0	0	47,303 (45,722)	8,103.2 (7,819.1)
Total	**180**	**39**	**82**	**59**	**185,109 (187,152)**	**35,419 (35,720.9)**

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CSN's Program Review Process

Vice President Academic Affairs

Academic Master Plan

President's Cabinet

Faculty Senate Academic Standards Committee (Oversight & Monitor)

Academic Dean

Department Chairs

External Reviewers

Program Review Committee

Institutional Research Data

Student Learning Outcomes Evidence

Institutional Data

Program data is collected, analyzed and evaluated for the following:

- Program Mission Statement & Mission Fulfillment
- Institutional Research Data Trends
- Indicators of Faculty Teaching and Advising Quality
- Student Achievement and Assessment
- Curriculum Analysis (ASWOT)
- Information Technology, Space and Equipment Resources
- External Factors and External Validation
- Action Plans for Improvement

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- Dean and VPAA collaborate and evaluate program reviews to inform and modify the Academic Master Plan
- Program Review data used by President's Cabinet in decision making

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Air Conditioning Technology Program

- **Credentials Offered:**
    - **Associate of Applied Science**
    - **Certificate of Achievement**
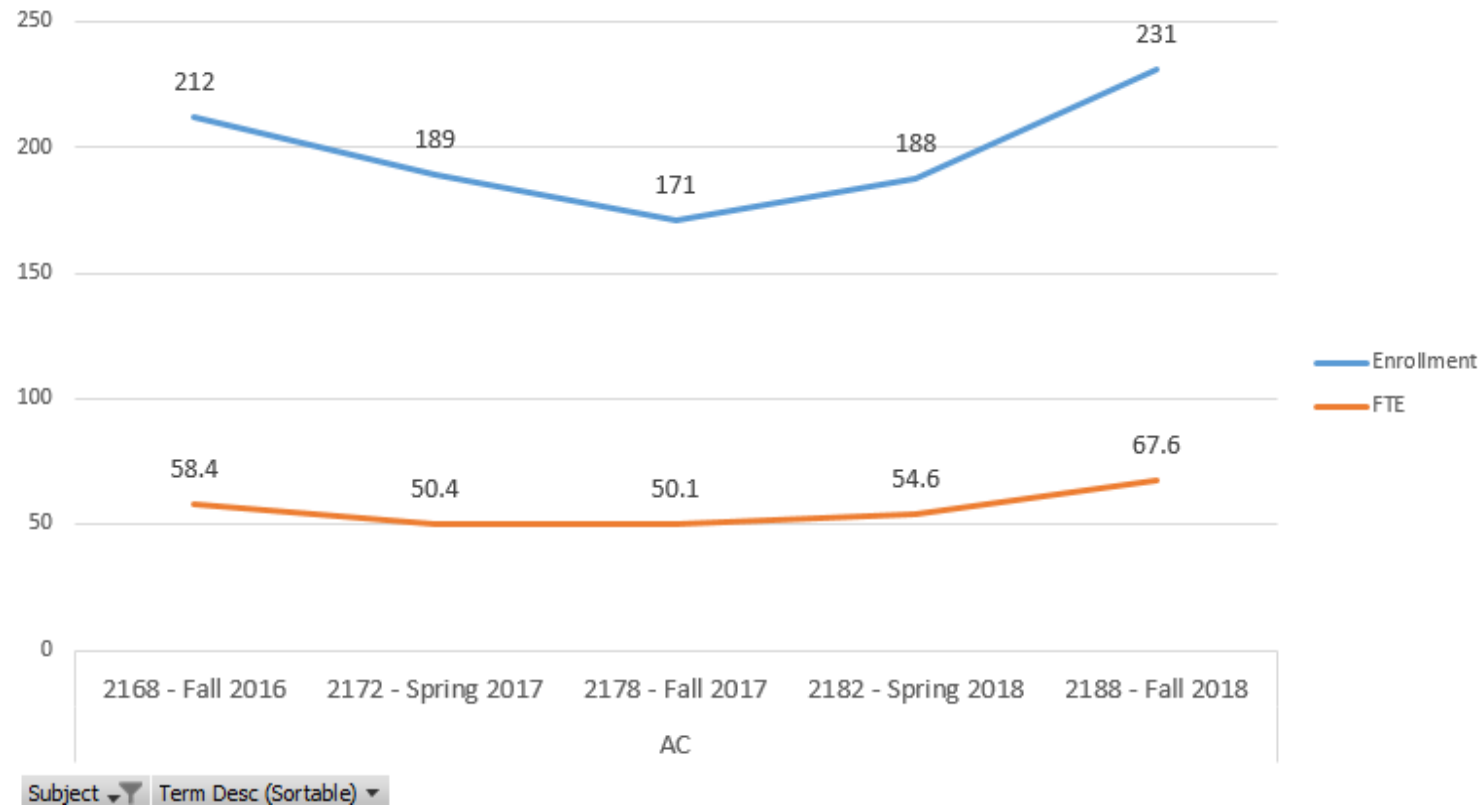
- **Program Description:**

This program prepares students to install, maintain, troubleshoot, and repair residential and commercial heating and cooling systems. Additionally, the program includes commercial refrigeration courses enabling students to maintain, troubleshoot and repair food service and other related machinery. A new emphasis in Critical Systems prepares students for technical service in such essential functions as high security data centers, financial information repositories, military installations, and hospitals.

- **Accreditation:**
    - **PAHRA - Partnership for Air-Conditioning, Heating, Refrigeration Accreditation**
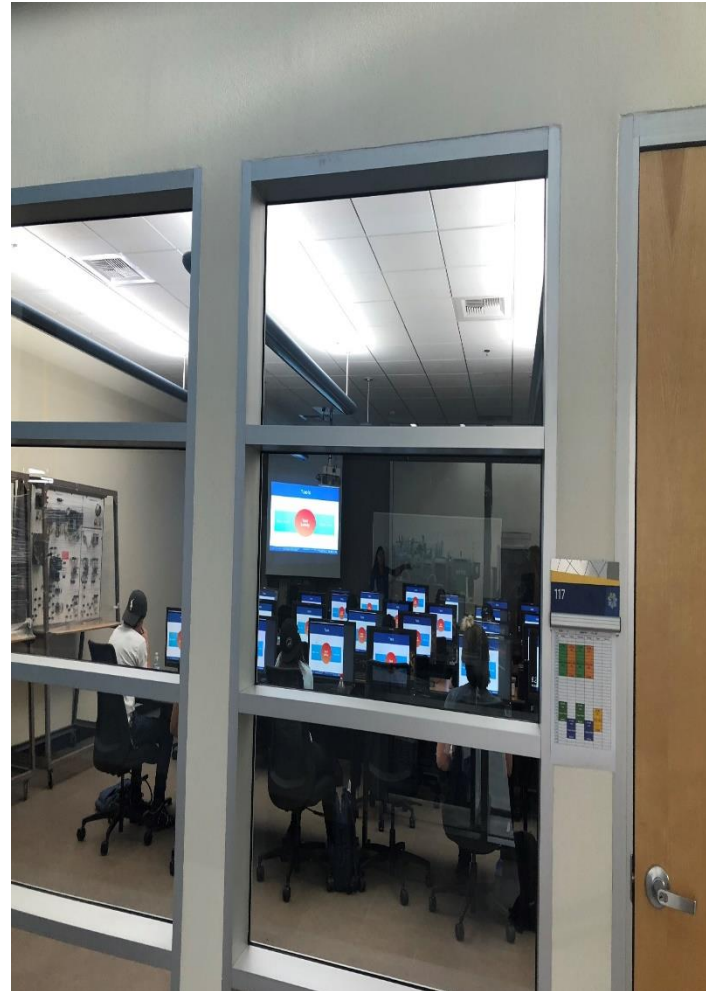   - **HVAC Excellence – North American Technical Excellence (NATE) Certification**

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Air Conditioning Technology Program

- **Enrollment Trends**

- Note: Enrollment decline reflects limited course offering during construction.

Western High Tech Center
HVAC Center of Excellence (Opened Fall 2018)

Findings – Strengths

Strengths - Reputation

- o The CSN Air Conditioning program is recognized by HVAC Excellence and PAHRA as one of the elite programs in the country.

Strengths - Student Learning & Ability

- o 100% student learning achievement for all HVAC programs in the last 2 years.

Strengths - Facilities

- o The program will conclude consolidation at a new facility in the Western High Tech Center in Academic Year 2018-19.
- o HVAC Center of Excellence at the Western High Tech Center provides an abbreviated central plant operations laboratory experience.
- o The instructional laboratory expansion allows for unfettered access and expanded delivery of courses in automation, control networks, chillers, boilers, furnaces, and sheet metal fabrication.

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Findings – Concerns

Concerns: Student Pipeline

- Lack of secondary HVAC programming.
- Shortage of short-term workforce preparation programs for entry-level training which allow unskilled workers to progress into a more advanced technical discipline.

Solutions

- The HVAC Center of Excellence at the Western High Tech Center will provide a venue for high school dual credit programming. High school students will potentially be able to complete the Air Conditioning Certificate of Achievement, while concurrently graduating high school.
- The new facility will allow for the delivery of short-term programming (Skills Certificates) to meet entry-level training in collaboration with state programs at OWINN and other workforce education providers.

Air Conditioning Technology

- **Occupational Outlook**
  - ○ Bureau of Labor Statistics – National Data

Quick Facts: Heating, Air Conditioning, and Refrigeration Mechanics and Installers	
2017 Median Pay	$47,080 per year
	$22.64 per hour
Typical Entry-Level Education	Postsecondary
Work Experience in a Related Occupation	None
Number of Jobs, 2016	332,900
Job Outlook, 2016-26	15% (Much faster than average)
Employment Change, 2016-26	48,800

Computing & Information Technology Cybersecurity Program

- **Credentials Offered:**
  - **Associate of Applied Science**
  - **Certificate of Achievement**

- **Program Description:**

The Computing & Information Technology Cyber Security Program includes programs in Digital Forensics and Network Security. The program prepares students to assist in providing support for information technology, cyber security, forensics, or data network technician. Curriculum covers Internet and Computer Forensics, Digital Crime Investigation, Advanced Computer Forensics, Cisco Networking, Introduction to Programming, and Project Management.

- **Accreditation:**
  - **National Center of Academic Excellence in Cyber Defense by:**
    - **National Security Agency**
    - **US Department of Homeland Security**
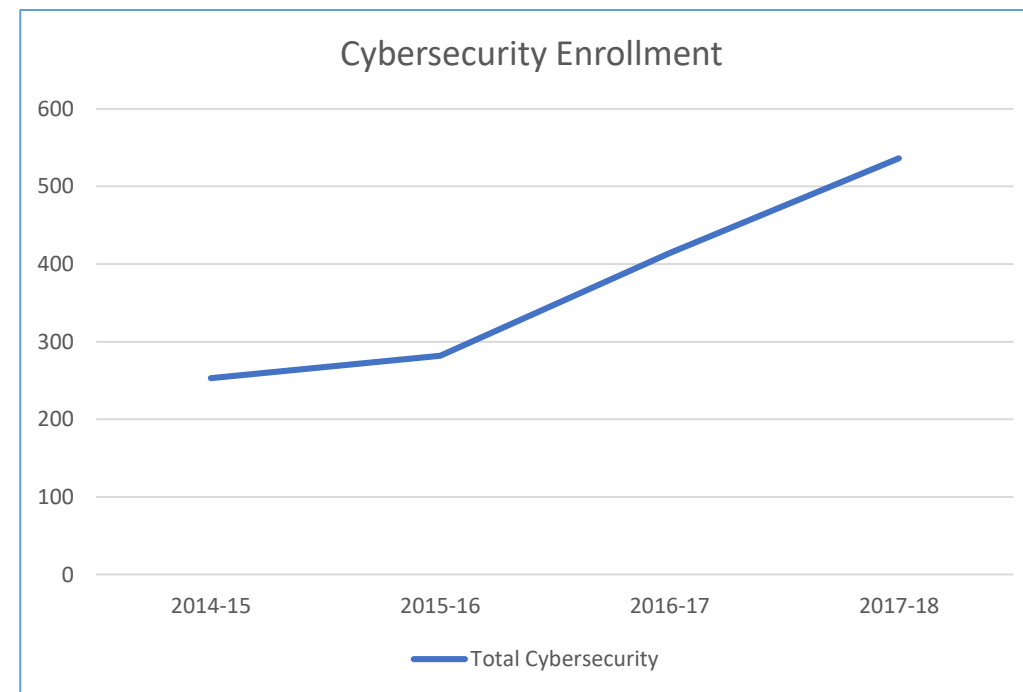
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Computing & Information Technology Cybersecurity Program

Computing & Information Technology Cybersecurity Program

- **Enrollment Trends**

	2014-15	2015-16	2016-17	2017-18
Electronic Crime Investigation	93	105	59	26
Cybersecurity Digital Forensics	0	0	77	150
Cybersecurity Network Security	0	0	155	303
Network Security	160	177	123	57
Total Cybersecurity	253	282	414	536

Cybersecurity Enrollment

- Note: Enrollment data reflect program emphasis revisions in 2016-2017

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Findings – Strengths

Strengths - Reputation

- o CSN Cybersecurity is recognized as one of the elite programs in the country. CSN is the <u>only</u> college in Nevada to hold the designation as a National Center for Academic Excellence in Cyber Defense.

Strengths - Facilities

- o Excellence of curricular rigor and robust delivery in Digital Forensics and Network Security.
- o The program received funding from the Governor's Office of Science, Innovation, and Technology for facility and equipment acquisition and improvement.

Strengths - Faculty

- o Faculty training and certification in network security, ethical hacking, penetration testing, and other cybersecurity functions has been well supported through Carl D. Perkins Career and Technical Education Act funding.

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Findings – Concerns

Concerns: Limited instructional talent.

- o There is a shortage of local and regional full or part-time instructional talent. Because of the high demand for skilled cybersecurity personnel, the college is challenged by its ability to attract qualified teaching faculty. This will be a growing concern as the program enrollment continues to increase. Currently all faculty carry maximized workloads.

Solutions

- o Increasing connections with local business and government information technology leaders through industry associations and promotion of internship availability has expanded the college's reach.

- o Many businesses, anxious to reach potential employees, are volunteering their technical experts as adjuncts to deliver very specific content areas. It is incumbent on the department to balance these deliveries with the capabilities of the full-time faculty to assure a complete industry-ready curriculum.

Computing & Information Technology Cybersecurity

- **Occupational Outlook**
  - Bureau of Labor Statistics – National Data

Quick Facts: Information Security Analysts	
2017 Median Pay	$95,510 per year
	$45.92 per hour
Typical Entry-Level Education	Bachelor's degree (Cybersecurity Management)
	Associate degree (Cybersecurity Technician)
Work Experience in a Related Occupation	Less than 5 years
On-the-job Training	None
Number of Jobs, 2016	100,000
Job Outlook, 2016-26	28% (Much faster than average)
Employment Change, 2016-26	28,500

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Questions?