2021 HI-TEC

ELIMINATING DENIAL OF SERVICE:

ONE COLLEGE’S APPROACH TO INCREASING MINORITY REPRESENTATION IN CYBER
OUTLINE

• Miami Dade College
• History
• Goals Achieved and Approach
• CyberSecurity Curriculum
• CyberSecurity Pipeline
• Future Goals
• Awards
• Contacts
Dr. Diego Tibaquirá, Professor of Computing Science – MDC With a Concentration in CyberSecurity and Cloud Computing and Certified Ethical Hacker.

- Former United States Marine
- Graduated from a University with the Center for Academic Excellence in Cybersecurity Designation
- Graduate Certificate in Privacy and Security sponsored by the NSA
- Worked for the Federal Government as Information Security Specialist
- Principal Investigator of NSF Grant #1800958 – COMPASS & Grant #2000442 - ASCEND
Founded in 1959, Miami Dade is the largest college in the Florida College System with over 165,000 students. Additionally, MDC is also the largest institution of higher education in Florida, and the second-largest in the United States. Miami Dade College's main campus, the Wolfson Campus, is in Downtown Miami.
Miami Dade College or MDC, has eight campuses and twenty-one outreach centers located throughout Miami-Dade County.
Miami Dade College effectively increased opportunities for non-traditional, underrepresented minorities to obtain cybersecurity credentials and degrees by:

1. Developing an Associate in Science (AS) in Cybersecurity and a College Credit Certificate (CCC) in Network Security
   - Launched: Fall 2019
   - Enrollment: 201 students (Fall 2020)
COMPASS GOAL: ACHIEVED!

Associate in Science (AS) in Cybersecurity Enrollment 2019-2021

<table>
<thead>
<tr>
<th>Cybersecurity</th>
<th>Associate in Science</th>
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<tbody>
<tr>
<td>2019-2020 Year</td>
<td>Enrollment Total</td>
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<tr>
<td>Fall 2019</td>
<td>48</td>
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<tr>
<td>Spring 2020</td>
<td>56</td>
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<tr>
<td>Summer 2020</td>
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<td>Fall 2020</td>
<td>201</td>
</tr>
<tr>
<td>Spring 2021</td>
<td>234</td>
</tr>
<tr>
<td>Summer 2021</td>
<td>183</td>
</tr>
</tbody>
</table>

Enrollment Total: 773 students

Launched: Fall 2019

Enrollment: 773 students
COMPASS GOAL: ACHIEVED!

Miami Dade College effectively increased opportunities for non-traditional, underrepresented minorities to obtain cybersecurity credentials and degrees by:

2. Integrating instructional approaches into cybersecurity curriculum that have been shown to be effective in engaging and retaining minorities
COMPASS GOAL: ACHIEVED!

Miami Dade College effectively increased opportunities for non-traditional, underrepresented minorities to obtain cybersecurity credentials and degrees by:

3. Building the capacity of college faculty and high school teachers to provide relevant and up-to-date education in cybersecurity.
COMPASS GOAL: ACHIEVED!

Miami Dade College effectively increased opportunities for non-traditional, underrepresented minorities to obtain cybersecurity credentials and degrees by:

4. Creating pathways into cybersecurity degree programs of study through summer camps and dual-enrollment opportunities.

**Summer Camps**: 60 students

**Dual enrolled**: 52 students
AS in Cybersecurity – Core Curriculum

**MAJOR COURSE REQUIREMENTS**
- CGS 1060C Introduction to Computer Technology & Applications
- CTS 1134 Networking Technologies
- CTS 1120 Cybersecurity Fundamentals
- CGS 1700 Introduction to Operating Systems
- CIS 1531 Introduction to Secure Scripting

**PROGRAM COURSE REQUIREMENTS (16.00 credits)**
- CTS 1111 Linux +
- CIS 2214 Cybersecurity Analysis
- CET 2880C Digital Forensics
- CTS 2314 Network defense and countermeasures
COMPASS OTHER GOALS: ACHIEVED!

- Creating, developing and launching a Bachelors in CyberSecurity. Program was launched in Spring 2021
- Applying for NSF grants to continue supporting initiatives for creating opportunities for underrepresented minorities in the field of Computer Science and in CyberSecurity.
  - Summer 2020 awarded $410,000
  - Spring 2021 awarded $600,000
To gain NSA Accreditation as Center for Academic Excellence in CyberSecurity

Our Cybersecurity programs and courses map to the following:

- Cybersecurity Professional Certifications.
- Cybersecurity Job Roles.
- National Security Agency Knowledge Units (KUs).
- NIST Cybersecurity Workforce Framework Knowledge, Skills & Abilities (KSAs).
- Cybersecurity professional job performance standards.
- Local industry needs
AWARDS

As a result of all these accomplishments, MDC was awarded by EC-Council with the 2019 Academic Best Newcomer Award, which is only awarded to one education institution on the world each year.
QUESTIONS?

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THIS MATERIAL IS BASED UPON WORK SUPPORTED BY THE NATIONAL SCIENCE FOUNDATION UNDER GRANT #1800958.

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