



Miami Dade College Capability Statement

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POC Information: **Antonio Delgado, Dean of Engineering, Technology and Design**
 Address: 300 NE 2nd Ave, Miami, FL 33132
 Tel: 305-237-7006 E-mail: adelgad9@mdc.edu
 www.mdc.edu

OVERVIEW

Miami Dade College is the most diverse institution in the nation. There are 167 nations and 63 languages represented in its student body. The college's eight campuses and outreach centers offer more than 300 distinct degree pathways including associate and baccalaureate degrees, career certificates and apprenticeships. Baccalaureate degree offerings include biological sciences, engineering, data analytics, information systems technology, education, public safety, supervision and management, nursing, physician assistant studies, film and others. MDC is the recipient of many top national awards including the Aspen Prize.

The only community college in the Ashoka U Changemaker Campus, MDC infuses social impact into curriculum collegewide and across disciplines guided by the United Nations Sustainable Development Goals. This ethos comes to life in the Makers Lab, where students leverage the space, resources, and peer-to-peer cross-pollination to investigate today's problems and look for the solutions of tomorrow.

RESEARCH CAPABILITIES

Biomedical Research: Exoskeletons, IOT Medical Communication, Prosthetics, Neurological Interface, Drug Delivery Systems, Body Monitoring, Impairment Assistive Devices

Mathematics/Computer Science: Cloud Computing, Cyber Security, AI, VR, Coding/Programming, Algorithm Development, Math Modeling

Health Disparities: Mental Health, Quality of Life

Environmental Science: Climate Change, Pollution Control, Urban Space Improvement

Robotics/Sustainability in Space: Microgravity Research, Research Rovers, Cube Satellites,

FACILITIES

Opened to students in 2017, the Makers Lab at Wolfson Campus includes the use of comprehensive maker technology, materials, and fabrication. Both analog and CAD techniques are used in the design of a wide variety of student-driven, project-based public interest innovations. The Makers Lab is the primary resource for maker technology at MDC and the Lab has been designed with access at its core: free of charge, open to students, staff and



faculty of all disciplines and campuses. As a result of the Lab's efforts to educate faculty and students to the potential of maker technology, faculty at Wolfson and beyond have responded positively by increasingly embedding project-based assignments into their curricula with use of maker technology. Much of this interest has been driven by students, who are drawn to the technology and recognize the need to demonstrate cutting-edge skillsets as well as innovative and socially conscious solutions for jobs or as they look to transfer to other institutions. As a result, the Makers Lab has already served hundreds of students and multiple departments.

Taking into consideration the interdisciplinary collaboration that takes place at the Makers Lab and the positive outcomes at the Wolfson Campus, there are currently three new Makers Labs under development at different campuses.

- The Makers space at Padron Campus is looking to integrate Students Clubs with the Cloud Computer Center and other campus resources into one space where the students can create innovative projects. The lab is set for construction in 2020/2021.
- The AI Center at North Campus is planned to have a Makers Lab integrated to support the development of AI solutions with robotics. The Center will start the design stage in Feb/March 2020 for construction in 2020.
- Kendall Campus is planning the implementation of a Makers Lab for interdisciplinary collaboration between multiple departments. The space is in the planning stage with construction scheduled for 2020.

PAST PERFORMANCE

Since opening its doors in 2017 the Makers Lab at Miami Dade College has been the incubator and production space for many projects, some of the most notable projects have included various bio-medical, robotic and CNC controlled devices. An exoskeleton, FSAE car, fire-fighting robot, plastic recycler, and a vertical garden that won a 2018 Miami Foundation Public Space Challenge award.