

# Bridging Education and Career in the Cloud



**In the workforce development ecosystem that Miami Dade College (MDC) and Amazon Web Services (AWS) have developed, faculty are the lifeblood of the cloud computing program.**

The program focuses on students from the largely immigrant and low-income communities in Miami, enabling them to access higher education and connecting them to cloud computing careers with local businesses. This meets local workforce needs and promotes economic vitality by building talent committed to remaining in the community. Through the collaboration, MDC and AWS have brought together their strengths to create a sustainable cloud computing program at scale. Their approach has enabled them to design a program that keeps up with the rapidly-changing cloud computing sector, includes work-based learning opportunities, and serves the diverse needs of students at different points in their career trajectories.

## Starting with Faculty Professional Development

Before the collaboration with AWS, most of the MDC faculty had not received training in cloud computing as part of their own graduate and doctoral programs, so this was the first step in creating an industry-aligned college program. Dr. Elodie Billionniere, Senior Associate Professor, led the effort to get faculty trained and AWS-certified. She secured a National Science Foundation (NSF) grant to support faculty getting certified. These faculty then worked closely with AWS to build cloud computing into their existing courses and develop new degrees in cloud computing. “We are creating a pipeline of educators who understand the content from both a theoretical perspective as well as from a business perspective,” says Rebecca Allyn, the U.S. Business Development and Workforce Engagement Lead at AWS.



**“We are creating a pipeline of educators who understand the content from both a theoretical perspective as well as from a business perspective.”**

— Rebecca Allyn, AWS U.S. Business Development and Workforce Engagement Lead

## Designing a Program for Diverse Entry Points

MDC intentionally designed the cloud computing program for students from a variety of entry points including high school students and mid-career professionals looking to make a career change. For high school students, MDC created a two-week summer camp that prepares them to take the AWS Certified Cloud Practitioner exam. For students seeking a more traditional college program, they designed a program to earn an associate degree in networking services technology with an emphasis in enterprise cloud computing. Finally, for students already in the workforce who want to upskill for job growth or reskill to change careers, MDC designed a certificate in enterprise cloud computing. MDC faculty are now working on developing an advanced certificate program for students that want to continue on to DevOps or data analytics, advanced cloud computing skills.

MDC's cloud computing program was the first in the U.S. to have dual enrollment high school students become certified as AWS solutions architects before completing high school. Career changers are experiencing similar success in the program. Elias Marcet was working toward a career transition, completed the MDC cloud computing certificate and now works as an IT support associate at Amazon Pharmacy after achieving multiple certifications, including AWS Solutions Architect Associate. He states that "through the skills certifications and experience that I have acquired in MDC's cloud program, I was able to secure a position at Amazon." Since the program's start in 2019, over 250 MDC cloud computing graduates have earned AWS certifications.

**MDC intentionally designed the cloud computing program for students from a variety of entry points including high school students and mid-career professionals looking to make a career change.**

## Building a Program that Meets Industry Needs

Faculty in partnership with AWS designed the program to help students succeed in all aspects of their career pathway: technical skills, industry-recognized certifications, and employability skills. The collaboration between AWS and faculty is pivotal in connecting the program to the rapidly-changing needs of the cloud computing industry.

### TECHNICAL SKILLS

AWS supports the MDC faculty in developing curriculum that is relevant and connected to current problems that industry employers are working to solve. Faculty use AWS-developed curriculum to prepare students to learn cloud skills and prepare for the certification exams. AWS develops projects that are relevant to entry-level positions and based on real-world problems gathered from local industry. Faculty can use the whole project or parts of the project depending on how it fits into their existing curriculum. Together, AWS and the faculty also develop evaluation tools that can be used in two settings—in the classroom to assess proficiency on student learning outcomes and for companies to assess a student's skills as a first step into the hiring pipeline. This dual-purpose approach to assessment makes sure that the program is bridging the gap between education and employment.

## INDUSTRY-RECOGNIZED CERTIFICATIONS

AWS certifications are built into the design of the program. Faculty prepare students for the AWS certifications throughout the courses with the embedded AWS-specific projects and incorporate the AWS certification exam into the curriculum as the final exam. MDC and AWS subsidize the total exam cost.

## EMPLOYABILITY SKILLS

In addition to teaching technical skills and removing barriers to AWS certifications, MDC faculty and AWS recruiters and partners are mentoring students and providing them opportunities to develop key non-technical skills. Aimee Reyes, MDC Cloud Computing graduate and current Software Security Intern at Intel, recalls being profoundly affected by a faculty-led “I am Remarkable” workshop that taught her how to talk about herself in an interview: “It’s what I needed to feel comfortable talking about myself. Before this program, I didn’t know I was capable of learning so much and of doing so much within the technology sphere.” AWS recruiters work with students directly to coach them in developing their résumés, talking about the skills they have developed, and preparing for interviews.



**“It’s what I needed to feel comfortable talking about myself. Before this program, I didn’t know I was capable of learning so much and of doing so much within the technology sphere.”**

— Aimee Reyes, MDC Cloud Computing graduate and Software Security Intern at Intel

AWS also worked with employers to identify the top employability skills companies are looking for in new hires: the ability to work in groups, present to clients, and use data to justify decisions. MDC has embedded development of these skills into the curriculum and program. And they worked with AWS to build in opportunities for employers to witness students’ skills firsthand at events such as Game Days or Demo Days, where faculty, students, and industry representatives work in teams to solve industry problems.

Students continue to grow those skills in internships that they connect with through the MDC program. Tia Dubuisson, President of Belle Fleur Technologies, has developed an internship pipeline in partnership with MDC that looks more like an apprenticeship program. She takes pride that companies are poaching students from her: “Some of our customers have benefited from taking some of the talent [student interns] and by taking I mean they asked us and definitely they go with our blessing.” With the skills, mentorship, résumé, and experience, MDC students break through barriers and are showing employers what they can do. “This program has helped us to deepen our relationship with customers. It gives us a way to differentiate ourselves,” says Dubuisson.



**“This program has helped us to deepen our relationship with customers. It gives us a way to differentiate ourselves.”**

— Tia Dubuisson, Belle Fleur Technologies President

## Setting Students up to Soar into a High Growth Career

Students at all stages of their education and careers—new college students, high school students, mid-career professionals—have started the program and are thriving, some securing jobs in cloud positions before even completing the program. The collaboration with industry equips students to walk directly into jobs right after completing the program. And the design of the curriculum includes preparation for the job search—AWS recruiters conduct trainings and workshops where students learn what employers are looking for on résumés, practice interviewing, and receive coaching on interview skills.



**“When the engineers and architects and business people show up and interact with our students, providing them real-world problems, they start to see where their skills are. They support the program by bridging the gap between what students learned in the courses and what they need to know for the workplace.”**

— Eric Meyer, MDC Senior Associate Computer Science Professor

“When the engineers and architects and business people show up and interact with our students, providing them real-world problems, they start to see where their skills are. They support the program by bridging the gap between what students learned in the courses and what they need to know for the workplace,” states Eric Meyer, Senior Associate Computer Science Professor. This sets students up for immediate success. “MDC put money in my pocket,” states Bryant Pickford, former MDC Cloud Computing student, current AWS Solutions Architect.



For more information, visit  
[www.mdc.edu/cloudcomputingcenter](http://www.mdc.edu/cloudcomputingcenter)  
or email [cloudcenter@mdc.edu](mailto:cloudcenter@mdc.edu)

