

Student-To-Workforce Pipeline: Are Your Faculties' Future Cloudy?

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ABSTRACT

With the leverage of funding and academia-industry partnership for broader impact and student success, Miami Dade College created new educational pathways in cloud computing, which are unique in its state. The Dade Enterprise Cloud Computing Initiative provides students with project-based learning opportunities and access to leading cloud technology, giving them a competitive advantage by strengthening academic offerings that lead to not only an academic credential, but also industry certifications to meet the workforce demand. In this Work-In-Progress paper, we highlight the key findings specifically related to teaching the cloud courses from a focus group with the faculty members.

CCS CONCEPTS

- Social and professional topics → Computing education

KEYWORDS

Cloud computing; amazon web services; k-16; underrepresented groups; teaching experiences; project-based learning.

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1 Dade Enterprise Cloud Computing Initiative

From the Global Knowledge Salary Report (2018), developing and acquiring cloud IT skills is an absolute must [1]. IT decision-makers reported having a difficult time finding qualified IT cloud talent. This gap in skills creates an opportunity for educational institutions to create courses and programs to infuse cloud computing skills into their curriculum. The cloud computing programs enable students to apply their network skills to the cloud-based application, positioning themselves as valuable candidates in today's job market. Through a partnership with Amazon Web Services (AWS), Miami Dade College offers a

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cloud-related curriculum that provides students from traditionally underrepresented populations with the opportunity to develop expertise and stay on top of rapidly changing technologies.

The cloud academic programs are composed of six core courses: Cloud Fundamentals, Linux, Networking, Databases, Cloud Infrastructure and Services, and Cloud Computing Capstone. Four out of the six courses are targeting industry certifications, including AWS Cloud Practitioner and AWS Solutions Architect. The courses Linux, Networking and Databases have been cloudified for the cloud cohorts. As of May 2020, the program has 77 AWS certified Cloud Practitioners, including 21 high school students, and 31 AWS Solutions Architects, including 10 high school students.

2 Summary of Key Findings

During the year 2019, eight faculty were certified and accredited to teach cloud courses. Summarized below are the faculty's teaching experiences key findings for the academic year 2019–2020:

- Industry certifications earned by faculty are viewed more favorably by students.
- Cloud computing is an ever-evolving field, which presents challenges for teaching content to students.
- Faculty are not teaching students every new development or update from the thought leaders in the field.
- While the high school boot camp was compressed, the team-teaching approach strengthened the teaching and learning offered.
- A flipped classroom approach is often necessary for teaching cloud computing.
- Project-based learning affords students the opportunity for real-world problem solving as they learn.
- Industry-based projects can be difficult to create for students.
- Projects tend to work best once foundational information has been shared.
- The program has produced some of the first, and youngest, certified solutions architects in the country.

REFERENCES

[1] Global Knowledge. (2018). IT Skills and Salary Report <https://images.globalknowledge.com/wwwimages/web/salary-report/past-reports/it-skills-salary-report-2018-global-knowledge-en-ww.pdf>.