

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

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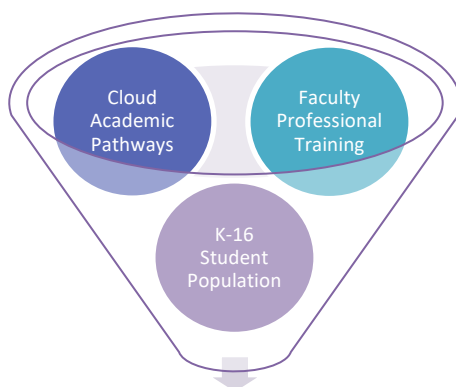
ABSTRACT

With the leverage of funding and an academia-industry partnership, for broader impact and student success, Miami Dade College created new educational pathways in cloud computing, unique to Florida colleges. 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 leading to not only an academic credential, but also multiple industry certifications to meet the workforce demands. We highlight here the faculty's teaching experiences key findings for the academic year 2019-2020.

Dade Enterprise Cloud Computing Initiative (DECCI)

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

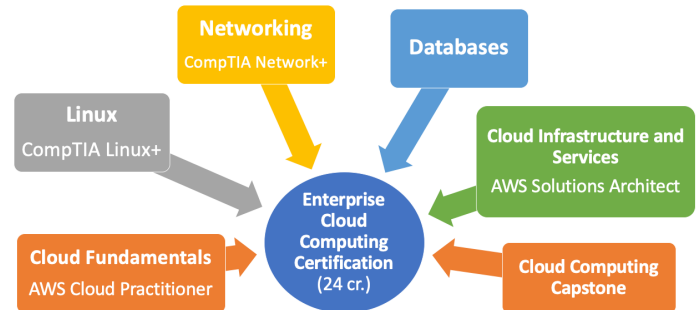
With this in mind, we launched the cloud literacy initiative to invest in cloud professional training with the industry leader in cloud computing solutions, Amazon Web Services (AWS), to close the cloud skills gap within the computing/IT field. The cloud initiative included three objectives as follows:



Student-to-Workforce Pipeline

The college credit certificate in Enterprise Cloud Computing include six courses in networking, Linux, databases, cloud infrastructure and a cloud capstone course taught in partnership with local cloud-based companies in order to work on agile, problem-based cloud solutions using real-world problem solving. Students may enroll in this certificate in conjunction with their associate or bachelor's program.

As of May 2020, the program produced 77 AWS certified Cloud Practitioners, including 21 high school students, and 31 AWS Solutions Architects, including 10 high school students.



Summary of Year 2 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.

Due to the urgency in hiring in cloud specialization, the top cloud providers AWS, Google, and Microsoft recently opened access to their education materials and provided self-paced online informal learning in EmTech at low cost and over a short period of time (six-month program) [2]. Our college has strengthened their academic-industry partnerships to work more closely with industry partners in order to meet their workforce expectations and develop curricula that align with the workforce of tomorrow based on cloud computing job roles.

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>.
- [2] Rahman, F. and Billionniere, E. (2020). Cultivating Next Generation Emerging Technology Workforce through Academia-Industry Partnerships. In Proceedings The 21st Annual Conference on Information Technology Education (SIGITE '20), October 7-9, 2020, Virtual Event, USA. ACM, New York, NY, USA, 1 page. <https://doi.org/10.1145/3368308.34154>.