DePaul University’s Cloud Computing Technologies Program provides a broad understanding of the different leading Cloud Computing technologies. The program is designed to quickly educate information technology professionals on various Cloud implementations and the organizational considerations necessary to effectively and wisely utilize Cloud services within their organizations.

The Cloud Computing Technologies Program is offered solely online. Program content will consist of instructor-led video, reading, homework assignments, lab exercises, and projects. The lab exercises will give the student first-hand knowledge of the skills needed to build and deploy a Cloud application using a variety of common services. While access to most Cloud services explored in the program will be provided to students in class, there may be some Cloud services that are only accessible via the use of a student’s own credit card. Students should expect to spend a small fee to access these services. In addition, in order to install and run the software used in the program, the student must have access to a computer running Windows® 10 with administrator privileges.

YOU WILL LEARN:

- Cloud Computing Concepts
- Cloud Computing Architecture
- Cloud Computing Standards
- Cloud Computing Implementation Strategies
- Exploiting Software as a Service (SaaS)
- Delivering Platform as a Service (PaaS)
- Deploying Infrastructure as a Service (IaaS)
- Workload Patterns and Resource Management
- Build your own Cloud using services from providers such as: Amazon®, IBM®, Microsoft®, and Salesforce.com®
- Migrating to the Cloud
- Case Studies and Best Practices

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CLOUD COMPUTING TECHNOLOGIES PROGRAM

The term “Cloud Computing” commonly refers to computing services available on demand, over the Internet, and that allow for dynamic elastic growth based on business needs. It encompasses a range of services: from basic infrastructure hosting (servers, databases, etc.) to hosting of development platform environments, to applications hosting. The services can reduce the time it takes to get products and/or services to market; reduce application development and deployment barriers and increase the flexibility of the IT organization.

Cloud Computing represents a major shift in the economics, development, and services provisioning of IT, and of business development in general. It has the potential to reduce an IT organization’s capital and support costs, enable applications to be implemented faster and allow applications to grow to accommodate user needs, it is a computing trend that has already made a major impact and can only be expected to grow in the future. As with many great opportunities, Cloud Computing also presents many challenges and some risks, which IT workers and decision-makers need to be aware of.

The Cloud Computing Technologies Program is designed to explore the essential aspects of Cloud Computing. The program is ideally suited to business and IT professionals who need a firm overall knowledge of the technologies involved, including: Senior IT managers and those assessing the potential for Cloud Computing in their organization; Systems Architects looking to design cloud-based systems; IT operations managers responsible for infrastructure and staffing; application developers assessing computing options for development projects; and application engineers responsible for deploying and managing Cloud applications. The ideal participant should have professional work experience in an IT job function and an interest in, or a need to know more about, Cloud Computing. Advanced computer programming skills are not required; however, students should have been exposed to basics of programming logic in a prior course. Instructors will be accessible in person and through electronic mail.

CURRICULUM

YOUR LEARNING ENVIRONMENT
Program overview. Tools used in the program.

CLOUD CONCEPTS
Review of different computing models such as Grid Computing, Utility Computing, Super Computing, Cluster Computing, and Distributed Computing. Understanding the difference in resource management between on-premise and Cloud. Discuss various workload patterns in the real-world.

CLOUD ARCHITECTURE

CLOUD STRATEGY
Identifying business challenges and understanding business needs. Defining Cloud objectives and achieving ROI. Creating a roadmap to transform on-premise business processes to the Cloud. Create a Cloud strategy on target market, go-to-market approach, pricing strategies and sales alignment.

CLOUD COMPUTING TERMS AND STANDARDS
Introduce Cloud Computing terms and definitions. Review existing Cloud Computing standards and the various efforts to develop new Cloud Computing standards.

EXPLOITING SOFTWARE AS A SERVICE (SaaS)
Software on demand, through a subscription, in a "pay-as-you-go" model. Application delivery model (single instance, multi-tenant architecture). Discuss pricing, partnering, and management. Review Sales Force Automation and other SaaS vendors.

DELIVERING PLATFORM AS A SERVICE (PaaS)
Web-based user interface creation tools. Integration with Web Services and databases. Building a high-availability, high-scalability, and high-performance Cloud environment or application.
| **BUILDING A CLOUD** | Hands-on lab using services from providers such as IBM, Amazon, Microsoft, and Salesforce.com to enable students to build their own Cloud Computing environment. |
| **MIGRATING TO A CLOUD** | Discuss the issues related to migrating existing applications to the Cloud. Discuss Cloud Computing business cases which can reduce IT support costs and software licenses fees, better connect people, and improve service delivery. |
| **CASE STUDIES AND BEST PRACTICES** | Reviewing best practices on each business model and technical solution. Various real-world case studies. |

**GENERAL INFORMATION**

**ADMISSION**

Professional work experience in an IT job function is required. Advanced computer programming skills are not required; however, students should have been exposed to basics of programming logic in a prior course. In order to install and run the software used in the program, the student must have access to a computer running Windows® 10 with administrator privileges.

A substantial commitment of time is required for this intensive course of study. Acceptance into the program will be determined by the admissions committee on the basis of an applicant's overall qualifications, including work history and educational background.

**LAB EXERCISES**

Students will be assigned hands-on lab exercises at regular intervals through the program to reinforce concepts learned. Required lab exercises will include Microsoft Azure, Amazon Web Services, Google, IBM Bluemix, and others.

Some lab exercises will be done through the installation of publicly-available freeware on the student’s own computer. Free trial Cloud accounts will be available through various Cloud service providers. Lab support via e-mail will be available throughout the program duration.

**CLASSES**

The Institute offers one section of the program each quarter. Students will have access to course materials through DePaul University’s Desire to Learn (D2L) course management system available at https://d2l.depaul.edu.

**FACULTY**

The faculty consists of a team of instructors from the College of Computing and Digital Media and experts from industry. Faculty will be available throughout the program both in person and through e-mail.
COLLEGE OF COMPUTING AND DIGITAL MEDIA

The college, through its School of Cinematic Arts, School of Computing, and its School of Design, offers a variety of programs at the undergraduate and graduate levels. Over 3,000 students are enrolled in the college’s bachelor’s programs and over 2,700 students are enrolled in the master’s and Ph.D. programs making the college’s graduate program one of the largest in the country. The college offers more than 300 courses each quarter, many in the evening, and primarily in the Loop and Lincoln Park Campuses. Most of the degree programs are also available exclusively online.

Offerings at the undergraduate level include:

- Animation B.A. / B.F.A.
- Computer Science B.S.
- Cyber-Physical Systems Engineering B.S.
- Cybersecurity B.S.
- Data Science B.S.
- Film and Television B.A./B.F.A.
- Game Design B.S.
- Game Programming B.S.
- Graphic Design B.F.A.
- Information Systems B.S.
- Information Technology B.S.
- Interactive and Social Media B.S.
- Math and Computer Science B.S.
- Network Engineering and Security B.S.

Offerings at the graduate level include:

- Animation M.A.
- Applied Technology M.S.
- Business Information Technology M.S.
- Computational Finance M.S.
- Computer Science M.S.
- Cybersecurity M.S.
- Digital Communication and Media Arts M.A.
- E-Commerce Technology M.S.
- Experience Design M.A.
- Film and Television M.S.
- Game Programming M.S.
- Health Informatics M.S.
- Human-Computer Interaction M.S.
- Information Systems M.S.
- IT Project Management M.S.
- Network Engineering and Security M.S.
- Predictive Analytics M.S.
- Product Innovation and Computing M.S.
- Software Engineering M.S.
- J.D./M.S. in Computer Science Technology

INSTITUTE FOR PROFESSIONAL DEVELOPMENT

The Institute for Professional Development was formed by the college in 1984 to assist both individuals and businesses in keeping pace with the rapid development of computer technologies. The Institute currently offers a variety of intensive certificate programs in these areas:

- Advanced SQL
- Big Data and NoSQL
- Big Data Using Hadoop
- Big Data Using Spark
- Cloud Computing Technologies
- Data Science for Business
- Introduction to SQL
- IPv6
- Java™ Developer
- Modern Information Technology
- Modern .NET Web Development
- SQL Server® Business Intelligence
- SQL Server® Database Administration
- Technology and Innovation
- Web Development with JavaScript & HTML5

APPLICATION PROCEDURE:

Complete the enclosed application and return it with a non-refundable $40.00 application fee (check or money order made payable to DEPAUL UNIVERSITY) to:

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