IBM Academic Initiative: Colleges and Universities Teaching System z - Come On, Meet the Educators!

Monday, August 12, 2013: 1:30 PM-2:30 PM
Location: Room 204 (Hynes Convention Center)
Session # 13912

Kathy Pfeiffer (pfeiff@us.ibm.com)
Don Resnik (resnik@us.ibm.com)

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Agenda

- **Welcome and opening remarks**
- **Brief Academic Initiative update**

  - Kathy Pfeiffer – IBM Academic Initiative Program Manager
  - Don Resnik – IBM System z Client Skills leader

- **Welcome leading schools teaching IBM Enterprise Systems**
  - Dr. Frank Lee, New York Institute of Technology
  - Dr. Cameron Seay, North Carolina A&T State University
  - John Turchek, Robert Morris University, PA

- **Q & A**

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NEW Academic Initiative web site – ibm.com/university/systemz

Welcome | Teaching topics | Community | Membership | Search

System z: Mainframe computing

The mainframe has always been the IT industry's leading platform for transaction processing, consolidated and secure data serving, and supporting enterprise-wide applications. The new zEnterprise server is the world's fastest, most scalable and secure enterprise system that creates an optimized infrastructure, integrates operational data with analytics, and enables cloud delivery.

IBM continues to modernize and simplify the mainframe platform, while partnering with IBM customers, Business Partners and academia from around the world to build more of the skills that industry demands. We provide resources to teach your students about mainframe computing, give those students virtual access to an IBM mainframe, and help students get jobs with the largest and most successful companies in the world.

Find an IBM mainframe contest to help your students get hands-on System z
great prizes. The contests are available worldwide and no experience is nec

Watch this brief video to learn about the benefits of the System z academic
employers, educators, students and IBM executives.

→ **Find out which schools participate**

Become an Academic Initiative member

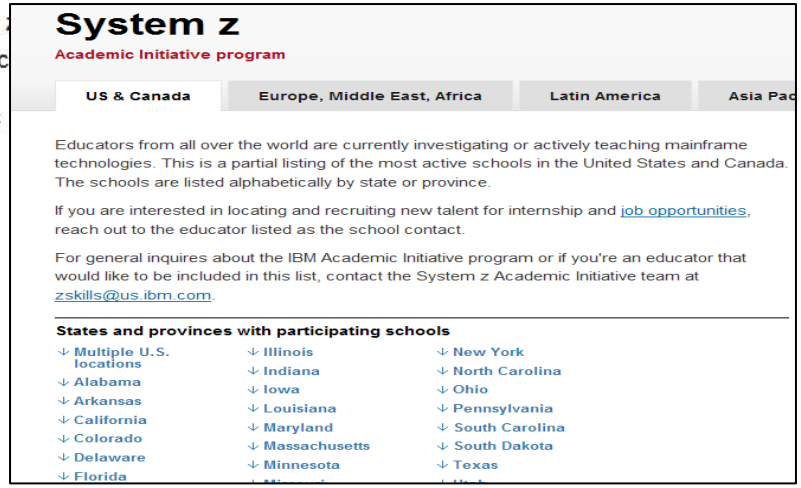
- Discover more about the program (187KB)
- → Join now — at no charge!
- → Renew your membership

Contact IBM Academic Initiative

- Email
- → Get support

Contact the System z academic team

- Email



System z

Academic Initiative program

US & Canada | Europe, Middle East, Africa | Latin America | Asia Pac

Educators from all over the world are currently investigating or actively teaching mainframe technologies. This is a partial listing of the most active schools in the United States and Canada. The schools are listed alphabetically by state or province.

If you are interested in locating and recruiting new talent for internship and job opportunities, reach out to the educator listed as the school contact.

For general inquires about the IBM Academic Initiative program or if you're an educator that would like to be included in this list, contact the System z Academic Initiative team at zskills@us.ibm.com.

States and provinces with participating schools

- Multiple U.S. locations
- Alabama
- Arkansas
- California
- Colorado
- Delaware
- Florida
- Illinois
- Indiana
- Iowa
- Louisiana
- Maryland
- Massachusetts
- Minnesota
- New York
- North Carolina
- Ohio
- Pennsylvania
- South Carolina
- South Dakota
- Texas

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NEW! School Profiles – Connecting clients with schools

Access profiles on:

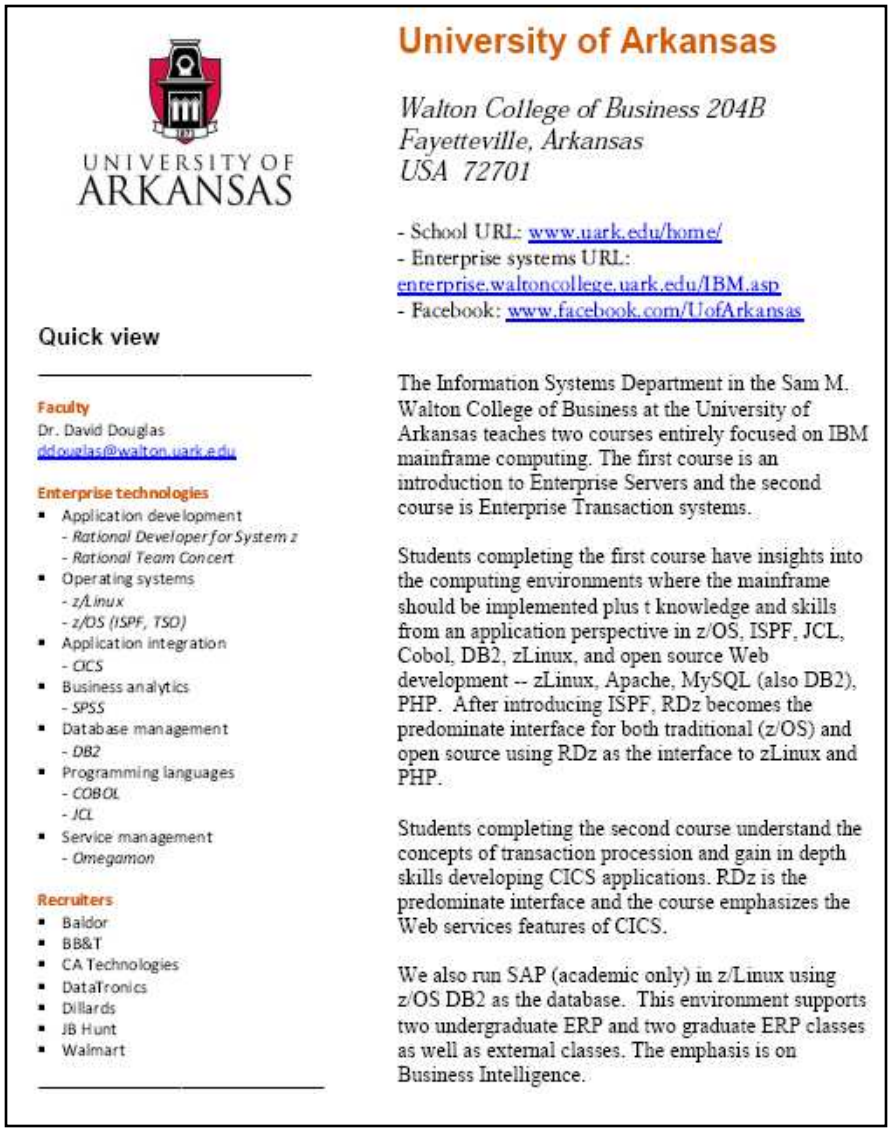
- System z participating schools page

ibm.com/systems/z/education/academic/schools_na.html

- IBM Connections

- Search Public folders (search Academic initiative)

ibm.com/connections/files/app#/public



UNIVERSITY OF ARKANSAS

University of Arkansas

Walton College of Business 204B
Fayetteville, Arkansas
USA 72701

- School URL: www.uark.edu/home/
- Enterprise systems URL: enterprise.waltoncollege.uark.edu/IBM.asp
- Facebook: www.facebook.com/UofArkansas

Quick view

Faculty
Dr. David Douglas
ddouglas@walton.uark.edu

Enterprise technologies
- Application development
  - *Rational Developer for System z*
  - *Rational Team Concert*
- Operating systems
  - *z/Linux*
  - *z/OS (ISPF, TSO)*
- Application integration
  - *CICS*
- Business analytics
  - *SPSS*
- Database management
  - *DB2*
- Programming languages
  - *COBOL*
  - *JCL*
- Service management
  - *Omegamon*

Recruiters
- Baldor
- BB&T
- CA Technologies
- DataTronics
- Dillards
- JB Hunt
- Walmart

The Information Systems Department in the Sam M. Walton College of Business at the University of Arkansas teaches two courses entirely focused on IBM mainframe computing. The first course is an introduction to Enterprise Servers and the second course is Enterprise Transaction systems.

Students completing the first course have insights into the computing environments where the mainframe should be implemented plus t knowledge and skills from an application perspective in z/OS, ISPF, JCL, Cobol, DB2, zLinux, and open source Web development -- zLinux, Apache, MySQL (also DB2), PHP. After introducing ISPF, RDz becomes the predominate interface for both traditional (z/OS) and open source using RDz as the interface to zLinux and PHP.

Students completing the second course understand the concepts of transaction procession and gain in depth skills developing CICS applications. RDz is the predominate interface and the course emphasizes the Web services features of CICS.

We also run SAP (academic only) in z/Linux using z/OS DB2 as the database. This environment supports two undergraduate ERP and two graduate ERP classes as well as external classes. The emphasis is on Business Intelligence.

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Building credentials – Entry level proficiency exams

IBM System z Mastery Exam

- Audience – Students studying enterprise systems and industry professionals new to the platform
  - Cost - $95
  - No cost offering to Academic Initiative members / students
  - 4,000+ students from 40 countries
- Available at 5,000+ Prometric locations
- Avenue for students to validate Enterprise Computing knowledge and distinguish themselves from other job candidates
- Industry feedback: Valuable measurement of 'Entry Level Criteria'
- **Resources**
  - Based on the *Introduction to Mainframes: z/OS Basics*
- **Learn more at**
  - **ibm.com**/developerworks/university/systemz/masterytest/
  - **ibm.com**/certify/mastery_tests/ovrZ05.shtml

Take the System z Mastery at NO COST at SHARE Boston

13753: IBM System z Mastery Certification

Monday, August 12, 2013: 6:00 PM - 7:30 PM

Room 202 (Hynes Convention Center)

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Professors from across the US attend the IBM Summer Faculty Seminar at Syracuse University

- 30 professors / 18 schools
- Expand / implement curriculum
- Presentations
- Hands on experience with the use of labs
- Green Data Center tour
- Topics
  - Introducing Enterprise Technologies
  - Virtualization and Linux
  - Fundamentals of z/OS
  - Enterprise Security
  - Integrating DB2 using RDz into your Database Curriculum
- Industry participation / panel
  – Bank of New York-Mellon, Fidelity, JP Morgan Chase, Vanguard

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IBM Master the Mainframe Contests - *Generating student enthusiasm*

- Runs in the fall semester
- Hands-on contest for university and High school students
- No experience necessary
- Remote logon from dorms, apartments, labs
- Increasing difficulty, increasing prize levels
  - Part 1: 1-2 hours to complete, win a T-shirt
  - Part 2: 10-20 hours to complete, win IBM Prize Pack
  - Part 3: Weeks to months to complete, win a tablet computer and a trip to an IBM mainframe lab

2013 Contests

Brazil

China

India

Poland

Russia

Spanish SA (9 countries)

United Kingdom

US & Canada

Worldwide totals: 8 years, 33 countries, 59,000+ students!

ibm.com/university/contest

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RD&T – Off-host z enterprise system for professors

Announcing a new academic offering for educators

Rational Development and Test Environment for System z

- System z software (z/OS and middleware) running on an x86 platform under Linux
- Available on 8/1/2013 to members of the IBM Academic Initiative
- One year fixed term license at 97% discount from list price
- The target audience is educators and industry adjuncts who are advanced in IBM System z and can administer a system
- For more information on this offering and other offerings from the System z Academic Initiative, see “Software and system access” at

ibm.com/**university/systemz**

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Job Boards

Connecting employers with a global pool of mainframe talent, including students and experienced professionals

- **System z Job Board: systemzjobs.com**
  - **Free, secure, easy-to-use job posting site**
  - **Sponsored by IBM Academic Initiative System z**
- **IT-ology's IT Gateway: it-ology.org**
  - **Allows posting/viewing of resumes**
  - **Student-focused, US-centric**
- **Enterprise Systems Media Jobs portal: enterprisesystemsmedia.com/jobs**
  - **New jobs posted daily**
  - **Focused on connecting employers with experienced professionals**

Questions?

Contact zSkills@us.ibm.com

Sources of System z educated students

Master the Mainframe Contest Wall of Fame

- Link to contest
- Recommend internet search:
  - "IBM Master the Mainframe Contest Winners"
  - "Master the Mainframe" facebook
- Part 3 winners are the elite with the most acquired experience
- Send note to **zskills@us.ibm.com** to connect with students

Participating Schools

- Link to member schools
  - Organized by geography
  - Note schools with "Profile" and "Case Study"

★ **New in 2013**
Link to School Profiles
See what they teach
Search capability

- Link to school profiles
  - Search by Public Folders, Public Files, or by tag
  - Search for Academic Initiative

SystemzJobs.com

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Social Media

"Like" us on Facebook to keep up with all the latest news, offerings and events!

- **IBM Academic Initiative System z**
  www.facebook.com/EnterpriseAcademicInitiative

- **IBM Master the Mainframe Contest**
  www.facebook.com/MasterTheMainframe

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Welcome leading schools teaching IBM Enterprise Systems

– Dr. Frank Lee, New York Institute of Technology

– Dr. Cameron Seay, North Carolina A&T State University

– John Turchek, Robert Morris University, PA

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Frank Lee, Ph.D.

New York Institute of Technology
fli@nyit.edu

NYIT hosted Roundtable event on February 28, 2013

Goals:

- Discuss industry breakthroughs and best practices
- Present on ES directions and trends
- Discuss implications on R&D and industry requirements for workforce development
- Discuss academic preparation of the next generation of practitioners

NYIT

BUILDING TOMORROW'S

IBM Systems Experts

ROUND TABLE EVENT

Hosted by New York Institute of Technology and IBM Academic Initiative

A strong relationship between educators and businesses is critical. Together, we can define the future for Enterprise Systems education requirements so that students will graduate with marketable skills.

Please join NYIT faculty, IBM, your peers and representatives from industry on 2/28 to discuss the development of the next generation of information technology leaders from NYIT.

The goal of this meeting is to discuss the skills you require to run your IBM systems.

As an information technology leader within an organization that leverages IBM's Enterprise Systems technology, we believe your organization can benefit, long-term, by talking to educators about the use of IBM systems in your business.

We are gathering to listen to the needs of industry and understand what job opportunities are available for graduates with enterprise computing skills.

Where: **New York Institute of Technology**
When: **February 28, 2013**
Time/room:
Conference: 8:30am to 11:45am
Remarks from NYIT, IBM and Vicom Infinity, with special guest speakers:
- **Martin Kennedy,** Managing Director of Enterprise Systems, Citigroup
- **James Onalfo,** Deputy Commissioner and CIO, NYPD
NYIT Auditorium on Broadway, 1871 Broadway (btw 61st & 62nd), NYC

Roundtable: 12:00pm to 2:15pm
EGGC Board Room 12th floor, 1855 Broadway (btw 60th & 61st), NYC

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Industry Speakers:

- Maria Boonie, VP, System z Software Development, IBM
- Martin J. Kennedy, Managing Director, Datacenters, Citigroup
- Richard Schnauthiel, Systems Manager, Con Edison
- Gustavo Garcia, Manager, Intrastructure Engineering and Support, Insurance Services Office (ISO)
- Leonard Santalucia, CTO and Business Development Manager, Vicom Infinity, Inc
- James Onalfo,*Deputy Commissioner and CIO, New York Police Department (NYPD)*

Conclusion: Modification of current curricula

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Preparation:

- Became an Academic Initiative member
- Visited the Academic Initiative web site for an overview of the learning resources, software and hardware offered.
- Attended the 2013 System Z Summer Professor Seminar at Syracuse university, Syracuse, New York
- Attended the 5th Annual National Conference on Enterprise Computing at Marist College, Poughkeepsie, New York

Curriculum modification:

- Developing a new course: Big Data Management & Analytics
- Revitalizing an existing course: CSCI-405 Distributed Database Systems
- Integrating Enterprise Systems information into current courses

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Enterprise Systems at NC A & T

Cameron Seay
School of Technology
North Carolina Agricultural and Technical State University

North Carolina Agricultural and Technical State University

Explore. Discover. Become.

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Absolute Essentials for an Enterprise Systems Program

Departmental buy-in- If the Department does not commit to the program, it will go nowhere.

Student buy-in- this is probably the trickiest part, because you have to convince students to take it on faith that this is something they should do.

Concurrently, industry buy-in- you need companies ready to hire your students NOW, as soon as they have taken the classes!

Becoming part of the mainframe culture- you have to know the players in the game: the industry leaders, the academic leaders like A & T and Marist, the conferences like SHARE and the z-Linux Council, and have a presence at all of these activities whenever possible.

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The Enterprise Systems Program in the School of Technology
The "mainframe track"

ITT 340 – Introduction to Mainframe Operations

ITT 355 – Network Servers (z/VM)

ECT 390 Special Topics – Intermediate Mainframe Operations

ECT 390 Special Topics – Advanced Mainframe Operations

Proposed additions: ECT 305- Storage Technologies, and an advanced database special topics course

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Proposed Graduate Certificate in Enterprise Systems

Students are eligible with a bachelor's degree (can facilitate students qualifying for grad degree programs)

Introduction to Enterprise Systems Management

Enterprise Architecture (networking, virtualization)

Enterprise Data Management (data mgt, analytics)

Enterprise Systems Operations (COBOL,CICS, DB2, Websphere)

We are considering adding the IT Strategy class all of our grad students take

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AGGIE PRIDE!!!!

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Keys to Success for the SoT ES Program

Focus on the K-12 >> A & T >> Industry Continuum
(this is quite broken now)

Better collaboration among participating colleges, particularly those seeking to start ES programs

Seek industry's help understanding their proposal submission process for funding opportunities

This is not only about placement! There are special projects we can collaborate on

Get Tamela Shannon an Internship!!!!

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John Turchek
turchek@rmu.edu

www.rmu.edu/

- Five undergraduate degrees, six masters degrees, and a Doctorate in Information Systems & Communication.
- 23 full-time faculty members in the CIS Department
- ABET Accredited programs
- 350 undergraduates, 325 graduate students, 50 Doctorate Students, and 35 BS/MS Integrated Program students.
- Ranked past two years as a “Top 20 Online Graduate Technology Degrees in the World” by *US News & World Report*.

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- We offer COBOL, Advanced COBOL, CICS, ZOS, and DB2 at both the undergraduate and graduate levels. The courses are regular undergraduate and graduate courses taught be our regular full-time faculty.
- These credit-bearing courses in the five course 15-credit sequence may be earned as a certificate program or may be part of five undergraduate degrees or three graduate degrees.
- Currently, all five Enterprise Systems courses are taught on ground or online.

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Undergraduate Certificates/Degree programs:

- Undergraduate Professional Certificate in Enterprise Systems (**Online** or on-ground)
- BS Computer Information Systems- Enterprise Systems Concentration (On-ground)
- BS-Information Science-Enterprise Systems Concentration (On-ground)
- BS Computer Forensics & Information Security-Enterprise Systems Area of Interest (**Online** or On-ground)
- BS Competitive Intelligence Systems-Enterprise Systems Area of Interest (On-ground)
- BS Professional Communication & Information Systems-Enterprise Systems Area of Interest (On-ground)

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Certificates/degrees

Graduate level:

- Graduate Professional Certificate in Enterprise Systems (**Online** or On-ground)
- MS Internet Information Systems-Enterprise Systems Specialization (**Online** or On-ground)
- MS Competitive Intelligence Systems- Enterprise Systems Specialization (**Online** or On-ground)
- MS Information Security & Assurance-Enterprise Systems Specialization (**Online** or On-round)

Note: Courses earned in the certificates may later be applied to degree programs

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Enterprise Systems Courses

Undergraduate Level certificate or degrees

- INFS2130 COBOL Programming
- INFS3130 Advanced COBOL Programming
- INFS3212 Enterprise Operating Systems
- INFS3131 Enterprise Transaction Processing Systems using CICS/COBOL
- INFS4242 Enterprise Database Systems

Graduate level certificate or degrees

- INFS6130 COBOL Programming
- INFS6320 Advanced COBOL Programming
- INFS6212 Enterprise Operating Systems
- INFS6321 Enterprise Transaction Processing Systems using CICS/COBOL
- INFS6242 Enterprise Database Systems

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Enterprise Courses 2012-13 results

- 94 students completed multiple enterprise systems courses
- Over 300 total registrations in Enterprise Systems courses during initial year of implementation.
- Online versions of all undergraduate and graduate Enterprise systems have completed Alpha and beta tests for implementation.

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New Enterprise Courses 2013-14

- Existing undergraduate and graduate JAVA courses to be upgraded to use WebSphere and WebSphere MQ

- Undergraduate and Graduate Mobile Apps courses to be updated to utilize WorkLight.

- Cognos to be re-implemented in all undergraduate and graduate Business Intelligence courses.

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Enterprise Systems Partners

- During the past year established “partnerships” with seven large firms in the Pittsburgh area. Currently, we are expanding adding new corporate partners both In and outside of the Pittsburgh Region.
- Currently in the process of “partnering” with other colleges/universities so that their students may enroll in our Enterprise Systems courses, certificates, and degree programs. First new academic partner to start September 2013.

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Questions?

IBM can assist **you** with Enterprise Systems Skills and Education

Contact us at zskills@us.ibm.com

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