Academic Initiative, System z

How to add Mainframe skills to your business

SHARE Anaheim
Session 12056 - Wednesday, August 8
9:30 AM-10:30 AM

Kathy Pfeiffer – IBM Academic Initiative program manager, pfeiff@us.ibm.com
Don Resnik – IBM System z Client Skills leader, resnik@us.ibm.com

The IBM Academic Initiative

Why IBM

Become a member of the IBM Academic Initiative and gain access to software, hardware, training, tools, books and tons of discounts. Learn of the hottest jobs, keep up with the latest technologies, and reap the benefits of open source.

Membership in the IBM Academic Initiative is free and open to individual faculty members.

Products & technologies

→ Power™ Systems

→ System z™

Information Management

Lotus. software

Rational. software

Tivoli. software

WebSphere. software

A skills initiative – An IBM program that partners with academic institutions worldwide to build a pipeline of skilled students for the IT jobs of tomorrow and skills for a smarter planet.
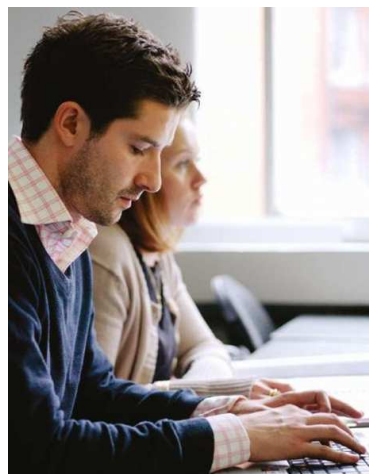
ibm.com/university/systemz

The Academic Initiative provides resources for…

Educators

Students

Professionals

Resources for Educators

- Program membership
  - 10 minutes (**ibm.com**/university/systemz)
- **Remote access** to IBM Mainframe systems
  - Full software stack available on hub systems
  - WW coverage and support
  - System customization according to skills
- Thousands of **software products** available for download
- Access to **course materials**
  - Modules to full semester
  - Foundational to advanced topics
  - Applicable to multiple computing disciplines
  - Presentations, textbooks, labs, exams
  - Teach as is or integrate into existing curricula
- Ongoing **Faculty skills development**
  - Seminars and workshops
  - Calendar of events
- **Connections** with the community
  - Roundtable
  - Participating schools

Products & technologies

→ Power™ Systems

→ System z™

Information Management

Lotus® software

Rational® software

Tivoli® software

WebSphere® software
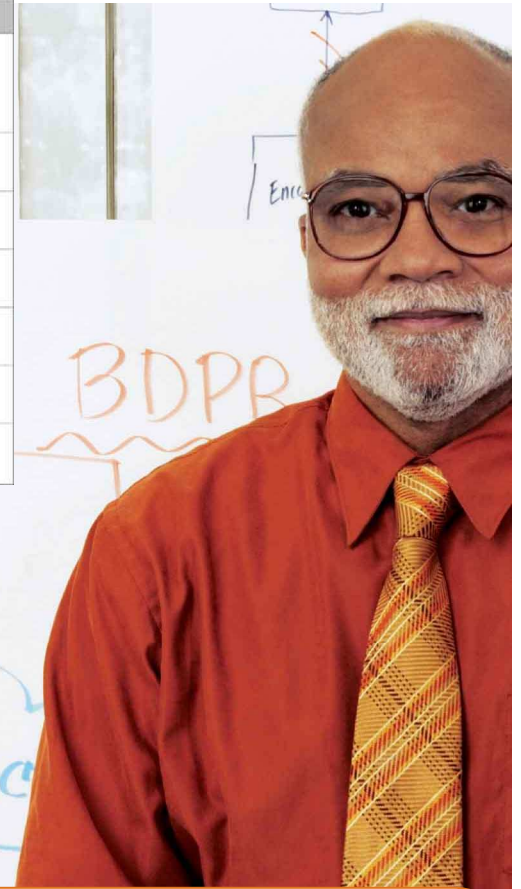
The Academic Initiative is **NOT** a predefined program.

It is designed for flexibility.

Use what you want when you want it.

Resources for Students

- **Student Portal:**
  ibm.com/university/students/

- **Participate in IBM sponsored contests**
  - **ibm.com**/university/students/contests/
  - Master the Mainframe (No experience necessary)

- **Launch your career**
  - Job Board - **SystemzJobs.com**
  - IBM jobs:
    ibm.com/university/students/jobs/

- **Validate your skills and get recognized**
  - IBM Certifications and Mastery tests

- **Scholarships and awards**
  - IBM Destination z
  - SHARE Academic Excellence Award
 - GSE Academic Excellence Award
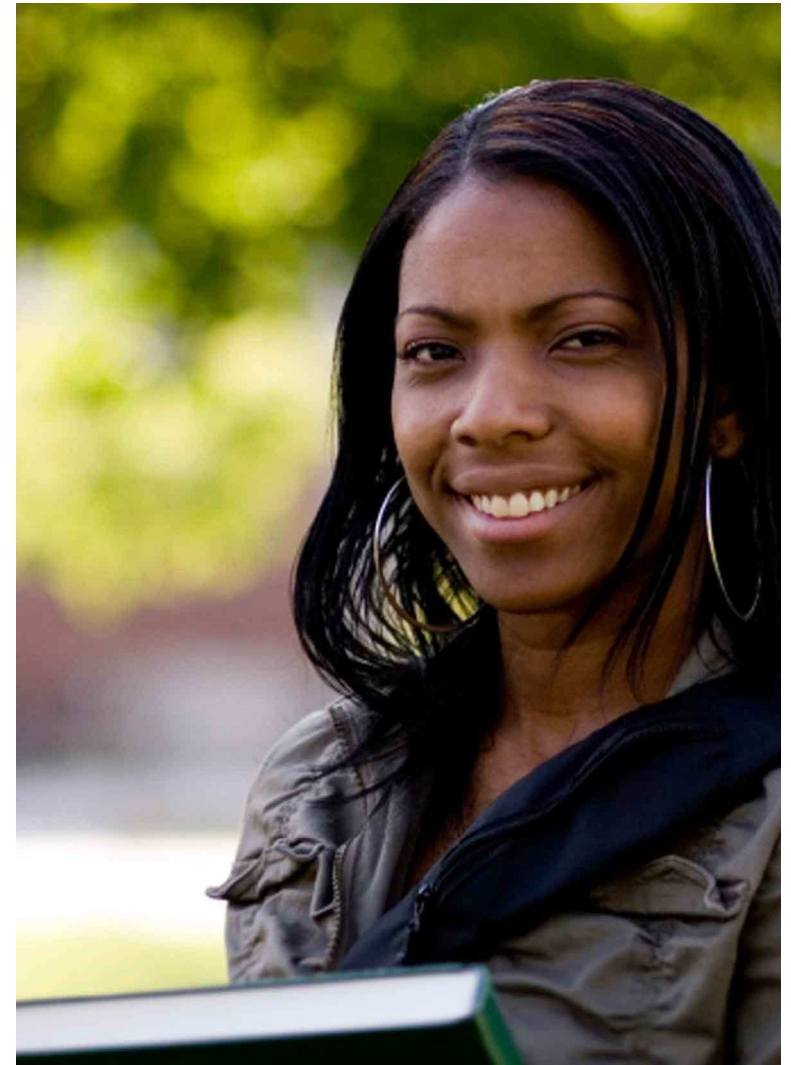
Membership is **NOT** required for students.

IBM Master the Mainframe Contest

- Run 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 $100
  - Part 3: Weeks to months to complete, win an iPad and a trip to an IBM mainframe lab

Lake Brantley AP Computer Science 2011-2012
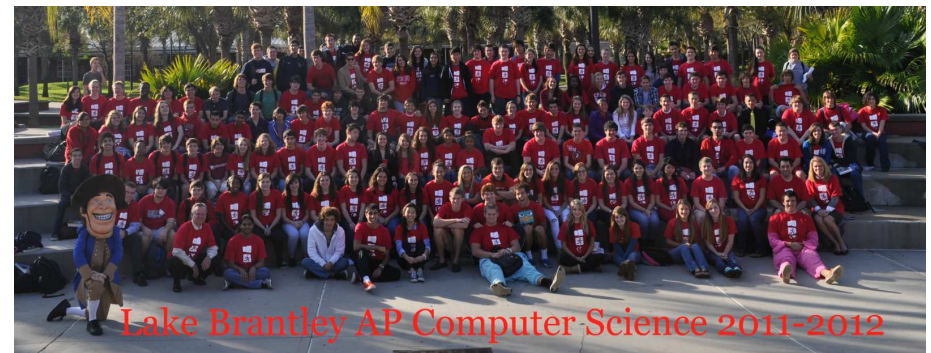
Worldwide totals: 7 years, 32 countries, 44,000+ students!

ibm.com/university/contest

Resources for <u>Industry professionals</u>

Use the Academic Initiative to build and locate skills

- **Locate schools** teaching enterprise systems to recruit new talent

- **Partner with IBM** to build new skills for your business

- **Advertise job opportunities** to students and experienced professionals

- **Use resources** to assist with building employees skills

- **Build credentials** through certification and mastery tests

- **Stay connected** with through communities and social media

Locate schools teaching Enterprise Systems
ibm.com/university/systemz

System z
Academic Initiative program

Learn	Teach	Connect	Support	Participating schools

↓ Overview   ↓ Learn the basics   ↓ Get trained

Companies worldwide rely on the leading-edge IBM System z platform.

States and provinces with participating schools

↓ Multiple U.S. locations	↓ Illinois	↓ New York
↓ Alabama	↓ Indiana	↓ North Carolina
↓ Arizona	↓ Iowa	↓ Ohio
↓ Arkansas	↓ Louisiana	↓ Pennsylvania
↓ California	↓ Maryland	↓ South Carolina
↓ Colorado	↓ Massachusetts	↓ South Dakota
↓ Delaware	↓ Minnesota	↓ Texas
↓ Florida	↓ Missouri	↓ Utah
↓ Georgia	↓ Nebraska	↓ West Virginia
↓ Idaho	↓ New Jersey	↓ Wisconsin

Partner with IBM to build new skills for your business

IBM will assist and enable a school of your choice to teach enterprise systems

Follow these steps:

1. Identify a school of your choice and ask yourself these questions:

   - Where does your company recruit new talent today?

   - Do you have an existing relationship with someone at a college or university?

     Don't limit your thinking to Computer Science.
     Consider IT, MIS, IS, CSE and Business majors.
     IBM has courses and modules that can be included in various majors to expose students to enterprise systems thinking

2. Contact IBM at zSkills@us.ibm.com.

Enterprise-level talent.
Enterprise-class careers.

> Lets employers post detailed job requirements for job seekers of all experience levels to review and apply

> Free, secure, and easy to use for employers and job applicants

> Global pool of talent specializing in mainframe technology, including both students and experienced professionals

➔ **SystemzJobs.com**

IBM
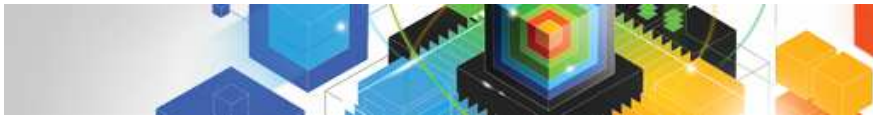
Use existing resources to assist with building skills

Consider a mix of free and for fee training resources when building your training plans

- IBM System z course materials for the community
  - 16 System z foundation courses
  - Materials – Modules to 15-week semester length courses

  ibm.com/systems/z/education/skills_coursematerials.html

- z/OS Introduction and workshop
  - One week introduction to the z/OS operating system
  - Audience - new to the System z environment, the z/OS operating system, and major software and subsystems like CICS, DB2, RDz and WAS
  - Located in Dallas, Texas
  - No cost for IBM Academic Initiative and IBM Partnerworld members

  ibm.com/partnerworld/wps/servlet/ContentHandler/pw_home_pub_index

✓Global Case Studies
Schools teaching z, clients hiring students)

https://www.ibm.com/developerworks/university/systemz/casestudies.html

✓YouTube Videos
Professors, Students, Clients embracing z

http://www.youtube.com/watch?v=0GPC3sM0UQg

✓ zPDT **–pilot at 7 universities**

Building credentials – Take the IBM System z Mastery Exam

- **Entry level z/OS Proficiency exam**
  - Audience – Students studying enterprise systems and industry professionals new to the platform
  - Available at 5,000+ Prometric locations
  - Avenue for students to validate z/OS knowledge and distinguish themselves from other job candidates
  - Industry feedback: Valuable measurement of 'Entry Level Criteria'
  - Analyst input: Key indicator of available skills
  - Cost: $75. No cost offering to faculty and students
  - 3,246 students from 40 countries

- **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 MASTERY EXAM AT SHARE ANAHEIM FOR FREE

Session 12057 IBM System z Mastery Certification

Wednesday, August 8, 2012
7:15 PM-8:45 PM

Orange County - Salon 2/3

Stay connected

- Academic Initiative System z on Facebook
  Connect with mainframe enthusiasts on our Facebook page.

- Destination z (destinationz.org)
  Online mainframe community. Contains blogs, twitter feed, and mainframe related social media and online content.

  Schools can become a Destination z member school, qualifying them to apply for the Destination z Enterprise Computing Scholarship.

- System z on Twitter

- SHARE (share.org)
  Largest mainframe user group is an independent, volunteer-run association that provides enterprise technology professionals and educators with training, professional networking, and industry influence.

- Students can apply for the SHARE Academic Award for Excellence.

- zNextGen (znextgen.org)
  A user-driven community for new and emerging mainframe professionals.

- Enterprise Computing Community (ecc,marist.edu)

- The mission of the ECC is to improve undergraduate education of large systems and graduate a new generation of talent that will provide industries with the ability to secure, sustain, and grow their operations. The community is open to educators, students, and industry professionals.

- GUIDE SHARE EUROPE (GSE) (www.gse.org)
  A non-profit association of companies, organisations and individuals who are involved in Information and Communication Technology (ICT) solutions based GSE is an independent organisation led by volunteers. Provides an opportunity to share ideas and solutions with industry colleagues, both on a regional and international level in Europe.

  Students can apply for the GSE Academic Award for Excellence.
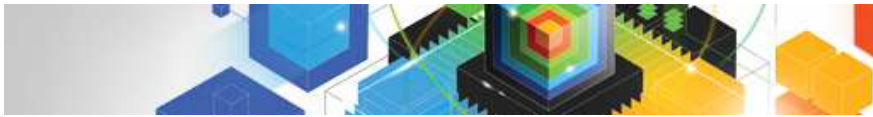
Distinguished faculty and leaders at SHARE...

California State University, CA	**Mohsen Beheshti**
Columbus State University, GA	**Dr. David Woolbright**
Fairmont State University, WV	**Dr. Joseph Blankenship**
Illinois State University, IL	**Dr. Chu Jong**
North Carolina A&T University, NC	**Dr. Cameron Seay**
Northern Illinois University, IL	**Dr. Robert Rannie**
Robert Morris University, PA	**Dr. Fred Kohun**
University of Arkansas, AR	**Dr. David Douglas**
University of Redlands, CA	**Eric Blum**
West Texas A&M University, TX	**H. Paul Haiduk**

* Session panelists

COLUMBUS STATE UNIVERSITY

Dr. David Woolbright

TSYS School of Computer Science

woolbright_david@columbusstate.edu

- Regional University in the University System of Georgia (Columbus, Georgia)

- Masters degree in Applied Computer Science with concentrations in Software Development, Information Assurance, and Modeling and Simulation. Online and face-to-face

- Bachelor of Science degree program with concentrations in Computer Systems, Applied Computer Science, and Game Programming

- Bachelor of Science degree in Information Technology (on campus and online); a Computer Science Teacher Endorsement, and a Minor in Computer Science.

- Thirteen full-time faculty (12 Ph.d's)

- 300 undergraduate students, 100 graduate students (online and regular track)

COLUMBUS STATE UNIVERSITY

- ICAPP Curriculum developed in 1992 with assistance of IBM and TSYS
  (Total System Services, Inc.)

- Nearly 2000 students have received degrees or certificates
  - 1000 of these were hired by TSYS (about 800 are still employed there)

- Every student takes an Assembler course using a System/z mainframe

- Approximately 40% of undergraduates take at least 3 courses on a System/z

- Courses include Structured Programming with COBOL (I and II), Assembly Language (I and II), Mainframe Basics and JCL, Database Systems, Transaction processing (CICS), Service-Oriented Architecture

- We also teach corporate training classes

- Departmental Website: http://csc.columbusstate.edu
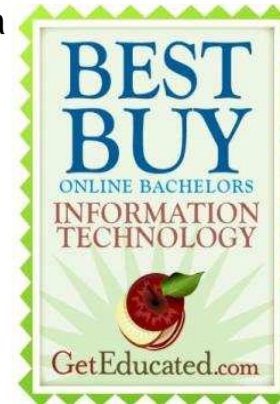
Dr. Joseph C. Blankenship
Associate Professor

School of Business

Department of Information Systems Management
joe.blankenship@fairmontstate.edu

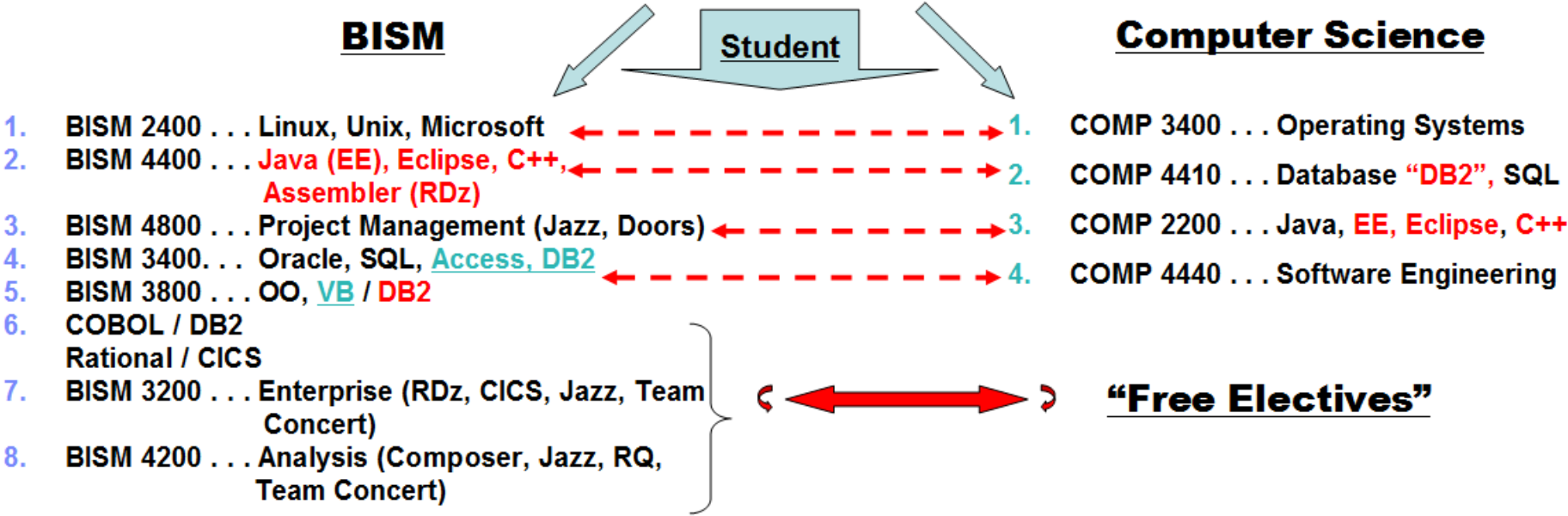## Fairmont State University - zEnterprise Systems (Mainframe Computing) Initiative

<u>Goals and Objectives</u>

▪ Develop an interdisciplinary zEnterprise computing curricula between the Schools of Business, Science and Technology.

▪ Create strategic business partnerships with companies seeking to hire students with zEnterprise Computing Skills and Knowledge.

▪ Build a diverse pipeline of students that have taken basic zEnterprise Computing Courses and are interested in pursuing a long term "<u>Career Path</u>" in zEnterprise Computing.

▪ Form a consortium of schools that will produce a consolidated "<u>Talent Pool</u>" of screened pipeline zEnterprise Systems candidates for regular hire and internship job opportunities

FAIRMONT STATE
UNIVERSITY

Interdisciplinary (cross) Curriculum Courses

BISM → Student → **Computer Science**

BISM		Computer Science
1. BISM 2400 . . . Linux, Unix, Microsoft	← - - - →	1. COMP 3400 . . . Operating Systems
2. BISM 4400 . . . Java (EE), Eclipse, C++, Assembler (RDz)	← - - - →	2. COMP 4410 . . . Database "DB2", SQL
3. BISM 4800 . . . Project Management (Jazz, Doors)	← - - - →	3. COMP 2200 . . . Java, EE, Eclipse, C++
4. BISM 3400. . . Oracle, SQL, Access, DB2	← - - - →	4. COMP 4440 . . . Software Engineering
5. BISM 3800 . . . OO, VB / DB2		
6. COBOL / DB2 Rational / CICS		
7. BISM 3200 . . . Enterprise (RDz, CICS, Jazz, Team Concert)	← →	**"Free Electives"**
8. BISM 4200 . . . Analysis (Composer, Jazz, RQ, Team Concert)		

Dr. Cameron Seay

North Carolina A&T State University
cwseay@gmail.com

- Consortium of colleges that allows employers to select from the best students of several campuses.

- Developing a concentration in Enterprise Systems

- 5-8 courses

- Curriculum will be offered to undergraduate students

  - Introduction to Enterprise Computing

  - Enterprise Computing Operations (JCL, ISPF, COBOL, CICS)

  - Introduction to Databases Using DB2

  - Introduction to Virtualization using z/VM

www.niu.edu
www.cs.niu.edu

- **More than thirty-five years of teaching Computer Science, including mainframe programming.**

- **Both the B.S. and M.S. programs demand rigorous programming assignments, including at least one IBM assembly course.**

  – The B.S. requires 12 computer science courses.

  – The M.S. program requires 10 computer science courses.

- **Both programs include IBM assembly language programming, as well as coursework in database, software engineering, general operating systems, UNIX, computer architecture, web development, and languages including C++, Java, and .NET/C#.**

Northern Illinois University
Learning Today, Leading Tomorrow

www.niu.edu
www.cs.niu.edu

- **Enterprise Tracks:**
  - Both the B.S. in Enterprise Software and the M.S. Enterprise track require *CSCI 465/565, Enterprise Application Environments:* COBOL, IBM utilities, and file organization and access methods.
  - The M.S. Enterprise track also requires *CSCI 641, Enterprise Operating Systems:* processes and threads, including multitasking, synchronization, interrupt handling, file systems, and memory management.

- **IBM's Master the Mainframe contest 2005-2011 (http://www.cs.niu.edu/aboutus/ibmprogcontest.shtml):**
  - 2 First Place winners
  - 3 Part 3 winners
  - 4 Part 3 Honorable Mention winners
  - 38 Part 2 winners
  - 3 Part 2 Honorable Mention winners
  - 10 $100 winners

- **The "Prospective Employers" link on the top right of the Department's website details the ways in which the Department of Computer Science can help with employers' recruiting efforts.**

Panel discussion

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

Contact us at zskills@us.ibm.com