

Assisting the community with the next generation of Mainframe skills



**IBM Academic Initiative
System z**

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Session Agenda

- Academic Initiative overview and update
- Program resources - something for everyone
 - Educators
 - Students
 - Mainframe community
- Mainframe communities
- Tips for connecting with schools to support skills development
- Q & A

What is the IBM System z Academic Initiative?



An IBM program that partners with academic institutions and System z clients and partners **worldwide** to build a pipeline of skilled enterprise system students for the IT jobs of tomorrow.

ibm.com/university/systemz

Contact us at zskills@us.ibm.com

Our goals

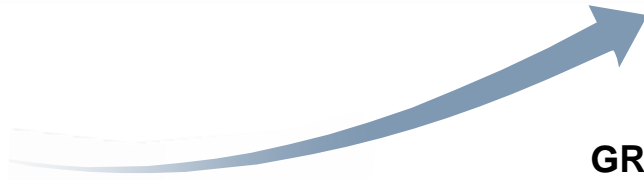
- Assist and enable the Mainframe community with skills
- Explore enterprise systems education alternatives
- Not selling IBM products
- Not asking educators to teach a predefined training program
- Resources available at no charge
- Build important relationships with educators, clients, and partners



The Academic Initiative System z Program assists and enables educators with IBM enterprise systems concepts, technologies, and examples.

System z Academic Initiatives

8 Years of investment, outreach, & growth = **More Mainframe Skills**



PROGRAM INVESTMENT



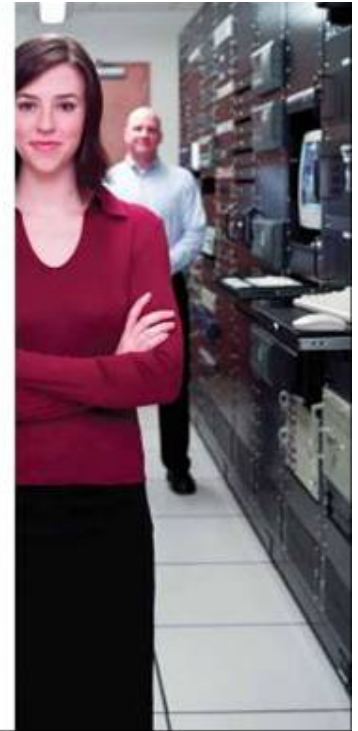
OUTREACH (community)

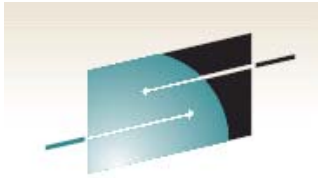


GROWTH (# schools)



CONNECTIONS (academia/industry)





SHARE
Technology • Connections • Results

CLOSING THE IT SKILLS GAP: 2011 SHARE Survey for Guiding University & College IT Agendas

Sponsored by



By Joseph McKendrick, Research Analyst
Conducted by Unisphere Research, a division of Information Today, Inc.
February 2011

SHARE serves more than 20,000 individuals representing over 2,000 of IBM's top enterprise computing customers. Our constituency includes many of the top international corporations (including the majority of the FORTUNE 500).

376

employers responded

6 out of 10

companies will be hiring programmers and developers over the coming year, and seek skills in application server environments, database languages, and Java

4 out of 10

companies still seek COBOL skills

Figure 29: Look to College or University Programs for Systems Programming and Administration Skills Preparation?

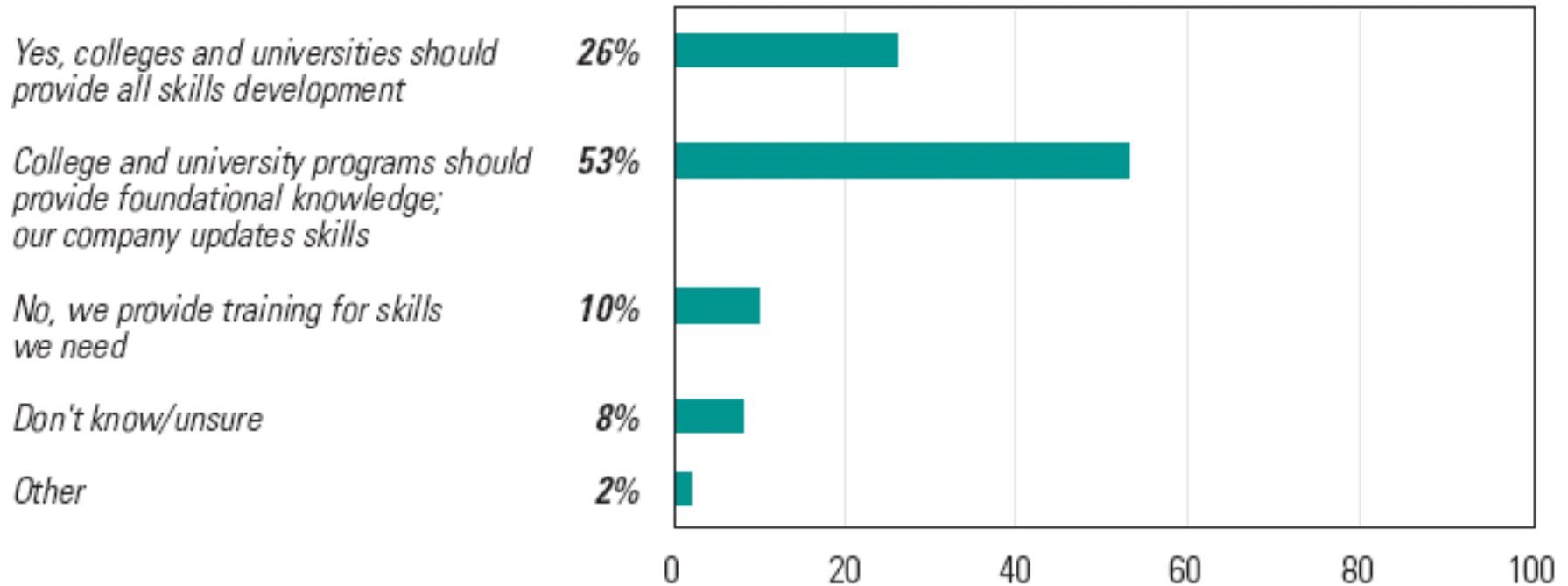
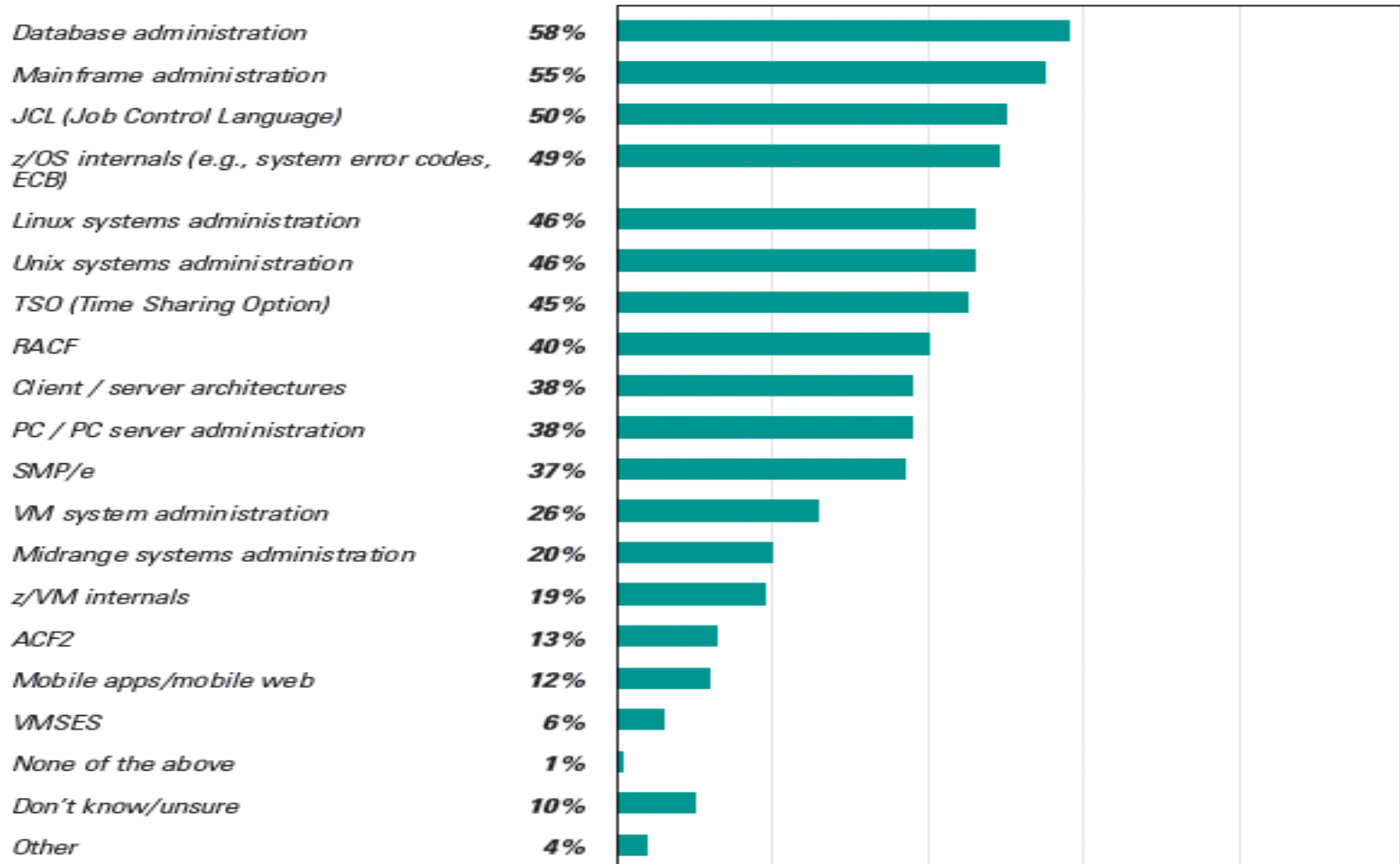


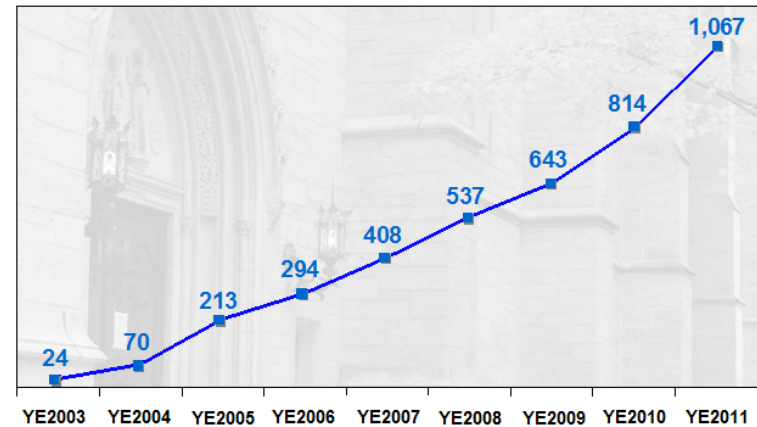
Figure 28: Platform-Specific Systems Programming and Administration Skills Needed



Fundamental to the Academic Initiative program is ...

... Flexibility

- **Participation continues to increase**
 - 2011 – 1,067 membership schools
- **WW demographics**
 - 45% North America
 - 24% Europe, Middle East, and Africa
 - 16% Latin America
 - 15% Asia/Pacific
- **Wide variety of schools in the program**
 - Different level of participation
- **All programs are unique**
 - Designed to provide flexibility to the school to meet their requirements and capabilities



Is the Academic Initiative a program for educators only?



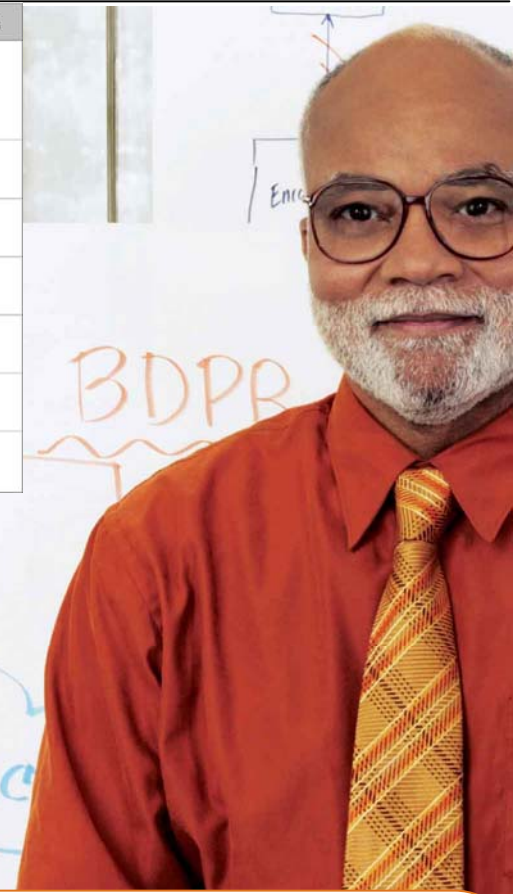
The Academic Initiative provides resources and services to:

- Educators
- Students
- Clients, Business Partners and the entire community

There's something for everyone!

Something 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 list



The Academic Initiative is **NOT** a predefined program.

It is designed for flexibility.

Use what you want
when you want it.

IBM System z courses

Foundational principles

- Intro to the Mainframe: z/OS Basics*
- Intro to the Mainframe: Networking*
- Intro to the Mainframe: Security*
- Intro to the Mainframe: Large Scale Commercial Computing Operating systems
- Linux on System z
- Introduction to z/VM®
- Introduction to z/VSE Basics
- UNIX® System Services (Module) User interfaces
- ISPF: z/OS Basic Interfaces Storage management
- VSAM

Programming languages

- Assembler
- COBOL
- JCL

Other

- Developing COBOL with Rational Developer for System z V7.6
- z/OS Advanced Topics*
- z/OS Emerging Technologies*
- z/OS Installation

Tivoli security, systems, network, and storage management courses

- IBM Tivoli License Compliance Manager for z/OS 4.2 Implementation
- IBM Tivoli System Automation for z/OS 3.1 Introduction and Operations
- IBM Tivoli System Automation for z/OS 3.1 Implementation and Administration
- IBM Tivoli Workload Scheduler 8.2 for z/OS Scheduler's Workshop Information, data and transaction management
- Enterprise Server Data Management
- DB2 for z/OS Fundamentals
- DB2 Family Fundamentals (Cross product)
- DB2 SQL Workshop (Cross product)
- DB2 for z/OS Database Admin Workshop, Part 1
- DB2 for z/OS Database Admin Workshop, Part 2
- DB2 Programming Workshop for z/OS
- DB2 for z/OS Application Development
- DB2 for z/OS Query Optimization and Performance Tuning
- Intro to IMS*
- IMS Fundamentals
- An Introduction to IMS (Textbook reference)
- Transaction Management

*available in audio version

Application development

- WebSphere Application Server for z/OS
- Intro to IBM WebSphere Developer for z (Web based)
- WebSphere MQ for z/OS System Administration
- Developing COBOL with IBM Rational Developer for System z


Diagnosis

- z/OS RAS and Diagnostics*

eLearning resources

- Interactive e-Learning Module: z/OS Basics
- Flash Demo: Introduction to Rational Developer for System z
- Develop a batch DB2 for z/OS COBOL application using RDz
- Developing and debugging a COBOL DB2 application
- Editing record-oriented programs with the System z LPEX editor
- Learn about your future in Large Systems
- Careers in Mainframes

Something 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**
 - SystemzJobs.com
 - IBM jobs: ibm.com/university/students/jobs/
- **Connect with the community**
 - developerWorks profile
 - Facebook (System z on campus)
- **Explore leading-edge technologies**
 - IBM Smarter Planet, Watson, Enterprise computing, Cloud computing, Business analytics, and others
- **Validate your skills and get recognized**
 - IBM Certification
 - IBM System z Mastery test (no cost in 2011)
- **Scholarships and awards**
 - IBM Destination z
 - SHARE Academic Excellence Award
 -  Academic Excellence Award



Membership is **NOT** required for students.

Student Mainframe Contests:

Generating student interest



- Hands-on mainframe contests for university 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 a tablet and a trip to the mainframe lab



International contests in 2011

- | | |
|---------------------------|-----------------------|
| Australia | Spanish South America |
| Brazil | Taiwan |
| China | Turkey |
| Germany/Switzerland | UK |
| Mexico | United States/Canada |
| Russia/Ukraine/Kazakhstan | |



7 years, 32 countries, 45,132 students

* Includes Netherlands and France

IBM subsidizes System z Mastery Exam in 2012 offered at no cost to educators and students

- **Worldwide offering (\$95 USD value) available to professors and students**
 - Entry level z/OS Proficiency exam
 - 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
 - Eligibility – faculty members and students
- **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



System z Academic Initiative investment in student scholarships and awards



SHARE Academic Award for Excellence

- Create awareness of SHARE among the academic community and the next generation of enterprise IT professionals
- Showcase and reward academic work relevant to the future of enterprise computing
- Students submit an academic project they have completed in the past year that displays growth in skill sets critical for the future of enterprise computing

This award will be presented at SHARE's 2012 summer conference in Anaheim.

Submission deadline is Friday, May 25, 2012.

Sponsored by:  THE TECHNOLOGY PERFORMANCE COMPANY



IBM Destination z Enterprise Computing Scholarship Program

Students must demonstrate excellence in their enterprise computing coursework, with plans for continued growth on the Mainframe platform in their academic and professional careers.

2011 Winners:

Vance Morris, West Texas A&M University (Greg Zaubi Memorial Scholarship winner)
Subashree Ramachandran, Northern Illinois University
Bartis Hawley-Wall, West Texas A&M University
David Szura, Illinois State University
Sean Robinson, Rochester Institute of Technology
Wenbo Zhang, Syracuse University
Thanaphon Chavengsaksongkram, West Texas A&M University
Jack Hake, Marist College
Joel Moss, Marist College
Eduardo Diaz, Texas A&M University
Aisha Henderson, Huston-Tillotson University
Chris Richardson, University of South Carolina

Sponsors



www.destinationz.org/Academia.aspx

Something for the Mainframe Community

- **Locate schools teaching the mainframe**
ibm.com/university/systemz/schools.html
- **System z Job Board**
Post your job requirements for job seekers to review and apply: systemzjobs.com
- **Student Opportunity System**
View student resumes: ibm.com/university/sos
- **Get access to no cost System z courses**
(for internal training)
ibm.com/systems/z/education/skills_coursematerials.html
- **Online Mainframe Education**
(High Quality / Low Cost!)
 - *IBM System z e-Learning bundles*
ibm.com/services/learning/ites.wss/us/en?pageType=page&c=V422430P00140S49
 - *Enterprise System Certificate Programs at Marist College*
idcp.org



Introducing SystemzJobs.com

The IBM System z Job Board at **SystemzJobs.com** is a new resource that connects IBM System z Clients, Partners, and businesses with students learning the Mainframe and professionals seeking System z job opportunities.

Benefits of using SystemzJobs.com

- Free, secure, and easy to use
- Specialized audience of Mainframe educated students and experienced professionals
- Global pool of Mainframe talent

Getting started

Follow these steps at SystemzJobs.com to get started:

1. Create a secure account (optional)
2. Put in your job description
3. Connect with qualified candidates

Sponsored by the
IBM Academic Initiative, System z

Visit: ibm.com/university/systemz

Questions? Contact zskills@us.ibm.com

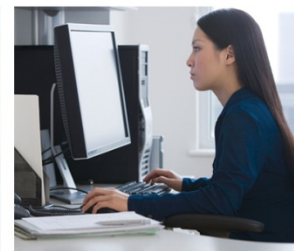
How can IBM clients and business partners participate?

- A strong local relationship between schools and the Mainframe community can provide valuable insights into business demands and future education requirements.
- View IBM Academic Initiative web site for participating schools and educators teaching the Mainframe (ibm.com/university/systemz)
- Contact the IBM Academic Initiative team at zskills@us.ibm.com to recruit new schools
- Post your jobs on SystemzJobs.com



Tips for connecting with schools to support skills development

- COMMUNITIES
- THINGS YOU CAN DO TO SUPPORT SKILL DEVELOPMENT



Mainframe communities

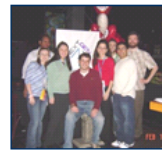
Get connected!

IBM Destination z
www.destinationz.org



zNextGen
znextgen.org

zNextGen Project - a community designed for you.



**New to Enterprise Computing?
 In a new role that involves System z?
 A new System z Professional?
[Join Today!](#)**



zNextGen is a user-driven community of over 700 members, representing 24 countries for new and emerging System z professionals that has the resources to help expedite your professional development skills.

SHARE
share.org/





destinationz.org/

Academic Initiative Program

Building future System z skills

The following educators from their respective schools are charter members of IBM Destination z. These professors have embraced IBM System z in their curriculum. They are interested in working with members of the mainframe community to place mainframe educated students in internships with us. If you're already an IBM Academic Initiative member and would like your school to join Destination z, please fill out this [simple enrollment form](#).

Bauman Moscow State Technical University,
Russia

Cegep de Thetford, Quebec, Canada
mguay@cegepth.qc.ca

Estrella Mountain Community College
Jim.Nichols@emcmail.maricopa.edu

Fox Valley Technical College
guthrier@fvtc.edu

Houston Community College
getachew.haile@hccs.edu

Prince George's Community College
burtme@pgcc.edu

Republic Polytechnic Singapore
mervin_beng@sp.sg

Rochester Institute of Technology
cbbics@rit.edu

Ryerson University
radiwina@ryerson.ca

San Jacinto College
clara.campbell@sjcd.edu

GET FREE

PKWARE SOFTWARE FOR YOUR IBM® zBX

Destination z blog & Forum
<http://destinationz.org/Community.aspx>

Destination z member schools:
<http://destinationz.org/Academia.aspx>

Enterprise Computing Scholarship program for students
<http://destinationz.org/Academia/Destination-z-Enterprise-Computing-Scholarship.aspx>

Join Destination z

The community where all things Mainframe converge and membership is FREE!

Join Now!

Tips for reaching out to local schools

- Use personal contacts or look up on Web
 - Computer Science Chair
 - Business School (MIS) Chair
 - A fit across all computing disciplines (CS, CE, SE, IS, IT)

- Use the following tools to begin the discussion
 - Alert faculty to industry skills needs
 - Offer to do a guest lecture
 - Gain student interest through the Mainframe contest
 - Academic Initiative resources available at no cost – membership takes 10 minutes
 - If possible, invite faculty and students to your facility for a discussion or tour



Additional opportunities

- Be a guest lecturer or adjunct professor
- Visit the campus and meet with students to build interest in pursuing a career in Mainframe technologies
- Become a client representative on a school's board – influence curriculum decisions
- Host a “Student Day” – meet with key technical to talk about opportunities and provide a tour of your location
- Attend campus recruiting events and career days



Reaching out to high school students

▪ Local high schools

- Reach out to Computer Science or other tech oriented departments
- Contact them through personal network (kids in school) or via Web site
- Use the following tools to begin the discussion
 - Offer to do a guest lecture
 - Presentation available on AI Web site
 - Alert them to contest
 - Alert them to mini-module for use in current classes
 - If possible, invite them to your facility for a discussion or tour
 - Ensure they know about the Academic Initiative resources
 - Participate in local high school/middle school career days
- Remember to point to AI Web site for list of colleges/universities

▪ If interested, alert IBM zskills@us.ibm.com

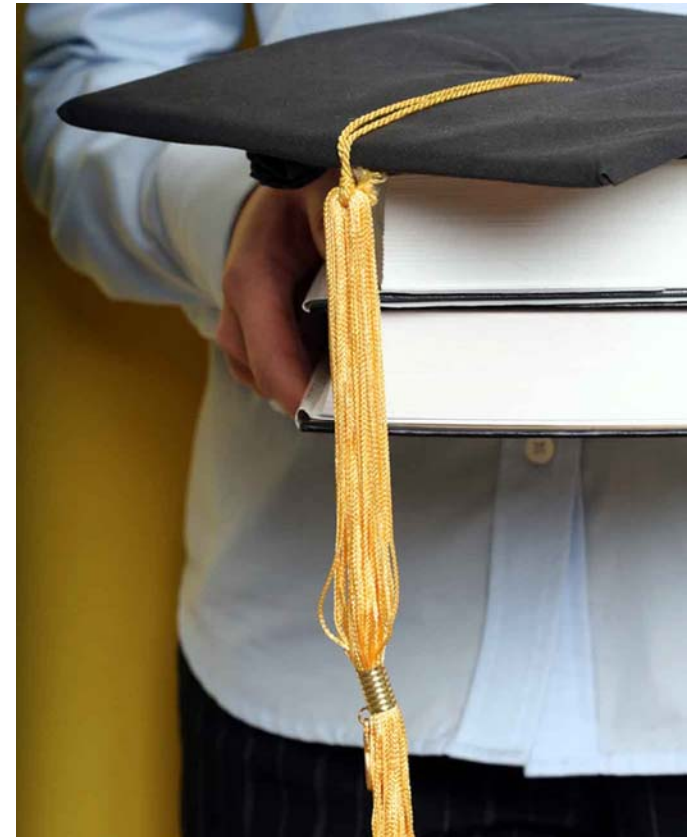
- Will help with presentations/support as available
- May be able to arrange for joint visit or teleconference

▪ Work with IBM to arrange roundtable event



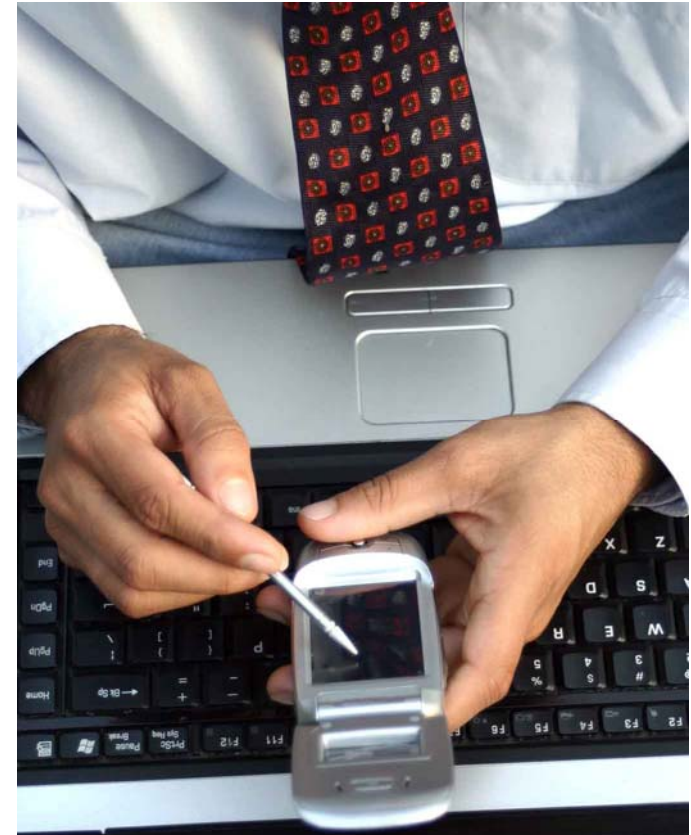
Reaching out to your Alma Mater

- Use your contacts
- Alert them to need
- If interested, alert IBM zskills@us.ibm.com
 - Will help with presentations/support as available
 - May be able to arrange for joint visit or teleconference
- Work with IBM to arrange roundtable event



Final thoughts

- Community colleges are nimble
- Four-year schools harder to get started – but don't give up!
- Most AI institutions contacts will talk about their program
- Use e-mail and phone ... educators often slow to respond
- If you have a interested school, send e-mail to zskills@us.ibm.com for support



Summary

- IBM continues to *invest* in developing more Mainframe skills for clients
- The program and the number of schools continues to *grow*
- IBM Clients are *connecting* with System z Academic Initiative member schools
- You can be a catalyst for adoption at local schools (both high school and colleges)



Important Web sites and contacts

- **Academic Initiative for the Mainframe**
ibm.com/university/systemz
- **IBM Academic Initiative Student Portal**
ibm.com/university/students
- **IBM System z Mastery test**
ibm.com/certify/mastery_tests/ovrZ05.shtml
- **System z Job Board – Connecting Students to Jobs**
SystemzJobs.com
- **IBM Master the Mainframe Contest**
ibm.com/university/contest
- **Enterprise Computing Scholarship program for students**
www.destinationz.org
- **Support Mainframe Growth (article):**
ibmsystemsmag.com/mainframe/trends/whatsnew/ambassador_perspective



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IBM University Ambassador

Marc Smith, smarc@us.ibm.com



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

Contact us at zskills@us.ibm.com

Questions?