

Patricia McDermott-Wells, PhD
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SKILLS SUMMARY

- **Instructor & Curriculum/Courseware Developer:** Instructor and advisor in university graduate and undergraduate level Computer Science, Information Technology, Mathematics, and MCSE courses, including hybrid and fully online courses; develops course material and instructor resource materials for textbooks; experienced technical writer and curriculum/courseware developer
- **Client/Server Software:** Develops customized, integrated Windows-based client solutions using Microsoft technology; relational database design; develops, writes and teaches technical and end user courses (including MCSE), technical, systems and end user documentation.
- **Unisys (Burroughs) A-Series mainframes:** Application programming, system software support; programs in most A-Series languages; develops, writes and teaches system software courses, systems and end user documentation for A-Series.
- **Proven track record for:**
 - Graduate and undergraduate teaching in the Computer Science, Information Technology, and Mathematics majors
 - Instructional courseware development and delivery, and technical documentation creation
 - Mentoring, leadership training, and personnel technical skill development in methodologies, analysis, programming, user interface design, documentation, and technical support
 - Client expectation management for mainframe clients, acting as liaison between vendor and client
 - Site management and operational effectiveness assessments
 - Experienced and highly disciplined telecommuter with complete development LAN facility

EDUCATION

- PhD, Computer Information Systems, Nova Southeastern University
- MS, Management Science/Operations Research, University of Miami (Graduate Research Assistantship)
- BA, Mathematics/Computers, University of Miami

SKILLS – Details

- Instructor – university graduate and undergraduate level in computer science and information technology, mathematics, MCSE courses (including online courses)
- Undergraduate student advisor – university undergraduate level in computer science and information technology
- Developer of instructor resource materials for computer science textbooks
- Courseware development for technical and end user training, VB and Java programming, MCSE, MS Office, SQL queries, mainframe system software
- Interactive online tutorial and courseware development
- Technical documentation – complete end user and technical system documentation
- Technical trainer – systems and end user training (including MCSE NT 4.0/2000, Office products, VB, Access, SQL queries, ODBC, Unisys A-Series mainframe system software, etc.)
- RoboHelp Help file design, authoring, implementation
- Relational database design, SQL language, query design; MS SQL, MS Access
- MS Visual Basic (all versions) interface design, prototyping, programming development, trainer
- Web application development, ASP.net, VBScript, JavaServer Pages
- Analysis – functional requirements design, system specifications design, prototyping & programming foundation/template design (mainframe & PC)
- InstallShield Express installation package setup
- MS Expression Web, ASP web page design and creation

- Software QA testing and defect tracking
- Unisys (Burroughs) A-Series mainframe: COMS, ALGOL, NDLII, COBOL, DMSII, system software support & troubleshooting as part of international “fly & fix” team; interface programming; mainframe to PC interfacing & conversion

CERTIFICATIONS: MCSE (Windows 2000 & NT 4.0), MCSA (Windows 2000), MCP + I

- Microsoft Visual Basic 3.0
- Microsoft Access Development
- Microsoft Windows NT 4.0 Workstation
- Microsoft Windows NT 4.0 Server
- Microsoft Windows NT 4.0 Server Enterprise
- Microsoft Networking Essentials
- Internetworking with Microsoft TCP/IP
- MS Internet Explorer 5.0 Administration Kit
- Microsoft Internet Information Server 4.0
- Supporting & Maintaining MS NT 4 Network
- MS Windows 2000 Professional
- MS Windows 2000 Server
- MS Windows 2000 Network Infrastructure
- MS Windows 2000 Directory Services Infrastructure
- Designing Windows 2000 Directory Services
- MS Windows 2000 Network Security
- Former Microsoft Certified Trainer (MCT)

PROFESSIONAL EXPERIENCE

Instructor - School of Computing & Information Sciences, Florida International University, Miami, FL, Aug. 2013 – present.

Founding Fellow, STEM Transformation Institute at FIU (2015-present)

- Teaches System Security in the Professional MS in IT program.
- Teaches Visual Basic programming, Java programming, Database Design and Administration, Human-Computer Interaction, Intro to Security at the undergraduate level.
- Serves on Undergraduate Curriculum Committee for SCIS and FIU Academic Integrity Committee

Visiting Instructor/Adjunct Instructor– School of Computing & Information Sciences, Florida International University, Miami, FL, Jan. 2007 – Aug. 2013.

- Teaches Visual Basic programming, Java programming, Ethics & Computers in Society, Website Construction & Management, Database Design and Administration, Human-Computer Interaction, Intro to Security.
- Served on Undergraduate Curriculum Committee for SCIS, Faculty Advisory Board for FIU Online, Academic Affairs panel for student grievances
- Part-time undergraduate advisor
- Subject area coordinator for Communications & Ethics; develops new curricula
- Assisting visually impaired students with technology to facilitate learning

Faculty Liaison for Students in Technology, Academia, Research and Service (STARS) at FIU, Aug. 2012-present.

- FIU STARS is part of a multi-university NSF grant to provide leadership and technical skills training as well as mentoring, for women and minorities in STEM disciplines. We offer free tutoring to all FIU CS/IT majors, plus do outreach activities to K-12 schools in the Miami area.
- Administered part of a Google RISE grant in partnership with Georgia Tech: outreach webinars to Afro-American high school students taking the AP CS course.

Adjunct Instructor – MIS Dept., Northwood University, W. Palm Beach, FL Aug. 2011-May 2012.

- Teaches Microsoft Office technology courses to business majors

Visiting Instructor – Mathematics Dept., Florida International University, Miami, FL, Aug. 2006 – Dec. 2006.

- Taught College Algebra, Trigonometry, Business Calculus with TI-92 Calculator, Finite Math, and Math for Social Choice courses.

Instructor Resources Developer, Chimborazo LLC., NJ, Dec. 2004 – 2012.

- Instructor resources developer for Course Technology textbooks, creating presentation materials, instructor teaching manuals, distance learning modules, and test bank questions for textbooks in CS, including OOP programming methodologies, programming languages, disaster recovery, and virtualization.

Instructor Resources Developer, Wiley, 2009 and 2011.

- Instructor resources developer 4th Edition of the Big Java textbook and the forthcoming Java Late Objects textbook. Produced test banks and code exercises

Technical Reviewer, Addison Wesley, 2011

- Technical content reviewer for several chapters of Advanced Visual Basic 2010 5th Edition textbook by Irvine & Gaddis

Adjunct Instructor, Florida International University, Miami, FL, Jan. 2000 – Aug. 2006.

- Instructor for Visual Basic.Net Programming, Intro to Microcomputers, Java Programming, Finite Math, Math for Social Choice, College Algebra, Trigonometry, Business Calculus with TI-92 Calculator courses.

Adjunct Instructor, Troy State University, Ft. Benning, GA, Aug. 2005 – Aug. 2007.

- Online instructor for Intro to Microcomputers, Intro to Database Management, Visual Basic.Net programming, Data Communications and Networking.

Senior Consultant, Mega-Data Services, Inc., West Palm Beach, FL, 1986-present.

- Author & Instructor for Mega-Data courses for Unisys A-Series in COMS Administration & Operations, COMS Programming, WorkFlow Language, DMSII Administration & Operations, DMSII Usage, DMSII Fine Tuning, A-Series Concepts, A-Series Operations, A Series Utilities, ALGOL Programming & COMS Processing Items, for clients in the Caribbean, Latin America, Hong Kong, and US. Author & Instructor for all Mega-Data courses, presented in Spanish on-site in Latin America.
- Instructor and curriculum developer for Cooper Career Institute's Networking Administration diploma, degree and MCSE certification program; taught Windows 2000 and NT 4.0 MCSE certification courses; developed extensive MCSE certification study notes suitable for publishing.
- Instructor for New England Institute of Technology – Visual Basic programming, Database-Driven Web Design. Microsoft Certified System Engineer certification courses
- Principal designer and developer of Cadet Records Manager©, a Visual Basic application suite of approximately 70,000 lines of code for U.S. Army and U.S. Marine Corps Junior ROTC programs in high schools across the U.S. Now in its sixth release (version 3.0). Also authored 125-page user guide, online help book, developed and maintained Web-based product support information. Handled all technical support for over 850 customer sites.
- Conducted in-depth site reviews for customer expectation management for Unisys, Inc., covering customer operational effectiveness, security, organizational structure, and programming methodologies, as well as vendor support effectiveness for Unisys mainframe clients in U.S., Caribbean, and Latin America, and produced 40-60 page written site reviews for each client.
- Help Book developer for AutoM8it.com, including Web Help, HTML help, and printed documentation for an X10 Home automation product.
- Custom programming for BudgetWare, Inc., to develop a custom database migration utility for their Internet Information Manager product.

- Web application developer for AutoNation USA, Inc.; developed object-driven ASP pages with VBScript against SQL Server and Oracle; improved usability and performance of existing application
- Administers a small Windows 2012 Server network installation for Mega-Data.
- Project Manager for Unisys at City of Miami; B7900 to A17 conversion; instructor for Unisys A-Series software training; assisted in GEMCOS to COMS conversion.
- Assisted in several large Unisys A-Series mainframe installations; system software troubleshooting; converted large insurance application from Unisys B1000 to Unisys A-Series COMS in Trinidad and Barbados; converted A/P and G/L application from GEMCOS to COMS in Jamaica.
- Developed customized Unisys A-Series COMS Processing Items for various applicational and inter-system, multi-vendor network connectivity projects using CP2000, X.25.

Courseware Developer for Learning Systems International, Washington, D.C., 1995-1997 (contractor).

- Developed, wrote, and was an instructor for end-user training for U.S. General Services Administration (GSA) Public Building Services on using MS Access and ODBC against legacy mainframe databases.
- Developed and wrote training materials for Networking Fundamentals course for U.S. Coast Guard.

Contractor for City of Miami, FL, 1996, 1999, 2000.

- Application functional requirements, system specifications, Visual Basic prototyping, Visual Basic programming and templates creation for Building & Zoning Dept. application, Visual Basic training; “jump-started” their team of mainframe programmers into VB by providing class frameworks and the first cut of this application

Contractor for City of Jacksonville, FL, 1993-1994.

- Developed, wrote, and taught Visual Basic programming course to mainframe programmers; prototyping using VB, MS Access and ODBC against legacy mainframe databases; mainframe end user secured access front end application.

Various positions for Burroughs Corp., Florida, 1978-1986.

- *Trainer and courseware developer:* Member of team of 7 Burroughs top field support specialists representing all worldwide divisions of Burroughs who developed training materials for the official Mark Release 3.5.0 of A-Series System software. New Product Information Transfer (NPIT) held to train top field support specialists; was an instructor at this NPIT. Conducted two subsequent divisional NPITs of 3 weeks each as facility coordinator and primary instructor for all topics.
- *Management Systems Analyst:* Modified and implemented major application systems for inventory control and material requirements planning at a Burroughs manufacturing facility. Analysis of end-user needs to determine necessary modifications. Authored an 80-page user guide, and conducted user training sessions.
- *Senior Systems Programmer, Software Engineering:* Sole responsibility for the concept, design and development of an automated Software Quality Assurance tool. Authored the requirements statement, the functional specifications, and the system design specifications for an interactive, multi-user, multi-tasking software test control system. Introduced Dimensional Flowcharting and Structured Walk-Throughs, which contributed to better software design and documentation, and increased programmer productivity.
- *Senior Systems Representative:* Customer technical support on all Burroughs A-Series system software. Pre-sales technical support and customer presentations.

- *Customer Service Engineering Product Performance & Support Specialist, Americas-Pacific Division:* System software support, performance analysis, database and datacomm support as a member of an international "fly & fix" team for S. Pacific, Far East, Latin America, Canada and the Caribbean.
- *Customer Service Engineering Product Performance & Support Manager: Americas-Pacific Division:* Managed a Burroughs B5900 data center, implemented system and application software, trained end users. Managed a group of 5 software support specialists on "fly & fix" team.
- Field test coordinator for installation, testing, troubleshooting, problem diagnosis and reporting, performance evaluations, interface to Burroughs engineering plant support and development personnel for major new system software releases.

PUBLICATIONS & REPORTS

Patricia M. McDermott-Wells. 2015. *Math in the Dark: Tools for Expressing Mathematical Content by Visually Impaired Students*. Doctoral dissertation. Nova Southeastern University. Retrieved from NSUWorks, College of Engineering and Computing. (61) http://nsuworks.nova.edu/gscis_etd/61.

Technical Reviewer, Addison-Wesley, 2010, for textbook "Advanced Visual Basic 2010," 5th edition, by Kip Irvine and Tony Gaddis.

McDermott-Wells, P. M. (2006). Evaluation of Three Stylus-Based Text Input Methods on a Pocket PC Mobile Device. *Proceedings of IEEE SoutheastCon 2006 Conference*, Memphis, TN. March 30-April 2, 2006.

McDermott-Wells, P. M. (2004). What is Bluetooth? *IEEE Potentials* 23(5) 33-35.
<http://ieeexplore.ieee.org/document/1368913/> **Ranked in top 10 most accessed articles in IEEE Potentials for December 2004, and top 100 in April 2005.**
<http://amsc.tamu.edu/news/Most%20Downloaded%20Paper/toparticles.jsp.htm>

McDermott-Wells, P. M. (2004). Bluetooth Scatternet Models. *IEEE Potentials*, 23(5) 36-39.
<http://ieeexplore.ieee.org/abstract/document/1368914/>

McDermott-Wells, P. M. (1996). Delivering Data to End-User PC Applications in Real Time: Using ODBC for MIS Productivity Gains. *Unisphere*, April 1996, 42-46.

McDermott-Wells, P.M. (1995). Customizing End-User Databases without Changing Mainframe Data. *Unisphere*, October 1995.

McDermott-Wells, P.M. (1995). Point and Click Your Way to Productivity Gains in MIS Using ODBC. *Unisphere*, September 1995, 66-69.

Unisys Users Group (CUBE/UNITE) Journal of Proceedings (1986 – 1996) – frequent presenter of technical "How-To" sessions, with publication of presentation papers.

Technical Reviewer, IEEE SoutheastCon 2005, Ft. Lauderdale, FL.

Technical Reviewer, IEEE SoutheastCon 2006, Memphis, TN.

Mainframe Site Reviews: annual client site reviews for mainframe clients, consisting of in-depth reviews of their operational procedures, security, source code management, and overall effectivity. Consists of a 2-3 day on-site visit to observe the site and interview personnel, followed by a 60+ page report listing significant findings, deficiencies noted, and suggestions for correcting deficiencies. Clients included Life of Barbados (Barbados), Tatil Life Assurance (Trinidad), and several large banks in Latin America.

GRANTS

- Senior Investigator, NSF S-STEM Grant 1643965 Collaborative Research: Florida IT Pathways to Success (Flit-Path) to provide scholarships and mentoring for needy FIU CS/IT students.

- FIU coordinator for Google Rise grant Rise Up 4 CS through Georgia Tech, 2015-current (NSF Grants #1228352 and 1228355). Provided mentoring and tutoring for high school students from underrepresented groups who were taking the AP-CS course. Currently funded by Ultimate Software.

WORKSHOPS, SEMINARS, CONFERENCES

- 2016 – Provost Initiative for Hybrid Course Development
- 2016 - EdX Course in Teaching as Research
- 2016 - Provost LA Initiative Faculty workshop, STEM Transformation Institute, FIU
- 2014 – Learning@Scale at SIGCSE 2014, Atlanta GA
- 2013 – Teaching High Enrollment Online Courses – Center for Advancement in Teaching, FIU
- 2010 – Presentation for FIU Center for Research Excellence in Science and Technology: “Math in the Dark: Challenges and Opportunities for Bridging the Gap for Visually Impaired Students in STEM Disciplines”, Feb. 5, 2010
- 2009 – Member of Judges panel for FIU High School Programming Competition
- 2006 - Pedagogies of Engagement for Freshman Interest Groups, Florida International University
- 2006 - Second Annual Summit on the First-Year Experience, Florida International University
- 2005 – Scorekeeper (and developer of scorekeeper software) for the Robotics Competition at IEEE SoutheastCon 2005 Conference, Ft. Lauderdale, FL. April 2005.
- 1986 – 1996: Annual Burroughs User Group national meetings, as a presenter of technical how-to sessions
- 1994 – 2004: Annual VBITS/VS Live conference (Visual Basic Insiders Technical Summit/Visual Studio Live); three days of continuous technical sessions for software developers in the Windows arena
- 1994 – present: Various Microsoft events including Developer Days and private Partner training and events.
- 1994 – present: Numerous Microsoft training courses, including Windows 2000, Windows 2003, Visual Studio 6 and .NET, Windows Security, SQL Server database, MS Exchange, Security, etc.

Custom Courseware – I developed complete courseware for the following custom courses:

- Unisys ALGOL Programming
- Unisys COMS Application Programming (in English and Spanish)
- Unisys COMS Processing Item Programming
- Unisys COMS Administration & Operations (in English and Spanish)
- Unisys MARC Administration & Operations (in English and Spanish)
- Unisys Mainframe Operations
- Unisys Mainframe Programming Concepts (in English and Spanish)
- Unisys Workflow Language programming
- Unisys DMSII Database Usage Programming
- Unisys DMSII Database Administration & Operations (in English and Spanish)
- Unisys DMSII Database Performance Tuning
- Unisys Mainframe Security Guidelines
- Unisys Mainframe System Software Utilities
- Microsoft Visual Basic programming (version 3.0, 4.0, 6.0)
- Microsoft Access Advanced Queries & Reports
- Microsoft MCSE Certification Exam Study Notes - Windows 2000 Professional & Server, Windows 2000 Active Directory Infrastructure Administration, Windows 2000 Active Directory Infrastructure, Windows 2000 Active Directory Infrastructure Design, Windows 2000 Network Infrastructure

Product Documentation:

- Cadet Records Manager for JROTC – 125-page user guide, Help Book, and interactive tutorial
- AutoM8it.com – 60+ page user guide, plus Web Help book

EXPERIENCE WITH COMPUTER SYSTEMS

- Unisys A-Series mainframes (1978-1994): MCP O/S, DMSII database, COMS and GEMCOS transaction processing, NDII and NDII network protocol software, WFL job flow language, COBOL, ALGOL (and derivatives including DCALGOL and DMALGOL).

- Intel-based PCs (1994-present): various hardware configurations, MS-DOS, Windows 3.1/95/98/ME/XP/2000/2003/Vista/Win 7,8,10/Server 2008 workstation and server products; full server O/S and networking support including DNS, DHCP, Active Directory, security, configuration, and backup; SQL Server 2008,2012,2014 admin.
- Windows-based software: All versions of Windows O/S; all versions of Office and VBA; SQL Server; ISA Server; Visual Studio (including Visual Basic, ASP, SourceSafe); Visual Studio.Net (including Visual Basic.Net, Visual C#.net, ASP.Net); IM, QuickBooks Pro; InstallShield Express; RoboHelp; Camtasia Studio; Visio; WinZip, NetBeans, Apache Tomcat, MS Expression Studio

MEMBERSHIPS, ACHIEVEMENTS:

- Appointed to FIU Academic Integrity Committee, 2016-2017
- CEC Faculty Teaching Award, FIU College of Engineering and Computing, 2015-2016
- Nominated for FIU Faculty Excellence in Teaching Award, 2016
- Appointed to FIU SCIS Undergraduate Curriculum Committee, 2014-2016
- Upsilon Pi Epsilon member, 2015-present
- SCIS Excellence in Teaching Award, 2013-2014
- FIU Adjunct Faculty Excellence-in-Teaching Award, 2011-2012
- Nominated for President's Award for Access & Diversity, FIU Service & Recognition Awards, 2010
- Nominated for President's Award for Access & Diversity, FIU Service & Recognition Awards, 2009
- ACM – 2003-present
- Unisys Users Group (CUBE/UNITE) – member, technical session presenter, 1986-1994
- Microsoft Certified Partner firm, 1994-present
- Microsoft Certified Professional and Microsoft Certified System Engineer
- University of Miami Alumni organization
- Palms West Chamber of Commerce, 1994 – 2000
- Loxahatchee Groves Point-of-Distribution Team, part of Loxahatchee Groves Community Emergency Response Team (CERT), holding Palm Beach County Health Dept Volunteer status

Courses I have taught academically or professionally:

- IoT and Mobile Security (college level)
- Information Security and Privacy (graduate level)
- Systems Security (graduate level)
- Java Programming I & II (college level)
- Visual Basic.Net (3-tier with backend relational database – college level)
- Website Construction & Management (JSP/Apache-Tomcat – college level)
- Web Page Design (MS Expression Studio – college level)
- Introduction to Microcomputers (college level and corporate)
- Computer Concepts & Applications (MS Office – college level and corporate)
- Data Communications (college level)
- Introduction to Database Design (college level)
- SQL Server Database Administration (college level)
- Human-Computer Interaction (college level)
- Ethics & Computers in Society (college level)
- Computer & Network Security (college-level, undergraduate and Masters)
- Computer Data Analysis (MS Excel – college level)
- College Algebra
- Trigonometry (college level)
- Calculus for Business (college level)
- Mathematics of Social Choice & Decision Making (college level)
- Finite Mathematics (college level)
- Visual Basic 3.0 Programming (with database)
- Visual Basic 4.0 Programming (with database)
- Visual Basic 6.0 Programming (with database)
- Visual Basic.Net Programming (with database, college level)
- MS Access Custom Queries & Reports
- Database-Driven Web Design

- Microsoft Windows NT 4.0 Server
- Microsoft Windows NT 4.0 Workstation
- Microsoft Windows NT 4.0 Enterprise Server
- Microsoft Internet Information Server 4.0
- Microsoft Internet Explorer Admin. Kit 5.0
- Microsoft Windows Networking Fundamentals
- Microsoft Windows TCP/IP
- Microsoft Windows 2000 Network & O/S Fundamentals
- Microsoft Windows 2000 Professional & Server
- Microsoft Windows 2000 Active Directory Infrastructure Administration
- Microsoft Windows 2000 Active Directory Infrastructure Design
- Microsoft Windows 2000 Network Infrastructure Design
- Unisys Mainframe Programmers Concepts
- Unisys Mainframe Operations Concepts
- Unisys Mainframe DMSII Database Administration
- Unisys Mainframe DMSII Database Performance Tuning
- Unisys Mainframe COMS Programming
- Unisys Mainframe COMS Processing Items Programming
- Unisys Mainframe COMS Administration
- Unisys Mainframe MARC Administration
- Unisys Mainframe ALGOL Programming
- Unisys Mainframe Operations & Security Guidelines
- Unisys Mainframe System Software Utilities

Retail Software I have written or have collaborated on:

- Cadet Records Manager for JROTC – version 1.0 released in 1997; version 2.2 released in 2006; version 3 released in 2017. An application suite (over 70,000 lines of VB code) with a backend, fully-relational Access database (v1-2) or SQL Server database (v3), used for Junior ROTC in over 850 high schools throughout the U.S. This product was adopted as the standard for U.S. Marine Corps JROTC (version 2). This product was totally written, produced, distributed, and supported by me.
- Football Made EZ – version 1.0. I wrote the menu and module launcher for Ver. 1.0 of this product.
- AutoM8it.com – version 1.0. I authored the complete Help book, which I produced in written version, web-based Help, and PDF document form. This product uses X10 devices for home automation.

Custom software for client sites that I have written:

- Custom COMS processing item library for handling shared printer communication from multiple workstations; Unisys mainframes, for Life of Barbados, Barbados
- Custom COMS processing item library for handling Postscript printers; Unisys mainframes, for Winter Haven Hospital, Winter Haven, FL
- Conversion of entire suite of insurance company software from one O/S to another; Unisys mainframes, for Tatil Life Assurance, Trinidad
- Custom permissions-handling front-end software for Unisys mainframe, for City of Miami
- Custom permissions-handling and program switching software for Unisys mainframes, for City of Jacksonville
- Custom z-modem type protocol implemented in COMS processing item library for client/server programs for Unisys mainframe, for Insurance Data Services, Hollywood, FL.
- Custom COMS processing item library to interface with custom protocol enabling Unisys mainframe communication with FDLE database, for City of Tallahassee, Tallahassee, FL.
- Custom database migration utility in Visual Basic, for Budgetware, Inc.

Research Areas of Interest

- Adaptive technologies for visually impaired learners of mathematical content
- Decision Sciences
- Alternative text input methodologies on mobile devices