

INFORMATION AND EDUCATIONAL TECHNOLOGY
APPLICATION DEVELOPER SKILL MATRIX, REVISED 7/2005

<u>Key Skills, Knowledge & Abilities</u>	<u>SKILL RANGE</u>	<u>1-Entry Level</u>	<u>2-Novice</u>	<u>3-Junior</u>	<u>4-Journey</u>	<u>5-Advanced</u>	<u>6-Senior</u>	<u>7-Master</u>
SUPERVISION	Level of supervision needed by position	under close supervision, must be able to execute tasks as directed, follow priorities, willing to question	under close supervision, participate in priority setting	under close supervision, participate in pro-active thinking and priority setting	under general supervision, set priorities with review	under general supervision, Often takes lead role, may direct team mentoring efforts	under general direction, Lead position, Expert or specialized knowledge in hardware or business.	under general direction.
SYSTEMS EXPERTISE	Expertise across system(s) - depth and breath	learn about system architecture	have good understanding of architecture of the system being supported	understands the system and how it impacts and integrates with other systems	design solutions that integrate with other systems	architect on a stand-alone system, in-depth expertise in system with knowledge in other areas	Architect on one or more system(s) that integrate with campus systems. Provide input to the overall campus systems design with vision within own area of responsibility	Provides leadership regarding enterprise system(s) architecture, integration, and their direction. Has the ability to support multiple complex systems
SYSTEMS ARCHITECTURE, DESIGN AND SCRIPTING	<u>Basic:</u> UNIX, Scripting programming (PERL, Python, Korn shell), NT, CGI (Common Gateway Interface),	Ability to read and understand basic shell scripts.	ability to read and write basic shell scripts.	Ability to write complex shell scripts, create job streams, passing parameters;	ability to write complex procedural logic in shell scripting	ability to write complex procedural logic in shell scripting	Has expert or specialized knowledge in hardware; investigate incompatibilities and system problems, work for solutions and/or provide work-arounds	Has expert or specialized knowledge in hardware; investigate incompatibilities and system problems, work for solutions and/or provide work-arounds

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	Advanced: SSL, Application Servers, web servers, multi-tier architecture, Enterprise Platform (J2EE, .NET), Service Oriented Architecture	PC-literate, familiarity with O/S	knowledge of the remainder of : UNIX/NT/Windows/Mac OS	understand NT/Windows or UNIX/Linux environment, trouble-shoot OS/tool problems	work with systems administrators to translate hardware requirements into hardware specs;	define hardware/software requirements for web designs; develop/design web architectures	Participate in strategic short/long term technical architecture plans affecting enterprise systems, participate on campus-wide committees.	lead strategic technical architecture and planning effort for campus-wide enterprise system(s), participate on campus-wide advisory committees, develop campus recommendations
PROGRAMMING, SOFTWARE DEVELOPMENT METHODOLOGY	Analysis, design, relational technology (familiarity, followed, developed), Methodology followed (level of involvement in process)	Ability to follow complex procedures; ability to document own actions	Perform basic testing under QA/QC direction; strong analytical, problem-solving and conceptual skills; ability to participate and provide constructive input during code reviews; experience in a relational technology environment	Ability to execute QA/QC test plans; strong analytical, problem-solving, and conceptual skills; ability to participate and provide constructive input during reviews; experience in a relational technology environment	Write test plans for multi-functional processes; analysis and problem-solving skills for complex business processes; in-depth skills in relational technology environment; make suggestions to improve ADM	Conduct reviews; comprehensive knowledge of problem analysis, structured analysis and design, and programming techniques; ability to collect, analyze and develop business requirements for large multi-functional projects	Participate in a team as an application architect on projects involving multiple complex systems; investigate strategies/methods/tools in newer technical areas and provide analysis	Expertise with campus architecture and middleware systems in order to analyze impact on and integration of enterprise-wide information systems

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PROGRAMMING LANGUAGES	3GL Languages (C, C++, Cobol, Java), Database Programming (SQL, PL/SQL), Database Interface (ODBC, JDBC), Oracle Forms	Potential to learn/be trained in technology; applicable Access or O/X Scripts experience	Basic programming skills including shell or any 3GL or GUI front-end tool; basic knowledge of relational technology	Demonstrate experience with 3GL languages (C or COBOL)	In-depth 3GL programming skills in at least one language; strong background in Oracle	At least 2 3GL programming languages; knowledge of how to use web resources and other third-tier tools in a client-server environment to access databases	Possess specialized or "guru" level skills in a technical or business area	Provide vision and direction utilizing emerging technologies that best fit and improve our enterprise systems.
	Oracle Web, Web Languages & Protocols (CGI, Cold Fusion, HTML), Web Services (SOAP, WSDL, UDDI), SNMP, HTTP, Content and Content Transformation Languages (XML, XSL, XSLT)	experience in basic HTML		Demonstrate experience with web development tools or GUI front-end tools	In-depth 3GL programming skills for web-development and GUI front-end tools	At least 2 3GL programming languages; knowledge of how to use web resources and other third-tier tools in a client-server environment to access databases	Possess specialized or "guru" level skills in a technical or business area	Provide vision and direction utilizing emerging technologies that best fit and improve our enterprise systems.

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COMMUNICATION	Active listening, written and oral communication, presentation, team participation skills, requirements gathering	Good oral communication skills; ability to work in a team environment	Good oral and written communication skills; ability to produce technical documentation for internal/project use	With minimal direction, translate functional requirements into technical design; strong oral and written communication skills	Good writing skills for client review (business and functional); strong oral and written communication skills, with ability to express complex technical concepts in business terms; ability to interview clients, translate functional requirements into technical design	Excellent oral and written communication skills; ability to present and explain technical information in a way that establishes rapport, persuades others, and promotes understanding; with minimal direction, translates functional requirements into technical design	Well-developed political acumen	Develop plans, guides, and standards in collaboration with campus technical leads in support of administrative computing policies
GENERAL SOFT SKILLS	Customer service; interpersonal communication; time management; motivation/initiative; task management, problem-solving	Motivated, detail-oriented	Good interpersonal communications at the project and unit level; take initiative to ask questions, investigate technologies, and share findings with colleagues.	Maintain good relations with clients and IT colleagues; ability to effectively adapt to rapidly-changing technology and apply it to business needs; good problem solving strategies.	Foster and maintain good relations with clients and IT colleagues. Excellent problem solving techniques and reporting capabilities.	Strong customer focus and ability to manage client expectations; excellent time management skills; ability to prioritize tasks; ability to complete assigned tasks autonomously, within time estimates	Strong knowledge and understanding of business needs, with ability to establish and maintain a high level of customer trust and confidence in the technical team	

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ADVANCED SOFT SKILLS	<p>Negotiation, project management, mentoring, estimating/budgeting, project management</p> <p>NOTE: Supervision can be done at all levels with a Px_Supervisor classification</p>			Ability to mentor more junior team members; accurately estimate effort associated with tasks	Lead responsibility on limited-scope projects; estimates for multifunctional processes	Team or project lead for development efforts create criteria and evaluate application tools/software/hardware for mission critical (tier 1) systems; ability to develop and deliver leading-edge technology projects	Mentor/train in specialized technical or business areas internally and externally; lead and motivate staff to apply skills and techniques to solve dynamic problems; participate in planning and budget management; advise clients in specialized technical/business areas; recommend and provide analysis for executive and client management	Lead/guide multiple teams and mission-critical projects to solutions appropriate to established business goals; develop plans, integrate emerging technologies across tier 1 systems

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