ONTOLOGY BASED COMPETENCY MATCHING
Bridging the gap between vocational education and the workplace

Christelijke Hogeschool
Windesheim Bedrijfskundige Informatica Information System Analyst 2011.10.27. 22:36

ISA Competence	Keyword	VET Competence	VET Competence	VET Competence	VET Competence	Confirm
		Level1	Level2	Level3	Level4	
1. Conduct needs analysis						
Interpret data						
	model&data	----				
	design&database					
		is able to design a database				
Document existing procedures						
	document&procedure	----				
Determine software needs						
	users need	----				
	knowledge&software	----				
	knowledge&information system					
		has knowledge of Information systems in business environment				
Define business problem to be solved by the application (e.g., through interview process)						
	define&business problem	----				
	problem solving	----				
	knows&business process	----				
	has knowledge of&business process					
		has knowledge of business process models				
	knows&organization	----				
	problem&organization	----				
	business problem	----				

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	solution&business	----				
	business environment					
		has knowledge of Information systems in business environment				
	advise&organisation	----				
	users need	----				
Align information system (IS) design with the business process						
	design&information system					
		is able to design an information system				
			can design systems			
			is able to use an object-orientated approach			
			can take business risks and IT security into account while designing a system			
			is able to design a database			
			has knowledge of accounting and financial management			
			knows the fundamentals of project management			
			is able to do a requirements analysis			
			has knowledge of business process models			
			has knowledge of Business activity			
			is able to use opportunities of new technologies and their correspondence with business needs			
			is able to design a website			

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			can use an object-oriented approach to systems analysis			
			is able to make a quality control analysis			
	knows&business process	----				
Interpret existing operating documents for the system						
	document&system	----				
Document possible alternative solutions						
	document&solution	----				
	solution	----				
Determine hardware needs						
	users need	----				
	knowledge of hardware	----				
	build&computer	----				
	know&computer					
		knows about human-computer interaction				
Define business information requirements						
	define&requirement	----				
	business information	----				
	business environment					
		has knowledge of Information systems in business environment				
	requirements analysis					
		is able to do a requirements analysis				
Interpret existing operating procedures for the system						
	procedure&system	----				
Review organizational structure						
	knowledge of&business process					

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		Level1	Level2	Level3	Level4	
		has knowledge of business process models				
Observe existing procedures						
	analyse&procedure	----				
2. Design computer applications						
Design system input/output processes						
	input&process	----				
	output&process	----				
	design&process	----				
Identify constraints (e.g., political, financial, time, hardware, and systems)						
	constraint	----				
Develop test procedures						
	test plan	----				
	test&procedure	----				
	develop&procedure	----				
Outline steps for program development cycle, (e.g., prototyping,storyboarding)						
	software&development	----				
	development&cycle					
		knows about life cycles of system development				
Establish policies to govern the development of organizational information systems						
	policies&information system	----				
	develop&system					
		has the tools and techniques for developing, testing and implementation of IT systems				
	develop&system					

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		knows about life cycles of system development				
	develop&system					
		is able to give estimates of the development of a system				
Develop system design procedures						
	system design	----				
	design&procedure	----				
	develop&procedure	----				
Determine the roles of user and management in the computer system development process						
	role&user	----				
	role&management	----				
	develop&process	----				
	system development					
		knows about life cycles of system development				
Establish input and output (I/O) requirements						
	input&requirement	----				
	output&requirement	----				
	requirement					
		is able to do a requirements analysis				
Determine software to be used in design						
	determine&softver	----				
	choose&softver	----				
Establish standards to govern the development of organizational information systems						
	standard&information system	----				
	develop&system					

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		Level1	Level2	Level3	Level4	
		has the tools and techniques for developing, testing and implementation of IT systems				
	develop&system					
		knows about life cycles of system development				
	develop&system					
		is able to give estimates of the development of a system				
Develop quality standards						
	quality&management	----				
	quality&standard	----				
	develop&standard	----				
3. Develop documentation						
Prepare user documentation						
	user&documentation	----				
	prepare&documentation	----				
Revise system design procedures						
	system design	----				
	revise&procedure	----				
Document test procedures						
	test procedure	----				
	document&procedure	----				
Revise test procedures						
	test procedure	----				
	revise&procedure	----				
Prepare dataflow diagrams						
	dataflow&diagram	----				
	prepare&diagram	----				
Identify documentation needs						
	documentation&need	----				
	prepare&documentation	----				
Document quality standards						
	quality standard	----				

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	document&standard	----				
Prepare program documentation						
	program&documentation	----				
	prepare&documentation	----				
Update design documentation						
	design&documentation	----				
	update&documentation	----				
Revise quality standards						
	quality standard	----				
	revise&standard	----				
Document system design procedures						
	system design	----				
	document&design	----				
Establish documentation-update method						
	documentation&update	----				
4. Design a system project						
Plan use of the results						
	use&result	----				
Identify the phases in a system project						
	project&phase	----				
	manage&project					
		knows the fundamentals of project management				
Define the scope of the systems project						
	scope&project	----				
	define&scope	----				
	manage&project					
		knows the fundamentals of project management				
Analyze information processing needs						
	information&need	----				
	process&information	----				
	analyze&need	----				

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Select basic fact-gathering techniques to be used						
	fact&gather	----				
	select&technique	----				
Define the goals of the system						
	goal&system	----				
Maintain project scope						
	project&scope	----				
	maintain&scope	----				
	manage&project					
		knows the fundamentals of project management				
Analyze information computation needs						
	information&need	----				
	analyze&need	----				
Plan computer systems						
	plan&system	----				
	design&system					
		can design systems				
	design&system					
		is able to design an information system				
			is able to use an object-orientated approach			
			can take business risks and IT security into account while designing a system			
			is able to design a database			
			has knowledge of accounting and financial management			
			knows the fundamentals of project management			
			is able to do a requirements analysis			
			has knowledge of business process models			

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			has knowledge of Business activity			
			is able to use opportunities of new technologies and their correspondence with business needs			
			is able to design a website			
			can use an object-oriented approach to systems analysis			
			is able to make a quality control analysis			
	design&system					
Conduct a preliminary investigation						
	preliminary&investigation	----				
	conduct&investigation	----				
5. Perform a detailed system investigation and analysis						
Identify evaluation criteria						
	evaluate&criteria	----				
Analyze performance indicators						
	performance indicator	----				
	analyze&indicator	----				
Correct errors by correcting codes						
	correct&error	----				
Present test results						
	test result	----				
Identify time constraints						
	time&constraint	----				
Locate code problems						
	code&problem	----				
	software&problem	----				
	test&code	----				
	program&language					
		is able to program in a programming language				

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			is able to program in PHP			
			is able to program a website			
Develop test plan						
	test plan	----				
	develop&plan	----				
Identify technology constraints						
	technology&constraint	----				
Record facts gathered through system investigation						
	fact&investigation	----				
	record&fact	----				
Assess the usefulness of pre-developed application packages						
	application&package					
		is able to set up a selection and deployment lifecycle of an application package				
	assess&package	----				
Evaluate technical alternatives						
	evaluate&alternative	----				
	technical&alternative	----				
Analyze test data						
	test data	----				
	analyze&test	----				
Perform appropriate diagnostic tests						
	diagnostic test	----				
	perform&test	----				
Review performance indicators						
	performance indicator	----				
	review&indicator	----				
Identify resource constraints						
	resource&constraint	----				

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Determine investigation techniques to be used						
	investigation&technique	----				
Research technical alternatives						
	technical&alternative	----				
6. Install / implement computer application system						
Adapt pre-developed application packages to a user environment						
	use&package	----				
	adapt&package	----				
	applicaton&package	----				
Perform post-implementation evaluation of new system						
	evaluate&system	----				
	implementation&evaluation	----				
Present implementation plan to users and management						
	implementation plan	----				
	present&plan	----				
Perform changeover to new system						
	new system	----				
	change&system	----				
Link the computer systems within an organization to increase compatibility and so information can be shared						
	compatibility	----				
	link&system	----				
Design implementation plan						
	implementation plan	----				
	design&plan	----				

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Perform implementation to new system						
	implementation					
		has the tools and techniques for developing, testing and implementation of IT systems				
	implement&system					
	implement&system					
		can implement systems				
	implement&system					
		is able to implement an information system				
			is able to give estimates of the development of a system			
			knows about life cycles of system development			
			is able to develop a software			
				is able to collaborate with Service Management to establish an user support structure		
				can develop websites		
				is able to program in a programming language		
					is able to program in PHP	
					is able to program a website	

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				is able to use techniques and tools for information modeling		
				knows the principles of testing (technical testing)		
			is able to analyse and develop in a user-centered way			
			is able to take financial information in account for ict deployment			
			knows about human-computer interaction			
			is able to implement a database			
			is able to configure hardware elements			
				has knowledge about GPS systems		
Identify ongoing support requirements						
	support&requirement	----				
7. Run a system						
Monitor information systems						
	monitor&system	----				
	apply&system					
		is able to apply an information system				
			can use a weighted scorecard approach to evaluation			
			is able to make good use of geo-information			

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			has insight in organizational strategies and selection of their IT system			
			is familiar with the principles of testing (quality of service)			
			has knowledge of Information systems in business environment			
			is able to set up a selection and deployment lifecycle of an application package			
			can provision IT services			
Maintain information systems						
	maintain&system	----				
	apply&system					
		is able to apply an information system				
			can use a weighted scorecard approach to evaluation			
			is able to make good use of geo-information			
			has insight in organizational strategies and selection of their IT system			
			is familiar with the principles of testing (quality of service)			
			has knowledge of Information systems in business environment			
			is able to set up a selection and deployment lifecycle of an application package			
			can provision IT services			

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8. Deal with interpersonal issues						
Serve as project leaders for particular systems projects						
	manage&project					
		knows the fundamentals of project management				
	project&leader	----				
Provide staff and users with assistance solving computer related problems, such as malfunctions and program problems						
	solve&problem	----				
	support&user					
		is able to collaborate with Service Management to establish an user support structure				
Coordinating the installation of information systems						
	install&system	----				
	is able to coordinate	----				
Train staff and users to work with information systems						
	train&user	----				
Identify development team						
	develop&team	----				
	development team	----				

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Surplus VET Competences
has communicative skills
can appreciate the advantages/disadvantages of packages

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Total number of VET Competences:	37
The number of VET Competences assigned to ISA Competence:	35
Surplus VET Competences:	2

Total number of ISA Competences:	77
The number of ISA Competences assigned ISA Competence:	23
Missing ISA Competences:	54