Miami Dade College

Course Competencies Template - Form 112

GENERAL INFORMATION	
Name: Diane King	Phone #: 7-7021
Course Prefix/Number: CTS2404	Course Title: Distributed Applications with Visual Basic
Number of Credits: 4	
Degree Type	☐ B.A. ☐ B.S. ☐ B.A.S ☐ A.A. ☒ A.S. ☐ A.A.S. ☐ C.C.C. ☐ A.T.C. ☐ V.C.C
Date Submitted/Revised: March 27, 2001	Effective Year/Term:
☐ New Course Competency ☒ Revised Course Competency	
Course to be designated as a General Education course (part of the 36 hours of A.A. Gen. Ed. coursework): ☐ Yes ☐ No	
The above course links to the following Learning Outcomes: ☐ Communication ☒ Numbers / Data ☒ Critical thinking ☐ Information Literacy ☐ Cultural / Global Perspective ☐ Social Responsibility ☐ Ethical Issues ☒ Computer / Technology Usage ☐ Aesthetic / Creative Activities ☐ Environmental Responsibility	
Course Description (limit to 50 words or less, must correspond with course description on Form 102): This course will teach Microsoft Visual Basic programmers how to build N-tier client/server solutions for Microsoft Windows using Windows DNA and COM+ technologies. It includes developing distributed applications that conform to the Microsoft Solution Framework, and is designed to teach Visual Basic programmers, who currently develop desktop applications, how to build n-tier, client/server solutions. Also it will prepare students to take Microsoft's Certification Exam for Distributed Applications with Microsoft Visual Basic, it is a required course for MCSD and elective for MCDBA. Prerequisites: COP 2333. Laboratory fee. (3hr. lecture; 2hr lab).	
Prerequisite(s): COP2333	Corequisite(s):

Course Competencies: (for further instruction/guidelines go to: http://www.mdc.edu/asa/curriculum.asp)

Competency 1: The student will demonstrate an understanding of developing enterprise solutions by:

1. Describing the high-level architecture of an enterprise solution that uses the Microsoft enterprise development strategy.
2. Explaining the terminology and concepts of Windows DNA.
3. Describing some key features of the Windows platform that relate to enterprise development.
4. Identifying Microsoft tools and technologies used in enterprise development.
5. Identifying some of the best practices in building distributed enterprise solutions.
6. Describing the high-level design of the purchase order application used in the labs for this course.

Competency 2: The student will demonstrate an understanding of designing and modeling by:

1. Listing and describing the three design phases defined in the MSF application model.
2. Employing UML using cases, scenarios, and use-case diagrams in the conceptual design phase.
3. Using UML class diagrams and sequence diagrams in the logical design phase.

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4. Using Visual Modeler to create class diagrams.
5. Using component diagrams and deployment diagrams in the physical design phase to generate code from Visual Modeler.

Competency 3: The student will demonstrate an understanding of COM+ by:

1. Describing how COM and MTS have evolved to become COM+.
2. Listing and describing the COM+ services.
3. Creating and add a component to a COM+ application.
4. Debugging a COM+ component.
5. Deploying a COM+ application.

Competency 4: The student will demonstrate an understanding of managing transactions and state by:

1. Using the context object to retrieve information about a COM+ component.
2. Adding transaction support for COM+ components by using the Component Services tool.
3. Enabling JIT activation for COM+ components.
4. Creating COM+ components that support and manage distributed transactions.
5. Using the Shared Property Manager to manage the application data referred to as state.
6. Describing some of the best practices when managing transactions and state.

Competency 5: The student will demonstrate an understanding of queued components and events by:

1. Describing the purpose and benefits of queued components.
2. Creating a queued component.
3. Instantiating and communicating with a queued component.
4. Describing the COM+ Event Service provided with Windows.
5. Creating and using an event class to match publishers with subscribers.
6. Combining queues with events to make the processing of publisher and subscriber events time-independent.

Competency 6: The student will demonstrate an understanding of how to integrate applications with the Active Directory by*:*

1. Describing directory services.
2. Describing the benefits of integrating with Active Directory.
3. Describing the Active Directory programming model.
4. Accessing Active Directory data by using Active Directory Service Interface (ADSI).
5. Querying for Active Directory objects by using ADO.

Competency 7: The student will demonstrate an understanding of Universal Data Access with ADO by:

1. Describing the major components of the ADO object model.
2. Describing how to Using ADO to access databases efficiently.
3. Using the Microsoft OLE DB Provider for Internet Publishing with ADO to retrieve hierarchical data from a Web site.
4. Using the Record set, Record, and Stream objects to access Web-based data.

Competency 8: The student will demonstrate an understanding of application security by:

1. Describing the major security features and security models provided by the Windows 2000 platform.
2. Explaining how authentication and authorization work.
3. Describing the authentication options available to Internet solutions based on COM+ and Internet Information Services (IIS).
4. Declaratively implementing security by using COM+ roles.
5. Implementing programmatic security by using security context information.
6. Understanding how COM+ application identity affects security.
7. Describing best practices for implementing security in enterprise solutions.

Competency 9: The student will demonstrate an understanding on how to use XML to exchange data by:

1. Describing the purpose and benefits of XML.
2. Describing the structure of a well-formed XML document.
3. Describing the purpose of XML schemas and DTDs.
4. Manipulating XML by using the Document Object Model.