

Course Discipline Code & No: CNT241 Title: Microsoft Exchange Server 2003 Administration *per Wm. Reichert 2/20/06*
 Effective Term Winter 2006
 Division Code: BCT Department Code: CNT Org #: 14300
 Don't publish: ☐ College Catalog ☐ Time Schedule ☐ Web Page

Reason for Submission. Check all that apply.

- ☐ New course approval ☐ Reactivation of inactive course
☒ Three-year syllabus review/Assessment report ☐ Inactivation (Submit this page only.)
☒ Course change

Change information: Note all changes that are being made. Form applies only to changes noted.

- ☒ Consultation with all departments affected by this course is required. ☐ Total Contact Hours (total contact hours were: _____)
☒ Course discipline code & number (was CNT241)* ☐ Distribution of contact hours (contact hours were: _____)
 *Must submit inactivation form for previous course. lecture: _____ lab _____ clinical _____ other _____
☒ Course title (was Designing Active Directory) ☒ Pre-requisite, co-requisite, or enrollment restrictions
☒ Course description Designing a Windows 2000.. ☐ Change in Grading Method
☒ Course objectives (minor changes) ☒ Outcomes/Assessment
☐ Credit hours (credits were: _____) ☐ Objectives/Evaluation
☐ Other _____

Rationale for course or course change. Attach course assessment report for existing courses that are being changed.

With CNT211, Microsoft Server Management, and CNT231, Implementing Active Directory, we have sufficient coverage of Active Directory Concepts at the Community College Level. Altering the course to cover Microsoft Exchange Administration, gives us an opportunity to cover a certification subject much in demand, both by students and by employers. An example – in the last two months, I have had three employers request Exchange knowledgeable individuals for immediate positions starting at \$ 50,000/year. Students continually request us to offer a course in this area.

Approvals Department and divisional signatures indicate that all departments affected by the course have been consulted.

Department Review by Chairperson

☐ New resources needed ☒ All relevant departments consulted

Print: Wm. Reichert
 Faculty/Preparer

Signature: [Signature]

Date: 12/20/05

Print: GARY W. DOWNEN
 Department Chair

Signature: [Signature]

Date: 12/19/05

Division Review by Dean

☐ Request for conditional approval

Recommendation ☒ Yes ☐ No

[Signature]
 Dean's/Administrator's Signature

Date: 1/26/06

Curriculum Committee Review

Recommendation

☐ Tabled ☒ Yes ☐ No

[Signature]
 Curriculum Committee Chair's Signature

Date: 2/23/06

Vice President for Instruction Approval

[Signature]
 Vice President's Signature

Date: 3/3/06

Approval ☒ Yes ☐ No ☐ Conditional

Do not write in shaded area.

Entered in: Banner 3/8 C&A Database 3/8 Log File 3/8/06 Basic skills spreadsheet updated ☐ Contact fee ☐

Please return completed form to the Office of Curriculum & Assessment.

***Complete ALL sections which apply to the course, even if changes are not being made.**

Course: CNT241	Course title: Microsoft Exchange 2003 Administration
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Credit hours: 4__ If variable credit, give range: ____ to ____ credits	Contact hours per semester:		Are lectures, labs, or clinicals offered as separate sections? ☐ Yes - lectures, labs, or clinicals are offered in separate sections ☒ No - lectures, labs, or clinicals are offered in the same section	Grading options: ☐ P/NP (limited to clinical & practica) ☐ S/U (for courses numbered below 100) ☒ Letter grades																			
	<table border="0"> <tr> <td></td> <td><u>Student</u></td> <td><u>Instructor</u></td> </tr> <tr> <td>Lecture:</td> <td>60</td> <td>60</td> </tr> <tr> <td>Lab:</td> <td>30</td> <td>30</td> </tr> <tr> <td>Clinical:</td> <td></td> <td></td> </tr> <tr> <td>Practicum:</td> <td></td> <td></td> </tr> <tr> <td>Other:</td> <td></td> <td></td> </tr> <tr> <td>Totals:</td> <td>60</td> <td>60</td> </tr> </table>				<u>Student</u>	<u>Instructor</u>	Lecture:	60	60	Lab:	30	30	Clinical:			Practicum:			Other:			Totals:	60
	<u>Student</u>	<u>Instructor</u>																					
Lecture:	60	60																					
Lab:	30	30																					
Clinical:																							
Practicum:																							
Other:																							
Totals:	60	60																					

Prerequisites. Select one:

☒ College-level Reading & Writing

☐ Reduced Reading/Writing Scores

☐ No Basic Skills Prerequisite

(Add information at Level I prerequisite)

(College-level Reading and Writing is not required.)

In addition to Basic Skills in Reading/Writing:

Level I (enforced in Banner)

Course	Grade	Test	Min. Score	Concurrent Enrollment (Can be taken together)	Corequisites (Must be enrolled in this class also during the same semester)
☐ and ☐ or _____	_____	_____	_____	☐	_____
☐ and ☐ or _____	_____	_____	_____	☐	_____
☐ and ☐ or _____	_____	_____	_____	☐	_____
☐ and ☐ or _____	_____	_____	_____	☐	_____

Level II (enforced by instructor on first day of class)

Course	Grade	Test	Min. Score		
CNT211 _____	C	_____	_____	☐	_____
☐ and ☒ or <u>Equivalent</u> Windows Server Administration/Management _____	_____	_____	_____	☐	_____
☐ and ☐ or _____	_____	_____	_____	☐	_____

Enrollment restrictions (In addition to prerequisites, if applicable.)

☐ and ☐ or Consent required

☐ and ☐ or Admission to program required

☐ and ☐ or Other (please specify):

Program: _____

Please send syllabus for transfer evaluation to:

Conditionally approved courses are not sent for evaluation.

Insert course number and title you wish the course to transfer as.

☐ E.M.U. as _____

☐ _____ as _____

☐ U of M as _____

☐ _____ as _____

☐ _____ as _____

☐ _____ as _____

Course CNT241	Course title Microsoft Exchange 2003 Administration <i>WJK</i>	
Course description State the purpose and content of the course. Please limit to <u>500</u> characters.	The desired course outcome is to give the students the knowledge and practice necessary to establish a Exchange Server Environment, ranging from one-server organizations to large Enterprises with multiple Exchange Servers. Student Proficiency in the Planning, Installation, Configuration, Monitoring, Backup and Troubleshooting of Exchange Servers is the primary goal. A secondary outcome is providing initial preparation towards the Microsoft MCSA/MCSE Elective Exam for Exchange Server 2003. <i>This course</i>	
Course outcomes List skills and knowledge students will have after taking the course. Assessment method Indicate how student achievement in each outcome will be assessed to determine student achievement for purposes of course improvement.	Outcomes (applicable in all sections) 1. Identify and Implement the necessary steps which are part of the planning process, initial installation, and upgrade scenarios of Microsoft Exchange Server 2003. 2. Configure and Manage Recipient, Public Folders E-mail Addressing and Global Server Settings in Exchange 2003 3. Identify and Implement the Steps in Establishing Internet Connectivity and Routing, Data Storage Areas, and Securing Resources in Exchange 2003. 4. Identify the Steps in and Establish Fault Tolerance, Clustering, Backups and Recovery Scenarios for Exchange Servers. 5. Identify and Implement the Logical Sequence of Steps involved in Troubleshooting and Monitoring Exchange Server 2003.	Assessment Methods for determining course effectiveness Two Methods of Assessments will be used on both the Multiple Choice Exams as well as the Student Written Responses to Lab Questions. 1. Student Outcomes. Summaries of all the Multiple Choice Exams given each semester are, and will be created. Student outcomes on each question will be assessed. Questions with high/low failure rates will be closely examined for content as well as meeting the individual Objectives and General Outcomes of the Course. Appropriate action will then be taken on question revisions, additions, and deletions.. Student written responses to the lab questions, as well as oral questions brought up during the lecture and lab projects themselves will also be assessed during and after the course, resulting in adjustments made to the lecture slides/notes and lab projects themselves. The Lectures and lab projects are actually CONTINUALLY undergoing revision during the course, often resulting additional/altered material being used in "present" class situations 2. Microsoft Objectives: Both the Multiple Choice Test Questions as well as the Lab Project Objectives, Outcomes, and Questions will be assessed each year in relation to Microsoft's Certification Objectives. Questions will be removed/altered/added and Lab Project Tasks will be changed based on appropriateness in meeting/matching present Microsoft's Requirements. Y early assessments are absolutely necessary, as the Microsoft Product involved with this course is continually being updated.

Course Objectives Indicate the objectives that support the course outcomes given above.	Objectives (applicable in all sections)	Evaluation Methods for determining level of student performance of objectives
Course Evaluations Indicate how instructors will determine the degree to which each objective is met for each student.	Outcome # 1 - Identify present hardware and plan new hardware and network components suitable for effectively installing Exchange Server 2003. - Install Windows Server Active Directory in Preparation for Exchange Installs - Complete Pre-installation setups including Domain Prep and Forest Prep. - Perform actual installation of Exchange Server 2003, and initial configuration to get it running. - List and properly sequence the steps required to perform an upgrade from earlier versions of Exchange to Exchange 2003.	Multiple Choice Exam similar to Certification Exam. Lab Project with Required Written Responses to Concept Questions throughout the Lab.. Lab Project with Required Written Responses to Concept Questions throughout the Lab. Lab Project with Required Written Responses to Concept Questions throughout the Lab. Multiple Choice Exam similar to Certification Exam
	Outcome # 2 - Configure Global and Server Property settings and establishing Exchange Server/System Policies. - Configure Exchange Recipients including their mailboxes, Distribution Groups, and Recipient Policies. - Establish and Manage E-mail address Lists and Policies plus configure Active Directory/Exchange interactions. - Setup and Implement a Public Folder structure including a Root Folder., folder store, and appropriate permissions associated with them. - Configure and Manage Exchange Server Administrative Groups including Front/Back End Server, and Web Virtual Server.	Lab Project with Required Written Responses to Concept Questions throughout the Lab. Lab Project with Required Written Responses to Concept Questions throughout the Lab Lab Project with Required Written Responses to Concept Questions throughout the Lab.. Lab Project with Required Written Responses to Concept Questions throughout the Lab. Lab Project with Required Written Responses to Concept Questions throughout the Lab.
	Outcome # 3 - Configure and test SMTP by establishing Routing Groups and associated Connectors. - Implement Link State Algorithm Routing Protocol and Use it to Route Information Externally. - Identify Data Storage Concepts and Implement and Configure a RAID Disk Storage Configuration. - Configure Permissions, a Public Key Infrastructure, and Encryption to Secure Communications.	Lab Project with Required Written Responses to Concept Questions throughout the Lab. Lab Project with Required Written Responses to Concept Questions throughout the Lab. Multiple Choice Exam similar to Certification Exam Lab Project with Required Written Responses to Concept Questions throughout the Lab.
	Outcome #4 Implement Fault Tolerance through Redundant Hardware (Clustering) and Redundant Services.	Lab Project with Required Written Responses to Concept Questions throughout the Lab.

	b. List steps for Disaster Recovery including Logging, Backup Scheduling, Instructions, and list all items requiring backup. c. Perform a Backup and Restore of Exchange's Databases, Mailboxes, and Indexes. Outcome #5 a. Identify the various Maintenance Utilities used for monitoring Exchange, including ESEUTIL, ISINTEG, RPC Ping, & MTA Check. b. Implement a monitoring plan on Exchange Server, using the above mentioned utilities. c. Identify the various tools used for Troubleshooting, including Diagnostic Logging, Event Logging, Queue Viewer, Protocol Logging, Message Tracking, WinRoute, and Telnet. d. Troubleshoot Exchange connectivity between users and the Exchange Server and between Exchange Servers.	Multiple Choice Exam similar to Certification Exam Lab Project with Required Written Responses to Concept Questions throughout the Lab. Multiple Choice Exam similar to Certification Exam Lab Project with Required Written Responses to Concept Questions throughout the Lab Multiple Choice Exam similar to Certification Exam Lab Project with Required Written Responses to Concept Questions throughout the Lab
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List all new resources needed for course, including library materials.

Student Materials:

List examples of types Texts Supplemental reading Supplies Uniforms Equipment Tools Software	Text Book: Course Technology MCSE Guide to Microsoft Exchange Server 2003 Administration, Chambers, Wright, DiNicolo Supplies: Floppy Disks, USB Flash Drives	Estimated costs \$ 70.00 for book.
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Equipment/Facilities: Check all that apply. (All classrooms have overhead projectors and permanent screens.)

Check level <u>only</u> if the specified equipment is needed for <u>all</u> sections of a course. ☐ Level I classroom Permanent screen & overhead projector ☐ Level II classroom Level I equipment plus TV/VCR ☒ Level III classroom Level II equipment plus data projector, computer, faculty workstation	☐ Off-Campus Sites ☐ Testing Center ☒ Computer workstations/lab ☐ ITV ☐ TV/VCR ☒ Data projector/computer ☒ Other <u>Software: Microsoft Server 2003, Microsoft XP Workstations, Microsoft Exchange Server 2003 (Software obtained as part of Microsoft's MDNA Program.</u>
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Assessment plan:

Learning outcomes to be assessed (list from Page 3)	Assessment tool	When assessment will take place	Course section(s)/other population	Number students to be assessed
1. Identify and Implement the necessary steps which are part of the planning process, initial installation, and upgrade scenarios of Microsoft Exchange Server 2003	Multiple Choice Exams, and Lecture/Lab Project Responses	Throughout the Course and Annually (Explained Below)	All Sections	40 (Assumes two sections per year)
2. Configuring and Managing Recipient, Public Folders E-mail Addressing	Multiple Choice Exams, and Lecture/Lab Project Responses	Throughout the Course and Annually (Explained Below)	All Sections	40 (Assumes two sections per year)
3. Define and Implement the Steps in Establishing Internet Connectivity and Routing, Data Storage Areas, and Securing Resources in Exchange 2003.	Multiple Choice Exams, and Lecture/Lab Project Responses	Throughout the Course and Annually (Explained Below)	All Sections	40 (Assumes two sections per year)
4. Define and Establish Fault Tolerance, Clustering, Backups and Recovery Scenarios for Exchange Servers.	Multiple Choice Exams, and Lecture/Lab Project Responses	Throughout the Course and Annually (Explained Below)	All Sections	40 (Assumes two sections per year)
5. Identify and Implement the Logical Sequence of Steps involved in Troubleshooting and Monitoring Exchange Server 2003.	Multiple Choice Exams, and Lecture/Lab Project Responses	Throughout the Course and Annually (Explained Below).	All Sections	40 (Assumes two sections per year)

MASTER SYLLABUS

Scoring and analysis of assessment:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric.

1. Student Outcomes.

The multiple choice tests automatically generate output showing total right/wrong answers as well as class averages. Assessment data (most missed questions, least missed questions) are drawn directly from these. These questions are then evaluated versus the course outcomes listed above. Student Lab Question Responses are reviewed directly and patterns of student understanding of the concepts are drawn from these responses, again in relationship to the course outcomes listed above.

2. Microsoft Certification Objectives.

Microsoft updates these regularly on their Web site, as does Course Technology, the text book publisher for this course. Each year these are reviewed based on the Outcomes listed above, and changed to both Outcomes and Objectives are made based on this review.

3. Indicate the standard of success to be used for this assessment.

Students should score an average of 70 – 80 percent on the exams given. Assessment against the Microsoft Objectives should approach 100% with course outcomes/objectives being revised yearly.

4. Indicate who will score and analyze the data.

Instructors who teach this course with the assistance of departmental faculty as needed.

5. Explain the process for using assessment data to improve the course.

Two Methods of Assessments will be used on both the Multiple Choice Exams as well as the Student Oral and Written Responses to Lecture and Lab Project Activities and Questions. (See Rubric attached)

1. Student Outcomes:

Summaries (**an Item Analysis**) of all the Multiple Choice Exams given each semester are, and will be created. Student outcomes on each question will be assessed. Questions with high/low failure rates will be closely examined for content as well as meeting the individual Objectives and General Outcomes of the Course. Appropriate action will then be taken on question revisions, additions, and deletions..

Student written responses to the lab questions, as well as oral questions brought up during the lectures and lab projects themselves will also be assessed during and after the course, resulting in adjustments made to the lecture slides/notes and lab projects themselves. The method of assessment used is described in the attached rubric – 50% of the questions answered by the students not meeting the level of understanding or completeness will be reviewed and changed based on the criteria listed in the rubric. All lectures and lab projects are actually CONTINUALLY undergoing revision during the course, often resulting additional/altered material being used in “present” class situations

2. Microsoft Objectives

Both the Multiple Choice Test Questions as well as the Lab Project Objectives, Outcomes, and Questions will be assessed each year in relation to Microsoft’s Certification Objectives. Questions will be removed/altered/added and Lab Project Tasks will be changed based on appropriateness in meeting/matching present Microsoft’s Requirements

Yearly assessments are absolutely necessary, as the Microsoft Product involved with this course is continually being updated.