CIT - 275 - Microsoft Server Administration and Virtualization

2025-2026 Course Proposal Form

Course Information

Please select which best fits this course proposal:*

- [x] Course New/Reactivation Proposal
- [ ] Course Revision Proposal
- [ ] Course Retirement Proposal
- [ ] Course Outcomes Revision Proposal

Department* Computer Information Technology

IF proposing a new course type or prefix, please select "NEW Course Type or NEW Prefix" from the dropdown and input the requested data in the new text field that follows.

Course Type:* Computer Information Technology

NEW Course Type: N/A

NEW Prefix: N/A

Prefix:* CIT

Course Number:* 275

Course Title:* Microsoft Server Administration and Virtualization

Credit(s):* 3

Course Description:* This course is deigned to introduce students to virtualization concepts with hands-on exercises related to windows server administration challenges using virtual machines. Students will gain experience in installing and configuring network and storage services on windows servers by hands-on exercises. It also introduces them to hypervisors, Microsoft Azure, active directory, setting up user groups, rights, printer sharing, and other items related to organizational and security issues.

Lecture Hours:* 3

Laboratory Hours:* 0

Clinical Hours:* 0

Internship Hours:* 0

Prerequisite(s): N/A

Corequisite(s): N/A

Pre / Corequisite(s): CIT 142 or Instructors Permission

Required Materials* Check the College Bookstore for Required Materials.

Course Learning Outcomes:*

1. Understand windows server architecture, networking and virtualization of servers
2. Implement Hyper-V and VMware virtual environments
3. Install and configure server and storage management
4. Implement user accounts, group polices, active directory and domain controller services
5. Understand resource sharing, print and document services on both Azure and server platforms

Student Learning Outcomes:*

1. Define and differentiate windows client and server operating systems (CLO 1)
2. Define and differentiate type 1 and type 2 hypervisor (CLO 2)
3. Understand requirements for server installation (CLO 1)
4. Install and upgrade windows server on both hypervisors (CLO 1 and 2)
5. Understand the use of power shell and windows server roles and features (CLO 1)
6. Understand IP addressing and subnetting (CLO 1)
7. Understand and implement VLSM (Variable Length Subnet Masking) (CLO 1)
8. Configure IPv4 addressing and understand IPv6 addressing (CLO 1)
9. Understand and configure windows firewall and NIC Teaming concepts (CLO 1)
10. Installing and managing server roles and features (CLO 3 & 4)
11. Install and configure file server role (CLO 3)
12. Differentiate server core installation and GUI based installation (CLO 3 & 1)
13. Install and configure remote server management on client and server machines (CLO 3)
14. Understand partitions, volumes and file systems on windows server (CLO 3)
15. Define and differentiate MBR and GPT partitioning (CLO 3)
16. Define VHD storage, create and mount a VHD (CLO 3)
17. Define and implement storage pools (CLO 3)
18. Install active directory roles and services (CLO 4)
19. Promoting a server to domain controller (CLO 4)
20. Adding a domain controller to existing domain (CLO 4)
21. Adding a client to a domain controller (CLO 4)
22. Define user accounts and group permissions (CLO 4)
23. Create and manage user accounts (CLO 4)
24. Implement group polices on existing users and devices (CLO 4)
25. Define and differentiate global groups and distribution groups (CLO 4)
26. Understand the overview of Microsoft Azure architecture (Azure AD) (CLO 5)
27. Understand and configure account password policies (CLO 4 & 5)
28. Create and link GPO (Group Policy Objects) (CLO 4)

29. Define and differentiate SMB shares and NFS shares (CLO 5)

30. Adding a local printer and configure printer properties (CLO 5)

31. Create and share printers across the network (CLO 5)

32. Configure printer pooling and print management (CLO 5)

33. Restrict printer access and deploy printers with group policy (CLO 5)

General Education Outcomes:

Please select up to 2 from the list of the general education outcomes taught in this course.

Select up to 2 of the following:*

- [x] Communicate effectively in oral and written formats
- [ ] Employ or utilize information access and literacy skills
- [x] Demonstrate problem-solving and critical thinking skills
- [x] Employ mathematical and science literacy skills
- [ ] Acquire a cultural, artistic and global perspective
- [ ] Demonstrate professional and human relations skills

Types of Formative Assessment:

Please select at least 3 formative assessment tools that are most appropriate to the course description and outcomes, regardless of modality. Formative assessment tools are learning activities or assessments that monitor and provide ongoing feedback on student learning. Formative assessments allow students to identify their strengths and weaknesses and for instructors to address student questions and misunderstandings

Select at least 3 of the following:*

- [x] Practice Quizzes
- [ ] Paper Drafts
- [x] Class Discussions/Q&A
- [ ] Low-stakes Group Work
- [x] Homework Assignment
- [ ] Surveys/Polls
- [ ] Laboratory/Instrument Practice
- [x] Written Reflections
- [ ] Self-appraisal using study guides, quiz software, interactive textbook
- [ ] Other

Types of Summative Assessment:

Please select at least 2 summative assessment tools that are most appropriate to the course description and outcomes, regardless of modality. Summative assessment tools are learning activities or assessments that evaluate student learning at the end of an instructional period, like a module, unit, or course. Summative assessments are formally graded and allow instructors to determine whether and to what extent students have met the course learning outcomes.

Select at least 2 of the following:*

- [ ] Instructor-Created Exams/High-Stakes Quizzes
- [ ] Standardized Tests
- [ ] Laboratory Reports
- [x] Final Projects
- [ ] Final Essays/Research Papers
- [ ] Final Presentations
- [x] Final Reports
- [ ] Internships/ Clinical Site Evaluations
- [ ] Other

Minimum Acceptable Standards*

For quizzes, homework, and assessment activities listed, the instructor's analysis of satisfactory demonstration of knowledge will be used; on summative methods such as exams, papers, or projects, achieving a letter grade of "C", or 70% or above will demonstrate satisfactory understanding and basic mastery of outcomes.

Please answer the following questions related to your curriculum proposal:

Why are you recommending these changes? (courses outdated, recommendation of advisory committee, results of assessment activities and data, better attainment of program/course outcomes)

Justification:*

· Requested by CIT Advisory Committee

· We are essentially combining two existing CIT courses as the micro credentials associated to them have been retired by their vendors. This will help us give the students a better understanding of current workforce requirements.

· Partnership with VMware and Microsoft, which allows our students to attain one or more micro credential through them.

· University of Charleston (Our 2+2)agreed to our proposal

· Betterment of program by being able to use the current technologies and trends

Last Semester Needed:

Impact Report Statement

List all program(s) or course(s) affected by these changes. If no program(s) or course(s) are affected, please state "NA" below. Run an Impact Report by clicking in the top left corner and answer below according to the results.

Impact Report: N/A

What impact will these changes have on other courses or programs? (List impacted programs and comments or input you have gathered from other faculty, program directors, or Division Chairs)

Other Courses or Programs:

· CIT 241 and CIT 265 are currently offered in Cybersecurity, Cybersecurity 2+2 A.A.S Programs

· The 3-credit gap created by combining these classes will be filled in with a new class CIT 2XX Secure Computer User which has been accepted by our 2+2 university of Charleston

· This new class will be added to Cyber support A.A.S and Computer Repair C.A.S which means it will be offered in 4 different programs which will boost the overall enrollment.

· Waivers can be done on case by case basis.

What impact will these changes have on institutional resources? (Budget, faculty, equipment, labs, instructional design, etc.) Have you already discussed this impact with appropriate personnel (financial aid, administration, division chair, other faculty)?

Institutional Resources: This will be an OER course with option for students to get various micro credentials from Azure and Microsoft.

What impact will these changes have on current students? How will you ensure that current students are not penalized by these changes?

Current Students: Waivers can be done on a case by case basis.

What impact will these changes have on transferability, national/regional association standards, etc.?

Transferability, National / Regional Association Standards, Etc.: University of Charleston agreed to transfer the new class with the 2+2 variant.

What impact will these changes have on the institution's mission and student's achievement of general education outcomes/requirements?

Mission; General Education Outcomes / Requirements: N/A

Administrative Use Only

Please do <u>not</u> alter the information within this section.

Course OID:

Information or Voting Item:

- ☐ Information Item (If the proposal does not impact other courses, select this option)
- ☐ Voting Item

Implementation Semester and Year* Fall 2025