|  |  |
| --- | --- |
| **Course Title:** | **Computer Network Management** |
| **Course Code:** | **451CCN-3** |
| **Program:** | **Computer Networks** |
| **Department:** | **Department of Network and communications Engineering** |
| **College:** | **College of Computer Science and Information Systems** |
| **Institution:** | **Najran University** |

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# A. Course Identification

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1. Credit hours:** | | | | 3 (2, 2, 1) [**Theory, Lab, Tutorial**] | | | | | | | | | | | | |
| **2. Course type** | | | | | | | | | | | | | | | | |
| **a.** | University | |  | | College | | |  | Department | | | | **✓** | Others |  |  |
| **b.** | | Required | | | | **✓** | Elective | | |  |  | | | | | |
| **3. Level/year at which this course is offered:** | | | | | | | | | | | | **Level 7th** | | | | |
| **4. Pre-requisites for this course** (if any)**: NA** | | | | | | | | | | | | | | | | |
| **5. Co-requisites for this course** (if any)**: NA** | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |

## 6. Mode of Instruction (mark all that apply)

| **No** | **Mode of Instruction** | **Contact Hours** | **Percentage** |
| --- | --- | --- | --- |
| **1** | **Traditional classroom** | 75 | 100% |
| **2** | **Blended** |  |  |
| **3** | **E-learning** |  |  |
| **4** | **Distance learning** |  |  |
| **5** | **Other** |  |  |

**7. Contact Hours** (based on academic semester)

|  |  |  |
| --- | --- | --- |
| **No** | **Activity** | **Contact Hours** |
| **1** | **Lecture** | 30 |
| **2** | **Laboratory/Studio** | 30 |
| **3** | **Tutorial** | 15 |
| **4** | **Others** (specify) |  |
|  | **Total** | 75 |

# B. Course Objectives and Learning Outcomes

|  |
| --- |
| 1. Course Description This course provides practical implementation of networking as well as a knowledge of related equipment and terminologies. The course also describes the managing level networks using Active Directory and remote access. It also focuses on network management and environment customization techniques, including creating users/groups, managing file permissions, configuring server roles, using group policies to configure and secure the network, routine system maintenance and troubleshooting. |
|  |
| 2. Course Main Objective |
| The course introduces students to the foundational concepts and experience in networking administration. The course provides the theory, concepts and practical experience in the design, installation and configuration of personal computers, peer-to-peer networks and client-server networks meeting user requirements. |

## 3. Course Learning Outcomes

| **CLOs** | | **Aligned****PLOs** |
| --- | --- | --- |
| 1 | **Knowledge and Understanding** |  |
| 1.1 | Determine the Theoretical aspects of Network Administration | K1 |
| 1.2 |  |  |
| 1.3 |  |  |
| 1... |  |  |
| **2** | **Skills :** |  |
| 2.1 | Design peer-to-peer networks to share resources | S1,S4 |
| 2.2 | Analyze requirements of network architecture for a given scenario | S4 |
| 2.3 | Evaluate a design for a systems and network solution | S2 |
| 2.4 | Configure a client-server network and required network services for a given scenario | S4 |
| **3** | **Values:** |  |
| 3.1 |  |  |
| 3.2 |  |  |
| 3.3 |  |  |
| 3... |  |  |

# C. Course Content

|  |  |  |
| --- | --- | --- |
| **No** | **List of Topics** | **Contact Hours** |
| 1 | Introduction to VM Virtual Box, Windows client and server | 4 |
| 2 | Administering Microsoft Windows Server 2016 | 5 |
| 3 | User Accounts | 4 |
| 4 | Group Accounts | 8 |
| 5 | Computer Accounts | 4 |
| 6 | Files and Folders | 9 |
| 7 | Backup Data | 4 |
| 8 | Printers | 9 |
| 9 | Maintaining the operating system | 4 |
| 10 | Monitoring Microsoft Windows Server 2016 | 5 |
| 11 | Implementing File Systems | 4 |
| **Total** | | 60 |

# D. Teaching and Assessment

## 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

| **Code** | **Course Learning Outcomes** | **Teaching Strategies** | **Assessment Methods** |
| --- | --- | --- | --- |
| **1.0** | **Knowledge and Understanding** | | |
| 1.1 | Determine the Theoretical aspects of Network Administration | Lectures, active learning, collaborative and cooperative learning and independent study assignments are used as teaching strategies.   * Showing and delivering PPT presentation in the class. * Using a whiteboard to explain essential points in more detail. * Motivating students to be active during class by asking questions regularly during lecture. | * Class Quizzes. * Assignment. * Midterm exam (Each exam consists of multiple choice questions, true/false, fill in the blanks, and theoretical questions.)   - Final Exam |
| 1.2 |  |  |  |
| 1.3 |  |  |  |
| **2.0** | **Skills** | | |
| 2.1 | Design peer-to-peer networks to share resources | * Design a network on whiteboard for students to make them more familiar with various networks topologies. * Ask students to give scenarios that required to analyze, evaluate, and configure a network to solve such problems * Let students solve problems regarding sharing resources in small groups and giving correction on their solution during class. * Motivating students to be active during class by asking questions regularly. * Let students present their work after group discussion session. * Giving students tutorial related to scheduling algorithm to explain them in more detail. * Motivating students to work in the home, to search the internet, to read related reference books by giving them assignments. | * Class Quizzes. * Assignment. * Midterm exam   Final Exam |
| 2.2 | Analyze requirements of network architecture for a given scenario | * Design a network on whiteboard for students to make them more familiar with various networks topologies. * Ask students to give scenarios that required to analyze, evaluate, and configure a network to solve such problems * Let students solve problems regarding sharing resources in small groups and giving correction on their solution during class. * Motivating students to be active during class by asking questions regularly. * Let students present their work after group discussion session. * Giving students tutorial related to scheduling algorithm to explain them in more detail. * Motivating students to work in the home, to search the internet, to read related reference books by giving them assignments. | * Class Quizzes. * Assignment. * Midterm exam   Final Exam |
| 2.3 | Evaluate a design for a systems and network solution | * Design a network on whiteboard for students to make them more familiar with various networks topologies. * Ask students to give scenarios that required to analyze, evaluate, and configure a network to solve such problems * Let students solve problems regarding sharing resources in small groups and giving correction on their solution during class. * Motivating students to be active during class by asking questions regularly. * Let students present their work after group discussion session. * Giving students tutorial related to scheduling algorithm to explain them in more detail. * Motivating students to work in the home, to search the internet, to read related reference books by giving them assignments. | * Class Quizzes. * Assignment. * Midterm exam   Final Exam |
| 2.4 | Configure a client-server network and required network services for a given scenario | * Design a network on whiteboard for students to make them more familiar with various networks topologies. * Ask students to give scenarios that required to analyze, evaluate, and configure a network to solve such problems * Let students solve problems regarding sharing resources in small groups and giving correction on their solution during class. * Motivating students to be active during class by asking questions regularly. * Let students present their work after group discussion session. * Giving students tutorial related to scheduling algorithm to explain them in more detail. * Motivating students to work in the home, to search the internet, to read related reference books by giving them assignments. | * Class Quizzes. * Assignment. * Midterm exam   Final Exam |
| 2.5 |  |  |  |
| **3.0** | **Values** | | |
| 3.1 |  |  |  |
| 3.2 |  |  |  |
| … |  |  |  |

## 2. Assessment Tasks for Students

| **#** | **Assessment task\*** | **Week Due** | **Percentage of Total Assessment Score** |
| --- | --- | --- | --- |
| **1** | Theory Assignment 1 | 3 | 3 |
| **2** | Lab Assignment 1 | 4 | 2 |
| **3** | Mid Lab Exam | 5 | 7 |
| **4** | Mid Term 1 | 6 | 15 |
| **5** | Lab Assignment 2 | 13 | 2 |
| **6** | Theory Assignment 2 | 11 | 3 |
| **7** | Mid Term 2 | 12 | 15 |
| **8** | Lab Performance | Through out | 3 |
| **9** | Final Lab Exam | 14 | 10 |
| **10** | Final theory Exam | 15 | 40 |

**\*Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

# E. Student Academic Counseling and Support

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| --- |
| **Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :** |
| The faculty allocated **10** office hours per week for the students individual consultation, to explain them topic which is not clear to them etc. |

# F. Learning Resources and Facilities

## 1.Learning Resources

|  |  |
| --- | --- |
| **Required Textbooks** | Zacker, Craig. Microsoft Official Academic Course: Managing and Maintaining a Microsoft Windows Server 2016 Environment. Redmond, Microsoft Press, 201+ [ISBN 0-07-294490-0][REF MCSE Exam 70-290] |
| **Essential References Materials** | Corbin, Wendy. Microsoft Official Academic Course: Planning, Implementing and Maintaining a Microsoft Windows Server 2016 Active Directory Infrastructure. Redmond, Microsoft Press [ISBN 0-07-294490-0][REF MCSE Exam 70-294]  Simpson, Ted and Simpson, Micheal. *Guide to NetWare 6.0/6.5 Administration [Enhanced Edition].* Cambridge, Course Technology - ITP, 2004 [ISBN 0-619-21543-7] |
| **Electronic Materials** | Saudi Digital Library |
| **Other Learning Materials** |  |

## 2. Facilities Required

| **Item** | **Resources** |
| --- | --- |
| **Accommodation**  (Classrooms, laboratories, demonstration rooms/labs, etc.) | Lecture Rooms with 20 seats and a whiteboard or a smart board. |
| **Technology Resources**  (AV, data show, Smart Board, software, etc.) | Desktop/ Laptop computer  Multimedia Projector |
| **Other Resources**  (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list) | A File cabinet to keep Class Stuff, Markers, papers and students Files, and a printer to print program screenshots |

# G. Course Quality Evaluation

| **Evaluation**  **Areas/Issues** | **Evaluators** | **Evaluation Methods** |
| --- | --- | --- |
| Feedback about Course Learning Outcomes (CLOs) | Students, Faculty | Direct (A course survey is distributed to students to take their opinion) |
| feedback about the teaching strategies, assessment methods, textbooks, instructor | Students | Direct (A course survey is distributed to students to take their opinion) |
| feedback about the teaching strategies, assessment methods, textbooks, instructor | Faculty | Direct (Meeting with course coordinator and college coordinator periodically.) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

**Assessment Methods** (Direct, Indirect)

# H. Specification Approval Data

|  |  |
| --- | --- |
| **Council / Committee** |  |
| **Reference No.** |  |
| **Date** | January 19, 2019 |