

СОФИЙСКИ УНИВЕРСИТЕТ "СВ. КЛИМЕНТ ОХРИДСКИ"
ФАКУЛТЕТ ПО МАТЕМАТИКА И ИНФОРМАТИКА

учебна година: 2009/2010

семестър: летен

наименование на дисциплината: Планиране и проектиране на мрежови услуги в Майкрософт Активна директория		
хорариум: 2 + 0 + 2 Общо: 60 часа (30 + 0 + 30)		
вид на дисциплината: избираема		
специалност: Разпределени системи и мобилни технологии	курс: I ÷ II	поток:
лектор: гл. ас. Георги Георгиев		

1. Кратка анотация на дисциплината

Курсът е избираем за студентите от I и II курс в магистърската програма "Разпределени системи и мобилни технологии" на направление „Информатика“.

Курсът дава специализирани знания по дизайн на инфраструктура с Активна Директория.

Курсът е предназначен за подготовка на специалисти в областта на сигурността и дизайна на технологиите с Активна Директория.

Курсът е по учебната програма на Microsoft: MOC # 6436: Designing a Windows Server 2008 Active Directory Infrastructure and Services.

Този курс е подготвителен за сертификационен изпит за степен Microsoft Certified IT Professional (MCITP) – Exam 70-647 PRO: Windows Server 2008, Enterprise Administrator.

2. Предварителни изисквания към студентите (отнася се само за избираемите дисциплини)

Студентите следва да имат сериозни познания по TCP/IP протокола, както и за компютърни мрежи и мрежови услуги – DHCP, DNS.

Препоръчително е студентите успешно да са преминали курсовете:

- „Администриране на Майкрософт сървъри“ (MOC # 6418: Deploying Windows Server 2008 и MOC # 6419: Configuring, Managing and Maintaining Windows Server 2008 Servers);
- „Изграждане на мрежова и приложна инфраструктура“ (MOC # 6420: Fundamentals of Windows Server 2008 Network and Applications Infrastructure);
- „Конфигуриране и поддръжка на мрежови услуги“ (MOC # 6421: Configuring and Troubleshooting a Windows Server 2008 Network Infrastructure).
- „Изграждане и администриране на Майкрософт Активна директория“ (MOC # 6425: Configuring and Troubleshooting Windows Server 2008 Active Directory Domain Services, и MOC # 6432:

3. Форма на проверка на знанията и уменията и начин на формиране на оценката по дисциплината

<i>Междинни тестове по време на занятията:</i>	33 % от крайната оценка
<i>Финален тест:</i>	67 % от крайната оценка

4. Тематичен план (конспект) на дисциплината

Module 1: Designing an Active Directory Forest Infrastructure in Windows Server 2008

Lessons

- Determining Active Directory Forest Design Requirements
- Designing an Active Directory Forest
- Designing Active Directory Forest Trusts
- Managing the Active Directory Schema
- Understanding Windows Time Service

Lab: Designing an Active Directory Forest Infrastructure in Windows Server 2008

- Designing an Active Directory Forest
- Designing and Implementing Active Directory Forest Trusts
- Designing and Implementing Active Directory Schema Changes
- Discussions About Exercise 1-3 Design Decisions

Module 2: Designing an Active Directory Domain Infrastructure in Windows Server 2008

Lessons

- Designing Active Directory Domains
- Designing the Integration of DNS Namespaces
- Designing the Placement of Domain Controllers
- Designing Active Directory Domain Trusts

Lab: Designing an Active Directory Domain Infrastructure in Windows Server 2008

- Designing Active Directory Domains
- Designing and Implementing DNS Namespace Integration
- Designing and Implementing Read-Only Domain Controller Security
- Designing and Implementing Active Directory Domain Trusts
- Discussions About Exercise 1-4 Design Decisions

Module 3: Designing Active Directory Sites and Replication in Windows Server 2008

Lessons

- Designing Active Directory Sites
- Designing AD DS Replication
- Designing the Placement of Domain Controllers in AD DS Sites

Lab: Designing AD DS Sites and Replication in Windows Server 2008

- Designing and Implementing AD DS Sites
- Designing and Implementing AD DS Replication

- Designing the Placement of Domain Controllers
- Discussions About Exercise 1-3 Design Decisions

Module 4: Designing Active Directory Domain Administrative Structures in Windows Server 2008

Lessons

- Planning an Active Directory Domain Administrative Structure
- Designing Organizational Unit Structures
- Designing an Active Directory Group Strategy
- Planning for User and Computer Account Management

Lab: Designing AD DS Administrative Structures in Windows Server 2008

- Designing and Implementing Organizational Units
- Designing and Implementing Active Directory Group Strategies
- Automating User Account Management by using Windows PowerShell
- Discussions About Exercise 1-3 Design Decisions

Module 5: Designing Active Directory Group Policy in Windows Server 2008

Lessons

- Gathering Information for Group Policy Deployment
- Designing Group Policy Settings
- Designing Group Policy Processing
- Designing Group Policy Management

Lab: Designing Active Directory Administrative Structures in Windows Server 2008

- Designing and Implementing Group Policy Settings
- Designing and Implementing Group Policy Application
- Designing and Implementing Group Policy Management
- Discussions About Exercise 1-3 Design Decisions

Module 6: Designing AD DS Security in Windows Server 2008

Lessons

- Designing Active Directory Security Policies
- Designing Active Directory Domain Controller Security
- Designing Administrator Security and Delegation

Lab: Designing AD DS Security in Windows Server 2008

- Designing and Implementing Domain Security Policies
- Designing and Implementing Domain Controller Security Policies
- Designing and Implementing Administrator Security and Delegation
- Discussions About Exercise 1-3 Design Decisions

Module 7: Designing Active Directory High Availability in Windows Server 2008

Lessons

- Understanding AD DS High Availability
- Designing an AD DS High Availability Strategy

Lab: Designing AD DS Availability in Windows Server 2008

- Designing a High Availability Plan for AD DS
- Discussions About Exercise 1 Design Decisions

Module 8: Designing AD DS Disaster Recovery in Windows Server 2008

Lessons

- Designing an Active Directory Database Maintenance Strategy
- Designing an Active Directory Backup and Recovery Strategy

- Designing an AD DS Monitoring Strategy

Lab: Designing Active Directory Disaster Recovery in Windows Server 2008

- Designing and Implementing a Domain Controller Maintenance Plan
- Designing and Implementing a Domain Controller Monitoring Plan
- Discussions About Exercise 1-2 Design Decisions

Module 9: Designing Public Key Infrastructure in Windows Server 2008

Lessons

- Overview of PKI and Active Directory Certificate Services
- Designing a Certification Authority Hierarchy
- Designing Certificate Template
- Designing Certificate Distribution and Revocation

Lab: Designing Public Key Infrastructure in Windows Server 2008

- Designing and Implementing a CA Hierarchy
- Designing and Implementing AD CS Certificate Templates
- Designing and Implementing Certificate Enrollment and Revocation
- Discussions About Exercises 1-3 Design Decisions

Module 10: Designing an AD RMS Infrastructure in Windows Server 2008

Lessons

- Gathering Information for an Active Directory Rights Management Services (AD RMS) Design
- Designing AD RMS Clusters and Access
- Designing AD RMS Backup and Recovery

Lab: Designing an AD RMS Infrastructure in Windows Server 2008

- Designing AD RMS Clusters and Access
- Designing AD RMS Backup and Recovery
- Discussions About Exercises 1-2 Design Decisions

Module 11: Designing an Active Directory Federation Services Implementation in Windows Server 2008

Lessons

- Overview of an Active Directory Federation Services Design
- Designing a Business-to-Business Federation
- Designing Active Directory Federation Services Claims and Applications

Lab: Designing an Active Directory Federation Services Implementation in Windows Server 2008

- Designing Active Directory Federation Services Access to Applications in a Perimeter Network
- Designing Active Directory Federation Services Access to Partner Applications
- Designing Active Directory Federation Services for Partner Access to Applications in a Perimeter Network
- Discussions About Exercise 1-3 Design Decisions

Module 12: Designing an AD LDS Implementation

Lessons

- AD LDS Deployment Scenarios
- Overview of an AD LDS Implementation Design
- Designing AD LDS Schema and Replication
- Integrating AD LDS with AD DS

Lab: Designing an AD LDS Implementation

- Designing and Configuring AD LDS Replication for Internal Applications
- Designing and Configuring AD LDS Replication for External Applications
- Designing Highly Available LDAP Services for Multiple Applications
- Discussions About Exercises 1-3 Design Decisions

Module 13: Designing Active Directory Migrations in Windows Server 2008

Lessons

- Choosing an Active Directory Migration Strategy
- Designing a Domain Upgrade Strategy
- Designing a Domain Restructure Strategy

Lab: Designing Active Directory Migrations in Windows Server 2008

- Designing an Active Directory Migration Strategy
- Designing an Active Directory Migration Implementation Plan
- Discussions About Exercise 1-2 Design Decisions

5. Литература

МОС # 6436: Designing a Windows Server 2008 Active Directory Infrastructure and Services – Students book