

## Программа учебной дисциплины «System Administration and IT Infrastructure Services»

Утверждена  
Академическим советом ООП  
Протокол № 8.1.2.1-14/01 от «28 » июня 2018 г.

|                               |                               |
|-------------------------------|-------------------------------|
| Автор                         | Шутов А.А.                    |
| Число кредитов                | 4                             |
| Контактная работа (час.)      | -                             |
| Самостоятельная работа (час.) | 152                           |
| Курс                          | 1                             |
| Формат изучения дисциплины    | С использованием онлайн курса |

### I. ЦЕЛЬ, РЕЗУЛЬТАТЫ ОСВОЕНИЯ ДИСЦИПЛИНЫ И ПРЕРЕКВИЗИТЫ

This course will transition you from working on a single computer to a whole fleet. Systems administration is the field of IT that's responsible for maintaining reliable computers systems in a multi-user environment. In this course, you'll learn about the infrastructure services that keep all organizations, big and small, up and running.

This course provides knowledge how to manage and configure servers, how to use industry tools to manage computers, user information, and user productivity, and finally, how to recover organization's IT infrastructure in the event of a disaster.

By the end of this course students be able to:

- utilize best practices for choosing hardware, vendors, and services for your organization.
- understand how the most common infrastructure services that keep an organization running work and how to manage infrastructure servers.
- manage an organization's computers and users using the directory services, Active Directory, and OpenLDAP.
- choose and manage the tools that your organization will use.
- backup your organization's data and be able to recover your IT infrastructure in the case of a disaster.
- utilize systems administration knowledge to plan improve processes for IT environments.

**Who is this class for:** This program is intended for beginners who are interested in developing the skills necessary to perform entry-level IT support. No pre-requisite knowledge is required. However, if you do have some familiarity with IT, you can skip through any content that you might already know and speed ahead to the graded assessments.

### II. СОДЕРЖАНИЕ УЧЕБНОЙ ДИСЦИПЛИНЫ

#### 1. What is System Administration?.

Welcome to the System Administration course of the IT Support Professional Certificate! In the first part of this course, we will cover the basics of system administration. We'll cover organizational policies, IT infrastructure services, user and hardware provisioning, routine maintenance, troubleshooting, and managing potential issues. By the end of this module, you

will understand the roles and responsibilities of a System Administrator. So let's get started!

## 2. Network and Infrastructure Services

In the second part of this course, we'll learn about network and infrastructure services. We will cover what IT infrastructure services are and what their role is in system administration. We'll also learn about server operating systems, virtualization, network services, DNS for web services, and how to troubleshoot network services. By the end of this module, you will know the most common IT infrastructure services you'll encounter when handling system administration tasks.

## 3. Software and Platform Services

In the third part of this course, we'll explore software and platform services. We'll cover what types of software and platform services you may encounter in a tech role and how to manage them. We'll learn how to configure email services, security services, file services, print services, and platform services. We'll explore ways to troubleshoot platform services and common issues to look out for. By the end of this module, you'll understand how to setup and manage the IT infrastructure services to help a business stay productive, keep information secure, and deliver applications to its users.

## 4. Directory Services

In the fourth part of this course, we'll learn about directory services. Specifically, we'll cover how two of the most popular directory services, Active Directory and OpenLDAP, work in action. We'll explore the concept of centralized management and how this can help SysAdmins maintain and support all the different parts of an IT infrastructure. By the end of this module, you will know how to add users, passwords, and use group policies in Active Directory and OpenLDAP

## 5. Data Recovery & Backups

In the fifth part of this course, we'll learn about data recovery and backups. In any tech role, it's important to know how to backup and recover data -- it's even more important for system administration. We will also learn about common corporate practices like designing a disaster recovery plan and writing post-mortem documentation. By the end of this module, you'll know the tradeoffs between on-site and off-site backups, understand the value and importance of backup and recovery testing, know different options for data backup (as well as the risks) and understand the purpose and contents of a disaster recovery plan.

## 6. Final Project.

The last part of this course is dedicated to the final project. For the final project, students will apply all the skills they have learned in this course by providing systems administration consultation. Students will assess the IT infrastructure of three fictitious (but very real-life based!) companies and provide recommendations and advice about how to support their IT infrastructure. By the end of this project, they will demonstrate the skills and problem-solving techniques of a SysAdmin.

### III. ОЦЕНИВАНИЕ

On-line test.

### IV. РЕСУРСЫ

#### 1. Программное обеспечение

| № п/п | Наименование                           | Условия доступа               |
|-------|--|-------------------------------|
| 1.    | Microsoft Windows 8.1 Professional RUS | Государственный контракт - ПО |

#### 2. Профессиональные базы данных, информационные справочные системы, интернет-ресурсы (электронные образовательные ресурсы)

| № п/п | Наименование  | Условия доступа   |
|-------|---|---|
|       | <i>Интернет-ресурсы (электронные образовательные ресурсы)</i> |   |
| 1.    | Открытое образование  | <a href="https://ru.coursera.org/learn/system-administration-it-infrastructure-services">https://ru.coursera.org/learn/system-administration-it-infrastructure-services</a> |

#### 3. Материально-техническое обеспечение дисциплины

Учебные аудитории для лабораторных и самостоятельных занятий по дисциплине оснащены необходимым оборудованием, с возможностью подключения к сети Интернет и доступом к электронной информационно-образовательной среде НИУ ВШЭ.