

**Khandesh Education Society's,  
Pratap College (Autonomous), Amalner  
Dist. Jalgaon.**



**'A+' Grade NAAC  
Reaccredited(CGPA 3.52)  
DST-FIST Assisted College  
UGC Honored "A College with Potential for Excellence"**

**Syllabus for  
M. Sc.-II  
Computer Science  
Under New Education Policy-2020  
(With effect from June 2024)**

## M. Sc. SEMESTER III

Sem	Course	Paper Name	Cr	Teaching Learning Method	Total Marks	
					Max Marks	Min Marks
		<b>1. Major Core Subject Group (Select any One Group)</b>				
III	DSC 35	CS-MJ-601 Network Programming	4	Theory	100	40
III	DSC 36	CS-MJ-602 Digital Image Processing	2	Theory	50	20
III	DSC 37	CS-MJ-603 Natural Language Processing	4	Theory	100	40
III	DSC 38	CS-MJP-604 Lab on Network Programming	2	Practical	50	20
III	DSC 39	CS-MJP-605 Lab on Digital Image Processing	2	Practical	50	20
		<b>2. Elective (Select any one)</b>				
III	DSE 7	CS-EC-621 Internet of Things	4	Theory	100	40
III	DSE 7	CS-EC-621 Swayam/ NPTEL Course	4	Theory	100	40
		<b>3. Research Group</b>				
III	RP	CS-RP-641 Laboratory Course (Project Dissertation)	4	Practical	100	40

## M. Sc. SEMESTER- IV

Sem	Course	Paper Name	C r	Teachin g Learning Method	Total Marks	
					Max Marks	Min Marks
		<b>1. Major Core Subject Group (Select any One Group)</b>				
IV	DSC-40 T	CS- MJ-651 Machine Learning with Python	4	Theory	100	40
IV	DSC-41 T	CS- MJ-652 Angular JS	4	Theory	50	20
IV	DSC-42 P	CS- MJP-653 Lab on Machine Learning with Python	2	Theory	100	40
IV	DSC-43 P	CS- MJP-654 Lab on Angular JS	2	Practical	50	20
		<b>2. Elective (Select any one)</b>				
IV	DSE-8 T	CS- EC-671 (A)Network Security & Firewall	4	Theory	100	40
IV	DSE-8 T	CS-EC-671(B) Swayam/ NPTEL Course	4	Theory	100	40
		<b>3. Research Group</b>				
IV	RP (P)	CS-RP-691 Laboratory Course (Project Dissertation)	6	Practical	150	60

**Course Code: CS-MJ-601**  
**Course Title: Network Programming**

**Course Objectives:**

- To provide theoretical as well as practical knowledge of network programming.
- To make students capable of developing, implementing, managing and troubleshooting the issues of network programming in their personal as well professional life.

**Course Outcomes:**

At the end of the course, students will be able to

- Acquire knowledge about client server architecture and its working.
- Implementing different client server related protocols.
- Implementing socket related programs.

**Course Content:**

**Unit-I: Client-Server Networking**

**L:10 M:20**

The Foundations: Stacks and Libraries, Layers of Application, Talking a protocol, A Network Conversation in its Natural State, The process of encoding and decoding, The Internet protocol (IP), Internet Protocol (IP Addresses), Routing, Fragmentation of packets.

**Unit-II: UDP and TCP**

**L:15 M:25**

UDP (User Datagram Protocol), Numbers of particular service on the particular system, Communications connection point (Socket), Unreliability: Backoff, blocking, and timeouts, UDP Socket Connection, The Use of Request IDs Is a Good Idea, From Binding till Interfaces, Fragmentation of UDP, Options for Sockets, Broadcast, When Should We Use UDP?, Transmission Control Protocol (TCP), How transmission control protocol works, When to use transmission control protocol, TCP Sockets Mean?, TCP Client and Server, Each conversation one socket, Address that is in use, From Binding to Interfaces, Deadlock, Half-Open Connections, Closed Connections, TCP Streams as Files.

**Unit-III: Network Servers**

**L:15 M : 20**

Architecture of the server, Message queues and caches, HTTP clients, Servers that handle HTTP, www (World Wide Web), E-mail construction and parsing, SMTP, POP, IMAP, SSH and Telnet, FTP, RPC

**Unit-IV: Domain Name System & Socket Names**

**L:10 M: 20**

Sockets and Hostnames, Five Socket Coordinates, IPv6, Modern Address Resolution, Bind Your Server to a Port Using getaddrinfo(), To connect to a service, use getaddrinfo (), Getting a Canonical Hostname with getaddrinfo(), Other getaddrinfo() Flags, PriITive Name Service Routines, In Your Own Code, Use getsockaddrQ, DNS Protocol, Why Shouldn't Use Raw DNS?, Using Python to do a DNS query, Getting Mail Domains Resolved.

**Unit-V Mobile Ad-Hoc Network**

**L:10 M: 15**

Overview of Wireless Ad-Hoc Network- MANET and WSN, Routing in Ad-Hoc Network, Routing Protocols for Ad-Hoc Wireless Network (Proactive, Reactive and Hybrid) Clustering Protocol

**References:**

- 1) Brandon Rhodes, John Goerzen, Foundations of Python Network Programming, 3rd Ed., 2014, ISBN: 978-1-4302-5854-4, Apress Berkeley, CA.
- 2) John Galbraith, Network Programming in Python: The Basic: A Detailed Guide to Python 3 Network Programming and Management, 1st Ed., 2022, ISBN: 978-93-5551- 257-4, BPB publications.
- 3) Sudip Misra, Isaac Woungang, "Guide to Ad-hoc Network", 2009, ISBN: 9781848003286, Springer.

**Course Code: CS-MJ-602**  
**Course Title: Digital Image Processing**

**Course Objectives:**

- To learn the fundamental concepts of Digital Image Processing.
- To study basic image processing operations.
- To understand image analysis algorithms.
- To expose students to current applications in the field of digital image processing.

**Course Outcomes:**

At the end of the course, students will be able to

- Developed a theoretical foundation of digital image processing concepts
- Exposed students to Python image processing library
- Implemented image processing techniques for object recognition application.

**Course Content:**

**Unit-I: Introduction and Image Processing**

**L:5 M:10**

Fundamental steps in image processing, Human visual system, Sampling & quantization, Digital representing of images, Spatial & gray-level resolution, Image file formats, Basic relationships between pixels, Distance Measures, Basic operations on images-image addition, subtraction, logical operations, scaling, translation, rotation, Image Histogram, Color fundamentals & models.

**Unit-II: Image Enhancement and Restoration**

**L:7 M:15**

Spatial domain enhancement: Point operations-Log transformation, Power-law transformation, Piecewise linear transformations, Histogram equalization. Filtering operations- Image smoothing, Image sharpening. Frequency domain enhancement: 2D DFT, Smoothing and Sharpening in frequency domain, Holomorphic filtering, Restoration: Noise models, Restoration using Inverse filtering, Minimum Mean Square Error (Wiener) filtering

**Unit-III: Image Segmentation and Morphological Operations**

**L: 5 M:15**

Image Segmentation: Point Detections, Line detection, Edge Detection: Prewitt and Sobel and Canny Thresholding – Global, Adaptive, Otsu's Method, Region Growing, Region Splitting and Merging. Morphological Operations: Dilation, Erosion, Opening, Closing, Hit-or-Miss transform, Boundary Detection, Thinning, Thickening, Skeleton.

**Unit-IV: Feature extraction and Object Recognition**

**L:15 M: 10**

Feature extraction: Shape and size, texture: LBP, GLCM, color, Applications: Biometric Authentication, Character Recognition, Medical application of Image processing.

**References:**

1. Rafael C. Gonzalez and Richard E. Woods, "Digital Image Processing", Third Edition 2010, Pearson Education
2. Sandipan Dey , "Hands-on Image Processing with Python",Packt Publishing
3. Anil K. Jain, Fundamentals of Digital Image Processing Pearson, 2002
4. S Sridhar, "Digital Image Processing", Oxford University Press.
5. Alexander M., Abid K., "OpenCV-Python Tutorials", 2017

**Course Code: CS-MJ-603**  
**Course Title: Natural Language Processing**

**Course Objectives:**

- The main goal of this course is to familiarize students with the topic of language computing and the various applications it has in both classical and modern settings.
- Understanding of numerous NLP tasks and NLP abstractions, such as morphological analysis, POS tagging, syntactic parsing idea.
- The course teaches several methods and techniques for completing NLP assignments.
- The course also covers the ideas of computational linguistics' modeling of language grammar.

**Course Outcomes:**

At the end of the course, students will be able to:

- Have a broad understanding of the field of natural language processing.
- Have a sense of the capabilities and limitations of current natural language technologies,
- Be able to model linguistic phenomena with formal grammars.
- Be able to Design, implement and test algorithms for NLP problems.

**Course Content:**

**Unit-I: Introduction**

**L:08 M:12**

Introduction to NLP, brief history, NLP applications: Speech to Text(STT), Text to Speech(TTS), Story Understanding, NL Generation, QA system, Machine Translation, Text Summarization, Text classification, Sentiment Analysis, Grammar/Spell Checkers etc., challenges/Open Problems, NLP abstraction levels, NL tasks: Segmentation, Chunking, tagging, NER, Web 2.0 Applications : Sentiment Analysis; Text Entailment; Cross Lingual Information Retrieval (CLIR).

**Unit-II: Text Processing Challenges**

**L:12 M:16**

Text Processing Challenges, Overview of Language Scripts and their representation on Machines using Character Sets, Language, Corpus and Application Dependence issues, Segmentation: word level (Tokenization), Sentence level. Regular Expression and Automata Morphology, Types, Survey of English and Indian Languages Morphology, Morphological parsing FSA and FST, Porter stemmer, Rule based, and Paradigm based Morphology, Human Morphological Processing

**Unit-III: Word Classes and Part-of-Speech tagging (POS)**

**L:12 M:18**

Word Classes and Part-of-Speech tagging (POS), survey of POS tagsets, Rule based approaches (ENGTOWL), stochastic approaches (Probabilistic, N-gram and HMM), TBL morphology, unknown word handling, Maximum Entropy and Conditional Random Field, evaluation metrics: Precision/Recall/F-measure, error analysis.

**Unit-IV: Overview of Parsing and Grammar Formalisms**

**L:15 M:22**

Overview of parsing and Grammar Formalisms: Constituency and dependency parsing, Grammar notations CFG, LFG, PCFG, LTAG, Feature-Unification, overview of English CFG, Indian Language Parsing in Paninian Karaka Theory, CFG parsing using Earley's and CYK algorithms, Probabilistic parsing

**Unit-V: Theories and approaches for Semantic Analysis**

**L:15 M:22**

Theories and approaches for Semantic Analysis, Meaning Representation, word similarity, Lexical Semantics, word senses and relationships, WordNet (English and IndoWordnet), Word Sense Disambiguation: Lesk Algorithm, Walker's algorithm, Coreferences Resolution: Anaphora, Cataphora.

**Course Code: CS-MJP-604**  
**Course Title: Lab on Network Programming**

**Course Objectives:**

- To impart the students with hands of Experience on Socket programming
- To make students capable of developing, implementing, managing and troubleshooting the issues of network programming in their personal as well professional life.

**Course Outcomes:**

At the end of the course, students will be able to

- Develop knowledge to implement client server applications.
- Establish a Connection using TCP/IP Protocol.

**Course Content:**

**Laboratory Assignments:**

1. Write an echo program with client and iterative server using TCP.
2. Write an echo program with client and iterative server using UDP.
3. Write an echo program with client and concurrent server using TCP.
4. Write an echo program with client and concurrent server using UDP.
5. Write a client and server program for chatting.
6. Write a program to retrieve date and time using TCP.
7. Write a program to retrieve date and time using UDP.
8. Write a client and server program to implement file transfer.

**Course Code: CS-MJP-605**  
**Course Title: Lab on Digital Image Processing**

**Course Objectives:**

To be able to design and develop the programs for viewing and clipping on graphical objects.

- To introduce MATLAB to implement the complex algorithms of Digital Image Processing.
- Provide hands-on experience to process digital images and expose students to MATLAB Image Processing Toolbox for Digital Image Enhancement, Restoration, Segmentation, Color Image Processing, and Morphological Image Processing.
- To be able to design and develop the programs for viewing and clipping on graphical objects.

**Course Outcomes:**

At the end of the course, students will be able to

- Developed scientific and strategic approach to solve complex problems Computer in the domain of Computer Graphics and Digital Image Processing using C++ and MATLAB respectively.
- Exposed students to MATLAB and Image Processing Toolbox.
- Used various tools in MATLAB to implemented image transformation, image enhancement in spatial and frequency domain.
- Developed the programs on various digital image processing techniques.

**Course Content:**

**Laboratory Assignments:**

1. Write a Python script to perform basic operations on images.
2. Write a Python script to perform conversion between color spaces.
3. Write a Python script to perform histogram equalization.
4. Write a Python script to perform image filtering in spatial domain.
5. Write a Python script to perform image filtering in frequency domain.
6. Write a Python script to perform image restoration.
7. Write a Python script to perform edge detection using various operators.
8. Write a Python script to perform global, adaptive, Otsu's thresholding.
9. Write a Python script to apply morphological operations on an image.
10. Write a Python script to extract texture and color features of an image.
11. Write a Python code to perform character recognition



**Course Code: CS-EC-621**  
**Course Title: Internet of Things**

**Course Objectives:**

- To understand roles of sensors in IoT
- To learn different protocols used for IoT design
- To be familiar with data handling and analytics tools in IoT
- Appreciate the role of big data, cloud computing and data analytics in a typical IoT system.
- Understand the role of IoT in various domains of Industry.

**Course Outcomes:**

- At the end of the course, students will be able to
- Understand the various concepts, terminologies and architecture of IoT systems.
- Use sensors and actuators for design of IoT.
- Understand and apply various protocols for design of IoT systems
- Use various techniques of data storage and analytics in IoT
- Understand various applications of IoT

**Course Content:**

**Unit-I: Introduction to Internet of Things**

**L:10 M:20**

Introduction to IoT- Defining IoT, Characteristics of IoT, Conceptual Framework of IoT, Physical Design of IoT , Logical Design of Io, Functional blocks of IoT, IoT Enabling Technologies, Convergence of IT and OT, IOT challenges. Introduction IoT and M2M, Difference between IoT and M2M

**Unit-II: IoT Architecture**

**L:08 M: 16**

Introduction, State of the art, Reference Model and architecture, IoT reference Model, Functional View, Information View, Deployment and Operational View, Other Relevant architectural views.

**Unit-III: IoT Enabling Technologies**

**L:10 M:20**

Introduction, Sensors characteristics, Sensor Classification, Types of sensors,IoT Enabling Technologies — Wireless Sensor Networks , Cloud Computing ,Big Data Analytics, Communication Protocols, Embedded Systems 08

**Unit-IV: IoT Protocols**

**L: 10 M:20**

Protocol Standardization for IoT – Efforts – M2M and WSN Protocols – SCADA and RFIDProtocols – Issues with IoT Standardization – Unified Data Standards – Protocols – IEEE802.15.4–BACNet Protocol– Modbus – KNX – Zigbee– Network layer – APS layer – Security

**Unit-V: Application of IoT**

**L:10 M:14**

Home Automation, Smart Parking, Water Management, Agriculture, Citizen Safety, Waste Management, Intelligent Transport System, Smart Cities, Health and Lifestyle.

**References**

1. Peter Waher, 'Learning Internet of Things', Packt Publishing, 2015
2. Editors Ovidiu Vermesan
3. Peter Friess,'Internet of Things – From Research and Innovation to Market Deployment', River Publishers, 2014
3. N. Ida, Sensors, Actuators and Their Interfaces, SciTech Publishers, 2014.

# ***SEMESTER IV***

**Course Code: CS-MJ-651**  
**Course Title: Machine Learning with Python**

**Course Objectives:**

- Make use of Data sets in implementing the machine learning algorithms
- Course gives fair idea about all important techniques of Machine Learning such as Classification, Regression and Clustering.
- Implement various ML algorithms for Classification clustering, regression using a programming language of your choice preferably Python.
- Implement the machine learning concepts and algorithms in any suitable language of choice

**Course Outcomes:**

At the end of the course, students will be able to

- Understand the implementation procedures for the machine learning algorithms.
- Design Python programs for various Learning algorithms.
- Apply appropriate data sets to the Machine Learning algorithms.
- Identify and apply Machine Learning algorithms to solve real world problems.

**Course Content:**

**Unit-I: Introduction to Machine Learning**

**L:10 M:15**

Introduction to ML, Fundamentals of ML, Python Libraries suitable for ML: Numpy, Pandas, Scikit-learn, Matplotlib, openCV etc., Types of Learning, Hypothesis Space and Inductive bias, Applications of Machine Learning.

**Unit-II: Supervised Learning in ML**

**L:15 M:25**

Regression: Introduction, Types of regression (Linear, Lasso, Ridge, Non-Linear), Evaluating SL model for regression (MSE, RMSE, MAE, R<sup>2</sup>). Classification: Introduction, Types of Classification (Logistics regression, SVM with various kernels, Decision Tree, Random Forest, K-Nearest Neighbor), Training and Testing, Evaluating SL model for Classification (Accuracy, Precision, Recall, F1 Score, Confusion Matrix). Probability and Naïve Bayes classifier. Application of SL, Advantage of SL, Disadvantage of SL.

**Unit-III: Unsupervised Learning in ML**

**L:10 M:20**

Introduction to Unsupervised Learning, Clustering: - K-Means Clustering, Density-Based Clustering, Gaussian Mixture Model, FCM Clustering, Agglomerative clustering. Association Rule Learning (Apriori Algorithm), Application of UL, Advantage of UL, Disadvantage of UL.

**Unit-IV: Reinforcement Learning in ML**

**L:10 M:10**

Introduction to Reinforcement Learning, Types of Reinforcement, Elements of Reinforcement Learning, Applications of Reinforcement Learning

**Unit-V: Neural Network**

**L:15 M:20**

Introduction to Neural network, Perceptron, Multilayer Network, Back Propagation, Introduction to Deep Neural network: ANN, CNN, RNN, Application of Neural Network.

**References:**

1. Tom Mitchell(1997), Machine Learning, First Edition McGraw-Hill.
2. Ethem Alpaydin (2009). Introduction to Machine Learning Edition 2. The MIT Press.
3. Dipanjan Sarkar, Raghav Bali, and Tushar Sharma, “ Practical Machine Learning with Python” A Problem-Solver’s Guide to Building Real-World Intelligent Systems, ISBN13 (pbk): 978-1-4842-3206-4, Apress.

**Course Code: CS-MJ-652**  
**Course Title: Angular JS**

**Course Objectives:**

- Understand the fundamental concepts of Angular JS and its role in web development
- Learn how to set up a development environment for Angular JS projects
- Gain proficiency in using directives, filters, and expressions to manipulate and display data

**Course Outcomes:**

At the end of the course, students will be able to

- Implements loops and conditions using structural directives.
- Implement event and error handling.
- Implement dependency injection and reusability.
- To develop applications.

**UNIT-I**

**L:15 M: 20**

Introduction to Angular JS and its features, benefits, setting up the development environment, Angular JS application structure and file organization, Creating the first Angular JS application, Angular JS Expressions.

**UNIT-II**

**L:15 M:20**

Directives, working with built-in directives, creating custom directives, Controllers, Modules, Scopes, Dependency, Introduction to filters and usage, Implementing custom filters, One-way and two-way data binding, Tables, Select, DOM

**UNIT-III**

**L:15 M:20**

Controllers and scope, Controller as syntax, Understanding dependency injection, Routing and navigation in Angular JS, Creating single-page applications (SPAs), Implementing nested views and routing, Introduction to Services and factories, Communicating with APIs using \$http and \$resource.

**UNIT-IV**

**L:15 M:20**

Components, creating reusable and modular components, Component based architecture, Form validation and handling user input, Integrating external libraries and modules, Testing, debugging, and optimizing Angular JS applications

**References**

1. Angular: Up and Running: Learning Angular, Step by Step by Shyam Seshadri, O'Reilly
2. ANGULARJS Programming, In 8 Hours, For Beginners, Quick Start Guide: Angular JS Book Crash Course Tutorial & Exercises by Ray Yao , Dart R. Swift, Pandas C. Perl
3. Learning Angular JS: A Guide to Angular JS Development by Ken Williamson Angular JS: Angular JS. A Code Like a Pro Guide For Angular JS Beginners Kindle Edition by Jonathan Bates

**Course Code: CS-MJP-653**  
**Course Title: Lab on Machine Learning with Python**

**Course Objectives:**

- To acquire programming skills in core Machine Learning in Python.
- Make use of Data sets in implementing the machine learning algorithms
- Implement various ML algorithms for Classification clustering, regression using a programming language of your choice preferably Python
- Implement the machine learning concepts and algorithms in any suitable language of choice.

**Course Outcomes:**

At the end of the course, students will be able to

- Envisage practical application of Machine Learning to Business and Research Computational problems.
- Apply appropriate data sets to the Machine Learning algorithms.
- Identify and apply Machine Learning algorithms to solve real world problems.
- Acquire in-depth knowledge of various facets of Machine Learning methods/techniques and algorithms.

**Course Content:**

1. Write a Program to Implement Linear Regression Algorithm.
2. Write a Program to Implement Non- Linear Regression Algorithm.
3. Write a program to implement Decision tree using Python.
4. Write a Program to Implement Random Forest Algorithm.
5. Write a program to implement k-Nearest Neighbor algorithm to classify the iris dataset. Print both correct and wrong predictions.
6. Implement simple KNN using Euclidean distance in python.
7. Implement the program of SVM.
8. Write a program to implement the naïve Bayesian classifier for a sample training dataset stored as a .CSV file. Compute the accuracy of the classifier.
9. Implementing Agglomerative Clustering in python.
10. Implementing K-Means Clustering in python

**Course Code: CS-MJP-654**  
**Course Title: Lab on Angular JS**

**Course Objectives:**

- Understand the fundamental concepts of Angular JS and its role in web development
- Learn how to set up a development environment for Angular JS projects
- Gain proficiency in using directives, filters, and expressions to manipulate and display data

**Course Outcomes:**

At the end of the course, students will be able to

- Implements loops and conditions using structural directives.
- Implement event and error handling.
- Implement dependency injection and reusability.
- To develop applications.

**Course Content:**

**Develop the programs using Angular JS:**

1. Simple application to
  - a) Display the values for different data types
  - b) Perform basic arithmetic operations
2. Demonstrate a shopping list using various built-in functions in Array
3. Change the date format using ng-model
4. Illustrate the use of Filter
5. Apply Keyboard and Mouse events
6. Use slide Toggle animation
7. Read JSON values and display it
8. Design a simple calculator
9. Design Login form and validate the username and password
10. Implement a basic search functionality application
11. Develop a simple text fade application

**Course Code: CS-EC-671**  
**Course Title: Network Security and Firewall**

**Course Objectives:**

- Understand Concept of Security needed in Communication of data through computers and networks along with Various Possible Attacks
- Understand Various Encryption mechanisms for secure transmission of data and
- Understand authentication requirements and study various authentication mechanisms.
- Understand what a firewall does.

**Course Outcomes:**

At the end of the course, students will be able to

- Develop Concept of Security needed in Communication of data through computers and networks along with Various Possible Attacks
- Understand Various Encryption mechanisms for secure transmission of data and management of key required for required for encryption
- Understand authentication requirements and study various authentication mechanisms
- Understand network security concepts and study different Web security mechanisms

**Course Content:**

**Unit-I: Introduction**

**L:12 M:16**

Need for Security, Security Attacks, Services and Mechanisms, Network Security, Model

**Unit-II: Symmetric Ciphers**

**L:12 M:22**

Substitution & Transposition Techniques, Block Cipher, DES, Triple DES, Stream Ciphers, RC4

**Unit-III: Public Key Cryptography**

**L:12 M:22**

Need and Principles of Public Key Cryptosystems, RSA Algorithm, Key Distribution and Management, Diffie-Hellman Key Exchange, Digital Signatures

**Unit-IV: Authentication**

**L:12 M:20**

Authentication Requirements, Message Authentication Codes, Hashes, MD5 & SHA, User Authentication: Password, Certificate based & Biometric Authentication, Kerberos

**Unit-V: Firewall**

**L:12 M:20**

Introduction, Key Components of firewall, Types of Firewall, Key Benefits of firewall, VPN, IP Security, Transport Layer Security (TLS)

**References:**

1. Author(s): Matthew Strebe, "Network Security Foundations", ISBN: 9780782143744,0782143741
2. Author(s): Chris Hare, Karanjit Siyan, "Internet Firewalls and Network Security", Second Edition, ISBN: 9781562056322,1-56205-632-8 3.
3. <https://nptel.ac.in/courses/106105031/> "Cryptography and Network Security by Debdeep Mukhopadhyay, IIT Kharagpur"
4. <https://www.edx.org/course/networksecurity-2> "An eDx Course on Network Security"