



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

COURSE STRUCTURE AND SYLLABUS

For UG – R20

B. Tech - COMPUTER SCIENCE & ENGINEERING with Specialization

Common to

- (i) CSE (COMPUTER SCIENCE & BUSINESS SYSTEMS) – Branch Code: 48**
- (ii) COMPUTER SCIENCE & BUSINESS SYSTEMS - Branch Code: 57**

(Applicable for batches admitted from 2020-2021)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year – II SEMESTER

S.No.	Course Code	Course Title	L	T	P	C
1	PCC3201	Operations Research	3	0	0	3
2.	PCC3202	Data Science	3	0	0	3
3.	PCC3203	Fundamentals of Digital Marketing	3	0	0	3
4.	PEC3201	Professional Elective Courses-II (NPTEL/SWAYAM) Duration: 12 Weeks Minimum *Course/subject title can't be repeated	3	0	0	3
5.	OEC3201	Open Elective-II Open Electives offered by other departments/ Web Services(Job Oriented Course)	3	0	0	3
7.	PCC3204	Operations Research Lab	0	0	3	1.5
8	PCC3205	Communication and Leadership Development _ Workshop	0	0	3	1.5
	PCC3206	R Programming Lab	0	0	3	1.5
9.	SC3201	Web Application Development Using Full Stack - Frontend Development –Module -II	0	0	4	2
10.	MC3201	1.Employability Skills-I 2.Employability Skills-II	2	0	0	0
	Total					21.5
	Minor courses		4	0	0	4
	Minor courses through SWAYAM		0	0	0	2
	Industrial/Research Internship (Mandatory) 2 Months during summer vacation					



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year – II Semester		L	T	P	C
		3	0	0	3
OPERATIONS RESEARCH					

Course Objectives:

- To introduce the concepts of operations research and explain its significance in decision making.
- To acquaint the students with various tools of operations research used in solving the business problems.
- To enable the student to do an analytical evaluation and arrive at logical conclusions & inferences for their decisions.
- To introduce the students, the concepts of goal programming and network analysis.
- To identify the Critical Path and Probability of Completing the project within given time and restructure the Project Crashing.

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

- Explain the various concepts of Operations Research.
- Use the various tools of Operations Research for effective decision making.
- Apply various techniques of optimization in business decision making.
- Exhibit the understanding of the concepts of goal programming and network analysis.
- Identify Critical Path and illustrate the Probability of Completing the project within given time.

UNIT I:

INTRODUCTION TO OR: Origin – Nature – Definitions; Managerial applications and limitations of OR; Phases of OR study; LINEAR PROGRAMMING: Formulation of LPP – Solution by Graphical method – Simplex method – Conversion of Primal into Dual.

UNIT II :

TRANSPORTATION PROBLEMS: Mathematical Model – Different methods of finding initial solution – Tests of Optimality – Degeneracy – Maximization transportation problem; ASSIGNMENT PROBLEMS: Mathematical Model – Solutions of Assignment Problem – Travelling Salesman Method.

UNIT III :

GAME THEORY: Introduction – Two People zero sum Games – Pure Strategies – Mixed Strategies – Solution methods without Saddle point; DECISION THEORY: Steps of decision making process – Types of decision making environment – Decision Tree Analysis.

UNIT IV:

QUEUING THEORY: Queuing Structure and basic components of queuing model- Distributions in Queuing model- Differences in Queuing model with FCFS- Queuing Discipline- Single and multiple service station with finite and infinite population.

UNIT V:

P.E.R.T. & C.P.M. AND REPLACEMENT MODEL: Drawing networks-Identifying Critical Path-Probability of Completing the project within given time-Project Crashing- Page 45 of 133 Optimum cost and Optimum duration; SIMULATION: Nature and Scope – Applications – Types of Simulation – Random Numbers – Inventory Example – Simulation Languages.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

Text Books:

1. J.K.Sharma. Operations Research –Theory and Applications (5th Edition). MacMillan India.
2. S.D.Sharma, Operations Research – Theory, Methods and Applications (15th edition). Kedarnath Ramnath Publishers.

Reference Books:

1. Anderson, Sweeney, Williams. Quantitative Methods for Business (10th edition). Cengage Learning.
2. N.D.Vohra (2010). Quantitative Techniques in Management (4th edition). TMH.
3. Hamdy A.Taha (2010). Operations Research – An Introduction. New Delhi. Prentice Hall of India



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year–II Semester		L	T	P	C
		3	0	0	3
DATA SCIENCE					

Course Objectives:

- Provide you with the knowledge and expertise to become a proficient data scientist
- Demonstrate an understanding of statistics and machine learning concepts that are vital for data science
- Learn to statistically analyze a dataset
- Explain the significance of exploratory data analysis (EDA) in data science
- Critically evaluate data visualizations based on their design and use for communicating stories from Data

Course Outcomes:

- Describe what Data Science is and the skill sets needed to be a data scientist
- Illustrate in basic terms what Statistical Inference means. Identify probability distributions commonly used as foundations for statistical modelling, Fit a model to data
- Use R to carry out basic statistical modelling and analysis
- Apply basic tools (plots, graphs, summary statistics) to carry out EDA
- Describe the Data Science Process and how its components interact
- Use APIs and other tools to scrap the Web and collect data
- Apply EDA and the Data Science process in a case study

UNIT I

Introduction, The Ascendance of Data, Motivating Hypothetical: Data Science tester, Finding Key Connectors, The Zen of Python, Getting Python, Virtual Environments, Whitespace Formatting, Modules, Functions, Strings, Exceptions, Lists, Tuples, Dictionaries default dict, Counters, Sets, Control Flow, Truthiness, Sorting, List Comprehensions, Automated Testing and assert, Object Oriented Programming, Iterables and Generators, Randomness, Regular Expressions, Functional Programming, zip and Argument Unpacking, args and kwargs, Type Annotations, How to Write Type Annotations.

UNIT II

Visualizing Data: mat plot lib, Bar Charts, Line Charts, Scatter plots. Linear Algebra: Vectors, Matrices, Statistics: Describing a Single Set of Data, Correlation, Simpson's Paradox, Some Other Co relational Caveats, Correlation and Causation. Gradient Descent: The Idea Behind Gradient Descent, Estimating the Gradient, Using the Gradient, Choosing the Right Step Size, Using Gradient Descent to Fit Models, Mini batch and Stochastic Gradient Descent.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

UNIT III

Getting Data: std in and std out, Reading Files, Scraping the Web, Using APIs, Working with Data: Exploring Your Data Using Named Tuples, Data classes, Cleaning, Manipulating Data, Rescaling, Dimensionality Reduction. Probability: Dependence and Independence, Conditional Probability, Bayes's Theorem, Random Variables, Continuous Distributions, The Normal Distribution, The Central Limit Theorem

UNIT IV

Machine Learning: Modeling, Over fitting and Under fitting, Correctness, The Bias-Variance Tradeoff, Feature Extraction and Selection, k-Nearest Neighbors, Naive Bayes, Simple Linear Regression, Multiple Regression, Digression, Logistic Regression

UNIT V

Clustering: The Idea, The Model, Choosing k, Bottom-Up Hierarchical Clustering. Recommender Systems: Manual Curation, Recommending What's Popular, User-Based Collaborative Filtering, Item-Based Collaborative Filtering, Matrix Factorization Data Ethics, Building Bad Data Products, Trading Off Accuracy and Fairness, Collaboration, Interpretability, Recommendations, Biased Data, Data Protection IPython, Mathematics, NumPy, pandas, scikit-learn, Visualization,R

TextBooks:

1. Joel Grus, "Data Science From Scratch", O'Reilly.
2. Allen B.Downey, "Think Stats", O'Reilly.

ReferenceBooks:

- 1) Doing Data Science: Straight Talk From The Frontline, 1 st Edition, Cathy O'Neil and Rachel Schutt, O'Reilly, 2013.
- 2) Mining of Massive Datasets, 2 nd Edition, Jure Leskovek, Anand Rajaraman and Jeffrey Ullman, v2.1, Cambridge University Press, 2014.
- 3) "The Art of Data Science", 1 st Edition, Roger D. Peng and Elizabeth matsui, Lean Publications, 2015
- 4) "Algorithms for Data Science", 1 st Edition, Steele, Brian, Chandler, John, Reddy, Swarna, springers Publications, 2016



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year–II Semester		L	T	P	C
		3	0	0	3
Fundamentals of Digital Marketing					

Course Objectives:

- Introduce marketing through the internet
- Explain how to use the internet for promotion using digital marketing communications
- Introduce how to design a Digital Marketing plan

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

- Understanding marketing through the internet
- Use the internet for promotion using digital marketing Communications
- Design a Digital Marketing plan

UNIT I

Definition of digital marketing; origin of digital Marketing, Traditional VS Digital Marketing:

Benefits of Digital marketing e.g. reach, scope, immediacy, interactivity

The internet micro and macro environment, Internet users in India. The internet marketing mix: product and branding; place e.g. channels, virtual Organizations; price e.g. auctions; promotions; people; processes; physical evidence.

UNIT II

Digital marketing tools/e-tools; the online marketing matrix including business and Consumer markets; the online customer. Interactive order processing: choosing a supplier; selecting a product; check stock Availability; placing order; authorization of payment; input of data; data transfer; Order processing; online confirmation and delivery information; tracking of order; Delivery; data integrity and security systems;

UNIT III

Search engine marketing (SEM): definition of SEM, definition of search engine Optimization (SEO); advantages and disadvantages of SEO; best practice in SEO. Paid search engine marketing, pay per click advertising (PPC); landing pages; long

Tail concept; geo-targeting e.g. Google Ad Words; opt in email and email Marketing.

UNIT IV

Market research, Customer relationship Marketing, Internet communities, Design digital marketing plan, SWOT, situational analysis, key performance Indicators in internet marketing, Digital Landscape, P-O-E-M Framework.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

UNIT V

Segmenting and Customising Messages, Digital Advertising Market in India

Text books:

Digital Marketing by Seema Gupta (IIM-B)

Understanding Digital Marketing: Marketing Strategies for Engaging the Digital
Generation – Damian Ryan and Calvin Jones

Reference Books:

Digital Marketing: Strategy, Implementation & Practice by Dave Chaffey & Fiona Ellis Chadwick



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year – I Semester		L	T	P	C
		0	0	3	1.5
Operation Research Lab					

List of Experiments

1. To solve Linear Programming Problem using Graphical Method with
 - (i) Unbounded solution
 - (ii) Infeasible solution
 - (iii) Alternative or multiple solutions.
2. Solution of LPP with simplex method.
3. Problem solving using Big M method.
4. Solution of following special cases in LPP using Simplex method
 - (i) Unrestricted variables
 - (ii) Unbounded solution
 - (iii) Infeasible solution
 - (iv) Alternative or multiple solution.
5. Problems based on Dual simplex method.
6. Solution of Transportation Problem.
7. Solution of Assignment Problem.
8. Solution of Travelling Salesman Problem.
9. Project planning (Deterministic case-CPM).
10. Project planning (Probabilistic case-PERT).
11. Crashing of the Project.
12. Problems based on selective inventory classification (ABC analysis).
13. To find optimal inventory policy for EOQ model.
14. To solve multi-item inventory model with different constraints.
15. To solve All-units quantity discounts model.
16. To find optimal inventory policy for Probabilistic inventory model with discrete demand.
17. To find optimal inventory policy for Probabilistic inventory model with continuous demand.
18. To determine the performance measures for M/M/1 queuing model.
19. To determine the performance measures for M/M/1/N queuing model.
20. To determine the performance measures for M/M/C/∞ queuing model.
21. To determine the performance measures for M/M/C/N queuing model.

Text Books:

1. Operations Research: An Introduction. H.A. Taha.

Reference Books:

1. Linear Programming. K.G. Murthy.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year–II Semester		L	T	P	C
		0	0	3	1.5
Communication and Leadership Development - Workshop					

Course Objectives:

- Introduce the basics of communication and decision making in business
- Writing for the Web
- All about Leaders and Leadership
- How Innovative Leaders Manage in the Digital age

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

- Understand the Role of Communication and Decision making in business
- Write for the Web
- Know the role of leaders and leadership
- Understand how Innovative Leaders Manage in the Digital age

UNIT I

Business Correspondence: Basics of Communication and Types of communication: Process of communication, components of communication, factors of communication, types of communication, barriers to communication

UNIT II

Formats of letter writing, Basics of Business Writing – 3 x 3: Writing Process: Pre-writing, Writing and Revising; Pre- writing: Analyze –Anticipate –Adapt, Organizing and Writing Business Messages – Researching Data and Gathering Ideas, Organizing Data, Composing the First Draft, Revising, proofreading; Evaluating Business Message Routine Letters and Goodwill Messages: Direct and Indirect Pattern, Types of Routine Letters - Request Letters, Reply Letters, Recommendation Letter, Claims and Adjustment Letters, Complaint letters, sales letters, Kinds of Memos – Procedure and Information Memos, Request and Reply Memos, Confirmation Memos. Employment Communication – Preparing Resumes; Types of Resumes – Chronological, Functional and Combination; Application Letters – AIDA Approach; Reference Request Letter; Job Inquiry Letter; Resume Follow up Letter; Interview Follow Up Letter; Rejection Letter; Interviewing for Employment.

UNIT III

Managing the internationalization Process: and Leading through transformation. Social networking sites – Blogs - Business forums; Technology- enabled communication: Tools for Constructing, presenting, transmitting and collaborating messages.

UNIT IV

Defining a Leader, Types of Leadership and styles, Leader vs. Manager, Introduction to Meta Theory of Leadership.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

UNIT V

The internet as an environment for Business Eco systems: Michael Dell, Dell Computers, Keeping close to consumers, Tran cultural competence through 21 reconciliations

Textbooks:

The 5 Levels of Leadership: Proven Steps to Maximize Your Potential, by John C. Maxwell, 2011
Business Communication Today – Bovee Thill Schatzman – Seventh Edition.

Business Communication – Connecting in a Digital World, Lesikar, Flatley, Rentz, Lentz, Pande, 13th Edition, Mc Graw Hill.

References:

Leading Minds: An Anatomy of Leadership, by Howard E. Gardner and Emma Laskin, 2011

Start with Why: How Great Leaders Inspire Everyone to Take Action, by Simon Sinek, 2011



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year–II Semester		L	T	P	C
		0	0	3	1.5
R PROGRAMMING LAB					

Course Objective: In this course student will learn about the fundamentals of R programming, standard R libraries, solid understanding of R functions, write programs using the R and gain skills in R programming Language, get acquaintances with Arrays, Files, Strings, Packages, and distributions using R.

Course Outcomes: At the end of the course, the student will be able to:

1. Implement basic concepts of R programming, and its different module that includes conditional, looping, lists, Strings, Functions, Frames, Arrays, and File programming.
2. Implement the concepts of R Script to extract the data from data frames and file operations.
3. Implement the various statistical techniques using R.
4. Extend the functionality of R by using add-on packages
5. Use R Graphics and Tables to visualize results of various statistical operations on data

LIST OF LAB PROGRAMS:

Week 1:

Installing R and R Studio

Basic functionality of R, variable, data types in R

Week 2:

a) Implement R script to show the usage of various operators available in R language.

b) Implement R script to read person's age from keyboard and display whether he is eligible for voting or not.

c) Implement R script to find biggest number between two numbers.

d) Implement R script to check the given year is leap year or not.

Week 3:

a) Implement R Script to generate first N natural numbers.

b) Implement R Script to check given number is palindrome or not.

c) Implement R script to print factorial of a number.

d) Implement R Script to check given number is Armstrong or not.

Week 4:

a) Implement R Script to perform various operations on string using string libraries.

b) Implement R Script to check given string is palindrome or not.

c) Implement R script to accept line of text and find the number of characters, number of vowels and number of blank spaces init.

d) Implement R script for Call-by-value and Call-by-reference

Week 5:

a) Implement R Script to create a list.

b) Implement R Script to access elements in the list.

c) Implement R Script to merge two or more lists. Implement R Script to perform matrix operation



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

Week 6:

- a) Implement R script to perform following operations:
- b) various operations on vectors
- c) Finding the sum and average of given numbers using arrays.
- d) To display elements of list in reverse order.
- e) Finding the minimum and maximum elements in the array.

Week 7:

- a) Implement R Script to perform various operations on matrices
- b) Implement R Script to extract the data from data frames.
- c) Write R script to display file contents.
- d) Write R script to copy file contents from one file to another

Week 8:

- a) Implement R Script to create a Pie chart, Bar Chart, scatter plot and Histogram.
- b) Implement R Script to perform mean, median, mode, range, summary, variance, standard deviation operations.
- c) Introduction to ggplot2 graphics

Week 9:

- a) Implement R Script to perform Normal, Binomial distributions.
- b) Implement R Script to perform correlation, Linear and multiple regressions.

Week 10:

Introduction to Non-Tabular Data Types: Time series, spatial data, Network data.
 Data Transformations: Converting Numeric Variables into Factors, Date
 Operations, String Parsing, Geo coding

Week 11:

Introduction Dirty data problems: Missing values, data manipulation, duplicates, forms of data
 dates, outliers, spelling

Week 12:

Data sources: SQLite examples for relational databases, Loading SPSS and SAS files,
 Reading from Excel and Google Spreadsheets, API and web scraping examples

REFERENCES:

1. R Cookbook Paperback – 2011 by Teetor Paul O Reilly Publications
2. Beginning R: The Statistical Programming Language by Dr. Mark Gardener, Wiley Publications
3. R Programming For Dummies by JorisMeys Andrie de Vries, Wiley Publications
4. Hands-On Programming with R by Grole mund, O Reilly Publications
5. Statistical Programming in R by KG Srinivas G.M. Siddesh, Chetan Shetty & Sowmya B.J. - 2017 edition
6. R Fundamentals and Programming Techniques, ThomasLumely.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year – II Semester		L	T	P	C
		0	0	4	2
Web Application Development Using Full Stack -Frontend Development –Module -II					

Course Objectives:

The objective of this lab is to build strong foundation of JavaScript which will help developer to apply JavaScript concepts for responsive web frontend development

Course Outcomes:

By the end of this lab the student is able to

- develop of the major Web application tier- Client side development
- participate in the active development of cross-browser applications through JavaScript
- Develop JavaScript applications that transition between states

Perform experiments related to the following concepts:

- 1) Introduction to JavaScript
- 2) Applying JavaScript (internal and external)
- 3) Understanding JS Syntax
- 4) Introduction to Document and Window Object
- 5) Variables and Operators
- 6) Data Types and Num Type Conversion
- 7) Math and String Manipulation
- 8) Objects and Arrays
- 9) Date and Time
- 10) Conditional Statements
- 11) Switch Case
- 12) Looping in JS
- 13) Functions



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year–II Semester		L	T	P	C
		2	0	0	0
EMPLOYABILITY SKILLS-I					

Course Objectives: *The aim of this course is*

- To explore and practice basic communication skills
- To learn skills for effective discussions & team work
- To assess and improve personal grooming

Course Outcomes: *By the end of this course, the student*

- Establish effective communication with employers, supervisors, and co-workers
- Identify to explore their values and career choices through individual skill assessments
- Adapts positive attitude and appropriate body language
- Interpret the core competencies to succeed in professional and personal life

A list of vital employability skills from the standpoint of engineering students with discussion how to potentially develop such skills through campus life.

- 1) Soft Skills: An Introduction–Definition and Significance of Soft Skills; Process, Importance and Measurement of Soft Skill Development.
- 2) Self-Discovery: Discovering the Self; Setting Goals; Beliefs, Values, Attitude, Virtue.
- 3) Positivity and Motivation: Developing Positive Thinking and Attitude; Driving out Negativity; Meaning and Theories of Motivation; Enhancing Motivation Levels.
- 4) Interpersonal Communication: Interpersonal relations; communication models, process and barriers; team communication; developing interpersonal relationships through effective communication; listening skills; essential formal writing skills; corporate communication styles – assertion, persuasion, negotiation.
- 5) Public Speaking: Skills, Methods, Strategies and Essential tips for effective public speaking.
- 6) Group Discussion: Importance, Planning, Elements, Skills assessed; effectively disagreeing, Initiating, Summarizing and Attaining the Objective.
- 7) Non-Verbal Communication: Importance and Elements; Body Language.
- 8) Teamwork and Leadership Skills: Concept of Teams; Building effective teams; Concept of Leadership and honing Leadership skills.

References Books:

- 1) Barun K. Mitra, Personality Development and Soft Skills, Oxford University Press, 2011.
- 2) S.P. Dhanavel, English and Soft Skills, Orient Blackswan, 2010.
- 3) R.S. Aggarwal, A Modern Approach to Verbal & Non-Verbal Reasoning, S. Chand & Company Ltd., 2018.
- 4) Raman, Meenakshi & Sharma, Sangeeta, Technical Communication Principles and Practice, Oxford University Press, 2011.
- 5) R.S. Aggarwal, A Modern Approach to Verbal & Non-Verbal Reasoning, S. Chand & Company Ltd., 2018.
- 6) Raman, Meenakshi & Sharma, Sangeeta, Technical Communication Principles and Practice, Oxford University Press, 2011.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

III Year–II Semester		L	T	P	C
		2	0	0	0
EMPLOYABILITY SKILLS-II					

Course Objectives:

The main of this course is

- To learn how to make effective presentations and impressive interviews
- To learn skills for discussing and resolving problems on the work site
- To assess and improve personal grooming
- To promote safety awareness including rules and procedures on the work site
- To develop and practice self-management skills for the work site

Course Outcomes:

By the end of this course, the student

- Recite the corporate etiquette.
- Make presentations effectively with appropriate body language
- Be composed with positive attitude
- Apply their core competencies to succeed in professional and personal life

A list of vital employability skills from the standpoint of engineering students with discussion how to potentially develop such skills through campus life.

- 1) Interview Skills: Interviewer and Interviewee – in-depth perspectives. Before, During and After the Interview. Tips for Success.
- 2) Presentation Skills: Types, Content, Audience Analysis, Essential Tips – Before, During and After, Overcoming Nervousness.
- 3) Etiquette and Manners – Social and Business.
- 4) Time Management – Concept, Essentials, Tips.
- 5) Personality Development – Meaning, Nature, Features, Stages, Models; Learning Skills; Adaptability Skills.
- 6) Decision-Making and Problem-Solving Skills: Meaning, Types and Models, Group and Ethical Decision-Making, Problems and Dilemmas in application of these skills.
- 7) Conflict Management: Conflict - Definition, Nature, Types and Causes; Methods of Conflict Resolution.
- 8) Stress Management: Stress - Definition, Nature, Types, Symptoms and Causes; Stress Analysis Models and Impact of Stress; Measurement and Management of Stress
- 9) Leadership and Assertiveness Skills: A Good Leader; Leaders and Managers; Leadership Theories; Types of Leaders; Leadership Behaviour; Assertiveness Skills.
- 10) Emotional Intelligence: Meaning, History, Features, Components, Intrapersonal and Management Excellence; Strategies to enhance Emotional Intelligence.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

References Books:

- 1) Barun K. Mitra, Personality Development and Soft Skills, Oxford University Press, 2011.
- 2) S.P. Dhanavel, English and Soft Skills, Orient Blackswan, 2010.
- 3) R.S. Aggarwal, A Modern Approach to Verbal & Non-Verbal Reasoning, S.Chand & Company Ltd., 2018.
- 4) Raman, Meenakshi & Sharma, Sangeeta, Technical Communication Principles and Practice, Oxford University Press, 2011.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

III Year – II Semester		L	T	P	C
		3	0	0	3
WEB SERVICES					

Course Objectives:

To understand the concept of XML and to implement Web services using XML based Standards

Course Outcomes: On completion of this course, the students will be able to

- Recite the advantages of using XML technology family
- Analyze the problems associated with tightly coupled distributed software architecture
- Learn the Web services building block
- Implement e-business solutions using XML based web services

UNIT I:

XML technology family : XML, benefits, Advantages of XML over HTML, EDI, Databases, XML based standards, Structuring with schemas, DTD, XML Schemas, XML processing, DOM, SAX, presentation technologies, XSL, XFORMS, XHTML, Transformation, XSLT, XLINK, XPATH, XQuery.

UNIT II :

Architecting Web Services: Business motivations for web services, B2B, B2C, Technical motivations, limitations of CORBA and DCOM, Service-oriented Architecture (SOA), Architecting web services, Implementation view, web services technology stack, logical view, composition of web services, deployment view, from application server to peer to peer, process view, life in the runtime.

UNIT III :

Web Services Building Blocks: Transport protocols for web services, messaging with web services, protocols, SOAP, describing web services, WSDL, Anatomy of WSDL, manipulating WSDL, web service policy, Discovering web services, UDDI, Anatomy of UDDI, Web service inspection, Ad-Hoc Discovery, Securing web services.

UNIT IV:

Implementing XML in E-Business: B2B – B2C Applications, Different types of B2B interaction, Components of e-business XML systems, ebXML, RosettaNet, Applied XML in vertical industry, web services for mobile devices.

UNIT V:

XML Content Management and Security: Semantic Web, Role of Meta data in web content, Resource Description Framework, RDF schema, Architecture of semantic web, content management workflow, XLANG, WSFL, Securing web services.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - COMPUTER SCIENCE & BUSINESS SYSTEMS

Text Books:

1) Ron Schmelzer et al. “ XML and Web Services”, Pearson Education, 2002.

Reference Books:

- 1) Keith Ballinger, “. NET Web Services Architecture and Implementation”, Pearson Education, 2003.
- 2) David Chappell, “Understanding .NET A Tutorial and Analysis”, Addison Wesley, 2002.