

SKILL ENHANCEMENT COURSES
2021-22

Sl. No.	Course Code	Course Name	Teaching Hour Per Week	ESE	CIA	Total Marks	Credits
1	C6 21 SB 101	Digital Fluency	1+ 0+2	30	20	50	2
2	C6 21 SB ***	Data Visualisation with Tableau	1+ 0+2	30	20	50	2
3	C6 21 SB ***	Leadership and Performance	1+ 0+2	30	20	50	2
4	C6 21 SB ***	Introduction to Lean Process Management and Six Sigma	1+ 0+2	30	20	50	2

C6 21 SB 101: DIGITAL FLUENCY

COURSE OBJECTIVES:

The students will be able to:

1. Explain the type of emerging technologies and potential cyber attacks in the world of digital
2. Evaluate the relevance and applicability of Artificial Intelligence, Big Data Analytics, Internet of Things and Cloud Computing on specific operations citing a example for the same
3. Justify the building of Essential Skills beyond Technology that goes well with adoption the Technology

Module 1: Emerging Technologies

5 Hrs

Artificial Intelligence- Machine Learning- Deep Learning- Database Management for Data Science- Big Data Analytics- Internet of Things (IoT) and Industrial Internet of Things (IIoT)- Cloud computing and its service models- Cyber Security and Types of cyber attack

Module 2: Applications of Emerging Technologies

5 Hrs

Artificial Intelligence- Big Data Analytics- Internet of Things- Cloud Computing- Cyber Security

Module 3: Building Essential Skills beyond Technology

5 Hrs

Importance of Effective Communication Skills, Creative Problem Solving & Critical Thinking, Collaboration and Teamwork Skills, Innovation & Design Thinking, Use of tools in enhancing skills

COURSE OUTCOMES:

After completion of the course, the students will be able to

1. Explain the type of emerging technologies and potential cyber attacks in the world of digital
2. Evaluate the relevance and applicability of Artificial Intelligence, Big Data Analytics, Internet of Things and Cloud Computing on specific operations citing a example for the same
3. Justify the building of Essential Skills beyond Technology that goes well with adoption the Technology

BOOK FOR REFERENCE:

1. Volker Lang, Digital Fluency: Understanding the basics of Artificial Intelligence, Block chain technology, Quantum Computing and their applications for Digital Transformation, 1st Edition, Apress Publications, 2021
2. S. B. Ramoshi and S.P. Sajjan, Digital Fluency, 1st Edition, Karnataka, Ekalavya E-educate, 2021.
3. Eric Downey, Fundamentals, Applications and Emerging Technologies, CreateSpace Independent Publications, 2017
4. Chris Hackett, The Big Book of Maker Skills (Popular Science): Tools & Techniques for Building Great Tech Projects Flexi bound, Weldon Owen, Illustrated edition, 2014

Data Visualisation with Tableau

COURSE OBJECTIVES:

The students will be able to

1. Choose appropriate visual representation of data with Tableau
2. Develop Visual Analytics with Tableau by using charts, graphical features of Tableau
3. Create Dashboard with Interactive display and prepare static report with Tableau

Module 1: Fundamentals of Visualisation with Tableau

5 Hrs

Tableau – Fundamentals of data visualisation – Tableau Interface and Terminologies
– Import data into Tableau – Relationship between data analytics and data visualisation, Choosing appropriate visual representation – Effective and ineffective visuals – Exploratory and Explanatory analysis

Module 2: Visual Analytics

5 Hrs

Charts – Types of charts – Pie chart, Bar charts, Scatter plots, Gantt charts, Histograms, Bullet charts – Discrete and Continuous data – Different types of geographic data – Create Custom Maps – Tree maps, Heat maps

Module 3: Creating Dashboards and Storytelling

5 Hrs

Create Dashboard, Hierarchies, actions and parameters to guide user interactions – Prepare static report – Interactive display

COURSE OUTCOMES:

After completion of the course, the students will be able to

4. Choose appropriate visual representation of data with Tableau
5. Develop Visual Analytics with Tableau by using charts, graphical features of Tableau
6. Create Dashboard with Interactive display and prepare static report with Tableau

Books for Reference:

- Learning Tableau, Joshua Milligan Joshua, Ingram Short Title
- Learning Tableau 2020: Create effective data visualisations, build interactive visual analytics, transform your organisation, Joshua N.Milligan, Packt Publishing Limited

Leadership and Performance

COURSE OUTCOMES:

After completion of the course, the students should be able to:

1. Compare and contrast the three domains of leadership Technique for developing self-awareness and its impact on augmenting leadership effectiveness
2. Examine the factors that determine the engagement of team members effectively in a Team that lead to High Performance.
3. Evaluate the reactions of rational brain and emotional brain during change that leads to Critical Decision making for best results

Module 1: Leadership Skills

Fundamental concept behind leadership - Leading self - Three domains of leadership - Technique for developing self-awareness - Subtleties of your inner world - Augment leadership effectiveness

Module 2: Team Building

Leadership communication - Roleplays and Case analysis based on Different Leadership Styles and their communication skills - Being Exceptional Managers - Engaging with team members effectively - Relationship Building for High Performance Team- Awareness of your behaviour and its impact on others - effective feedback - giving and receiving feedback

Module 3: Adaptability to Challenges

Agility and Adaptability - Adaptive to Technical Challenges - Challenges of change with an organisation - Reactions of rational brain and emotional brain during change - Critical Decision making for best results

COURSE OUTCOMES:

After completion of the course, the students will be able to

1. Compare and contrast the three domains of leadership Technique for developing self-awareness and its impact on augmenting leadership effectiveness
2. Examine the factors that determine the engagement of team members effectively in a Team that lead to High Performance.
3. Evaluate the reactions of rational brain and emotional brain during change that leads to Critical Decision making for best results

Books for Reference:

- Building a Winning Team: Technical Leadership, Brian Sutton and Robina Chatham, BCS Chartered Institute for IT
- Team Building: Discover How To Easily Build & Manage Winning Teams (Strategies for Building and Leading Powerful Teams), Ace McCloud, Pro Mastery Publishing

Introduction to Lean Process Management and Six Sigma

COURSE OBJECTIVES:

The students will be able to

1. Illustrate how value addition takes place by removal of waste when organization adopts Lean Methodology
2. Evaluate the implications of Five principles of Lean and Tools in Lean management and its role in Value addition, removal of waste and cost reduction
3. Use Lean Six Sigma for controlling quality, reducing defectives and value addition with minimum cost

Module 1: Lean Methodology

5 Hrs

Meaning - Lean - Lean Management - Advantages - Value creation- Types of Waste in process and removal of waste in process - Continuous Improvement

Module 2: Principles of Lean and Tools

5 Hrs

Five principles of Lean - Tools in Lean management - Value Stream Mapping - Kaizen - Just in Time - Kanban

Module 3: Six Sigma and Metrics

5 Hrs

Meaning - Goals - DMAIC Roadmap - Lean Six Sigma - Three key Elements - Customers - Processes - Employees - Importance and Benefits of Lean Six Sigma

COURSE OUTCOMES:

After completion of the course, the students will be able to

1. Illustrate how value addition takes place by removal of waste when organization adopts Lean Methodology
2. Evaluate the implications of Five principles of Lean and Tools in Lean management and its role in Value addition, removal of waste and cost reduction
3. Use Lean Six Sigma for controlling quality, reducing defectives and value addition with minimum cost

Books for Reference:

- Making Sense of Lean Six Sigma Process Improvement, Robert Setiadi
- The Six Sigma handbook, Thomas Pyzdek, Paul A Keller, MdGraw Hill

