Chhattisgarh Swami Vivekananda Technical University, Bhilai

Program / Semester: **B.Tech (VIII Sem)**	Branch: **Computer Science & Engineering**
Subject: **Cyber Law and Intellectual Property**	Course Code: **D022811(022)**
Total / Minimum-Pass Marks (End Semester Exam): **100 / 35**	L: 3 T: 1 P: 0 Credits: **4**
Class Tests & Assignments to be conducted: **2 each**	Duration (End Semester Exam): **03 Hours**

Course Objectives:

1. To make attentive to students about different cybercrimes
2. To understand key terms and concepts in cybercrimes and cyber law
3. To make attentive to students about security privacy and challenges
4. To make attentive to students about copyright and Patents

UNIT–I: Introduction to cybercrimes

Definition, cybercrime and information security, classes of cybercrime and categories, cyber offences, cybercrimes with mobile and wireless devices, cybercrime against women and children, financial frauds, social engineering attacks.

UNIT–II: Cybercrime and Cyber law

Malware and ransom ware attacks, zero day and zero click attacks, Legal perspective of cybercrime, IT Act 2000 and its amendments, Cybercrime and offences, Organizations dealing with Cybercrime and Cyber security in India, Case studies

UNIT–III: Social Media Overview and Security

Introduction to Social networks. Types of Social media, Social media platforms, Social media monitoring, Hash tag, Viral content, Social media marketing, Social media privacy, Challenges, opportunities and pitfalls in online social network, Security issues related to social media, Flagging and reporting of inappropriate content, Laws regarding posting of inappropriate content, Best practices for the use of Social media, Case studies.

UNIT–IV: Introduction to Intellectual Property Rights (IPR)

Introduction to IPR, International Instruments and IPR, WIPO – TRIPS – WTO -Laws Relating to IPR , IPR Tool Kit : Protection and Regulation, Copyrights and Neighboring Rights, Agencies for IPR Registration, Emerging Areas of IPR, Use and Misuse of Intellectual Property Rights.

UNIT–V: Patents

Introduction to Patents, Laws Relating to Patents in India, Patent Requirements, Product Patent and Process Patent, Patent Search, Patent Registration and Granting of Patent, Exclusive Rights and Limitations, Ownership and Transfer, Revocation of Patent, Patent Appellate Board, Infringement of Patent, Compulsory Licensing, Patent Cooperation Treaty, New developments in Patents, Software Protection and Computer related Innovations.

Text Books:

1. Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Sumit Belapure and Nina Godbole, Wiley India Pvt. Ltd. (First Edition, 2011)
2. Cyber Laws: Intellectual property & E Commerce Security, Kumar K. Dominant Publisher
3. Intellectual Property Rights (Patents & Cyber Law), Dr. A. Srinivas. Oxford University Press, New Delhi.

Reference Books:

1. Cyber Law Text & Cases, Gerald R.Ferrera, Margo E.K. Reder, CENGAGELEARNING Publication.
2. Intellectual Property (Trade Marks and the Emerging concepts of Cyber property rights (HB)", P. Narayanan, 3rd Edition. (HB), 2002, Universal Book Traders.

Course Outcomes [After undergoing the course, students will be able to:]

1. Understand the cyber security threat landscape.
2. Understand Cyber crimes and cyber laws.
3. Understand various privacy and security concerns on online Social media its legal aspects and best practices.
4. Understand the importance and applications of IPR its regulations.
5. Understand the application process of patent file and other related aspects such as search, registration and grant.

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Program / Semester: **B.Tech (VIII Sem)**	Branch: **Computer Science & Engineering**
Subject: **Major Project (Phase-II)**	Course Code: **D022823(022)**
Total/Minimum-Pass Marks (End Semester Exam): **350/175**	L: 0 T: 0 P: 14 Credits: **7**

Guideline for Allocation of project:

1. Information regarding broad area must be made available to the students well in advance (may be during previous semester).
2. Information must cover following parameters.
    I. Broad area: Subject or expertise/application area.
    II. Required skills: Knowledge of subject(s), software, tools & other characteristics.
    III. Type of project: Hardware, software, design, survey, study based etc.
    IV. Guide available: Name of Guide (S) from Department & Institute.
    V. Other related information depending upon specific branch & institute.
3. It is also recommended to give proper counseling to pick up suitable project.
4. Students must get chance to select projects as per their choice or decided mutually between students and department faculty (HoD) concern.
5. One project group must contain maximum four students, however students can do project individually but it should be approved by department.
6. Compiled list of projects must be submitted to the University within 25 days of start of semester.
7. Compiled list may contain following parameters.

Monitoring of project:

1. It is recommended to give projects as per the specializations of existing faculty of the department instead of outside person/agency.
2. Project must be allocated, developed and monitored by department / institution itself, but not by outside agencies.
3. Regular review by guide is recommended to ensure development & contribution of students.

Internal Evaluation & Submission of project:

1. Evaluation of project would be as per the examination scheme of the University, which is based on internal as well as external evaluation.
2. Internal assessment requires submission of project report for getting approved by the concern authority. However printing and binding would be as per the conventional format.
3. Evaluation will be based on live demonstration / presentation and Viva.
4. Final submission of project is expected as,
    - Submission of a copy to the University,
    - One copy to the Institution central library,
    - One copy to the department.

External Evaluation:

External assessment of project would be like conduction of practical exams of University, and must be executedas per the norms of practical exams.

NOTE: Completion of Project outside the department/Institution should not be encouraged.

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Program / Semester: **B.Tech (VIII Sem)**	Branch: **Computer Science & Engineering**
Subject: **Multimedia & Computer Vision**	Course Code: **D022833(022)**
Total / Minimum-Pass Marks (End Semester Exam): **100 / 35**	L: 2 T: 1 P: 0 Credits: **3**
Class Tests & Assignments to be conducted: **2 each**	Duration (End Semester Exam): **03 Hours**

Course Objective:

1. To understand the fundamental issues and problems in the representation, manipulation, and deliveryof multimedia content particularly in a networked environment.
2. To understand the concepts of multimedia components.
3. To understand the basic concepts of Computer vision.

UNIT-I: Introduction

Concept of Multimedia, media & data stream, Main properties of multimedia system, Data stream characteristics of continuous media, multimedia Applications, Hardware and software requirements, Multimedia Products & its evolution.

UNIT-II: Components Of Multimedia

Text, Basic sound concepts, MIDI, Speech, Basic concept of Images, Graphics format, Overview of image processing, Basic concepts of Video & animation, Conventional system, Transmission, Enhanced system, High-Definition system, Computer based animation, Design & authoring Tools, Categories of Authority Tools, Types of products

UNIT-III: Data Compression

Coding requirement, Source, entropy, hybrid coding, JPEG, MPEG, Text compression using static Huffmann technique, Dynamic Huffmann Technique, Statistical coding techniques.

UNIT-IV: Optical Storage Media

Videodisk and other WORMS, Compact Disk digital audio, Advantage of CD-DA Frames tracks blocks of CD-DA, CD-ROM, and Further CD-ROM based developments, Principles of CDWO, Prospects of CD technologies.

UNIT-V: Introduction To Computer Vision

Overview, computer imaging systems, lenses, Image formation and sensing, Image analysis, pre-processing and Binary image analysis, feature detection, image classification.

Text Books:

1. Multimedia System Design, Andleigh and Thakarar , PHI, 2003.
2. Multimedia Technology & Application, David Hillman, Galgotia Publications.
3. Computer Vision: A modern approach, Forsyth & Ponce, 2nd Ed., Pearson 2011

Reference Books:

1. Multimedia Computing Communication and Application, Steinmetz, Pearson Edn.
2. Fundamentals of Computer Graphics and Multimedia, D.P. Mukherjee, PHI

Course Outcomes [After completion of this course the students will be able to:]

1. To Know the fundamental video, audio, image, text processing techniques
2. Acquire the basic skill of designing video compression, audio compression, image compression, text compression.
3. To Know the basic techniques in designing video transmission systems: error control and rate control
4. To Identify basic concepts, terminology, theories, models and methods in the field of computer vision.

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Name of Program:	**Bachelor of Technology.**		
Branch:	Common to all Branches	Semester:	**VIII**
Subject:	**Soft Computing Techniques**	Code:	**D000803(022)**
Total Theory Periods:	40	Total Tutorial Periods:	Ten (Minimum)
Class Tests:	Two (Minimum)	Assignments:	2 (Minimum)
ESE Duration:	Three Hours	Min Marks: 100	Min Marks: 35

Course Objectives:

The main objective of the course is to familiarize students with the underlying principle of soft computing with its usage in various applications to solve real life problems.

UNIT– I	**Introduction:** Introduction to soft computing; introduction to biological and artificial neural network, introduction to fuzzy sets and fuzzy logic systems.
UNIT– II	**Artificial Neural Networks and Applications:** Different artificial neural network models, learning in artificial neural networks, neural network applications in control systems.
UNIT– III	**Fuzzy Systems and Applications:** Fuzzy sets; fuzzy reasoning, fuzzy inference systems, fuzzy control, fuzzy clustering, applications of fuzzy systems.
UNIT– IV	**Neuro-Fuzzy Systems:** Neuro-fuzzy modeling, Neuro-fuzzy control. Genetic Algorithms- Simple GA, crossover and mutation, genetic algorithms in search and optimization.
UNIT– V	**Applications:** Pattern Recognitions, Image Processing, Biological Sequence Alignment and Drug Design, Robotics and Sensors, Information Retrieval Systems, Share Market Analysis, Analysis language processing.

Text books:

1. Fuzzy Logic And Soft Computing – Chen, Guoging, Ving, Mingsheng & Cai, Kai Yuan Ed – Kluwar Academic
2. Soft Computing and Intelligent Systems Design Theory Tools and Applications – Karray F O & Desilva C -Pearson, New Delhi

Reference Books:

1. A Computational intelligence: principles, techniques, and applications - Konar - Springer.
2. Introduction to pattern recognition: statistical, structural, neural, and fuzzy logic approaches: Friedman, M & Kandel, A. - World Scientific.
3. Neuro-fuzzy and soft computing: a computational approach to learning and machine intelligence - Jang, J S R, Sun, C T, & Mizutani E - Prentice Hall.
4. An introduction to genetic algorithms- Mitchell M - MIT press.
5. Fuzzy Logic with Engineering Applications - Ross T J - John Wiley & Sons

Course Outcomes:

On successful completion of the course, the student will be able to:

1. Identify and describe soft computing techniques and their roles in building intelligent machines.
2. Describe Artificial Neural Networks and Applications.
3. Describe Fuzzy Systems and Applications.
4. Describe Neuro-Fuzzy Systems and Applications.
5. Discuss applications of soft computing to solve real life problems