



GENERAL GUIDELINES

Do's:-

- Students should be on time for every lecture.
- Students are advised to show due respect to all faculty members.
- Students should keep the Classrooms, Laboratories and Workshops clean and tidy.
- Students must maintain absolute discipline and decorum, while on campus.
- **Students should come prepared with algorithm / flowchart / program / procedure for all the experiments before attending the laboratory session.**
- Students should bring the data sheets and laboratory records completed in all respects to the laboratory.
- Students are advised to clarify their doubts in the respective courses with the faculty.
- Students have to inform their parents that they should follow up the progress of their wards by being in touch with the institution authorities at regular intervals.
- **Students are advised to be present for the mentor meetings conducted by their respective Faculty Advisors, failing which appropriate disciplinary action will be taken.**

Don'ts:-

- Students are not permitted to attend the class without the identity card, once issued.
- **Ragging is strictly prohibited because it is punishable under Karnataka Education Act. Any student involved in ragging, will be severely punished – which includes handing over the case to Police, rustication from the college etc.**
- Writing on desks and walls is strictly prohibited, failing which the students will be fined heavily. If the identity of the individual is not established the entire class / students in the block will be fined.
- **Students must not use their cell phones during class hours. If any student is found using their cell phone during class hours it will be confiscated.**
- Students are not supposed to alter the configuration of the system / any software on the systems.



Computer Science And Engineering
(Aug – Dec 2021)

VII and VIII SEMESTER (2018-22 BATCH)

Sl. No.	Course Code	Course Title	Hours / week				Credits	Course Type
			L	T	P	S		
1	UE18CS491X	Internship	0	0	32	0	8	PW
2	UE18CS400X/ UE18CS400SX/MX	Special Topic/ Directed Independent Study - Swayam/MOOC	2	0	2	2	6	ST
			2	0	34	2	14	

NOTE:

1. 3 weeks of Internship = 1 credit.
2. In case the student does not have an internship, he/she may earn those credits using SI no 2.



Computer Science And Engineering
(Aug – Dec 2021)

UE18CS400SA- 5G MOBILE NETWORK (2-0-0-2)

of Credits: 2

of Hours: 28

Class #	Chapter Title /Reference Literature	Topics to be Covered	% of Portion covered	
			% of Syllabus	Cumulative %
Unit – 1 Evolution of 5G				
1	R1 1.6	Introduction- Historical trends of wireless communication	21.4	22
2	R1 1.7, 1.8	evolution of LTE technology to Beyond 4G, 5G roadmap		
3	R1 2.3	pillars of 5G, Use cases, Requirements		
4	R1 2.2	Programming Two Dimensional Applications, The OpenGL: The OpenGL API		
5	R1 2.4	Overview of 5G Network System Architecture		
6	R1 2.5	Mobility + Experiments		
Unit – 2 Small Cells for 5G				
7	R1 3.1	Small cells, Wi-Fi	17.8	40
8	R1 3.2	Femtocells as candidate small cell technologies		
9	R1 3.3	Gains with Multi-Antenna Techniques		
10	R1 3.6	Gains with small cells		
11	R1 3.8	Small cell Challenges+ Experiments		
Unit – 3 5G Deployment & MTC				
12	T2. 1	Physical Architecture	21.4	61
13	T2. 1	5G deployment requirements		
14	T2. 2	Machine type communication (MTC) requirement		
15	T2. 3	use cases		
16	T2. 4	Fundamental techniques for MTC		
17	T2. 4	Experiments		
Unit – 4 Mobile Cloud				
18	T1. 1, 2	Introduction-User, Software, Hardware	21.4	82.2
19	T1. 2	Networking resources		
20	T1 .2	Mobile Cloud Enablers		
21	T1. 9	Wireless technologies		
22	T1. 9	Software and middleware		



Computer Science And Engineering
(Aug – Dec 2021)

23	T1. 9	Experiments		
Unit – 5 Security for 5G Communication				
24	R3	Security Issues	17.8	100
25	6.2.2	Challenges in 5G Network		
26	6.2.3	Animating Objects		
27	6.4.1	Security Issues and Challenges in Heterogeneous networks (3G, 4G &5G)		
28	6.4.2	Experiments		

Book Type	Code	Title & Author	Publication Information		
			Edition	Publisher	Year
Text Books	T1	“Fundamentals of 5G Mobile Networks” : Jonathan Rodriguez	1 st	Wiley	2015
	T2	“5G Mobile and Wireless Communications Technology”: Asif Osirian, Jose Monserrat and Patrick Marsch		Cambridge University Press	2016
Reference Books	R1	5G System Design – Architectural and Functional Considerations and Long-Term Research” :Patrick Marsch, Omer Bulakci, Olav Queseth and Mauro Boldi		Wiley	2018



Computer Science And Engineering
(Aug – Dec 2021)

UE18CS400SB: SOFTWARE TESTING (2-0-0-2)

of Credits: 2

of Hrs: 28

Class Hrs #	Chapter Title / Reference Literature	Topics To Be Covered	% Of Portions Covered	
			ABSOLUTE	CUMULATIVE
Unit #: 1 – Introduction to Software Quality and Testing (6 Hours)				
2 hrs	T1: 2.1-2.5	Introduction to Software Quality and its importance: Quality Concepts, Quality Management, Cost of quality.	21	21
2 hrs		Importance of testing, Modified V Model for Testing requirement in a project, SQA processes, tools and techniques for Test Life Cycle.		
2 hrs		Classification of Testing types based on methods/ Requirements/ target/needs		
Unit #: 2 – Unit Testing & Integration Testing (6 Hours)				
2 hrs	T1: 3.1-3.3, 5.1-5.4, 6.1-6.4	Unit Testing: Definition, Test planning, methodology, code coverage testing. White Box Testing: Definition and Overview. Gray.	21	42
2 hrs		Integration Testing: Overview, Types of integration Testing - top-down, bottom-up, Functional, Bi-directional, System Integration, Scenario Testing.		
2 hrs		System Testing: Definition, reason and overview. Functional Testing, Test case generation. Static Testing – Manual, Automated (Tool-based), Structural testing – Code complexity testing, Advantages and disadvantages		
Unit #:3 – Black Box Testing (5 Hours)				
3 hrs	T1: 4.1-4.4	Definition and overview, Test Case Design techniques for Black Box Testing, Specification based test design and Requirements Traceability Matrix	18	60
2 hrs		Positive and negative testing, Equivalence Partitioning, Boundary Value Analysis, Decision Tables, Advantages and disadvantages.		
Unit #:4 Acceptance Testing, Non Functional and Regression Testing (6 Hours)				
6 hrs		Acceptance Testing Overview, Acceptance Testing Approaches and Types	22	82



Computer Science And Engineering
(Aug – Dec 2021)

	T1: 6.5-6.6, 8.1-8.4	Non Functional Testing: NFT Overview, Scalability, Reliability and Stress testing		
		Performance Testing Overview, methodology for performance testing. Regression Testing: Definition, Types of regression testing		
Unit #:5 Testing Tools (5 Hours)				
5 hrs	Class Materials	JUnit, JMeter, Monkey Talk, Appium, Robotium, Selenium,	18	100
		Selendroid, UI Automator and Magneto. Defect Management tools		
		Discuss the tools and do a comparative study.		

Literature:

Book Type	Code	Title & Author	Publication Information	
			Publisher	Year
Text Book	T1	Software Testing – Principles and Practices, Srinivasan Desikan and Gopalaswamy Ramesh	Pearson	2006
Reference Book	R1	Foundations of Software Testing, Aditya Mathur	Pearson	2008
Reference Book	R2	Software Testing, A Craftsman's Approach, Paul C. Jorgensen	Auerbach	2008



Computer Science And Engineering
(Aug – Dec 2021)

UE18CS400SC: ETHICAL HACKING (2-0-0-2)

of Credits: 2

of Hours: 28

Class #	Chapter Title/Reference Literature	Topics to be Covered	% of Portions Covered	
			% of Syllabus	Cumulative %
1.	Unit #1	Introduction to ethical hacking, Basic concepts of networking: types of computer network, ckt switching, packet switching virtual ckt	22%	22%
2.		datagram approach, layered network architecture, TCP/IP protocol Stack how to work on kali Linux & Metasploit		
3.	Unit #2	Usage of tools: Wireshark, Nmap: port scanning, identify host	22%	44%
4.		Usage of tools: Nessus scanner Installation and use		
5.		Snort, Firewall, DNS, hack the box		
6.	Unit #3	Cryptography	20%	64%
7.		Steganography		
8.		Cryptanalysis,DNS and E-mail security		
9.	Unit #4	Attacks: Password cracking, phishing attack	22%	86%
10.		malware, Wi-Fi hacking		
11.		D – Dos		
12.	Unit #5	Web application security : Different types of SQL injection	14%	100%
13.		Pen testing		

Reference link:

<https://nptel.ac.in/courses/106/105/106105217/>



Computer Science And Engineering
(Aug – Dec 2021)

UE18CS400SD- PERFORMANCE ENGINEERING (2:0:0:0:2)

of Credits: 2

of Hours: 28

Class #	Topics to be Covered
1-2	Motivation - Software metrics – Performance – Influence of language processor – Influence of looping constructs – looping order –
3-4	Influence of Memory layout – spatial locality –
5-6	profiling – valgrind
7-8	Bentley Rules of Optimization - Data structures : Packing and encoding - Augmentation - Precomputation - Compile- time initialization -
9-10	Caching - Lazy evaluation - Sparsity
11-12	Loops : Hoisting - Sentinels - Loop unrolling - Loop fusion - Eliminating wasted iterations Logic - Constant folding and propagation -
13-14	Common-subexpression elimination - Algebraic identities - Short-circuiting - Ordering tests - Creating a fast path - Combining tests Functions - Inlining - Tail-recursion elimination - Coarsening recursion
15-16	using bits better – Binary Counter (Stepanov) – second biggest element in a sequence –
17-18	mergesort a linked list – External sorting a sequence of unique integers in linear time
19-20	Guest Lecture
21-22	Sorting functions – combination of qsort and some other sorting based on size – analyzing qsort for average case (“most beautiful program I never wrote : Bentley) -
23-24	“qsrt is optimal” : Bentley - Optimizing TSP
25-26	Compiler optimizations -Memory management
27-28	Caching and Cache-Efficient Algorithm - Cache-Oblivious Algorithms

Literature:

Book Type	Title & Author
Reference Books	<ol style="list-style-type: none"> 1. Writing Efficient Programs in „C“ : Jon Bentley – PHI1986 2. Programming Pearls : Jon Bentley – Addison-Wesley Inc -Second Edition – 2000 3. More Programming Pearls : Jon Bentley - Pearson -Second Edition – 2002 4. Beautiful code : <u>Andy Oram</u>, <u>Greg Wilson</u>O'Reilly Media – 2008 5. MIT Open Courseware : <u>Performance Engineering of Software Systems</u> Fall 2018



Computer Science And Engineering
(Aug – Dec 2021)
UE18CS400SE: COMPUTER FORENSICS (2-0-0-2)

of Credits: 42

No. of Hours: 28

Class #	Chapter Title	Topics to be covered	% of Portion	
			% of syllabus	Cumulative
1.	Unit: 1 Computer forensics fundamentals	Computer forensics concepts and Types	17.85	17.85
2.		Forensic Investigation Procedure		
3.		Data Acquisition		
4.		FTK Imager Demo		
5.		Data Preservation, Analysis and Report		
6.	Unit: 2 Linux/Unix File systems	Bootting Process	21.42	39.27
7.		File system structure		
8.		File system structure		
9.		Sleuth Kit and Autopsy		
10.		Sleuth Kit Demo		
11.		SleuthKit Demo		
12.	Unit: 3 Linux UNIX Acquisition and Forensic Investigation	Acquisition preparation and system information acquisition	21.42	60.69
13.		Linux Memory Dump and Memory acquisition		
14.		LiME mem dump - Collect evidence from a live system		
15.		Forensic imaging of drives		
16.		Using dd for acquisition		
17.		Using dd for acquisition		
18.	Unit: 4 Windows File system and Data Acquisition	Windows FAT File Systems	21.42	82.11
19.		Windows NTFS File System		
20.		Cold Boot Attack for Memory Dump		
21.		Windows Forensic Imaging of Drives		
22.		Windows Memory Acquisition and Analysis		
23.		Windows Volatile Data Acquisition		
24.	Unit: 5 Windows Forensic Analysis	Forensic Analysis Preparation	17.85	100
25.		Windows Artifacts		
26.		Forensic Analysis Tools for Windows Forensic Analysis		
27.		FTK Imager Demo		
28.		Hands-on – Recycle Bin/Steganalysis		



Computer Science And Engineering
(Aug – Dec 2021)

UE18CS400SF: NETWORK APPLICATIONS (4–0–0–4)

of Credits: 4

No. of Hours: 56

Class #	Chapter Title	Topics to be covered	% of Portion	
			% of syllabus	Cumulative
1.	Unit: 1 Introduction to Network media and Implementations	Introduction to Network Theory, Network Types and Standards, OSI Model	17.85	17.85
2.		TCP/IP model, Data Transmission methods		
3.		Bounded Network Media		
4.		Bounded Network Media		
5.		Unbounded Network Media		
6.		Unbounded Network Media		
7.		Physical and logical Network topologies		
8.		Ethernet Network and Network devices		
9.		Practice Questions Session		
10.		Lab on network topologies		
11.	Unit: 2 TCP/IP addressing, Routing and switching.	TCP/IP protocol suite	21.42	39.27
12.		IPV4 addressing		
13.		IPV4 addressing - Problems		
14.		IPV6 addressing		
15.		Switching- STP, Packet and Circuit switching		
16.		Network Packet Routing		
17.		Static and Dynamic Routing		
18.		Static and Dynamic Routing		
19.		Virtual LAN		
20.		Practice Questions Session		
21.		Lab:Dynamic Routing		
22.		Lab:Dynamic Routing		
23.	Unit: 3 TCP/IP Implementation, Network security analysis and Implementation	Dynamic Host Configuration protocol	21.42	60.69
24.		Domain Name service		
25.		TCP/IP utilities		
26.		TCP/IP utilities		
27.		Common TCP IP Protocols		
28.		Common TCP IP Protocols		
29.		Network security and policies		
30.		Physical security and common network attacks		
31.		Network security Implementation		
32.		Practice Questions Session		
33.		Lab on VLAN implementation		



Computer Science And Engineering
(Aug – Dec 2021)

34.		Lab on Dynamic Host Configuration protocol		
35.	Unit: 4 WAN Infrastructure, Cloud and virtualization.	Wireless Network Security	21.42	82.11
36.		Patches and Updates		
37.		WAN Infrastructure Basics		
38.		WAN Transmission Technologies		
39.		WAN Transmission Technologies - VoIP		
40.		Cloud and Virtualization		
41.		Software Defined Networking		
42.		Network storage technologies		
43.		Practice Questions Session		
44.		Practice Questions Session		
45.		Lab on Software Defined Networks		
46.		Lab: Software Defined Networks		
47.	Unit: 5 Remote Networking and Network Management	Remote Networking	17.85	100
48.		Virtual Private Network		
49.		Network Management		
50.		Monitoring and documenting the network		
51.		Establishing baselines and optimizing performance		
52.		Ensuring Business continuity		
53.		Network troubleshooting		
54.		Practice Questions Session		
55.		Lab on Virtual Private Network		
56.		Lab on Virtual Private Network		



Computer Science And Engineering
(Aug – Dec 2021)

UE18CS400SG: RESEARCH METHODOLOGY (2:0:0:0:2)

of Credits: 2

of Hours: 28

Class #	Chapter Title / Reference Literature	Topics to be Covered	% of Portion covered	
			% of Syllabus	Cumulative %
1.	Unit #1 Research	Meaning, Objectives and Characteristics of Research, Research methods vs Methodology	18	18
2.		Types of Research, Research Process		
3.		Criteria for good research		
4.		Problem Statement, Literature Survey,		
5.		Importance, Sources, Identifying Gap Areas.		
6.	Unit #2 Research Design	Basic Principles; Features of Good Design,	22	40
7.		Methods, Developing a Research Plan, Determining Experimental and Sample Designs,		
8.		Sampling.		
9.		Methods of data collection:		
10.		Collection of Primary Data, Observation Method,		
11.		Collection of Data through Questionnaires, Collection of Data through Schedules, Difference between Questionnaires and Schedules, Collection of Secondary Data.		
12.	Unit #3 Hypothesis Testing and Data Analysis	Basic concepts - Procedure for hypotheses testing, flow diagram for hypotheses testing,	21	61
13.		Important parametric test - Data Preparation –		
14.		Univariate analysis (frequency tables, bar charts, pie charts, percentages),		
15.		Bivariate analysis – Cross tabulations and Chi-square test including testing hypothesis of association.		
16.		Results and Discussion: Discussion, Purpose and Function of Discussion,		
17.		Summary and Conclusions, Abstract-Key Words; References; Citation Styles.		
18.	Unit #4 Report and Article Writing	Structure and Components;	21	82
19.		Types of Report		
20.		Technical Reports and Thesis		
21.		Significance; Preparation; Layout,		



Computer Science And Engineering
(Aug – Dec 2021)

		Structure and Language of Typical Reports		
22.		Scientific Article Writing: Title Preparation; List of Authors and Addresses, Abstracts; Economy of Words;		
23.		Journals in CS, Impact Factor of Journals.		
24.	Unit #5 Research Proposal Fundamentals	Grant Proposal, Proposal Parts; Hazards to Good Scientific Practice; Scientific Misconduct, Ethical standards: Association for Computing Machinery (ACM)	18	100
25.		IEEE code of Ethics- Ten commandments of computer ethics, Certification Bodies, Ethics; Intellectual Property Rights, Patents, Copyrights, Trademarks.		
26.		Use of Tools / Techniques for Research: Methods to search required information effectively, Reference; Management Software like Zotero/Mendeley,		
27.		Software for paper formatting like LaTeX, MS Office; Software for detection of Plagiarism,		
28.		Ethical issues related to publishing, Plagiarism and Self-Plagiarism.		

Literature:

Book Type	Title & Author	Publication Information		
		Edition	Publisher	Year
T1	Research Methodology: Methods and Techniques C R Kothari, Gourav Garg	3	New Age International Publishers	2014
T2	Research Methods for Engineers David V Thiel	1	Cambridge University Press	2014
T3	Research Methods for Cybersecurity Thomas W. Edgar and David O. Manz,	1	Elsevier	2017



Computer Science And Engineering
(Aug – Dec 2021)

UE18CS400SH: PRACTICAL REINFORCEMENT LEARNING (2:0:0:0:2)

of Credits: 2

of Hours: 28

Class #	Chapter Title / Reference Literature	Topics to be Covered	% of Portion covered	
			% of Syllabus	Cumulative %
1.	Unit #1	Deep Learning Review	18	18
2.		Probability Review		
3.	Introduction	Introduction to Reinforcement Learning		
4.	Unit #2 Multi-armed Bandits and Imitation Learning	Imitation Learning	22	40
5.		Multi-armed bandits		
6.		Action-value methods		
7.		Algorithms for multi armed bandits		
8.	Unit #3 MDP and DP	Markov decision process	21	61
9.		Episodic and Continuing tasks		
10.		Policies and Value functions		
11.		Dynamic Programming: Value Iteration, Policy iteration		
12.	Unit #4 Monte Carlo Methods	MC Prediction	21	82
13.		MC estimation of action values		
14.		MC Control		
15.		Off-policy prediction		
16.	Unit #5 TD Learning	Temporal Difference (TD) Prediction	18	100
17.		Advantages of TD		
18.		TD(0)		
19.		SARSA		
20.		Q-Learning		

Literature:

Book Type	Title & Author	Publication Information		
		Edition	Publisher	Year
T1	Reinforcement Learning: An Introduction. Sutton, Barto.	2	MIT Press	2018



Computer Science And Engineering
(Aug – Dec 2021)

UE18CS400SI – ADVANCED JAVA (2:0:0:0:2)

of Credits: 2

of Hours: 28

Class #	Chapter Title / Reference Literature	Topics to be Covered	% of Portion covered	
			% of Syllabus	Cumulative %
1.	Unit #1 Streams, Files and I/O handling	Streams, Readers, writer	21	21
2.		NIO, Input stream, Output stream		
3.		File input stream, File output stream		
4.		Byte Array input stream, Byte Array output stream		
5.		File reader, File writer		
6.		Random access file, stream tokenize		
7.	Unit #2 Exception Handling and Threads	Try and catch, try with resources, multiple try	21	42
8.		nested try, built-in exception, user defined exception		
9.		Threads, life cycle of a thread, sync of threads		
10.		runnable interface		
11.		aliveness of thread, communication between threads		
12.		concurrency and lock		
13.	Unit #3 Collections and Bean	Map interface, queue interface	18	60
14.		list, set sort, abstract collection class		
15.		Hash set, tree set, comparator interface, iterator interface		
16.		creating java bean, bean manifest file network		
17.		simple java bean implementation		
18.	Unit #4 JDBC	Specification, architecture, drivers, java.sql, javax.sql	18	78
19.		classes and interfaces, driver manager class, driver interface		
20.		connection interface, statement interface		
21.		connection pooling		
22.		transactions, result set		
23.	Unit #5 Servlets and JSP	Servlets. HTML aware servlet	22	100
24.		HTTP servlets, web publishing		
25.		servlet API, Servlet lifecycle		
26.		servlet life cycle collaboration		
27.		handling sessions in servlets		
28.		Introduction to JSP		



Computer Science And Engineering
(Aug – Dec 2021)

Literature :

Book Type	Title & Author	Publication Information		
		Edition	Publisher	Year
T1	Core and Advanced Java - Black book -	1	Dream Tech press	2018



Computer Science And Engineering

(Aug – Dec 2021)

UE18CS400SJ: ETHICAL ALGORITHMS DESIGN (2-0-0-2)

of Credits: 2

of Hours: 30 hrs

Class No	Reference Text: Chapters/ Literature	Topics to be covered	% of portions covered	
			Reference Chapter	Cumulative
1	T1: Chapter-1	Introduction -Artificial intelligence and ethics-why ethics in AI, current initiatives in AI and ethics, codes of ethics in context: other approaches to ethical questions in AI	22	22
2		Preliminary Plea, Normative Ethical Theories, Ethics and Empirical Evidence, Need for Ethics, Sort of Issues		
3		Domains of Ethics, Adequate Justification and Argument in Ethics, Moral Relativism, Moral Justification and AI		
4		Ethical Question: Identify Ethical Problems, Methods of Production of AI, Hype in AI and Implications for Methodology in Ethics		
5		AI Challenges Professional Ethics-Gradients of Professional Power and Vulnerability in AI		
6		The behavior of Machines, Some Characteristic Pitfalls in Considering the Ethics of AI, suggestions to proceed for the development of codes of ethics		
7	T2: Chapter-1 & Chapter 2	Ethical algorithm -Introduction (Algorithm anxiety, Sorting through algorithm, Man versus machine, How things can go wrong).	22	44
8		Algorithmic Privacy: From Anonymity to Noise- Anonymized data, a bad solution, breaches and inferences, Faulty Algorithms		
9		Differential notion of privacy, how to conduct embarrassing polls, whom do you trust? What differential privacy does not promise?		
10		Algorithmic fairness from parity to pareto- bias, vector, forbidden inputs, defining fairness		
11		Accounting for “merit”, fairness fighting accuracy, fair lunch		
12		Fairness fighting fairness, preventing “fairness gerrymandering”, Case study		
13		Games people play (with Algorithm) -The Dating Game, When People are the Problem	22	66
14		Jump Balls And Bombs, The Commuting Game, Selfish Waze, The Maxwell Solution		
15		Maxwell’s Equations, Cheating On Maxwell, Cooperation Through Correlation		



Computer Science And Engineering
(Aug – Dec 2021)

16	T2: Chapter-3	Games Everywhere, Shopping With 300 Million Friends, Shopping, Visualized		
17		A Different Kind Of Cloud Computing, The Echo Chamber Equilibrium, Quantifying And Injecting Diversity, Medical Matchmaking		
18		Algorithmic Mind Games, Games Scientists Play (With Data)		
19	T2: Chapter-4	Lost In the Garden- Introduction, Power Poses, Priming and Pinot Noir	17	83
20		Scientific Gaming, The Sport of Machine Learning, Bonferroni and Baidu		
21		The Dangers of Adaptively, The Paths not Taken		
22		Torture the Data, Tending the Garden of The Forking Paths, The Garden's Gatekeeper		
23		A Succinct Leader board, tending a Private Garden		
24	T2: Chapter-5	Risky Business Interpretability, Morality and Singularity - Lighting the Black Box, Self-Driving Morality	17	100
25		A Singular Threat, Clouded Vision		
26		Ethical initiatives in the field of AI- International ethical initiatives		
27		Ethical harms and concerns tackled by the initiatives, different harms in detail		
28		Case study-Autonomous vehicles		
29		Case study- Healthcare robots		
30		Case study-Warfare and Weaponisation		



Computer Science And Engineering
(Aug – Dec 2021)

Literature:

Book Type	Code	Title & Author	Publication Info	
			Publisher	Year
Text Book	T1	Paula Boddington, Towards a Code of Ethics for Artificial Intelligence	Springer International Publishing AG	2017
Text Book	T2	Michael Kearns Aaron Roth, The Ethical Algorithm The Science of Socially Aware Algorithm Design	Sheridan Books	2019
Text Book	T3	Eleanor Bird, Jasmin Fox-Skelly, Nicola Jenner, Ruth Larbey, Emma Weitkamp and Alan Winfield, The ethics of artificial intelligence: Issues and initiatives	Scientific Foresight Unit (STOA)	2020
Reference Book	R1	S. Matthew Liao, Ethics Of Artificial Intelligence	Oxford University Press	2020
Reference Book	R2	Steven John Thompson, , Machine Law, Ethics, and Morality in the Age of Artificial Intelligence	IGI Global book	2021