

Branch Name:	Computer Engineering (Software Engineering)
Program Code:	ET203
Course Title:	Advance Internet Technology
Course Code:	2ET2030203T
Pre-requisite Course:	Web Based Application, Computer Networks

Course Objectives:

1. Understand the fundamentals of search engines and how they work.
2. Learn on-page and off-page optimization techniques.
3. Gain practical experience in keyword research and analysis.
4. Develop skills in content optimization and creation.
5. Understand the importance of technical SEO and website structure.
6. Explore advanced SEO strategies and analytics tools.
7. Apply ethical and effective SEO practices.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								
					Theory (Marks)				Practical (Marks)				Total (Marks)
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
3	3	-	-	3	24	60	16	40	-	-	-	-	100

Course Contents:

Unit No	Topics	Total Hours	Weightage (%)
1	Advanced Internet Protocols: DNS, Working of DNS, DNS Header, Type of Records in DNS, forward and Reverse lookup, Configuration of Open Source (OS) DNS, working of DDNS - DHCP, DHCP header, Working of DHCP, Configuration of OS DHCP - FTP, Working of FTP, Configuration of OS Public FTP server and Private FTP server Understanding IPv6, CIDR, Hierarchical Routing, and Routing Protocol over internet. Multimedia over Internet, Voice over IP, Virtual Private network	04	10
2	Search Engine Basics: Algorithm based Ranking Systems – Determining, Searcher Intent and Delivering Relevant, Fresh Content, Analysing Ranking Factors, Using Advanced Search, Techniques, Vertical Search Techniques, Country-Specific Search Engines	04	15
3	Search Engine Optimization: Determining SEO Objective and Finding Your Site's Audience – Setting SEO Goals and Objective, Developing SEO plans Prior to Site Development -SEO for Raw traffic; E- commerce Sales; Mind share/Branding; Direct Marketing; Reputation Management; Ideological Influence. Getting started SEO: Defining Your Site's Information Architecture, Auditing an Existing Site to identify SEO Problems, Identifying Current Server Statistic Software and Gaining Access – Determining Top competitors, Benchmarking Current Indexing Status, Current Rankings, Benchmarking Current Traffic Source and Volumes, Conduct SEO/Website SWOT analysis, Voice search optimization, Video SEO, Mobile optimization, Optimizing images.	10	30
4	Keyword Generation: Creating Pages – Website Structure - Creating Content - Creating Communities - building Links - Using Google Analytics -Social Media Optimization - Creating Pay-per-click Campaigns - Optimizing PPC	06	20

	Campaigns through Quality Score optimization - Tracking Results and Measuring Success, Link building strategies and best practices, Local SEO techniques.		
5	Mashups, HTML Scraping, and Web Services: Popular Examples: Mapping Mashups. Why Use Mashups? The Business Model of Mashups. Screen Scraping, Creating Feeds. Mapping and Badges.	04	10
6	Ethical SEO Practices and Case Studies: White hat vs. black hat SEO techniques, Case studies of successful SEO campaigns, Ethical considerations in SEO.	02	10

Text Books:

1. "SEO 2024: Learn Search Engine Optimization with Smart Internet Marketing Strategies" by Adam Clarke
2. "The Art of SEO" by Eric Enge, Stephan Spencer, Jessie Stricchiola, and Rand Fishkin

Reference Books:

1. A Semantic Web Primer by Grigoris Antoniou Frank van Harmelen, The MIT Press Cambridge
2. Web Crawlers and Search Engines by Mike Thelwall
3. TCP/IP Protocol Suite: By Behrouz A. Forouzan: Tata McGraw-Hill
4. Building an intelligent Web: theory and practice by Rajendra Akerkar, Pawan Lingras

List of Open-Source Software/learning website:

1. <http://searchengineland.com/guide/what-is-seo>
2. <http://www.deitel.com/ResourceCenters/Web20/Mashups/tabid/977/Default.aspx>
3. <http://mayor2.dia.fi.upm.es/oeg-upm/index.php/en/researchareas/2-ontologicalengineering/>

Course Learning Outcomes (CLO):

Course Outcomes	Description	Bloom's Taxonomy Level
CLO1	Understand technical aspect of Internet Technology	1 Remember 2 Understand
CLO2	Understand the fundamentals of search engines	1 Remember 2 Understand,
CLO3	Understand the important aspect of SEO	1 Remember 2 Understand 3 Apply
CLO4	Conduct comprehensive keyword research	3 Apply 4 Analyze
CLO5	Utilize SEO analytics tools	3 Apply 4 Analyze 5 Evaluate
CLO6	Analyze and interpret SEO metrics	4 Analyze 5 Evaluate

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	M		L		L					M	L		M	M		

CLO2	M	L	H	L	L	L		H			L		M	M	M	
CLO3	M	L	H	L	L	M					L		M	M	M	
CLO4	L	L	M		H	H						L			L	
CLO5	M		H	H	H				L		M		H		M	
CLO6	H	L	H	H	H		L		L		M		M		H	

H: High, M: Medium, L: Low

Reference University:

1. Gujarat Technological University
2. Birla Institute of Technology and Science