

General Information						
Course Code	ITEC446	Level/Year	8 ^h /4 th	Required (R) /Selected Elective (SE)		SE
Credit Hours	Theory	2	Lab	1	Total	3
Prerequisites	ITEC342	Course Coordinator		Dr. Mohammed Hassan Usman		
Corequisites	-	Track Leader		Dr. Nadim Rana		
Course Description						
<p>This course aims to achieve a multi-disciplinary balance between research advances in the fields of collective intelligence, data science, human-centric computing, knowledge management, and network science. It is committed to addressing research that deepens the understanding of computational, logical, cognitive, physical as well as business and social foundations of the future Web, and enables the development and application of intelligent technologies.</p>						
Course Objectives : On completion of the course, the student will be able to:						
<ul style="list-style-type: none"> ◆ Explain foundational concepts and emerging trends in Web Intelligence. ◆ Analyze various models of information retrieval, semantic web architecture, search engine technologies, and web mining techniques. ◆ Apply data mining tools to design and implement solutions in the areas of web mining and information retrieval. ◆ Explore the structure of the web through Web Structure Mining methodologies. ◆ Evaluate the Hyperlink-Induced Topic Search (HITS) algorithm and its role in ranking web content. ◆ Investigate the applications and impact of social network analysis in the context of Web Intelligence. 						
Course Contents						
List of Topics					Weeks	
CH 1: Introduction to Web Intelligence					1,2	
CH 2: Web Information Retrieval					3, 4, 5	
CH 3: Web Mining & Structured Data Extraction					5, 6, 7	
CH 4: Semantic web.					8, 9, 10	
CH 5: Web Knowledge management					10, 11, 12	
CH6: Social network intelligence					13, 14, 15	
Textbook						
<ul style="list-style-type: none"> • Priti Srinivas and Sajja Rajendra Akerkar, P.(2012), CRC Press Taylor & Francis, ISBN-13: 978-1-4398-7164- 5 						
Reference Materials						

- Akerkar, R. & Lingras, P. (2008). Building an Intelligent Web: Theory and Practice. Jones and Bartlett Publishers, Sudbury, Massachusetts. ISBN-13: 978-0-7637-4137-2
- Web Intelligence (WI): A New Paradigm for Developing the Wisdom Web and Social Network Intelligence. Zhong, Ning (et al.) ISBN 978-3-662-05320-1
- Witten, Ian H. & Frank, E. (2005). Data Mining: Practical Machine Learning Tools and Techniques. 2nd Edition, Morgan Kaufman. ISBN 0120884070, 9780120884070

Course Learning Outcomes

CLO	Description	Mapped PI
CLO#01	Define and Describe the basic concepts and recent trends of Web intelligence	PI 1.1 PI 1.2
CLO#02	Classify and distinguish the models of information retrieval, semantic webs, search engines, and web mining.	PI 2.1 PI 2.2
CLO#03	Implement data mining tools to develop projects in web mining and information retrieval.	PI 3.1 PI 3.3
CLO#04	Analyse the models of information retrieval, semantic webs, search engines, and web mining.	PI 4.1 PI 4.2
CLO#05	Evaluate the role of web intelligence in social network and business.	PI 5.1 PI 5.2
CLO#06	Creating and compiling web intelligence sites	PI 6.1 PI 6.2

CLO-SO-PI Mapping

	SO1	SO2	SO3	SO4	SO5	SO6
CLO#01	PI 1.1 PI 1.2	-	-	-	-	-
CLO#02	-	PI 2.1 PI 2.2	-	-	-	-
CLO#03	-	-	PI 3.1 PI 3.3	-	-	-
CLO#04	-	-	-	PI 4.1 PI 4.2	-	-
CLO#05	-	-	-	-	PI 5.1 PI 5.2	-
CLO#06	-	-	-	-	-	PI 6.1 PI 6.2