Course Title:	CS-872, Ontology Engineering
Credit Hours:	3+0
Pre-requisites:	▪ Artificial Intelligence
Course Description:	Ontology engineering is an emerging scientific discipline for modeling and validating the specification of conceptualization. It is significantly important for developing semantic based systems and addressing the current semantic web challenges. The participants of this course will get acquainted with the core ontology development methodologies, standards, and tools used for its validation.
Tools and Technologies:	▪ Protégé ▪ OntoClean ▪ Pellet
Learning Outcomes:	On successful completion of this course students will be able to: 1. Develop domain ontology by using different ontology engineering methodologies, 2. Implement the methods for evaluating the domain ontology 3. Explain and demonstrate the concepts involved in ontology engineering and its evaluation, 4. Describe the issues specific to ontology engineering methodologies.
Tentative MS Thesis:	▪ Modeling Web Application Attacks ▪ Semantic Process and Data Interoperability in Healthcare Systems ▪ Semantic Matching of Job Posts with Resumes
Text Books:	Ontological Enginnering by Asuncion Gomez-Perez, mariano Fernandez-Lopez and Oscar Corcho. Springer 2003
Reference Books:	Advance topics will be covered by studying different scientific publications.

Course Contents:	- Introduction to Ontology Engineering - Types of ontologies and ontological commitments - Theoretical foundation of Ontologies - Ontology building languages - Resource Description Framework (Schema), Web Ontology Language, Description Logics - Study of core ontologies such as DOLCE, SUMO, and OpenCyc - Ontology development process - Ontology evaluation techniques; OntoClean approach