

Programme	BS Botany	Course Code	BOT-313	Credit Hours	3(2+1)
Course Title	Systematics of Angiosperms (Theory)				
Introduction					
<p>This course is designed to explore the principles and practices of systematics of angiosperms and their classification. This course delves into the importance and interrelationship of plant systematics with other disciplines of science. Students will gain an understanding of the development of plant systematics, the mechanisms of speciation, and the types of variation within plant species. The course also covers the methodology and significance of biosystematics, various types of taxonomic evidences, and the principles of Botanical nomenclature. Additionally, students will learn about the history and importance of plant classification, including a brief overview of numerical taxonomy.</p>					
Learning Outcomes					
<p>On the completion of the course, the students will be able to:</p> <ul style="list-style-type: none"> • Understand the importance and interrelationship of plant systematics with other scientific disciplines. • Describe the concept of species and explain the mechanisms of speciation in plants. • Conduct and Biosystematics Studies and categorize plants into ecophene, ecotype, ecospecies, coenospecies, and comparium. • Apply the principles and rules of botanical nomenclature in the classification of plants. • Compare and contrast different systems of plant classification and understand their historical development and importance. • Accurately describe and identify plants of the local flora up to the species level using the Flora of Pakistan and other regional floras. • Develop and utilize indented and bracketed keys for plant identification. • Understand Angiosperm Families: Describe and classify plants from significant angiosperm families, recognizing their key characteristics and taxonomic relationships. 					
Course Contents					
<ul style="list-style-type: none"> • Introduction: Importance and relationship of Plant systematics with other sciences, Phases of plant taxonomy. • Concept of Species, Speciation: Mechanism of speciation. • Variation: Types of variation, Continuous and discontinuous variation, Clinal variation. • Biosystematics: Introduction and importance, Methodology of conducting biosystematics studies, various biosystematics categories such as ecophene, ecotype, ecospecies, coenospecies and comparium. • Taxonomic Evidence: Importance and types of taxonomic evidences: anatomical, cytological, chemical, molecular, palynological, geographical and embryological. • Nomenclature: Principles and important rules of botanical nomenclature. • Classification: Why classification is necessary? Importance of predictive value. Brief history, Different systems of classification with at least one example of each (Linnaeus, Bentham and Hooker, Engler and Prantl, Bessey, Cronquist, Takhtajan and Dahlgren. • Brief introduction of Numerical taxonomy. 					