

<b>Module Code</b>	<b>MA2053</b>	<b>Title</b>	<b>Graph Theory</b>			
<b>Credits</b>	<b>02</b>	<b>Hours/Week</b>	<b>Lectures</b>	<b>02</b>	<b>Pre-requisites</b>	MA 1013
			<b>Lab/Tutorials</b>	<b>-</b>		
<b><u>Learning Outcomes</u></b>						
<p>At the end of this module the student should be able to,</p> <ul style="list-style-type: none"> <li>• Apply graph theory to devise various search algorithms and other algorithms applied in scientific computing.</li> <li>• Apply graph theory in other areas such as Operational Research.</li> </ul>						
<b><u>Outline Syllabus</u></b>						
<ul style="list-style-type: none"> <li>• Basic definitions, degree of a vertex, paths, cycles and connectivity.</li> <li>• Digraphs, relationship graphs, Eulerian and Hamiltonian graphs.</li> <li>• Shortest path problems: Dijkstra's algorithm.</li> <li>• Isomorphism of graphs, adjacency, matrices and adjacency lists.</li> <li>• Planar graphs, coloring of graphs.</li> <li>• Trees: Properties, spanning trees, rooted trees, binary trees, binary search and applications.</li> </ul>						

**Note:** EE,EN & ME Students