



## UNIVERSITI TEKNOLOGI MARA

### IDT262: ADVANCED 3D MODELING AND PROTOTYPING

<b>Course Name (English)</b>	ADVANCED 3D MODELING AND PROTOTYPING <b>APPROVED</b>
<b>Course Code</b>	IDT262
<b>MQF Credit</b>	3
<b>Course Description</b>	Advanced 3D Modeling and Prototyping (IDT262) course mainly revolves around Additive Manufacturing in Rapid Prototyping Technologies using Fused Deposition Modeling (FDM) machine. It is also known in another term for 3D printing, add material layer by layer, instead of cutting material away (as in machining). This project-based learning course will let students design and fabricate 3D objects using computer-aided design (CAD) software and 3D printers. Although produce objects directly from computer models, students also can immediately hold, evaluate, test and use their ideas makes that possible for physical objects. By the end of this course, students will designed and 3D printed a 3D modelling from other industrial design subject as a guideline in model making processes for prototyping process using Fused Deposition Modeling (FDM) or 3D Printer with the technical knowledge gained during the semester. Students will experience the design process and analyze real industry cases, and apply 3D printing technology (employed in manufacturing today) appropriately while gaining hands-on experience.
<b>Transferable Skills</b>	<ol style="list-style-type: none"><li>1. Learn about the evolution of digital fabrication with a full overview of the manufacturing industry and related technologies.</li><li>2. Design and fabricate 3D objects using computer-aided design (CAD) software and 3D printers</li><li>3. Experience the design process and become familiar with the advantages and limitations of each 3D printing technology.</li><li>4. Analyze real industry cases, and apply 3D printing technology appropriately while gaining hands-on experience with 3D printing technologies employed in manufacturing today: Fused Deposition Modeling (FDM)</li></ol>
<b>Teaching Methodologies</b>	Demonstrations, Case Study, Tutorial
<b>CLO</b>	<p>CLO1 Construct Fused Deposition Modeling (FDM) machine in operating software application with guideline given</p> <p>CLO2 Practice digital 3D modeling based on a software platform given.</p> <p>CLO3 Apply design in 3D modeling as prototyping process using Fused Deposition Modeling (FDM) 3D Printer.</p>
<b>Pre-Requisite Courses</b>	No course recommendations