

## Additive Manufacturing, Diploma

### School of Technology

#### Program Description

The Additive Manufacturing Diploma will provide students with the necessary working knowledge and hands-on experience to operate a production-level 3D printer capable of producing various types of precision polymer and metal parts in the field of additive manufacturing. The operation duties would include preparing 3D CADD files for additive manufacturing process including design improvements, material handling and storage, mold design as a secondary process, routine maintenance, and production management. The primary focus of this program is the front-end operation of an industrial production 3D printing machine.

#### Career Opportunities

Students who successfully complete an Additive Manufacturing Technology diploma will be qualified to prepare CADD files for additive production and possess working knowledge of advanced 3D printers utilized in the field of additive manufacturing. Expected job titles within additive manufacturing: AM Production Designer, AM CADD Operator, AM Technician, and AM Engineering Assistant.

#### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Identify the various 3D printing processes employed in additive manufacturing.
- Prepare solid model CADD files for 3D printing.
- Convert traditional machine part documents to 3D solid model CADD files in preparation of a 3D printing process.
- Coordinate production output, operational safety, and reduction of material waste.
- Design products exclusively for 3D print production.
- Perform basic maintenance and troubleshooting of various types of industrial 3D printers.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Prereq/Coreq(Co)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1		
	2	MTH 104	Introduction to Applied Mathematics	4	MTH 050 or Placement	
	3	EGR 101	Introduction to Engineering I	3	Co: MTH 104 or MTH 157	
	4	DFT 105	Technical Drafting I	4		
	5	DFT 112	Introduction to Design, Materials, and Processing	3		
	6	AMT 101	Introduction to Additive Manufacturing	3		
1st Spring	7	DFT 266	3D Solid Modeling I	4		
	8	EGR 104	Engineering Materials	3	EGR 101	
	9	AMT 102	Material Handling & Safety	3	AMT 101	
	10	ENG 161	College Writing	3	ENG 085 or Placement	
	11	MTH 108	Mathematics for Technologies I	4	MTH 104 ("C" or better) or Placement	

Minimum Program Credits

35

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