ADDITIVE TECHNOLOGY

The Additive Technology program provides students with the skills, knowledge, and understanding necessary to excel in the rapidly growing field of additive engineering. This program combines theoretical learning with hands-on experience, ensuring that graduates are well-prepared to meet the demands of a variety of industries.

Additive Technology AAS Tracks:

Additive Engineering Technology Track

The Additive Engineering Track within the AAS in Additive Technology equips students with the foundational knowledge and practical skills necessary to excel in the rapidly evolving field of 3D printing and additive engineering. The curriculum emphasizes real world projects with a diverse range of additive technologies, including extrusion-based 3D printing, UV curing, understanding of G Code structure and an exploration AI tools available. Students will gain expertise in material selection, process optimization, safety, and post-processing techniques while developing a strong understanding of the principles and applications of additive engineering across various industries.

The Additive Engineering Track incorporates a 9-credit hour elective sequence, allowing students to specialize in an industry of their choice, such as business, filmmaking, automotive, computer, or healthcare, etc. This tailored approach enables graduates to possess both in-depth additive manufacturing knowledge and industry-specific expertise, making them highly marketable and adaptable to the dynamic demands of the modern workforce.

Additive Manufacturing Engineering Track

The Additive Manufacturing Engineering Track is designed to cultivate innovative professionals who can drive advancements in the rapidly expanding field of additive manufacturing. This specialized program grants participants an in-depth understanding of cutting-edge technologies and methodologies integral to the next generation of manufacturing.

The preliminary course of this track, "DPT 100 Introduction to 3D Printing Technology," equips students with the essential knowledge and skills to excel when faced with advanced topics in later courses. Likewise, "DPT 150 Introduction to Engineering Mechanics" lays the foundation for advanced product development fostering skills in latticing, generative design, topology optimization, finite element analysis, and material mechanics. Additional track courses enhance industry readiness by including subjects such as 3D scanning for reverse engineering and medical applications, product sustainability, supply chain reinforcement, post-processing, and quality control.

Through a curriculum tailored to address real-world challenges, graduates are equipped with the skills and expertise to secure prominent positions utilizing additive manufacturing in critical sectors such as aerospace, automotive, medical, defense, and other high-tech industrial operations at the forefront of innovation.

DEGREE

- Additive Technology- AAS (https://catalog.kctcs.edu/programs-of-study/aas/additive-technology/additive-technology-aas/)
  - Additive Engineering Technology Track (https://catalog.kctcs.edu/programs-of-study/aas/additive-technology/additive-technology-aas/#additiveengineeringtechnologytrack)
  - Additive Manufacturing Engineering Track (https://catalog.kctcs.edu/programs-of-study/aas/additive-technology/additive-technology-aas/#additivemanufacturingengineeringtrack)

Certificates

- 3D Printing Technician – Level I - Certificate (https://catalog.kctcs.edu/programs-of-study/aas/additive-technology/3d-printing-technician-level-i-certificate/)
- Additive Application Fundamentals - Certificate (https://catalog.kctcs.edu/programs-of-study/aas/additive-technology/additive-application-fundamentals-certificate/)
- Additive Engineering Capture to Post-Processing- Certificate (https://catalog.kctcs.edu/programs-of-study/aas/additive-technology/additive-engineering-capture-to-post-processing-certificate/)
- Additive Engineering Fundamentals - Certificate (https://catalog.kctcs.edu/programs-of-study/aas/additive-technology/additive-engineering-fundamentals-certificate/)
- Additive Engineering, Coding, and Hardware - Certificate (https://catalog.kctcs.edu/programs-of-study/aas/additive-technology/additive-engineering-coding-and-hardware-certificate/)

Approved Electives List for the Additive Engineering Technology Track

Course	Title	Credits
Suggested Industry Specific Elective List		
Entrepreneurship		
ACC 201	Financial Accounting	3
BAS 170	Entrepreneurship	3
BAS 282	Principles of Marketing	3
Computer Hardware and Security		
CIT 111	Computer Hardware and Software	4
CIT 161	Introduction to Networks	4
or CIT 160	Intro to Networking Concepts	
CIT 180	Security Fundamentals	3
Orthotics		
BAS 170	Entrepreneurship	3
ORP 100	Introduction to Orthotics and Prosthetics	2
ORP 106	Orthotic and Prosthetic Skill Development	3
ORP 107	Orthotic Prosthetic Biomaterials	2
CMM and Safety		
CMM 114	Fundamentals of Machine Tools	6
ISX 100	Industrial Safety	3
Filmmaking and Theatre		
BAS 170	Entrepreneurship	3
FLM 190	Film Boot Camp	3
THA 260	Stagecraft	3
CAD		
CAD 100	Introduction to Computer Aided Design	3
CAD 200	Intermediate Computer Aided Design	4
CAD 201	Parametric Modeling	4
OR elective approved by the Additive Technology Program Coordinator		