Advanced Manufacturing – Associate in Applied Science (ADMA.AAS)

The Advanced Manufacturing – Associate in Applied Science degree prepares students for careers in the manufacturing field. Students that enter this field can expect employment in the areas and job titles such as: welding, mechanical design, production management, process management, project management, system technicians, machinery repair, maintenance technicians, and machine tool design.

Minimum credits: 61
Minimum cumulative GPA: 2.0
Minimum grade in all courses: 2.0
Minimum Jackson College credits: 15

GENERAL EDUCATION REQUIREMENTS (20 CREDITS)

GEO 1: Write clearly, concisely and intelligibly (3 credits)

Take the following:

ENG	131	Writing Experience I

GEO 2: Recognize the importance of effective communication in a dynamic and changing society (3 credits)

Choose one of the following:

COM	231	Communication Fundamentals
COM	240	Interpersonal Communication
COM	250	Intercultural Communication
HIS	211	Minority Groups in America
HUM	131	Cultural Connections
PHL	243	Great World Religions
PLS	262	International Relations
PSY	152	Social Psychology
	OR	SOC 152 Social Psychology
SOC	246	Marriage & Family

GEO 3: Demonstrate computational skills and mathematical reasoning (4 credits)

Take the following:

MAT	130	Quantitative Reasoning or higher

GEO 4: Demonstrate scientific reasoning (4 credits)**

Take the following:

PHY	131	Conceptual Physics

GEO 5: Understand human behavior and social systems, and the principles which govern them (3-4 credits)**

Take the following:

PSY 130 General Psychology

GEO 6: Identify artistic, linguistic, and theoretical perspectives across the human experience (3 credits)**

Choose one of the following:

ART 111 Art History: Prehistoric to 1400
ART 112 Art History: Renaissance to Present

CERTIFIED PRODUCTION TECHNICIAN CORE (16 CREDITS)

Take the following:

MFG 135 Industrial Safety
MFG 136 Blueprint Reading and Precision Measurement
MFG 137 Production Processes and Fabrication
ELT 106 Basic Electricity and Fluid Systems
CAD 152 SolidWorks I

CHOOSE ONE OF THE ADVANCED CONCENTRATIONS:

INDUSTRIAL SYSTEMS CORE (22 CREDITS)

Take the following:

CAD 172 SolidWorks II
CAD 252 SolidWorks III
ELT 220 Industrial Motion Control
ELT 260 Basic Programmable Controllers
ELT 261 Advanced PLC
MFG 211 Robotics Operation and Programming
MFG 216 Robotics Applications and Machine Vision
MFG 262 Introduction to IIOT, Industrial Internet of Things

CAD/CAM (15 CREDITS)

Take the following:

CAD 172 SolidWorks II
CAD 252 SolidWorks III
MFG 201 Principles of CNC Machining
MFG 202 Vises and Fixtures
MFG 203 Advanced CAM Programming

WELDING (8 CREDITS)

Take the following:

WLD 100 Fundamentals of Welding
WLD 110 MIG/TIG Welding

COMPUTER AIDED DESIGN (19 CREDITS)

Take the following:

CAD	151	AutoCad I
CAD	172	SolidWorks II
CAD	251	AutoCad II
CAD	252	SolidWorks III
CAD	253	Sheet Metal, Molds, Weldments, and Tooling
CAD	254	Visualization and Simulation

TECHNICAL ELECTIVES (2 – 16 CREDITS)

Any courses in AGT, ALT, CAD, CNS, ELT, EGY, MFG, STM, or WLD that have not been counted towards the core requirements or the advanced concentration that bring the total number of credits to 60. Other technical courses, such as those in CIS, MAT, CEM, BIO, NSC and PHY may be counted with written approval program director or department chair permission so long as they do not count elsewhere towards the degree requirements.