

UNIVERSITY OF CENTRAL MISSOURI

Waubonsee Community College (WCC) - AAS Computer Aided Design & Drafting to University of Central Missouri (UCM) - BS Design & Drafting Technology

Courses taken at WCC

Complete the AAS Computer Aided Design & Drafting degree and include the following courses in the course of study:

UCM equivalencies in parentheses

General Education Requirements: 15 hours

COM 100 - Communications 3 (*COMM 1050 - Comm*)

ENG 101 - English 3 (*ENGL 1020 - Writing I*)

ENG 102 - English 3 (*ENGL 1030 - Writing II*)*

MTH 129 – Precalculus I 3 (*MATH 1111*)

Social and Behavioral Sciences elective 3

Select from: PSY 100, PSY 205, or SOC 100 to count towards UCM General Education: Social/Behavioral Science requirement

**Students under this agreement will have ENGL 1030 substitute for CTE 2060 in Writing II of General Education.*

Core Program Requirements: 9 hours

CAD 102 AutoCAD I 3

CAD 120 AutoCAD II 3 (*CADD 1170*)

EGR 101 Engineering Graphics 3 (*CADD 1110*)

Electives and Emphasis Areas: 36 hours

Select electives from: Automation Technology (AMT), Business Administration (BUS), Computer Aided Design and Drafting (CAD), Computer Information Systems (CIS), Construction Management (CMT), Engineering (EGR), Heating, Ventilation and Air Conditioning (HVA), Internship (ITS), Machine Tool Technology (MTT), Welding Technology (WLD). See Waubonsee CC's Catalog for more information.

Students wanting to specialize in an architectural, design, or mechanical drafting area should select electives from a specific emphasis area.

Architectural:

CAD 125 Microstation I 3 (*CADD 2171*)

CAD 127 Residential Architecture 3 (*CADD 3160*)

CAD 129 Commercial Architecture 3 (*CADD 1180*)

CAD 131 Civil Engineering 3 (*CADD 3150*)

CIS 110 Business Information Systems 3 (*CTE 1210*)

CMT 101 The Construction Industry 3

CMT 105 Print Reading for Construction 3 (*CMGT 2310*)

CMT 111 Construction Materials and Methods I 3

CMT 115 Construction Materials and Methods II 3

MTT 100 Safety Principles 1

Design

CAD 122 Geometric Dimensioning and Tolerancing 2

CAD 125 Microstation I 3 (*CADD 2171*)

CAD 127 Residential Architecture 3 (*CADD 3160*)

CAD 129 Commercial Architecture 3 (*CADD 1180*)

CAD 131 Civil Engineering 3 (*CADD 3150*)

CAD 240 Introduction to Parametric Modeling Using SolidWorks 3

CAD 241 Introduction to Parametric Modeling Using Inventor 3

CAD 242 Advanced Parametric Modeling Using SolidWorks* 3

CAD 243 Advanced Parametric Modeling Using Inventor* 3

**CAD 242 and 243 together transfer as UCM's CADD 2140*

CIS 110 Business Information Systems 3 (*CTE 1210*)

MTT 100 Safety Principles 1

Mechanical

CAD 122 Geometric Dimensioning and Tolerancing 2

CAD 240 Introduction to Parametric Modeling Using

SolidWorks 3

CAD 241 Introduction to Parametric Modeling Using Inventor 3

CAD 242 Advanced Parametric Modeling Using SolidWorks* 3

CAD 243 Advanced Parametric Modeling Using Inventor* 3

**CAD 242 and 243 together transfer as UCM's CADD 2140*

CIS 110 Business Information Systems 3 (*CTE 1210*)

MTT 100 Safety Principles 1

MTT 110 Print Reading for Machine Trades 3

MTT 115 Manual Machine Shop Operations 3 (*ENGT 2530*)

UCM Suggested Elective Courses: 36 hours

CAD 125 Microstation I 3 (*CADD 2171*)

CAD 127 Residential Architecture 3 (*CADD 3160*)

CAD 129 Commercial Architecture 3 (*CADD 1180*)

CAD 131 Civil Engineering 3 (*CADD 3150*)

CIS 110 Business Information Systems 3 (*CTE 1210*)

CMT 105 Print Reading for Construction 3 (*CMGT 2310*)

CAD 242 Advanced Parametric Modeling Using SolidWorks* 3

CAD 243 Advanced Parametric Modeling Using Inventor* 3

**CAD 242 and 243 together transfer as UCM's CADD 2140*

CMT 111 Construction Materials and Methods I 3

MTT 115 Manual Machine Shop Operations 3 (*ENGT 2530*)

Any 2 classes from CAD or CMT prefix 6

Minimum Hours for AAS Computer Aided Design & Drafting: 60

The following page is based on the above General Education, Core Program Requirements, and UCM Suggested Elective Courses.

Courses Remaining at UCM

Core Requirements - 29 hours***

CADD 1100 - Orientation to Design/Drafting 1
CADD 2150 - Descriptive Geometry for Engineering Technology 3
CADD 2160 - Structural Design & Detailing 3
CADD 3022 - Internship in Design and Drafting (1-6) 1
CADD 3170 - Design Automation 3
CADD 3175 - Advanced MicroStation 3
CADD 4100 - Senior Design/Drafting Seminar 1
CADD 4160 - Computer Graphics & Technical Presentations 3
CADD 4172 - MEP (Mechanical, Electrical & Plumbing) & Industrial Piping Design/Drafting 3
CADD 4180 - Industrial Design 3
CMGT 2020 - Statics 3
MATH 1112 - College Trigonometry 2

***Students under this agreement are not required to take CADD 2100 and 3100.

Electives from the following: 6 hours

INDM 4250 - Project Management 3
and
CADD 4210 - Innovations Management for CADD 3

- OR -

MGT 3315 - Management of Organizations 3
and
INDM 4260 - Organizational Dynamics 3

Two Electives from the following: 6 hours

CADD 4114 - Advanced Technical Problems in Design/Drafting (1-3) 3
CADD 4500 - Substation Design 3
CMGT 3330 - Building Codes and Code Administration 3
CMGT 4310 - Construction Safety 3
CS 1030 - Python Programming I 3
ENGT 1011 - Applied Electricity 4
ENGT 4110 - Engineering Technology Problem Solving 3
ENGT 4120 - Hydrology and Drainage Design 3
ENGT 4160 - Transportation Systems Design 3
GEOS 4220 - Geographic Information Systems I 3

Select 1 of the 2 Options:

Option 1: Civil & Architectural Design Technology - 12 hours

CADD 4150 - Applied Civil Design/Drafting 3
CADD 4162 - Commercial Architectural Design/Drafting (BIM) 3
CMGT 2340 - Surveying and Construction Layout 3
CMGT 3010 - Applied Construction Practices 3

OR

Option 2: Mechanical Design Technology (Product/Machine) - 24 hours

CADD 3120 - Mechanical 3D Modeling & Detailing 3
CADD 4171 - Production Design/Drafting 3
CADD 4174 - Machine Design 3
ENGT 2600 - Lean Enterprises 3
ENGT 3562 - Computer Numerical Control (CNC) 3
ENGT 4520 - Robotics and Automation 3
ENGT 4590 - Computer Integrated Manufacturing (CIM) 3

General Education - 19 (will vary depending on transfer work)

Knowledge Area I: 9 hours
Fine Arts: 3 hours
Humanities: 3 hours
Additional KA I: 3 hours
Knowledge Area II: 7 hours
Natural Science w/ Lab: 4 hours
- GEOS 1004 Intro to Geology 4
Natural Science non-lab: 3 hours
- PHYS 1103 Intro to the Sciences: Physics 3
Knowledge Area III: 6 hours
US/Missouri Constitution: 3 hours
Social/Behavioral Science: 3 hours
- GEOG 2212 World Geography 3

Free Choice Electives: 0 (will vary depending on transfer work and upper-level hour requirements)

Minimum Hours Required for BS Design and Drafting Technology: 120

This agreement was created using UCM's 2023-2024 Catalog and Waubensee Community College's 2023-2024 Catalog.

Students must complete a minimum of 30 upper-level hours towards their degree to graduate.