



MADISON
AREA | TECHNICAL
COLLEGE

Mechanical Design Technology
School of Applied Science
Engineering and Technology

Ryan Ubersox
Interim Program Director

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Mechanical Design Technology

Student Project Fair

2022



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Interim Program Director



Greetings, and welcome to Mechanical Design Technology!

It's great to be back on campus and in person for the majority of our classes. The past few years through Covid have been a challenge, but has built resilience in our staff & students. We have also been through a transition in staff, but are fortunate to have the support from our local business advisory members, administration,

and various individuals who stepped in to help us move forward. Many of our classes are already full for Fall '22, and we are excited to continue to train our future designers!

Within the Mechanical Design Technology program, our 2nd year students annually work on unique capstone projects to showcase their skills learned both within the Mechanical Design Technology program, as well as from their industry experiences. This year, we are pleased to showcase the following projects:

- **Smart Auto Jack**
- **Drip Stick Golf Club**
- **Model Paint Mixer**

Each of these projects have required students to communicate with professionals beyond our Mechanical Design Technology

Program Information



Mechanical Design Technology Program Curriculum – 2 Year Plan



FIRST YEAR

No.	Course Title	Credits
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1st Semester

606-100	Engineering Technology Communications	3
606-101	Engineering Technology Fundamentals	2
606-120	2D CAD (2 nd 8 weeks)	1
606-130	SolidWorks 1 (1 st 8 weeks)	1
606-131	SolidWorks 2 (2 nd 8 weeks)	2
606-160	Fundamentals of Mfg/Eng Matls	2
801-195	Written Communications	3
804-114	College Technical Math 1B	2

16 Credits

2nd Semester

606-132	SolidWorks 3	2
606-140	Dimensioning (1 st 8 weeks)	1
606-141	Geometric Dim. & Tolerancing (2 nd 8 weeks)	1
606-155	Statics & Mechanics (1 st 8 weeks)	3
606-161	Manufacturing Processes	2
606-170	Strength of Materials (2 nd 8 weeks)	3
804-116	College Technical Math 2	4
809-199	Psychology or Human Relations	3

19 Credits

SUMMER (3rd Semester)

606-193	Career Development	1
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SECOND YEAR

No.	Course Title	Credits
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4th Semester

606-104	Engineering Technology Practices	3
606-116	Machine Design	3
462-104	Fluid Power 1 for Industry	1
620-100	Intro to PLCs	1
606-163	Engineering Technology Project Management	2
606-164	Quality Systems	2
606-125	Plastics for Mech. Design	3
809-166	Intro to Ethics; Theory & Applications	3

18 Credits

5th Semester

606-188	Field Study Experience (1st 8 weeks)	1	7/16/2015
606-112	Tool Design Technology	3	
606-150	Rapid Prototyping	2	
606-186	Engineering Technology Applications	3	
801-197	Technical Reporting	3	
806-154	General Physics	4	

16 Credits

70 Credits



program in order to successfully plan, design, and prototype their projects. This brochure features those projects and design teams from the Engineering Technology Practices, Engineering Technology Project Management, and Engineering Technology Applications courses for the 2022-2023 school year.

A special thanks goes out to the following faculty who went the extra mile to help our students succeed. Without their guidance and expertise, these projects would not be possible.

On behalf of the students and staff in the Mechanical Design Technology program, we thank you for your interest and support of our program! Please contact us if you have any questions about the program.

Kind regards,

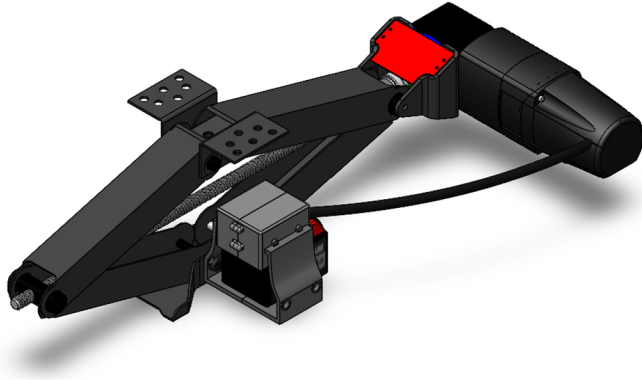
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Special thanks to:

J.R. Colvin - MDT/Quality Control/Machine Tool Instructor
 Jon Helt - MDT/LTE Instructor
 Andy Kurth - Electronic/Electrical Engineering Tech Instructor
 Al Weishoff - Welding and Fabrication Instructor
 Drew Nafzger - Machine Tool Lab Coordinator
 Joseph Miller - Milwaukee Tool
 Dr. Kyle Metzloff - UW:Plateville Industrial Studies Instructor

Get Jacked “Smart Jack”

by



Problem Statement:

Use of jacks can be cumbersome, dangerous, and slow.

Primary Goals:

Design and build a working product that makes the process of lifting a vehicle safer and more efficient.

It must be able to fit under 4” and lift a vehicle to a height of 20”.

Secondary Goal:

To use an electronic interface to control multiple jacks at the same time.

Perfect Pigments Designers



Nick Peterson - '22

Hometown: Madison

Experience: MATC Lab Technician,
CSWA, Chemistry Lab Technician

Skills: Industrial repair, design,
basic electronics, chemistry
technical reporting

Seeking employment

npeterson9@madisoncollege.edu

Aidan Wagner - '22

Hometown: Fort Atkinson

Experience: Field study @ MPI, CSWA

Skills: Critical thinker, problem solver

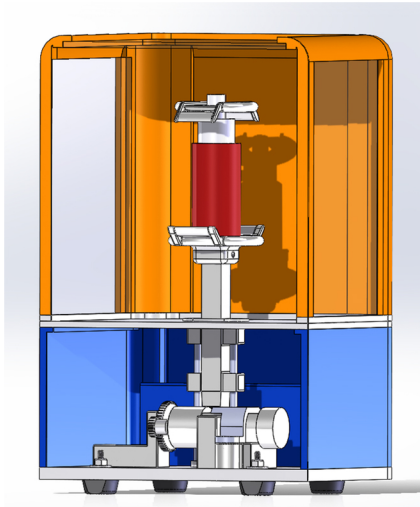
Seeking Employment

awagner@madisoncollege.edu



Perfect Paint “Paint Mixer”

by



Problem Statement:

Model paint separates when not used for a time, and is tedious to mix/stir.

Primary Goals:

Design and finalize a mixer for model paints that fits comfortably on a desk and is minimally disruptive. The product should be electrically operated with little input from the user, and mix paint thoroughly by the end of a cycle.

Secondary Goal:

The device should be enclosed to prevent any possibility of splatter or mess.

Get Jacked Designers



George Bartel - '22

Hometown: Madison

Experience: CSWA, Internship @ i3 Product Development

Skills: Additive Manufacturing, CAD Modeling

Seeking employment

gdbartel@madisoncollege.edu



cmgeier@madisoncollege.edu

Chris Geier - '22

Hometown: Reedsburg

Experience: USMC Gulf War Veteran, 30 years in steel & fabrication experience / management

Certifications: CSWA, SMAW, GMAW, and FCAW

Accepted Position at Columbia Vehicle Group



Garrett Meier - '22

Hometown: Lake Mills

Experience: Field Study @ Sub-Zero, CSWA, 4 years welding/fabrication, GMAW, SMAW, 6 years HVAC, MDT Club President

Skills: Problem solving
Seeking employment

gmeier@madisoncollege.edu

Fluid Golf “Drip Stick” by Fluid Golf



Mission:

Design and prototype a golf club that can be modified on-the-go to change the face of the club, allowing golfers to carry only one iron instead of multiple.

Primary Goal:

Design and produce a cost-effective golf club using high-end materials. The club/clubs will provide a new level of customizations and adjustability to fit each player's swing.

Secondary Goal:

The clubs will provide an assortment of colors, metal finishes, grips, and shaft styles.

Fluid Golf Designers

Eli Medina - '22

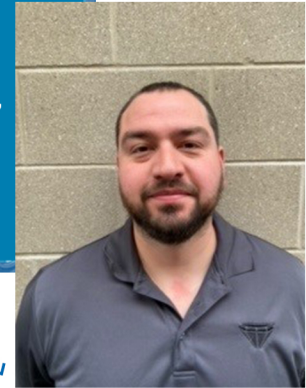
Hometown: Clinton

Experience: CSWA, 6 years HVAC,
Internship @ Milwaukee Tool

Skills: Problem solving

Accepted Designer 1 position at
Milwaukee Tool

emmedina@madisoncollege.edu



Andrew Hodgson - '23

Hometown: Pardeeville

Experience: Supreme Manufacturing,
CSWA

Seeking employment

ahodgson@madisoncollege.edu

ctselje@madisoncollege.edu

Chase Selje - '22

Hometown: Waterloo

Experience: Field study @ Sani-Matic,
4 years as CNC Machinist @ Sussek
Machine Corp., CSWA

Skills: Mechanically inclined

Seeking Employment

