

Project Status Letter Week 5  
 Covering Period from 2/24/2019 to 3/24/2019  
 Prepared by Alex Kmetz and Katie Lee

**Weekly Team Goals**

Week		Complete
5	2/18/2019 - 2/24/2019	
1	Detailed and COMPLETE drawings of all enclosures with all contents depicted in the drawing	
2	Budget Summary and Plan Rev. 2 Complete and Delivered	
3	First Draft ATP submitted to Professors for review	

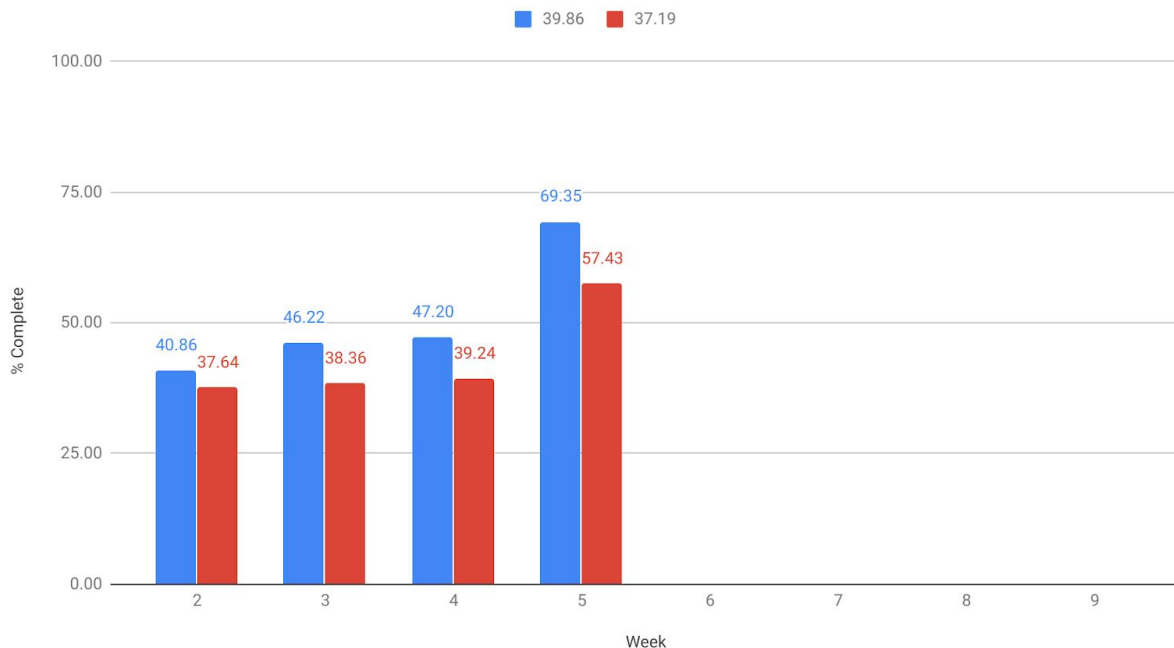
**DYNO and CAR Integration Action Tracking**

Completion of Previous Semester Goals: 91%

- Missing Completions: SCADA Connectivity, Full Motor Testing Setup, TSI Board

Completing of Current Semester Goals: 57.43%\*

Projected Progress and Actual Progress



\* The Progress Tracker was updated last week to better reflect the goals of the ECE team. The number of tasks to complete decreased significantly without a mechanical engineering focus so comparing week 4 and 5 percent complete numbers may be misleading.

Task / Item	In Progress Projected (%)	In Progress Actual (%)	Complete	Dependencies
Motor Spinning in Dyno Room	100.00%	100.00%	No	Motor Purchased Motor Controller Purchased Pulley / Shaft Fabricated Motor Installed in Motor Mount MCS Installed in Fixture Pulley / Shaft Connected to Motor
Motor Purchased	100.00%	100.00%	Yes	
Motor Controller Purchased	100.00%	100.00%	Yes	
Motor Controller Connected to TSI, Cooling, and Motor in Dyno Room	100.00%	83.33%	No	Motor Controller Purchased MCS / TSI / Cooling Fixture Fabricated TSI Board Complete TSI Mounting Plate Complete
Motor Mount Fabricated	100.00%	100.00%	Yes	
Motor Installed in Motor Mount in Dyno Room	100.00%	100.00%	Yes	Motor Purchased Motor Mount Fabricated
Pulley / Shaft Fabricated	100.00%	100.00%	Yes	
Pulley / Shaft Connected to Motor and Mounted in Dyno Room	100.00%	100.00%	No	Motor Purchased Pulley / Shaft Fabricated
MCS / TSI / Cooling Fixture Fabricated	100.00%	100.00%	Yes	
MCS Installed in TSI Enclosure	12.50%	0.00%	No	TSI Enclosure Fabricated
GLV Board Manufactured	85.71%	57.14%	Yes	
GLV Mounting Plate Manufactured	100.00%	33.33%	Yes	
Safety Loop Testing Panel Mounted in Dyno Room Rack	100.00%	75.00%	Yes	
Safety Loop Functional In Dyno Room	100.00%	66.67%	Yes	GLV Board Manufactured
GLV Enclosure Manufactured	33.33%	0.00%	No	
TSI Board Manufactured	71.43%	64.29%	No	
TSI Mounting Plate Manufactured	62.50%	62.50%	Yes	
TSI Throttle / Brake Control Panel Manufactured	66.67%	66.67%	Yes	TSI Board Manufactured TSI Mounting Plate Manufactured
TSI Enclosure Manufactured	12.50%	0.00%	No	

TSI Firmware Written	83.33%	50.00%		
Cooling Loop Filled with Water and Tested For Leaks	100.00%	100.00%	Yes	
Cooling System Mounted on Fixture in Dyno Room	100.00%	100.00%	Yes	MCS / TSI / Cooling Fixture Fabricated
Cooling System Connected to MCS and Motor in Dyno Room	100.00%	100.00%	Yes	MCS / TSI / Cooling Fixture Fabricated
Cooling System Connected to TSI in Dyno Room	100.00%	80.00%	No	
Cooling Enclosure Manufactured	20.00%	0.00%	No	
TSV Packs Manufactured	33.30%	8.33%	No	
TSV Packs Connected to Motor Controller in Dyno Room	0.00%	0.00%	No	
TSV CellMan Boards Fabricated	38.46%	15.38%	No	
TSV SegMan Boards Fabricated	13.33%	6.67%	No	
TSV PackMan Boards Fabricated	37.50%	18.75%	No	
TSV Powering Motor via Motor Controller in Dyno	0.00%	0.00%	No	TSV Packs Manufactured PackMan Boards Fabricated CellMan Boards Fabricated SegMan Boards Fabricated
TSV Firmware Written	0.00%	0.00%		
SCADA Recording Data and Writing to a File	100.00%	71.43%	No	
SCADA Displaying Data to Rack Monitor in Dyno Room	75.00%	75.00%	No	
SCADA Communicating with GLV in Dyno Room	100.00%	100.00%	Yes	GLV Board and Mounting Plate Integrated
SCADA Communicating with TSI in Dyno Room	75.00%	75.00%	No	TSI Board and Mounting Plate Integrated
SCADA Communicating with Motor Controller in Dyno Room	100.00%	75.00%	No	
SCADA Communicating with TSV in Dyno Room	0.00%	0.00%	No	
SCADA Displaying Data to GLV Screen	0.00%	0.00%	No	
All Connecting Wires Produced with Correct Connector Types	100.00%	100.00%	Yes	
Dyno Room Testing Plan Complete	100.00%	100.00%	Yes	

Dyno Room Wiring Diagram Complete	100.00%	100.00%	Yes	
All Subsystems fully wired in Dyno Room	100.00%	100.00%	Yes	
All Tests According to Test Plan Run in Dyno Room	100.00%	0.00%	No	

**Project Item Completion Chart:**

Team	Tasks Completed	Tasks Planned for Next Week	Proposed Changes	Overdue WBS Items
VSCADA	<p><b>Sam:</b> SCADA.5.1 - VSCADA and MCS connected via CAN</p> <p>SCADA.5.2 - VSCADA receiving data from MCS Sensors</p> <p>SCADA.5.3 - VSCADA sends warning for error sensor data</p>	<p><b>Zian:</b> SCADA.2.1 - VSCADA and TSI Connected via CAN</p> <p>SCADA.2.2 - Receiving Data from TSI Sensors</p>	<p><b>Sam:</b> SCADA.5.4 was descoped last semester</p> <p>Add a task for SCADA post-processing</p>	<p><b>Sam:</b> SCADA.5.1 - VSCADA and MCS connected via CAN</p> <p>SCADA.5.2 - VSCADA receiving data from MCS Sensors</p> <p>SCADA.5.3 - VSCADA sends warning for error sensor data</p> <p><b>Zian:</b> SCADA.2.1 - VSCADA and TSI Connected via CAN</p> <p>SCADA.2.2 - Receiving Data from TSI Sensors</p>
TEST	none	<p><b>Katie:</b> M.2.3 - ATP Submitted for Review</p> <p>ATP_Draft_6 (Fall)</p> <p>ATP_Draft_1 (Spring)</p>	none	<p><b>Katie:</b> M.2.3 - ATP Submitted for Review</p> <p>ATP_Draft_6 (Fall)</p> <p>ATP_Draft_1 (Spring)</p>
GLV	none	<p><b>Max:</b> GLV.1.3 - PCB Purchase Order Approved and Submitted</p> <p>GLV.1.4 - PCB Parts List Purchase Order Approved and Submitted</p> <p>GLV.2.1 - Enclosure Designed,</p>	<p><b>Max:</b> Remove GLV.3.4</p>	<p><b>Max:</b> GLV.1.3 - PCB Purchase Order Submitted and Approved</p> <p>GLV.1.4 - PCB Parts List Purchase Order Submitted and Approved</p> <p>GLV.2.1 - Enclosure Designed, Approved,</p>

		Approved, and Submitted to machine shop		and Submitted to machine shop  GLV.2.2 - Enclosure Parts Acquired  GLV.2.3 - Enclosure Assembled
TSI	<p><b>Xiaonan:</b> TSI.1.3 - PCB Purchase Order Approved and Submitted</p> <p>TSI.1.4 - PCB Parts List Purchase Order Approved and Submitted</p> <p><b>Yuqiu:</b> TSI.1.3 - PCB Purchase Order Approved and Submitted</p> <p><b>Tianyu:</b> TSI.1.3 - PCB Purchase Order Approved and Submitted</p> <p>TSI.1.4 - PCB Parts List Purchase Order Approved and Submitted</p> <p><b>Antonio:</b> Made CAD model of sign box and connectors and finalized electrical and mechanical components.</p> <p><b>Weston:</b> Test-In-Progress Enclosure</p>	<p><b>Zian:</b> TSI.4.4 - Firmware I/O Functionality Delivered</p> <p><b>Xiaonan:</b> TSI PCB Construction</p> <p><b>Tianyu:</b> TSI.2.1 - Enclosure Designed, Approved, and Submitted to Machine Shop</p> <p>TSI.5.3 - IMD Purchased and Acquired</p> <p><b>Yuqiu:</b> TSI.4.1 - Firmware Block Diagram Delivered and Approved</p> <p>TSI.4.2</p> <p>TSI.4.3 - Fall Semester Bugs Fixed</p> <p>TSI.4.4 - Firmware I/O Functionality Delivered</p>	none	<p><b>Tianyu:</b> TSI.2.1 - Enclosure Designed, Approved, and Submitted to Machine Shop</p> <p>TSI.5.3 - IMD Purchased and Acquired</p>
TSV	<p><b>Sam:</b> TSV.3.4 - PackMan PCB Purchase Order Approved and Submitted</p>	<p><b>Alex:</b> SleepMan Block Diagram Submitted</p> <p>SleepMan Circuit</p>	none	<p><b>Weston:</b> TSV.4.6 - Cell Connecting Bar Designs</p>

	<p><b>Yishak:</b> TSV.1.2 - First CellMan PCB Layout Completed and Approved</p> <p>TSV.4.10 - High Voltage Path Bar Designs</p>	<p>Schematic Submitted</p> <p><b>Robson:</b> TSV.8.9 - Implement State of Charge Algorithm</p> <p>TSV.8.10 - Incorporate Cell Characterization with SOC Algorithm</p> <p><b>Sam:</b> TSV.3.5 - First PackMan PCB Parts List Purchase Order Submitted and Approved</p> <p><b>Weston:</b> TSV.4.6 - Cell Connecting Bars Design</p> <p>TSV.4.10 - High Voltage Path Bar Design</p> <p><b>Yishak:</b> TSV.6.2 - A high-level block diagram of the battery packs (with wiring)</p> <p>TSV.2.1 - First SegMan PCB Circuit Schematic</p>		
Cooling	<p><b>Weston:</b> COOL.4.2 - Budget Delivered to Robson</p> <p>COOL.4.3 - BOM Delivered to Robson</p>	<p><b>Weston:</b> COOL.1.1 - Cooling Enclosure</p>	none	none
Interconnect	<p><b>Drew:</b> PART.6.1 - Pulley/Shaft Connected to Dyno Belt</p> <p>INT.3.14 - GLV - Right Side Panel</p>	<p><b>Drew:</b> Cockpit Panel Designed and Manufactured</p>	none	<p><b>Drew:</b> INT.2.2 - Full wiring purchase order submitted</p> <p>Cockpit Panel Designed and</p>

	<p>Connected</p> <p>INT.3.15 - GLV - Left Side Panel Connected</p>			Manufactured
Mech	<p><b>Hayden:</b> PART.6.8 - SCADA and Motor Controller Connected and Communicating via CANBus</p> <p>Fixed Dyno Valve</p> <p>PART.6.2 - Pulley / Shaft Connected to the Dyno Belt</p>	<p><b>Hayden:</b> PART.6.9 - Motor Controller Configured</p> <p>Design safety enclosure for the motor in the DYNO</p>	<p><b>Hayden:</b> Dyno motor mount and shaft redesign</p>	none
Management	<p><b>Katie</b> Update WBS and Progress Tracker to accurately reflect the ECE tasks that have been/need to be completed</p> <p>Dyno ATP Outline Finalized</p>	<p><b>Alex:</b> M.2.3 - ATP Submitted for Review</p> <p><b>Katie:</b> M.1.4 - Electrical Systems Form</p> <p>M.2.3 - ATP Submitted for Review</p> <p><b>Robson:</b> Formally request funding from the engineering division</p>	none	<p><b>Alex:</b> M.2.3 - ATP Submitted for Review</p> <p><b>Katie:</b> M.1.4 - Electrical Systems Form</p> <p>M.2.3 - ATP Submitted for Review</p>



**Purchasing Summary from Previous Week:**

★ Chassis/Body includes what we have spent plus what we have committed to spending.

<b>Sub-system</b>	<b>Previously Allocated Budget</b>	<b>Total Spent</b>	<b>Budget Remaining</b>	<b>Percentage Spent</b>
Brakes	\$3,500.00	\$0.00	\$3,500.00	0.00%
Chassis/Body	\$5,000.00	\$11,000.00	-\$6,000.00	220.00%
Cooling	\$620.00	\$37.64	\$582.36	6.07%
Drivetrain	\$0.00	\$2,475.00	-\$2,475.00	
GLV	\$780.00	\$1,025.08	<b>-\$245.08</b>	<b>131.42%</b>
Interconnect	\$1,500.00	\$1,367.78	\$132.22	91.19%
Motor/MCS	\$4,000.00	\$6,781.02	<b>-\$2,781.02</b>	<b>169.53%</b>
Pedal/Controls	\$2,000.00	\$0.00	\$2,000.00	0.00%
Steering	\$2,500.00	\$1,840.34	\$659.66	73.61%
Suspension	\$2,200.00	\$0.00	\$2,200.00	0.00%
TSI	\$1,500.00	\$1,817.33	<b>-\$317.33</b>	<b>121.16%</b>
TSV	\$4,187.00	\$2,868.75	\$1,318.25	68.52%
VSCADA / DYNO	\$525.00	\$73.69	\$451.31	14.04%
Shipping/Tax	\$4,246.80	\$1,055.13	\$3,191.67	24.85%
Registration	\$2,300.00	\$2,300.00	\$0.00	100.00%
<b>Overall</b>	<b>\$34,858.80</b>	<b>\$32,641.76</b>	<b>\$2,217.04</b>	<b>93.64%</b>

**Purchases from Previous Weeks:**

2018-19 PURCHASE REQUEST FORM								
Class/Project Name:		ME 497/ FSAE						
Account #:								
Approved by:		Dr. Nesbit						
Vendor Order Information								
Date:	2/26/2019		Web/email address:		<a href="https://www.123bearing.com/bearing-514-685.php">https://www.123bearing.com/bearing-514-685.php</a>			
Vendor Name:	123 Bearing							
Address:	Rue Léo Ferré / 60 Rue Du Haut De Sainghin							
City:	Paris, France	State:		Zip Code:	59273			
Telephone:	(646) 712 9672		Fax:					
Line	Qty	Unit	Part #	Description	Web Link	Unit Price	Price	
1	8	Bearing	514-685	Tapered Roller bearing	<a href="https://www.123bearing.com/bearing-514-685.php">https://www.123bearing.com/bearing-514-685.php</a>	\$47.22	\$377.76	
<b>Total</b>								\$377.76
Comments:								

2018-19 PURCHASE REQUEST FORM								
Class/Project Name:		ME 497/ FSAE						
Account #:								
Approved by:		Dr. Nesbit						
Vendor Order Information								
Date:	2/26/2019		Web/email address:		<a href="https://www.pasteel.com/">https://www.pasteel.com/</a>			
Vendor Name:	PA Steel							
Address:	1717 Woodhaven Drive							
City:	Bensalem	State:	PA	Zip Code:	19020			
Telephone:	(215) 633-9600		Fax:					
Line	Qty	Unit	Part #	Description	Web Link	Unit Price	Price	
1	1	1.5" X 7" X 5 feet long	PLATE ok'd	Aluminum Flat (6061-T6)	<a href="https://www.pasteel.com/">https://www.pasteel.com/</a>	unknown		
2	1	5 in diameter x 2 feet long		Aluminum Round (6061-T6)	<a href="https://www.pasteel.com/">https://www.pasteel.com/</a>	unknown		
3	1	5/16" X 10" X 5 feet long		4140 cold rolled sheet steel, Decarb Free	<a href="https://www.pasteel.com/">https://www.pasteel.com/</a>	unknown		
<b>Total</b>								\$819.00
Comments:								

3/1/2019

ECE Department Material Request

<b>Course:</b> ECE 491	<b>Req Number:</b> 45
<b>Professor:</b> Nadovich	

<b>Requested By</b>	<b>Vendor:</b> ADVANCED CIRCUITS
<b>Name</b> Robson Adem	<b>Web Site:</b> <a href="http://www.my4pcb.com">www.my4pcb.com</a>
<b>Email</b> <a href="mailto:ademr@lafayette.edu">ademr@lafayette.edu</a>	<b>Phone:</b> (866) 433-5722
<b>Phone</b> 4845919265	<b>Ship By:</b> Ground

#	Quantity	Vendor Part	Description	Unit Price	Total Price	Rcvd
1	1	CellManV1	Cell Management Board Version 1 (10 boards within a 60sq in board+DUPLICATE DESIGN FEE OF 50)	\$83.00	\$83.00	
2	1	TSI test fixture V1	TSI test fixture V1	\$33.00	\$33.00	
3	1	TSIBoardV2	TSIBoardV2	\$33.00	\$33.00	
4	1	PacManV1	Battery Pack Management Board	\$33.00	\$33.00	

<b>Shipping Fees</b>	\$95.08
<b>Grand Total:</b>	\$277.08

Instructor Approval: \_\_\_\_\_

Department Approval: \_\_\_\_\_

(Over \$500)

<b>Class/Project Name:</b>	ME 497/ FSAE
<b>Account #:</b>	
<b>Approved by:</b>	Dr. Nesbit

<b>Vendor Order Information</b>	
<b>Date:</b>	2/26/2019
<b>Web/email address:</b>	<a href="https://www.mcmaster.com">https://www.mcmaster.com</a>
<b>Vendor Name:</b>	McMaster-Carr
<b>Address:</b>	
<b>City:</b>	
<b>State:</b>	
<b>Zip Code:</b>	
<b>Telephone:</b>	
<b>Fax:</b>	

Line	Qty	Unit	Part #	Description	Web Link	Unit Price	Price	
1	1	U-Joint	8285K13	U joint for steering wheel angle	<a href="#">McMaster Carr</a>	\$86.97	\$86.97	
2	1	Gear Box	6456K15	90 degree bevel gear	<a href="#">McMaster Carr</a>	\$257.33	\$257.33	
3	1	Gear	6325K73	3" gear	<a href="#">McMaster Carr</a>	\$51.00	\$51.00	
4	1	Rack	2932N2	toothed rack	<a href="#">McMaster Carr</a>	\$54.58	\$54.58	
5	2	bearing	60355K602	rotational shaft bearings	<a href="#">McMaster Carr</a>	\$8.63	\$17.26	
6	4	Ball Joint	60645K13	Right Hand Threaded ball joints	<a href="#">McMaster Carr</a>	\$3.37	\$13.48	
7	4	Ball Joint	60645K13	Left Hand Threaded ball joints	<a href="#">McMaster Carr</a>	\$3.37	\$13.48	
8	2	collar	6436K15	5/8 shaft collars (mechanical stops)	<a href="#">McMaster Carr</a>	\$5.67	\$11.34	
9	2	collar	6436K16	3/4 shaft collars (mechanical stops)	<a href="#">McMaster Carr</a>	\$6.00	\$12.00	
10	2	coupling	6412K42	5/8 shaft coupling	<a href="#">McMaster Carr</a>	\$19.32	\$38.64	
11	1	1 foot section	8920K271	steering wheel shaft (1 Foot Section)	<a href="#">McMaster Carr</a>	\$20.55	\$20.55	
12	1	3 foot section	8920K175	horizontal and vertical shaft material (3 foot section)	<a href="#">McMaster Carr</a>	\$14.22	\$14.22	
13	1	6 in section	8953K98	brass bushing materials (6 inch Section)	<a href="#">McMaster Carr</a>	\$24.35	\$24.35	
14	1	1/4x6x8 in	9143K724	mounting brackets materials (6in X 8in)	<a href="#">McMaster Carr</a>	\$22.40	\$22.40	
15	2	screw	91259A585	long shoulder screws	<a href="#">McMaster Carr</a>	\$1.58	\$3.16	
16	2	screw	91259A581	short shoulder screws	<a href="#">McMaster Carr</a>	\$1.41	\$2.82	
<b>Total</b>								\$643.58

**Comments:**

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