

Project Status Letter Week 11
 Covering Period from 11/4/2018 to 11/11/2018
 Prepared by Alex Kmetz and Katie Lee

DYNO Integration Action Tracking

Task / Item	In Progress Projected (%)	In Progress Actual (%)	Complete	Dependencies
Motor Spinning in Dyno Room	37.50%	37.50%	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	67%	67%	No	
Motor Controller Purchased	50%	50%	No	
Motor Controller Connected to TSI, Cooling, and Motor in Dyno Room	16.67%	16.67%	No	Motor Controller Purchased MCS / TSI / Cooling Fixture Fabricated TSI Board Complete TSI Mounting Plate Complete
Motor Mount Fabricated	33%	33%	No	
Motor Installed in Motor Mount in Dyno Room	50.00%	50.00%	No	Motor Purchased Motor Mount Fabricated
Pulley / Shaft Fabricated	0%	0%	No	
Pulley / Shaft Connected to Motor and Mounted in Dyno Room	27.27%	27.27%	No	Motor Purchased Pulley / Shaft Fabricated
MCS / TSI / Cooling Fixture Fabricated	33%	33%	No	
Pedal Cluster Fabricated	0%	0%	No	
Dyno Room Testing Plan Complete	100%	0%	No	
Dyno Room Wiring Diagram Complete	100%	100%	Yes	
GLV Board Manufactured	85.71%	85.71%	No	
GLV Mounting Plate Manufactured	66.67%	66.67%	No	
Safety Loop Testing Panel Mounted in Dyno Room Rack	85%	30%	No	
Safety Loop Functional In Dyno Room	0%	0%	No	GLV Board Manufactured
TSI Board Manufactured	26.67%	6.67%	No	
TSI Mounting Plate Manufactured	33.33%	33%	No	
TSI Throttle / Brake Control Panel Manufactured	50.00%	25.00%	No	TSI Board Manufactured TSI Mounting Plate Manufactured
Cooling Loop Filled with Water and Tested For Leaks	66.67%	66.67%	No	
Cooling System Mounted on Fixture in Dyno Room	50%	0%	No	MCS / TSI / Cooling Fixture Fabricated
Cooling System Connected to MCS and Motor in Dyno Room	63%	25%	No	MCS / TSI / Cooling Fixture Fabricated
Cooling System Connected to TSI in Dyno Room	0%	0%	No	MCS / TSI / Cooling Fixture Fabricated
TSV Packs Manufactured	30%	0%	No	

TSV Packs Connected to Motor Controller in Dyno Room	30%	0%	No	
TSV CellMan Boards Fabricated	33%	22%	No	
TSV PackMan Boards Fabricated	25%	0%	No	
TSV SegMan Boards Fabricated	29%	0%	No	
				TSV Packs Manufactured PackMan Boards Fabricated CellMen Boards Fabricated SegMen Boards Fabricated Motor Controller Purchased Motor Purchased
TSV Powering Motor via Motor Controller	0%	0%	No	
SCADA Recording Data and Writing to a File	50.00%	38%	No	
SCADA Displaying Data to Rack Monitor in Dyno Room	75%	75%	No	
SCADA Communicating with GLV in Dyno Room	0%	0%	No	GLV Board and Mounting Plate Integrated
SCADA Communicating with TSI in Dyno Room	50%	25%	No	TSI Board and Mounting Plate Integrated
				TSV Packs Manufactured PackMan Boards Fabricated CellMen Boards Fabricated SegMen Boards Fabricated
SCADA Communicating with TSV in Dyno Room	0%	0%	No	
SCADA Communicating with Motor Controller in Dyno Room	50%	25%	No	
All Connecting Wires Produced with Correct Connector Types	17%	8%	No	
All Subsystems fully wired in Dyno Room	0%	0%	No	Dyno Room Wiring Diagram Complete
All Tests According to Test Plan Run in Dyno Room	0%	0%	No	Dyno Room Testing Plan Complete

For more data, visit website using link below:

https://sites.lafayette.edu/motorsports/files/2018/11/Week_11_DYNO_Progress.pdf

Project Item Completion Chart:

Team	Tasks Completed	Tasks Planned for Next Week	Proposed Changes	Overdue WBS Items
VSCADA	<p>Sam: SCADA.8.3 - Demo of Data Read from Sensors</p>	<p>Sam: SCADA.3.1 - VSCADA and GLV Connected via CAN and GPIO</p> <p>SCADA.3.2 - VSCADA Receiving Data from GLV Sensors</p> <p>Zian: SCADA.8.7 - SCADA Testing Plan Delivered</p> <p>SCADA.7.1 - RTC Purchased and Acquired</p> <p>SCADA.7.2 - RTC Integrated with SCADA</p> <p>Yuqiu: SCADA.2.1 - VSCADA Communicating with TSI over CAN</p>	none	<p>Zian: SCADA.7.1 - RTC Purchased and Acquired</p> <p>SCADA.7.2 - RTC Integrated with SCADA</p> <p>SCADA.8.7 - SCADA Testing Plan Delivered</p> <p>Sam: SCADA.3.1 - VSCADA and GLV Connected via CAN and GPIO</p> <p>SCADA.3.2 - VSCADA Receiving Data from GLV Sensors</p>
TEST	none	<p>Hayden: TEST.1.1 - Motor Testing Plan</p> <p>TEST.2.1 - GLV Testing Plan</p> <p>TEST.3.1 - TSI Testing Plan</p> <p>TEST.4.1 - TSV Testing Plan</p> <p>TEST.5.1 - SCADA Testing Plan</p>	none	<p>Hayden: TEST.1.1 - Motor Testing Plan</p> <p>TEST.2.1 - GLV Testing Plan</p> <p>TEST.3.1 - TSI Testing Plan</p> <p>TEST.4.1 - TSV Testing Plan</p> <p>TEST.5.1 - SCADA Testing Plan</p>

		<p>TEST.6.1 - DYNO Integration Testing Plan</p> <p>Alex: TEST.6.1 - DYNO Integration Testing Plan</p> <p>Katie: TEST.6.1 - DYNO Integration Testing Plan</p>		<p>TEST.6.1 - DYNO Integration Testing Plan</p> <p>Alex: TEST.6.1 - DYNO Integration Testing Plan</p> <p>Katie: TEST.6.1 - DYNO Integration Testing Plan</p>
GLV	<p>Max: GLV.1.4 - GLV BoB Acquired</p> <p>GLV.5.4 - Pi2CAN GPIO Board Acquired</p> <p>Robson: GLV.2.3 - Left Side Panel Mechanical Drawing Submitted to Machine Shop</p> <p>GLV.2.7 - Right Side Panel Mechanical Drawing Submitted to Machine Shop</p> <p>GLV.6.3 - Dashboard Panel Drawing Submitted to Machine Shop</p>	<p>Max: GLV.3.2 - Dyno Power Supply Safety Loop On/Off Mechanism Delivered</p> <p>Robson: GLV.2.4 - Left Side Panel Fabricated and Wired with Needed Buttons / Switches</p> <p>GLV.2.8 - Right Side Panel Fabricated and Wired with Needed Buttons / Switches</p> <p>GLV.6.4 - Dashboard Panel Fabricated and Wired with Needed Buttons / Switches</p> <p>GLV.2.9 - Left Side Panel Installed in Dyno Room</p> <p>GLV.2.10 - Right Side Panel Installed in Dyno Room</p> <p>GLV.6.5 - Dashboard Panel Installed in Dyno</p>	none	<p>Robson: GLV.3.1 - Dyno Safety Loop Block Diagram Complete and Submitted</p> <p>GLV.3.2 - Dyno Power Supply Safety Loop On/Off Mechanism Delivered</p> <p>GLV.3.3 - Left Side Panel Connected to GLV In Dyno Room</p> <p>GLV.3.4 - Right Side Panel Connected to GLV In Dyno Room</p> <p>GLV.3.5 - Dyno Power Supply Connected to GLV Safety Loop</p> <p>GLV.2.4 - Left Side Panel Fabricated and Wired with Needed Buttons / Switches</p> <p>GLV.2.8 - Right Side Panel Fabricated and Wired with Needed Buttons / Switches</p>

		Room		<p>GLV.6.4 - Dashboard Panel Fabricated and Wired with Needed Buttons / Switches</p> <p>GLV.2.9 - Left Side Panel Installed in Dyno Room</p> <p>GLV.2.10 - Right Side Panel Installed in Dyno Room</p> <p>GLV.6.5 - Dashboard Panel Installed in Dyno Room</p>
TSI	<p>Xiaonan TSI.1.2 - TSI Circuit Schematic Delivered and Approved</p> <p>Tianyu: TSI.1.2 - Circuit Schematic Delivered and Approved</p> <p>TSI.1.11 - TSI Mounting Plate Mechanical Drawing Submitted</p>	<p>Tianyu: TSI.1.4 - TSI PCB BoM Purchase Order Approved and Purchased</p> <p>TSI.1.8 - Precharge Circuitry Incorporated</p> <p>Antonio: TSI.5.8 - TSI ICD Delivered</p> <p>TSI.5.9 - TSI Wiring Diagram Delivered</p> <p>Hongbo: TSI.2.4 - UART for firmware completed</p> <p>TSI.2.6 - TSI Firmware state machine completed</p> <p>Yuqiu: TSI.2.5 - Firmware Logic / State Machine Delivered</p>	none	<p>Tianyu: TSI.1.3 - TSI PCB Layout Complete and Approved</p> <p>TSI.1.4 - TSI PCB BoM Purchase Order Approved and Purchased</p> <p>TSI.1.8 - Precharge Circuitry Incorporated</p> <p>TSI.6.1 - Mechanical Drawing of TSi Enclosure Delivered and Approved</p> <p>Antonio: TSI.5.8 - TSI ICD Delivered</p> <p>TSI.5.9 - TSI Wiring Diagram Delivered</p> <p>Katie: TSI.1.3 -</p>

		<p>and Approved</p> <p>TSI.2.9 - VSCADA I2C Communication Complete</p> <p>TSI.2.11 - CANBus / TSI Integration Complete</p> <p>Xiaonan: TSI.1.3 - TSI Circuit Layout Delivered and Approved</p> <p>Katie: TSI.1.3 - TSI PCB Layout Delivered and Approved</p> <p>Yishak: TSI.3.1 - Verify and correct 2018 BLock and Wiring Diagram</p>		<p>TSI PCB Layout Delivered and Approved</p> <p>Yuqiu: TSI.2.5 - Firmware Logic / State Machine Delivered and Approved</p> <p>TSI.2.9 - VSCADA I2C Communication Complete</p>
TSV	<p>Yishak: TSV.2.2 - CellMan Circuit Diagram Delivered and Approved</p>	<p>Hayden: TSV.1.2 - Pack Mechanical Drawing Submitted and Accepted</p> <p>TSV.3.1 - PackMan Block Diagram Delivered and Approved</p> <p>Yishak: TSV.1.1 - Pack High Level Electrical Block Diagram Delivered and Accepted</p> <p>TSV.1.3 - Pack BoM Purchase Order Approved and Purchased</p>	none	<p>Alex: TSV.3.1 - PackMan Block Diagram Delivered</p> <p>Hayden: TSV.4.1 - PackMan Block Diagram Delivered and Approved</p> <p>TSV.4.2 - PackMan Circuit Schematic Submitted and Accepted</p> <p>Yishak: TSV.1.1 - Pack High Level Electrical Block Diagram Delivered and Accepted</p>

		<p>TSV.2.1 - CellMan Block Diagram Delivered and Approved</p> <p>TSV.4.1 - SegMan Block Diagram Delivered and Approved</p> <p>Weston: TSV.1.2 - Pack BoM Purchase Order Approved and Purchased</p> <p>TSV.1.6 - Pack Testing Plan Submitted and Approved</p> <p>Alex: TSV.3.1 - PackMan Block Diagram Delivered</p>		<p>TSV.1.3 - Pack BoM Purchase Order Approved and Purchased</p> <p>TSV.2.1 - CellMan Block Diagram Delivered and Approved</p> <p>TSV.2.4 - CellMen BoM Purchase Order Approved and Purchased</p> <p>TSV.4.1 - SegMan Block Diagram Delivered and Approved</p>
Cooling	none	<p>Hongbo: COOL.1.4 - Controller Algorithm Delivered and Approved</p> <p>COOL.4.2 - Cooling Wiring Diagram Delivered</p>	none	none
Interconnect	<p>Drew: WIRE.2.1 - Full wiring BoM Submitted and Approved</p> <p>WIRE.2.2 - Full Wiring BoM Purchase Order Submitted and Approved</p>	<p>Drew: WIRE.2.1 - Full Wiring BoM Submitted and Approved</p> <p>WIRE.2.3 - TSI-MCS Wires Complete</p> <p>WIRE.2.4 - TSI-Cooling Wires Complete</p>	none	<p>Drew: WIRE.2.3 - TSI-MCS Wires Complete</p> <p>WIRE.2.4 - TSI-Cooling Wires Complete</p>
Mech	Adam: Ordered tools for making	Adam: PART.2.2 -	none	none

	<p>shaft</p> <p>Nick: PART.1.1 - Motor Mount Mechanical Drawing Submitted to Machine Shop</p> <p>PART.3.1 - MCS/TSI/Cooling Fixture Mechanical Drawing Submitted to Machine Shop</p>	<p>Shaft Mechanical Drawing Submitted to Machine Shop</p> <p>PART.2.4 - Shaft Fabricated / Purchased</p> <p>Nick: PART.1.1 - Motor Mount Fabricated</p> <p>PART.1.3 - Motor Mount Secured in Dyno Room</p> <p>PART.3.2 - Fixture Fabricated</p> <p>PART.3.3 - Fixture Mounted in the Dyno Room</p> <p>PART.3.4 - Motor Controller Installed in Mounting Fixture</p> <p>PART.4.5 - MCS Installed in DYNO on Mount</p> <p>PART.5.3 - Motor Installed in Motor Mount</p> <p>Hayden: PART.4.2 - Motor Controller Acquired</p>		
Management	<p>Katie: M.1.3 - Electrical Systems Form (ESF-1) Delivered</p>	none	none	none

Purchasing Summary from Previous Week:

Sub-system	Allocated Budget	Total Spent	Budget Remaining	Percentage Spent
Brakes	3,500.00	0.00	3,500.00	0.00%
Chassis/Body	5,000.00	0.00	5,000.00	0.00%
Cooling	620.00	0.00	620.00	0.00%
GLV	780.00	918.89	-138.89	117.81%
Interconnect	1,500.00	756.00	744.00	50.40%
Motor	4,000.00	3,678.65	321.35	91.97%
Pedal/Controls	2,000.00	0.00	2,000.00	0.00%
Steering	2,500.00	0.00	2,500.00	0.00%
Suspension	2,200.00	0.00	2,200.00	0.00%
TSI/MCS	1,500.00	3,359.58	-1,859.58	223.97%
TSV	4,187.00	1,109.88	3,077.12	26.51%
VSCADA / DYNO	525.00	0.00	525.00	0.00%
Shipping/Tax	4,246.80	322.25	3,924.55	7.59%
Registration	2,300.00	2,300.00	0.00	100.00%
Overall	34,858.80	12,445.25	22,413.55	35.70%



Purchase Orders:

DATE:11/06/2018		ECE Department Material Request		Req Number	19	
Course: ECE 491 Professor: Nadovich				Vendor:	Dig-Key	
Requested By				Web Site:	digkey.com	
Name: Robson Adem				Phone:	1 (800) 858-3616	
Email: ademr@lafayette.edu				Ship By:	Ground	
Phone: 4845919265						
All items added to shopping cart : https://www.digikey.com/short/j0w49p						
#	Quantity	Vendor Part	Description	Unit Price	Total Price	Revd
TSI						
1	4	MCP23016T-I/SOCT-ND	MCP23016	1.63	\$6.52	
2	2	PCB3001-1-ND	SOIC-28 Breakout board	3.19	\$6.38	
3	4	296-48522-1-ND	DAC5574 8bits D/C	3.72	\$14.88	
4	4	PA0034-ND	TSSOP-16 Board	4.19	\$16.76	
VSCADA						
5	1	1528-1871-ND	RASPBERRY PI PCF8523 RTC	5.95	\$5.95	
6	5	P033-ND	BATTERY LITHIUM 3V COIN 12.5MM	0.91	\$4.55	
IC						
7	10	889-1063-ND	6 Position Circular Connector Plug Housing Free Hanging (In-Line) Coupling Nut	10.4	\$104.00	
8	10	889-1062-ND	6 Position Circular Connector Receptacle Housing Panel Mount	10.357	\$103.57	
9	10	1734-1103-ND	strain relief end cap	5.16	\$51.60	
10	1	1734-1827-ND	removal tool	1.19	\$1.19	
11	10	1734-1375-ND	2pin box mount	3.17	\$31.70	
12	10	1734-1420-ND	2 pin plug	1.038	\$10.38	
13	3	1734-1356-ND	8 pin box mount	7.01	\$21.03	
GLV BOB						
14	10	WM16837-ND	Connector Header Through Hole 4 position 0.224" (5.70mm)	\$3.81	\$38.09	
15	10	WM16836-ND	Connector Header Through Hole 2 position	\$3.29	\$32.89	
16	5	WM16838-ND	Connector Header Through Hole 6 position 0.224" (5.70mm)	\$4.28	\$21.40	
17	10	WM10386-ND	4 Position Rectangular Housing Connector Receptacle Black 0.224" (5.70mm)	\$0.63	\$6.30	
18	10	WM10385-ND	2 Position Rectangular Housing Connector Receptacle Black	\$0.50	\$4.95	
19	5	WM10387-ND	6 Position Rectangular Housing Connector Receptacle Black 0.224" (5.70mm)	\$0.96	\$4.80	
20	100	WM11981CT-ND	Socket Contact Tin 14-16 AWG Crimp	0.1647	\$16.47	
				Shipping Fees		
				Grand Total:	\$503.41	
		Instructor Approval: _____				
		Department Approval: _____				
		(Over \$500)				

DATE:11/09/2018		ECE Department Material Request		Req Number	20	
Course: ECE 491 Professor: Nadovich				Vendor:	Dig-Key	
Requested By				Web Site:	digkey.com	
Name: Tianyu Zhu				Phone:	1 (800) 858-3616	
Email: zhuti@lafayette.edu				Ship By:	Ground	
Phone: 484-542-8385						
All items added to shopping cart : https://www.digikey.com/short/j01dcp						
#	Quantity	Vendor Part	Description	Unit Price	Total Price	Revd
TSI						
1	1	255-5322-5-ND	RELAY GENERAL PURPOSE SPST 5A 3V	5.71	\$5.71	
2	5	MC7805CTG08-ND	IC REG LINEAR 5V 1A TO220AB	0.64	\$3.20	
3	1	1470-1595-5-ND	DC DC CONVERTER 24V 2W	10.25	\$10.25	
4	1	KAL25P05080-ND	RES CHAS MNT 50 OHM 1% 25W	3.08	\$3.08	
5	1	696-1455-ND	RES CHAS MNT 75 OHM 1% 25W	3.40	\$3.40	
				Shipping Fees		
				Grand Total:	\$25.73	
		Instructor Approval: _____				
		Department Approval: _____				
		(Over \$500)				

DATE:11/09/2018		ECE Department Material Request				
Course: ECE 491					Req Number	21
Professor: Nadovich						
Requested By	Name	Tianyu Zhu			Vendor:	GIGAVAC
	Email	zhuti@lafayette.edu			Web Site	http://www.gigavac.com
	Phone	484-542-8385			Phone	805-472-3704
					Ship By:	Ground
#	Quantity	Vendor Part	Description	Unit Price	Total Price	Revd
1	5	GX14CB	350+ Amp 12-800 Vdc Normally open relay	104	\$520.00	
2	1	GXNC14CB	350+ Amp 12-800 Vdc Normally closed relay	156	\$156.00	
				Shipping Fees		
				Grand Total:	\$676.00	
Instructor Approval:						
Department Approval:						
(Over \$500)						