Phoenix College NASA Ascend Training
Software Development Workshop Itinerary

August 7-11, 2017,
5:30 - 8:30pm
Dalby Bldg #22

15 min blocks	hrs					
		Mon	Tues	Wed	Thur	Fri
05:30:00 PM	0	Start downloads/installations/ Electricity theory	Elemental gate theory & truth tables	C++ workflow / start downloads and installation	ADC's and voltage conversion voltage	Making clean code
05:45:00 PM	0.25	Electricity theory	Elemental gate practical with arduino	Hello world	ADC's and voltage conversion photocell	Making clean code
06:00:00 PM	0.5	intro to multimeters	Elemental gate practical with arduino	Revisit data types in a file	PWM control RGB LED	Printing and text formatting
06:15:00 PM	0.75	Ohms law theory	Binary representation and counting theory	Revisit data types in a file	PWM control Buzzer	Printing and text formatting
06:30:00 PM	1	intro to breadboards, good design choices	Binary representation and counting theory	Flow control : conditions and loops	Digital Sensors DHT11 humidity/temp	Making good comments & var names
06:45:00 PM	1.25	ohms law practical w/ Meter & arduino	Hex representation and conversion theory	15 min break	Digital Sensors DS18B20 temp	Revisit common errors compilation
07:00:00 PM	1.5	15 min break	15 min break	Functions	15 min break	15 min break
07:15:00 PM	1.75	Power theory	Arduino decimal, binary, & hex counter	Functions	UART sensors GPS & GPS references	Revisit common errors wiring
07:30:00 PM	2	Regulation	Arduino decimal, binary, & hex counter	Arrays	I2C devices, I2C LCD control / I2C ADC	Combining sensors considerations
07:45:00 PM	2.25	Battery type comparisons	Arduino microcontroller intro & anatomy	Parsing text	Breif logic level conversion	Combining sensors considerations
08:00:00 PM	2.5	ESD safety	Arduino microcontroller intro & anatomy	Parsing text	Oscilliscope & logic analyzer use	Payload design considerations
08:15:00 PM	2.75	TTL logic levels, & level visualizer	How other MCU's and SBC's differ	Common error codes / debugging practices	Oscilliscope & logic analyzer use	Project Planning Considerations

Instructor: Paul Ronquillo
Support: Adam Jimenez (Ascend Program Team Lead)
Support: Rosa Mendoza (Ascend Program Software Lead)
Faculty Mentor: Ernest Villicana