# Helpful Links

## Our Materials

* [Lucidchart block diagram](https://lucid.app/lucidchart/6baf6480-b469-449b-a2b5-f73d9af156ad/edit?viewport_loc=-216%2C161%2C2113%2C946%2C0_0&invitationId=inv_3c699380-1ade-418d-8d5f-f82e80be7959)

## Helpful Diagram of Motor Controller and TIDAs

* [DC-Input BLDC Motor](https://www.ti.com/solution/dc-input-bldc-motor-drive?keyMatch=MOTOR%20CONTROLLER)
* [TIDA-01516 -- Single Microcontroller 18-V/600-W BLDC Motor Control Reference Design With Bluetooth® Low Energy 5.0](https://www.ti.com/tool/TIDA-01516)
  + Microcontroller interconnect
  + Diagrams and schematics
* [TIDA-00643—4.4 V to 30 V, 15 A, High Performance Brushless DC Drone Propeller Controller Reference Design](https://www.ti.com/tool/TIDA-00643)
  + Drone ESC Design

## Helpful Youtube Links

* [ESC Youtube Videos](https://www.youtube.com/playlist?list=PLsR1AO4QH1AxYrKPmh2e3LDeTyNWdyEXb)

## UTDesign Student Resources

* [UTDesign Student Resources](https://utdesign.utdallas.edu/resources/)
* [UTDesign Forms (Reimbursement, expenses, payments)](https://utdesign.utdallas.edu/resources/forms-templates/)

## Links from TI

* [TI All Motor Drivers](https://www.ti.com/motor-drivers/overview.html)
* [TI BLDC Motor Drivers Page](https://www.ti.com/motor-drivers/brushless-dc-bldc-drivers/overview.html)
* [TI Precision Labs Videos](https://training.ti.com/ti-precision-labs-motor-drivers-introduction?context=1139747-1138777-1139739-1138778)
* [LP-AM263 Page](https://www.ti.com/tool/LP-AM263#design-files)
* [LP-AM243 Page](https://www.ti.com/tool/LP-AM243)
* [AM263 MCU+ Academy](https://dev.ti.com/tirex/explore/node?node=A__ADxJvKS8txu3Or8Qrf1ZiQ__com.ti.MCU_PLUS_ACADEMY_AM263X__rGFXMCu__LATEST)
* [AM263x MCU+ SDK](https://software-dl.ti.com/mcu-plus-sdk/esd/AM263X/latest/exports/docs/api_guide_am263x/index.html)
* [ARM Based Microcontrollers page](https://www.ti.com/microcontrollers-mcus-processors/microcontrollers/arm-based-microcontrollers/overview.html)
* [DRV8316REVM](https://www.ti.com/product/DRV8316REVM/part-details/DRV8316REVM?utm_source=google&utm_medium=cpc&utm_campaign=ocb-tistore-promo-asc_opn_en-cpc-storeevm-google-wwe&utm_content=Device&ds_k=DRV8316REVM&DCM=yes&gclid=Cj0KCQjwkOqZBhDNARIsAACsbfITf1SHQHdzAGXZZFFfWAMdg1_yHFyymLzBJiJkIzBH3b7EiV8wIuIaAoaZEALw_wcB&gclsrc=aw.ds)

## Brushless Motors

* [BLDC and ESC Design Video](https://www.youtube.com/watch?v=yiD5nCfmbV0) 
  + Kinda long but is a pretty good video
* [How BLDC Motors and ESCs Work](https://howtomechatronics.com/how-it-works/how-brushless-motor-and-esc-work/#:~:text=An%20ESC%20or%20an%20Electronic,of%20the%20motor%20will%20be.)

## Altium

* [1.5 Hour Altium Tutorial (YouTube)](https://www.youtube.com/watch?v=PqFtSpAXB9Q)

## Links from Randy

* [ODrivePro Robot Motor Driver](https://odriverobotics.com/)
* [NearZero2 Fine BLDC Controller](https://skysedge.com/robotics/nz2/index.html)
* [Robotic Actuator Video](https://www.youtube.com/watch?v=1OsV87dCegs)
* [600 Watt, 3d-printed, Halbach Array, Brushless DC Electric Motor : 10 Steps (with Pictures) - Instructables](https://www.instructables.com/600-Watt-3d-printed-Halbach-Array-Brushless-DC-Ele/)

## Encoders and Sensors

* [What is Motor Commutation](https://www.automate.org/tech-papers/what-is-commutation)
* [Motor Encoders](https://www.dynapar.com/technology/encoder_basics/motor_encoders/)
* [Motor Resolvers](https://en.wikipedia.org/wiki/Resolver_(electrical))
* [EnDat2.2 Position Encoder Protocol](https://www.ti.com/lit/ug/tidu368/tidu368.pdf?ts=1664765737046)
* [CUI Devices AMT Encoders](https://www.mouser.com/new/cui-devices/cui-amt-encoders/)

## KiCad(Version 6)

* [Kicad Documentation](https://docs.kicad.org/6.0/en/getting_started_in_kicad/getting_started_in_kicad.html)
* [Kicad Tutorial](https://www.youtube.com/watch?v=aVUqaB0IMh4)
* [Best Practices for Board Layout of Motor Drivers](https://www.ti.com/lit/an/slva959a/slva959a.pdf)