ITDE Design Your Own Degree (DYOD) degree planner and Personal Statement

**Students pursuing a pre-defined tracks do NOT need to complete this planner.*

Please be very thorough in your responses for #1, 4, 5. The Review Committee expect well thought out responses that align with your choosen curriculum. Do not feel you need to restrict yourself in the length of your narrative.

Last Name	First Name	UIN
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The Personal Statement and Degree Plan (DP) needs to be completed and submitted by Midterm week in your first full term in ITDE. A Registration Hold will be put on your if degree plan is not submitted by this time.

1) Why do you want to major Interdisciplinary Engineering?

Many courses that would be helpful in pursuit of a graduate degree in Robotics and Controls Engineering have been scattererd across the undergraduate diciplines: complex analysis, DSA, Modelling of mechancial systems, and digital signals. The goal in creating and executing a degree in Interdiciplinary engineering is to leverage the many relevant courses across multiple departments into a single consolidated program.

2) What are the multiple disciplines you intend to study for your Interdisciplinary Engineering degree?

they have all had to learn outside of their origional degree program: controls theory (Meen), robotoic software development with ROS and understanding Data Structures and Algorithms (DSA) for optimization (CSEN), fundamental digital systems design and I/O functionality (ECEN) on mainstream microcontrollers (Pis, arduino, pikhawk, etc), and complex analysis and a working understanding of linear algebra for computational needs (MATH).

3) What is the common thread through the courses you've chosen from different disciplines to make this a specialized study of engineering?

science, the applications from electrical and the abstract theory from math - all are essential to robotic development and I've heard time and time again in industry, research, and private R&D that most people end up getting a degree in one then having to go back and learn the others. The advantage that this degree program provides is the opportunity to cherrypick the exact relevant coursework to a controls application.

4) What are your plans immediately upon graduation with your BS in Interdisciplinary Engineering?

A) entering a gradaute program for higher level controls research to further my knowledge and network in the robotics sector; potentially taking a fellowship at Nasa, SWRI, LANL, or ORNL. The goal after finishing a higher degree would to be working in Research and Development either in the military or privately. Nasa is notorious for their robotics R&D and I believe requires no introduction. The Southwest Research Institute in San Antonio has been making large strides in their UAS and Autonomous systems research, as well as their dynamics in zero gravity environments. Los Alamos is admittedly the least applicable of the four but through ancillary projects will always have a home in the mountains for a controls engineer. Oak Ridge has been working heavily in the manufacturing automation space and was recently recruiting experts in UAS and UAV development for some upstarting projects - and I believe they will continue to in the future.

B) Joining the workforce as an Automation, Controls, or Robotics Engineer, likely in the industrial sector working on manufacturing robotics or the R&D sector of a major manufacturing company

C) joining the workforce in the military sector applying controls theory in the military or a defense contractor like Lockheed, Northup Gruman, Boeing, or Raytheon. In my work on a club project, I have already met with Lockheed Skunkworks engineers for autonomous UAV design.

5) What are your long term career goals?

industry that changes lives; Factory automation and power amp alleviates the labor for employees; military applications save soldiers; textbook controls applications are used everywhere from thermostats to autonomous vehicles. I want to make an impact with my work, and know that the things I create are going on to do more good long after I've left.