

ET 350 and 350L

Motors and Generators

The object of this course is to introduce electric motor and generator theory. But the experiments used in this course concentrate on control of motors in both DC and AC. The reason is that DC and AC motors have not changed in many generations, but electronic controls for motors change constantly. These motor controls are expensive, so in this course, the student assembles motor control circuits with discrete components. Then these circuits are applied to DC and AC motors and observations are made using the oscilloscope, voltmeter, ammeter, power supply and other test equipment.

In addition to motors; transformers, relays and relay logic are introduced. Also, the course has been expanded to include programmable logic controllers (PLC's.)

Safety is of great importance in this course and is stressed constantly. In fact, several experiments involve the use of 120 VAC and can be dangerous if safety procedures are not followed. But above all, this course is practical, technical and fun at the same time. The following page contains more information on grading policy, readings from the textbook, homework assignments and a list of experiments.