

**Structure and Materials 3**  
**Cornerstone Electronics Technology and Robotics III**  
**Structures and Materials Lab 5 – Build a ROV PVC Frame**

- **Purpose:** The student designs and constructs a prototype ROV PVC frame to gain experience working with simple underwater vehicle structures.
  
- **Apparatus and Materials:**
  - 1 – PVC Cutter or Hacksaw
  - 1 – Measuring Tape
  - 8 – ½” PVC Corners See:  
<http://flexpvc.com/cart/agora.cgi?product=PVC-3-ways-side-outlet-90>
  - Miscellaneous ½” PVC T’s, L’s, and couplings
  - 2 – 10’ Pieces of ½” Schedule 40 PVC
  
- **Procedure:**
  - Construct a PVC frame of your design that must hold:
    - 2 Thrusters for horizontal movement
    - 1 Thruster for vertical movement
    - Ballast tanks
    - Adjustable ballast weights
    - Control canister
    - Mission tool(s)
  - Do not glue the PVC together. You may have to make revisions to your frame.