

Topic: List of Systems

Problem: Choose one of the following systems to use for the practice exercises in this course. Be aware that you may need to conduct your own research about your chosen system to work your way through these exercises. The complexity/difficulty of these systems is indicated by the number of asterisks. If you'd like a challenge, choose a system with 3 asterisks.

List of Systems:

- Recreational Airplane (e.g. Piper cub)*
- Multi-passenger private aircraft (e.g. Cessna Eagle)**
- Multi-passenger jetliner (e.g. Boeing 737)***
- Jet fighter***
- Surveillance helicopter**
- Package delivery drone (delivers light/small packages from a central distribution center to homes/residences a short distance away)
- Lost hiker location drone (helps rescuers locate lost hikers in mountains)
- Tree seed dropping drone (drops seeds in de-forested areas)
- Medical supply delivery drone (drops med supplies to accident scene or care center)
- Police Drone (helps identify threatening areas and clear buildings)
- Water treatment facility*
- Coal mining facility*
- Steel refinery facility*
- Offshore oil rig facility*
- Nuclear Powerplant***
- Coal Powerplant**
- Electric Grid Infrastructure**
- Regional Airport*
- National Airport**
- International Airport***
- Baggage handling system (single airport)*
- Outpatient Clinic facility
- Hospital facility (includes research lab(s))**
- Automated parking system (ticket & payment kiosks, arm guards, etc.)
- Automated vehicle gas pump (robot refuels a car without driver having to exit)
- Hybrid 4 passenger car (e.g. Prius)***
- Standard gas-powered passenger car**
- All-electric car (e.g. Tesla)***
- Front end loader or backhoe
- 18-Wheeler Semi**
- Deployable crane*
- Fire truck**
- Ambulance (COTS vehicle with emergency kit modification)*
- Police cruiser (COTS vehicle with police kit modification)*
- Armored Personnel Carrier*

- Main Battle Tank**
- Heavy Expanded Mobility Tactical Truck (HEMTT)*
- High Mobility Multipurpose Wheeled Vehicle (HMMWV; colloquial: Humvee)*
- Explosive Ordnance Handling Robot*
- Surveillance drone (short-term)**
- Jet Fighter Radar (do not attempt unless you are familiar with Radar technology)***
- Aircraft Flight Simulator Trainer*
- Deployable pandemic response unit (quick-deployable isolation units with all necessary equipment to treat infected patients)
- Remote patient monitoring (monitor & report patient vitals from patient's home)
- Stair Climbing Wheelchair*
- Recycling center (Glass, plastic, aluminum, steel, paper & HAZMAT)*
- 3rd world deployable self-sustaining water purification system (provides clean water indefinitely for small uneducated powerless village without producing litter / hazardous waste)**
- Ocean trash collection vehicle (does not harm wildlife while performing missions, includes water and land-based assets needed to remove/dispose ocean trash)*
- Beach trash collection vehicle (does not harm wildlife while performing missions, includes all assets needed to remove/dispose beach trash)*
- Automated DVD dispenser (e.g. Redbox)
- Automated ticket dispenser (like an ATM but dispenses tickets)
- Bipedal exoskeleton (for immobilized/paralyzed person)*
- Smart home system (monitor & control major appliances, security & entertainment)
- Something of your own choosing that is complex enough to warrant the use of SE.