A Comparison of the SeaMATE ROV kits

The MATE Center develops and sells ROV kits that provide an excellent way to integrate science, technology, engineering and math (STEM) into the classroom or after school activity. The kits match up with the **SeaMATE** Underwater Robotics learning objectives, these objectives align with the Next Generation of Science Standards (**NGSS)** for Engineering Design from elementary through high school.

All of our kits are assembled and packaged by students who work for **SeaMATE**. **SeaMATE** is a social enterprise that provides community college students with workplace experience while creating products and services that promote engineering and technology education.

Kit Attributes	AngelFish ROV Kit	PufferFish ROV Kit	TriggerFish ROV Kit	TriggerFish ROV Kit with Arduino Kit
➢ **Price**	$185	$195	$635	$635 + $60
➢ **Skill Level - See Learning Objectives** ❖	Level 1	Level 2	Level 3	Level 4
➢ **Soldering wires**	YES	YES	YES	YES
➢ **Soldering components to circuit board**	NO	YES	YES	YES
➢ **Drilling required**	NO	NO	YES	YES
➢ **Camera/power filter included**	NO	YES	YES	YES
➢ **Power attachment for camera**	NO	YES	YES	YES
➢ **Programming required**	NO	NO	NO	YES
➢ **Camera included**	NO	NO	NO	NO
➢ **Meter Included**	NO	YES (amp/volt)	YES amp/volt/watt)	YES (amp/volt/watt)
➢ **Motor Simulation board**	NO	NO	YES	YES
➢ **Number of motors**	3	3	4	4
➢ **Tether Length**	25’	25’	40’	40’
➢ **Type of control**	Toggle switch	Rocker switch	Joystick – analog	Joystick - digital
➢ **Hours to assemble**	6-12	8-16	30-40	40+

- **SeaMATE Underwater Robotics Learning Objectives:**
  http://www.marinetech.org/files/marine/files/Curriculum/PufferFish/MATE%20UWRobotics%20Learning%20Objectives.pdf
- Level 1 and 2 correspond to the Yellow or SCOUT level objectives, with level 2 having a greater emphasis on basic electronics.
- Level 3 corresponds to the Green or NAVIGATOR level objectives.
- Level 4 corresponds to the Blue or RANGER level objectives.
- Levels 2 - 4 also address the learning objectives at the levels below them.