

“Underwater Olympics” Mission Challenges **Score Sheet – Round 2**

School/Team: _____

Team captain: _____

Mission station officials: _____

5-Minute Set-Up and Safety Check

- All power cords, power bars, pressurized cylinders, etc. are secured.
- A fuse is present in the vehicle’s electrical system. Note: MATE will also place a 25-amp fuse in-line between the positive battery terminal and the vehicle.
- No hazardous materials are leaking onto the pool deck.
- Vehicle is hand-launched by team members in a safe manner.
- No team member has entered the water in order to prepare and/or launch vehicle.
- Vehicle is in the water near the side of the control shack at the end of the 5-minute set-up period.

Mission official’s notes: _____

- Team is ready for the mission:** _____ (official’s initials)

Note: An official’s decision to disqualify a team due to safety concerns is final. If there is a safety concern, please contact the lead official or competition coordinator.

Fuses

The mission time clock does NOT stop in the case of a blown fuse. If a RANGER class team blows MATE’s in-line 25-amp fuse, they are allowed one replacement fuse. If the vehicle blows the second MATE fuse, their mission performance period is over. The team will receive points for the mission tasks they have completed up to that point, but will not receive a time bonus score.

EVENT #1 – Cap an oil well in the Gulf of Mexico.

Mission scoring – 30 points

- ____ Vehicle operating (props turning) under its own power – 5 points
- ____ Descend to and physically touch the valve – 5 points
- ____ Successful mission (the water stops flowing from the sprinkler nozzle) – 20 points

Time bonus – 0.1 point for every second under 5 minutes remaining

Note: The mission performance period ends when the ROV has turned off the valve, returned to the surface, and physically touched the edge of the pool in front of the control shack under its own power. Award time bonus points only upon completion of these mission requirements.

Duration of mission: _____ Translated into seconds = _____

300 seconds – _____ mission time in seconds = _____ x 0.1 points = _____

TOTAL EVENT #1 SCORE: MISSION SCORING + TIME BONUS = _____

EVENT #2 – Repair a damaged fiber optic cable connection to re-establish a communications link.

Mission scoring – 30 points

- ____ Vehicle operating (props turning) under its own power – 5 points
- ____ Deliver & physically touch the communications probe to the junction box – 5 points
- ____ Successful connection (bulb lights topside) – 20 points

Time bonus – 0.1 point for every second under 5 minutes remaining

Note: The mission performance period ends when the ROV has made a successful connection, returned to the surface, and physically touched the edge of the pool in front of the control shack under its own power. Award time bonus points only upon completion of these mission requirements.

Duration of mission: _____ Translated into seconds = _____

300 seconds – _____ mission time in seconds = _____ x 0.1 points = _____

TOTAL EVENT #2 SCORE: MISSION SCORING + TIME BONUS = _____

EVENT #3 – Install a new instrument module on the Hubble space telescope.

Mission scoring – 30 points

- ____ Vehicle operating (props turning) under its own power – 5 points
- ____ Deliver & physically touch the instrument module to the telescope – 5 points
- ____ Successful insertion (module completely attached, bulb lights topside) – 20 points*

*5 points are also awarded for delivering & partially attaching the module to telescope (i.e., module attached to the Velcro but not completely covering the circular Velcro patch, therefore no bulb lights topside)

Time bonus – 0.1 point for every second under 5 minutes remaining

Note: The mission performance period ends when the ROV has made a successful (or partial) attachment, returned to the surface, and physically touched the edge of the pool in front of the control shack under its own power. Teams that achieve a partial attachment may try to detach and reposition the instrument module to achieve a successful insertion



(and 20 points). However, time bonus points are only awarded upon completion of these mission requirements.

Duration of mission: _____ Translated into seconds = _____

300 seconds – _____ mission time in seconds = _____ x 0.1 points = _____

TOTAL EVENT #3 SCORE: MISSION SCORING + TIME BONUS = _____

PENALTY POINTS

_____ Illegal pulling on tether (second infraction) – minus 5 points***

_____ Illegal communication (second infraction) – minus 5 points

_____ Severing the communications probe cable – minus 5 points

_____ Minus 1 point per each additional minute above 5-minute demobilization period

***Pulling on the tether to retrieve a disabled vehicle, including those disabled by a blown fuse, is an automatic penalty of 5 points.

TOTAL PENALTY POINTS: _____

SUMMARY – ROUND 2

Event #1 total score _____ – penalty points = _____

Event #2 total score _____ – penalty points = _____

Event #3 total score _____ – penalty points = _____

Mission official's initials: _____

Team captain's initials: _____