



2024 MATE ROV COMPETITION ENGINEERING PRESENTATION SCORING REQUIREMENTS - EXPLORER, PIONEER, RANGER, NAVIGATOR

Safety

Max Points: 12 Weight: 10%

Content

Presentation highlighted safety features and philosophy

Safety Measures

Described other vehicle-specific safety precautions related to mission tasks

Described how well the team's safety philosophy covers personnel, equipment, and operational safety

Team Presentation

Max Points: 36 Weight: 10%

Preparation

All team members contributed to the presentation or Q&A

Company was well prepared for the presentation

Delivery

Presentation was dynamic, clear, and informative

Teamwork

Demonstrated project was a collaborative effort with each member contributing

Company seemed cohesive, inclusive, and supportive

Company demonstrated self-teaching/mentoring among team members

Acknowledgement of donors of funds, materials, equipment

Lessons Learned

Described the most significant technical lessons learned, can be related to a challenge encountered

Described the most significant interpersonal or management lessons learned, can be related to a challenge encountered

Theme/Tasks

Max Points: 8 Weight: 10%

Content

Presentation described the real-world mission and clearly linked aspects of the design to the theme and mission tasks

Demonstrated an understanding of how their ROV's systems, specifications, and functions were appropriate to perform the mission tasks

Overall Design/Workmanship

Max Points: 20 Weight: 25%

Content

Overall design is company's own, well-conceived, and executed (both functionally and aesthetically)

Design/workmanship is robust and shows skillful execution

Design is modular and serviceable (i.e., readily field repairable)

Demonstrated thought to marketability/usability by others

Discussed the extent to which the vehicle was tested prior to the event

System Design

Max Points: 20 Weight: 45%

Engineering Design Rationale

Described an overview of the vehicle as an overall system and its subsystems

Described the engineering reasoning behind the vehicle systems and components

Data was used to compare and select from among alternative designs/tooling

Build vs. buy, new vs. used

Explained build (in-house) vs. buy (outsource) decisions and how they related to mission requirements

Explained new vs. reused/inherited decisions and how reused components meet requirements for this year



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Discretionary Points

Max Points: 16 Weight: 100%

- Exceptional design and innovation demonstrated in vehicle design, tools, or other feature(s)
- Developed exceptional original software or made exceptional adaptation of software to create a unique solution
(Doesn't apply to Navigator)
- Demonstrated remarkable effort to design and manufacture every component of the vehicle
- Other (explanation/example is required in comments)

Deductions

Min Points: -12 Weight: 100%

- Coaches, mentors, parents significantly interfered by providing assistance during presentation and/or design/build process (with exception of language barriers)
- Significant overuse of commercial components without adequate justification
- Significant overuse of reused components without adequate justification

Final Score

Max Points: 100 + Discretionary & Deductions

SCORING RUBRIC - ALL QUESTIONS (Except Discretionary & Deductions)

Missing: Not included, can't evaluate	0
Needs Work: Effort made, meets some key requirements. Understanding or treatment of key requirements needs more depth. Judges had to question deeply to find answers.	1
Partially Meets Requirement: Response demonstrates understanding and addresses most key requirements. Simple prodding from judges encouraged team to answer.	2
Meets Requirement: Response demonstrates thorough understanding and addresses all key requirements. Team addressed topic without prompting.	3
Exceeds Requirement: Response extends beyond key requirements, demonstrating exceptional depth and breadth of understanding	4

SCORING RUBRIC - DISCRETIONARY POINTS

Novelty, Depth of Understanding, Depth of Analysis, Effectiveness (functions as intended), Quality of Implementation

None	0
Minor	1
Fair	2
Good	3
Extraordinary	4

SCORING RUBRIC - DEDUCTIONS

Extent to which team relied on outside help, existing work and/or purchased components and services

None	0
Minor	1
Fair	2
Medium	3
Extreme	4