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**NEWS FROM THE AUSTRALIAN MARITIME COLLEGE**

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## Media Release

### Chiefs of Staff, News Directors

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## Survival of the fittest as robots rise to challenge

Designing and building an autonomous underwater vehicle is no small feat, but teams of maritime engineering students have drawn on their technical and problem-solving skills to do just that as part of the AUV Design Project.

AUVs are untethered robots that are programmed to travel underwater and collect scientific data without directed input from the operator.

Twenty-six students at the University of Tasmania's Australian Maritime College have spent the past semester studying AUV hull design, process control and integrated system design, and have applied this knowledge to build their own underwater robots in teams.

These robots are set to face the ultimate test when they are put through their paces in AMC's Survival Centre pool. The challenge represents the final assessment in the underwater vehicle technology unit in the third year of their naval architecture degrees.

AMC lecturer Dr Alex Forrest said the goal was to address challenges in AUV design not able to be taught in the classroom.

"The idea is to teach students the challenge of building a system that will be able to operate untethered to complete a goal. To do this, they will bring together knowledge of hydrostatics, hydrodynamics, control theory, programming and sensor integration," Dr Forrest said.

"In addition to being able to conduct operations, they must also address the key scientific goal of measuring water temperatures and reporting back on the associated temperature variability of the water column."

The student brief was to design an AUV capable of diving and maintaining a fixed depth and heading with four operational modules: power, propulsion, control and scientific payload (data-capturing sensors).

Measuring from 1-2 metres long, the torpedo-shaped robots may look similar but it's the engineering work that goes in to the modules that influences their performance and success.

Dr Forrest said the project also helped students to develop their teamwork and communication skills, as they must complete an oral presentation and final report in addition to participating in the demonstration.

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