

Integrated Autonomous Vehicle (IAV)

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Format

- A team portal will be established on Microsoft Team.
- There will be a live group meeting every other week on MS Team, from 9:30-11:00 am with all students and lead engineers and TA (attendance is mandatory).
- Every other week (the week without group meeting), each subgroup (1-7) will meet with lead engineers via emails, Team or other means.
- Every week, the members in the same group will work together via skype/team/facetime/messenger/zoom for at least two hours to work on the project.
- Each group will submit two reports and demo videos of the tests each academic term, one at week 6 and one at week 12. There will be a final live presentation at the beginning of April on Microsoft Team.
- TA will be responsible for integration team and also coordinate between teams and budget and purchases.

Technical Goals

Group 1: Object recognition with visual system (camera) with reduced time and improved accuracy

Group 2: Navigation system for a miniature vehicle (toy car) with object recognition and auto response

Group 3: Develop basic algorithms and software for autonomous systems

Group 4: Energy harvest from highway traffic (by compression of PZT)

Group 5: Beacons for infrastructure location (device that will transmit location information to vehicles)

Group 6: Other infrastructure location sensing and monitoring (sensors by traffic lights)

Group 7: Integration (can be separate or formed with members from the above 6 groups).