IGVC 2026 – SUMMARY PRESENTATION

AUTONAV • SELF DRIVE • DESIGN CHALLENGE • AWARDS

COMPETITION OVERVIEW

- 33rd Annual Intelligent Ground Vehicle Competition – May 29–June 1, 2026
- Events: AutoNav, Self Drive, Design Challenge
- Location: Oakland University, Rochester, Michigan

KEY UPDATES FOR 2026

- Top Performer Award added (AutoNav & Self Drive)
- Design reports require discussion of autonomous subsystems
- Self Drive times extended for dual challenge running
- HBCU Award continues

TEAM REQUIREMENTS

- Teams must be student-run with faculty advisor supervision
- Maximum 3 vehicles per university
- Vehicle registration: $500 per entry; 50% discount for dual-event teams
- International teams limited to 6 students + 2 faculty

VEHICLE REQUIREMENTS

- Fully autonomous unmanned ground vehicle
- Length 3–7 ft, Width 2–4 ft, Height ≤ 6 ft
- Speed: 1–5 mph (hardware governed)
- Mandatory 20 lb payload; mechanical + wireless E-stop

AUTONAV CHALLENGE – OBJECTIVE

- Navigate outdoor obstacle course autonomously
- Stay in lane, avoid obstacles, maintain required speed
- Scoring based on adjusted time or adjusted distance

AUTONAV COURSE HIGHLIGHTS

- 500 ft asphalt course; lane width 10–20 ft
- Obstacles: barrels, potholes, trees, posts
- Minimum 1 mph for first 44 ft or run ends
- 6-minute time limit

SELF DRIVE CHALLENGE – OBJECTIVE

- Develop Level-5 style autonomous driving skills
- Lane following, turns, stop sign detection
- Pedestrian detection, obstacle avoidance, parking
- Focus on ML, DL, perception & driving logic

SELF DRIVE TESTING STRUCTURE

- Must pass AutoNav Qualification
- Self Drive Qualification (4 tests)
- Functions Testing: 16 function tests (100 pts each)
- Full Course: 21 sequential functions (2100 pts)

DESIGN CHALLENGE

- Written report (15–18 pages depending on events)
- Oral presentation + Q&A
- Vehicle examination by judges
- Focus: requirements, design choices, KPIs, testing

AWARDS

- AutoNav Awards
- Self Drive Awards
- Top Performer Award
- Design Challenge Awards
- Rookie of the Year, HBCU Flight, Grand Award