University of Alberta Clubs

# Aero Design

* **Club Description:**  
  University of Alberta Aero Design (Aero Design) is a student engineering group that designs and builds a fixed-wing unmanned aerial vehicle (UAV) capable of flying by remote control and carrying payload. Our team consists of students from a variety of disciplines that work together to design, finance, and build a new aircraft, from the ground up, every year. Members gain valuable, practical knowledge and experience in computer-aided design (CAD), hands-on construction, control systems, and trade studies such as finite element analysis (FEA) and computational fluid dynamics (CFD).  
  Aero Design aims to provide students experience in designing and building a student vehicle project with an emphasis on trade studies and exposure to real-life challenges engineers face. We compete in the Society of Automotive Engineers (SAE) international Aero Design competition every year against teams from all over the world.

# AlbertaLoop

* **Club Description:**  
  Albertaloop aims to design, build, and compete a hyperloop pod in the annual Hyperloop Pod Competition sponsored by SpaceX. The group is set to be composed of technical individuals (e.g., engineering and science students) as well as non-technical students (e.g., business students).  
  Website: http://albertaloop.ca/

# AlbertaSat

* **Club Description:**  
  AlbertaSAT is a group of students and faculty at the University of Alberta that have come together to design, build, test, launch, and operate satellites. Our goal is to support  global access to space, promote student learning in amateur radio, STEM, and open source design, to foster a commercial space industry, global space culture, and global space expansionism through our missions.  
  Beyond working with satellites, we strive to support a network of passionate individuals interested in space and amateur radio, to collaborate with and share experiences that are out of this world.

# Association of Korean Canadian Scientists and Engineers

* **Club Description:**  
  The Association of Korean Canadian Scientists and Engineers (AKCSE/악세) is a non-profit organization founded in 1986. Our goal is to provide a support network for students studying in science and engineering, as well as academic and leadership opportunities.

# Autonomous Robotic Vehicle Project (ARVP)

* **Club Description:**  
  The Autonomous Robotic Vehicle Project (ARVP) is an interdisciplinary robotics student group from the University of Alberta, whose purpose is to encourage the developments of autonomous robotic technologies within the University and the Edmonton area. ARVP enables students to gain practical experience in managing a robotics project from inception to completion, applying their education to real-world problems, and developing their knowledge in the field of robotics.  
  Website:http://www.arvp.org/

# Diversity in Engineering (DivE)

* **Club Description:**  
  The Diversity in Engineering (DivE) Group advocates for the retention, inclusion, and interests of systematically marginalized groups in engineering. Through research, programming, outreach, and promotion of best practices, we take an intersectional approach to achieve a supportive environment that fosters the growth and learning of all students. DivE is a student-led initiative that is supported by the Faculty of Engineering and the Engineering Students’ Society (ESS).

# EcoCar

* **Club Description:**  
  The University of Alberta EcoCar team is a student-run engineering organization that designs and builds hydrogen fuel cell powered vehicles. Their aim is to push the limits of efficient transportation by developing a fuel cell car with maximum mileage. The EcoCar team primarily races at the annual Shell Eco-Marathon Americas, an international arena for fuel efficiency.

# Engineers in Action

* **Club Description:**  
  Founded in 2015, Engineers in Action is a student group at the University of Alberta under the Bridge Program of the international organization Engineers in Action (formerly Bridges to Prosperity). They are an interdisciplinary team with a unified intent to utilize their talents and skills to bring about positive and long-lasting change through the construction of footbridges. By  providing assistance in developing nations where infrastructures ​in rural areas and villages are lacking or non-existent, they are able to support individuals to reach their goals without having to compromise their safety and well being.

# Formula SAE (Society of Automotive Engineers)

* **Club Description:**  
  University of Alberta Formula Racing is an interdisciplinary team of students that design and fabricate a single-seater, formula-style race car each year. Students gain valuable experience seeing their designs come to life and gain an understanding of the challenges of moving a design from idealized drawings and Computer Aided Design (CAD) models to a functioning final product. Team members are given the opportunity to learn manufacturing and fabrication techniques from basic assembly to advanced machining. Team members also apply technical engineering knowledge gained throughout their studies to a real-world design problem which is critiqued and tested at two annual competitions. At competition, students have the opportunity to interface with industry professionals (from Tesla, Ford, etc.) as well as competing teams from around the world, bringing home valuable feedback to apply to future designs.

# Future Creators

* **Club Description:**  
  Future Creators is a University of Alberta student group that offers an engineering-based workshop and mentorship series for students in grades 7-12. The university engineering student mentors equip youth with the resources and knowledge to develop their own technology-based projects (using Arduino, coding, and 3D printing). Some projects students can develop include a quadcopter, robot car, and machine learning in video games to name a few. The core value of Future Creators is to empower youth to create their own technology projects. They are a student-led initiative that seeks to fill the “education gap” among children, a problem where children are often taught a pre-established curriculum at school but lack the opportunity to explore original ideas or create something new.

# Great Northern Concrete Toboggan (GNCTR)

* **Club Description:**  
  The University of Alberta Great Northern Concrete Toboggan Race Team was formed to represent the University of Alberta in the Great Northern Concrete Toboggan Race. GNCTR is an annual event held in locations alternating between Eastern and Western Canada. Universities, Technical Schools, and Colleges from across Canada and the United States compete by designing, building and racing a “concrete toboggan”. The Toboggan’s running surface must be made of concrete while the rest of the sled can be made from other materials such as aluminium. In addition to competing in technical areas such as concrete and construction of the toboggan, each team competes in spirit, costumes and theme during competition. The purpose of attending competitions is to develop and showcase the technical skills and creativity of University of Alberta engineering students. Competition also allows students to interact and develop relationships with fellow students from the University of Alberta and students from other Canadian Universities.

# Institute of Electrical & Electronics Engineers (IEEE)

* **Club Description:**  
  The IEEE student branch at the University of Alberta differentiates itself from other student clubs in that it is directly associated with a professional organization — IEEE is the world's largest professional organization for the advancement of technology. Their goal as a student branch is to foster the development of student professionalism and assist in transitioning from a student to an industry professional.

# Level 7

* **Club Description:**  
  Level 7 believes in crafting a legacy of sustainability advocates who seek discomfort by challenging the status quo – we believe in action-driven change. Our project integrates an alternative recycling solution at the University of Alberta through the combination of people, platforms, and passion. By repurposing collected waste, we are able to provide various on-campus groups with education and eco-friendly materials. Uniting the community through sustainability and engineering, Level 7 provides a tangible solution to help mitigate the global waste crisis, while also striving to stimulate innovation in student groups. Together, we can declare war on plastic waste.

# Microgravity Experiment Modules Establishment (MEMEs)

* **Club Description:**  
  A newly formed club whose main mission is to develop, build, and perform experiments in both micro and hypergravity. As industries launch into space, they help in proving theories that could be vital to the success of these industries. There are several national and international competitions for students looking to pursue projects in this field and the club plans to compete in as many as possible. Furthermore, they have a secondary project where they are designing the next-generation spacesuit for astronauts to use. New members can get started immediately with the design process for both of the projects and help with many other tasks around the team.

# NeurAlbertaTech

* **Club Description:**  
  We promote education in neurotechnology through providing access to neurotechnology recording tools such as EEG devices, as well as workshops and mentorship for students interested in this field.

# Renewable Energy Design

* **Club Description:**  
  Renewable Energy Design, RED, is a student-run organization at the University of Alberta committed to making campus a greener place. Members of the club have the opportunity to practice project management, leadership, HR, graphic design, advertising, and outreach. Members also get to network with solar companies and other organizations while gaining valuable research and design experience through the use of circuitry, AutoCAD, InventorPro, and 3D printing. RED is open to undergraduates in the disciplines of engineering, environmental sciences, industrial design, sciences, and business.

# Robogals

* **Club Description:**  
  Robogals uAlberta is a not-for-profit student group that aims to inspire, engage, and empower young female students in engineering and technology related fields. They do this by holding free, interactive, student led workshops at elementary and middle schools. Robogals aims to engage young female students in engineering and technology related areas in order to help them understand the topics, and ultimately encourage them to pursue these fields when furthering their education at universities. They also focus on creating a positive culture surrounding females in engineering, and rid young females of any intimidation they have regarding the field as well as help build teamwork and problem solving skills at a young age.

# RoboMaster

* **Club Description:**  
  We are UofA Robomasters, a student group dedicated for the yearly robotic competition called "Robomaster" that took place in Shenzhen, China. The competition is hosted and organized by Dji, which was rated top 10 most innovative company in 2015 ,just after Google and Tesla. The contest started in 2014 and attracted over 200 teams from around the world. Each team has to design and build 7 robots in total and control them in 1st person to compete against other teams in close-quarter combat, as well as using Artificial intelligence to finish objectives. Here at UofA, our team started in October of 2016 and was able to compete in this contest as the first Canadian university team.  
  Besides the Admin team that oversees our group's operation, we have a Mechanical engineering team, Electrical engineering team, Computer science/Computer engineering team, as well as a Business team. It doesn't matter what background you are from, as long as you have a passion towards robots, there is a spot for you to get involved.

# Society of Photo-Optical Instrumentation Engineers (SPIE)

* **Club Description:**  
  The U of A's club for optics and photonics. Our chapter consists of undergraduate and graduate students at the University of Alberta. Our student group provides an excellent opportunity to collaborate with like-minded students with similar interests. There are many great ways to be involved in our chapter including group activities, projects, lab tours, lectures, and outreach!

# Space Exploration Alberta Robotics (SPEAR)

* **Club Description:**  
  Space Exploration Alberta Robotics is a team of University of Alberta students designing and building robotic systems applied to space exploration. SPEAR also works with DiscoverE to facilitate workshops on space exploration and technology. We are currently building our second Mars rover for the University Rover Challenge and Canadian International Rover Competition.

# Student Team for Alberta Rocketry Research (STARR)

* **Club Description:**  
  Vision: To advance for, advocate, and inspire rocketry in Alberta's rising space industry and develop a post secondary educational program in spacecraft and rocketry engineering.  
  Mission: Our mission is to advocate for, advance, and inspire the rising Albertan space industry and to develop a post-secondary educational program in spacecraft and rocketry engineering. To accomplish this, we will devote our efforts towards developing a rocket for intercollegiate competitions, as well as to provide a platform with which we may test data acquisition instruments. Furthermore, we aim to educate the public through educational outreach, collaboration with other student teams, working with the engineering faculty to design sounding rockets, and developing rocketry classes. We are confident that this will diversify Alberta's industry, grab the community’s excitement about rocketry, and strengthen Canada's position as a leader in the international aerospace community.

# UAlberta Aerial Robotics Group (UAARG)

* **Club Description:**  
  UAARG is a multidisciplinary student vehicle project based out of the ECE Department. The group designs, builds, and tests small-scale Unmanned Aerial Vehicles (UAVs). Each year, UAARG enters one or more competitions in Canada and the USA. Competition scenarios range from automated delivery of medical supplies to doing remote reconnaissance for a Marines detachment. Our aircraft are typically installed with a dedicated autopilot board, onboard microcomputer to run in-house developed software, and various specialized equipment including cameras, cargo bays and more, to help complete mission requirements.  
  Members work throughout the year to design, build, and test various components of the aircraft and the system as a whole. This involves applying mechanical, electrical, and computer engineering knowledge such as aerodynamics, circuit design, soldering, and programming. Members also have the opportunity to develop skills in aviation regulation, drone piloting, group management, laboratory safety, and financial management.

# University of Alberta Biomedical Technologies Development Group

* **Club Description:**  
  University of Alberta Biomedical Technologies Development Group is a multidisciplinary group seeking to create solutions to clinical and health issues through interdisciplinary action across the fields of science, medicine, and engineering. The group welcomes all students. UABiomed has both project and research based teams, in addition to our outreach and conference teams.

# UAlberta Permaculture

* **Club Description:**  
  The University of Alberta Permaculture Group is a multidisciplinary student research group focused on the design and research of sustainable urban agriculture systems based on Aquaponics. Using a multidisciplinary approach, U of A Permaculture aims to develop an outreach program targeted to elementary and high school students based on the Alberta School Curriculum. The heart of the University of Alberta Permaculture Group is the design, operation, and research of an aquaponic farming system. Aquaponics is the integrated farming of fish (AQUAculture) and the soilless farming of plants (hydroPONICS). Our group aims to impact the future of food production and research through Professional Engineering and other STEM fields.

# University of Alberta Women in Science and Engineering (UA-WiSE)

* **Club Description:**  
  UA-WiSE (University of Alberta Women in Science and Engineering) is a student group that supports individuals who are underrepresented in the fields of science, technology, engineering and mathematics (STEM). We focus on mentorship, networking, and the challenges of working in a non-traditional field.  
  We are the daughter of WISEST (Women in Scholarship, Engineering, Science and Technology), a University of Alberta organization that has been dedicated for over 30 years to the vision of strengthening science, engineering and technology communities through diversity.