Alberta Aerospace Education Facilities and Training Capacity

- The University of Calgary has expertise in space science, positioning and navigation, and security. The university is home to:
  - The Department of Geomatics Engineering in the Schulich School of Engineering
  - The Institute for Security, Privacy, and Information Assurance in the Faculty of Science
  - The Autonomous Reconfigurable/Robotics Systems Laboratory (which promotes UVS technology developments);
  - The iCORE Information Security Lab, Department of Computer Science, Faculty of Science
  - The Biometric Technologies Laboratory, Department of Computer Science and Department of Electrical & Computer Engineering

- The University of Alberta has a variety of institutes and initiatives with aerospace and defence application, such as:
  - The Institute for Space Science, Exploration, and Technology (ISSET);
  - The Canadian Centre for Earth Observation (CCMEO);
  - The Alberta Machine Intelligence Institute (Amii) could be applied in defence electronics;
  - National Institute for Nanotechnology (NINT);
  - The Centre for Frontier Engineering Research (CFER), a spin-off company from the University of Alberta has the facilities and expertise for large airframe testing
  - NanoFAB facility; and
  - AlbertaSat, a student-led initiative which successfully built the first Alberta satellite, Ex Alta 1.

- The University of Lethbridge is involved with the industry sector, having established the Alberta Terrestrial Imaging Centre (ATIC) and partnered with civilian companies, such as Planet Labs Geomatic Corporation. ATIC leads Earth Observation R&D with applications to natural resources and environmental management.
  In addition to its leading role in space astronomy missions (Herschel (ESA), SPICA (ESA/JAXA)), the Astronomical Instrumentation Group has recently developed a cryogenic test facility capable of measuring the electrical, optical, thermal and mechanical properties of materials down to 0.25 K. This large volume cryostat is unique in Canada and has led to AIG to join the Composites Research Network, which includes Tier I partners Boeing and Convergent Manufacturing Technologies in exploring the cryogenic properties of composites for the aerospace sector.

- The Lethbridge College offers Engineering Design & Drafting program including a significant mechanical design component focused on 3D design and 3D printing for applications that includes mechanical design.

- The Southern Alberta Institute of Technology (SAIT) is a designated training organizations under Transport Canada, and their programs are accredited by Canadian Aviation Maintenance Council (CAMC).
  - The Art Smith Aero Centre for Training and Technology at SAIT offers four aviation-related training programs: Avionics Technology, Aircraft Structures Technician, Aircraft Maintenance Engineers Technology and Introduction to Aircraft Certification Testing.

- Medicine Hat College offers:
  - A number of certificate, diploma, university transfer, and degree completion programs including Information Technology, Engineering, and Computer Aided Drafting and Design/Technical Illustrator
  - Trades and apprenticeship programs
  - The Office of Innovation and Scholarship offers state of the art 3D printing and reverse engineering equipment for industry partnerships and prototyping
• **Mount Royal University** offers an Aviation Diploma Program. With nearly 50 years of experience offering aviation training, Mount Royal’s stellar national reputation is well deserved. Mount Royal University offers a professional pilot program. Students graduate with a commercial pilot license, a multi-engine instrument rating and an academic diploma.

• **Red Deer College** offers:
  
  • A number of Degree Completion programs as well as University Transfer programs. The Bachelor of Science General program offers a broad education in more than one branch of study
  • A full range of Apprenticeship and Trades programs
  • Numerous Certificate and Diploma programs including Information Technology and Engineering Technologies programming
  • The Innovation, Manufacturing and Applied Research Centre offers state of the art equipment for Industry partnerships
  • Offer Reverse Engineering capabilities
  • Prototype machining capabilities using aerospace plastics

All of Alberta’s colleges also offer programs that complement the aerospace and defence industry, such as applied engineering, manufacturing, information technology/management, etc. Many of them also offer applied research services to help industry with product development.

• **The Alberta Aerospace and Technology Centre (AATC)** is a joint venture between Edmonton International Airport, Canadian North, Canadian Helicopters, Edmonton Economic Development Corporation and the Government of Alberta to build a cluster of activity in aerospace and technology around the airport. Examples of target industries include aerospace manufacturing, drone tech, satellite tech, pilot training and agri-business.

• **The Alberta Center for Remotely Operated Systems (ACROS)** is a consortium of Alberta-based companies and academia, with support from the Alberta government, who desire to promote Alberta’s remotely operated systems sector to the international community and showcase our areas of expertise to the world. ACROS’ goal is to form a sub-cluster of activity among all forms of remotely operated systems including Air, Land and Water. The areas of focus for ACROS include research and development, manufacturing, education and training, advocacy, maintenance and entertainment.

  • ACROS is looking for potential international collaborations to bring Alberta’s expertise abroad and invite companies to become part of the consortium.

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