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January 25, 2023

Delivered by email: SEVP@ice.dhs.gov

The Honorable Alejandro Mayorkas
Secretary
U.S. Department of Homeland Security
Nebraska Ave. Center, NW
Washington, DC 20528

The Honorable Tae D. Johnson
Director
U.S. Immigration and Customs Enforcement
500 12th St SW
Washington, DC 20536

The Honorable Steve K. Francis
Acting Executive Associate Director
Homeland Security Investigations
U.S. Department of Homeland Security
500 12th St SW
Washington, DC 20536

Re: Request to recognize aviation maintenance programs as a STEM designated degree

Dear Secretary Mayorkas, Acting Director Johnson, and Acting Executive Associate Director Francis:

On behalf of the aviation technical education community, the council respectfully ask the Department to add the following aviation maintenance Classification of Instructional Programs (CIP) to the Department's Science, Technology, Engineering, and Mathematics (STEM) Designated Degree Program List:

- 47.0607 Airframe Mechanics and Aircraft Maintenance Technology/Technician
- 47.0608 Aircraft Powerplant Technology/Technician
- 47.0609 Avionics Maintenance Technology/Technician
- 48.0506 Sheet Metal Technology/Sheetworking
- 49.0104 Aviation/Airway Management and Operations

ATEC—representing educational institutions certificated by the Federal Aviation Administration (FAA) to provide the training necessary for aviation mechanic certification—submits that these programs of study are valid STEM-related fields that fall under the “related fields” DHS definition.

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Programs using the above classifications train students in innovative materials and processes, aircraft familiarization, fundamentals of equipment and tooling, and emerging new technologies. The knowledge and skills taught are outlined in the [FAA mechanic airman certification standards](#) and include as much as, if not more, STEM-related content than a number of other disciplines widely considered to be STEM. Indeed, the content is very much in line with concepts covered in degree programs already included on the STEM Designated Degree Program List, including Aeronautical/Aerospace Engineering Technology/Technician (15.0801), Air and Space Operations Technology (29.0402), and Aeronautics/Aviation/Aerospace Science and Technology, General (49.0101).

Graduates of these programs perform scheduled aircraft maintenance, make repairs and complete FAA-required inspections as an aircraft mechanic or avionics service technician. Aviation maintenance programs include many concentrations in fields that are part of the current STEM Designated Degree Program List, including computer science, cybersecurity, electrical technology, and engineering. Classes that students will take in aviation maintenance degree programs include power plant electrical systems, aerospace engineering, fuel systems, metalworking, and aviation physics and mathematics, all involving STEM fundamentals.

The mechanic and technician shortage for the aviation industry is critical. The latest edition of Boeing's Pilot and Technician outlook projects there is a need for 610,000 new maintenance technicians over the next 20 years; other reports indicate there is not enough capacity among U.S. citizens studying aviation maintenance to fill these workforce gaps.

Aviation maintenance students earn degrees that are steeped in scientific and technical instruction that is put to use immediately upon completion to maintain and improve the U.S. aviation industry. At a time when the industry and consumers face significant challenges, these skills are more in demand than ever. Yet, because aviation maintenance is not classified as a STEM discipline on the Designated Degree Program list, U.S. employers, and by extension, the greater U.S. economy, are denied the benefits of this talent.

Thank you in advance for your consideration of this request,



Crystal Maguire
Executive Director

cc: Rachel E. Canty, Deputy Assistant Director, Student and Exchange Visitor Program, rachel.e.canty@ice.dhs.gov
Carissa F. Cutrell, Public Affairs Officer, carissa.f.cutrell@ice.dhs.gov