

# Colt Andrew Iseminger

University of North Dakota  
John D. Odegard School of Aerospace Sciences  
Department of Aviation  
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## EDUCATION

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- MS** Space Studies (2025), University of North Dakota, Grand Forks, ND.
- BS** Air Traffic Control (2008), University of North Dakota, Grand Forks, ND.
- Cert** Peace Officers Training (2011), Lake Region State College, Devils Lake, ND.

## PROFESSIONAL AND TEACHING EXPERIENCE

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- University of North Dakota**, Grand Forks, ND July 2019 to Present  
**Instructor**, Department of Aviation, JDO School of Aerospace Sciences
- Teaching ten credit hours a semester, advising on the average of 20 aviation students, and holding office hours.
  - Assess students within simulators and classroom environments; and coach, mentor, and motivate the next group of students in Air Traffic Control.
  - Developed quizzes, exams, and homework.
  - Revised the syllabus to meet accreditation standards.
  - Work with other Instructors in curriculum design, development, and improvement.
  - Coordinated grading and labs with a team of six teaching assistants.

- University of North Dakota**, Grand Forks, ND January 2012 to Present  
**Air Traffic Simulation Laboratory Manager**, Department of Aviation, JDO School of Aerospace Sciences
- Maintain Air Traffic Control Simulation Labs for John D. Odegard School of Aerospace Sciences and the UND Aerospace Foundation.
  - Repairing, Troubleshooting, and configuring Linux and Windows-based simulation technology.

- University of North Dakota**, Grand Forks, ND January 2012 to July 2019  
**Lecturer**, Department of Aviation, JDO School of Aerospace Sciences
- Teaching twelve credit hours a semester, advising on the average of 30 aviation students, and holding office hours.
  - Assess students within simulators and classroom environments; and coach, mentor, and motivate the next group of students in Air Traffic Control.

- Developed quizzes, exams, and homework.
- Revised the syllabus to meet accreditation standards.
- Work with other Instructors in curriculum design, development, and improvement.
- Coordinated grading and labs with a team of eight teaching assistants.

**Federal Aviation Administration, Grand Forks, ND**

**Air Traffic Control Specialist, Grand Forks International Airport ATC Tower**

- Issue landing and takeoff instructions to pilots.
- Monitor and direct the movement of aircraft on the ground and in the air.
- Provide information to pilots, such as weather updates and other critical information.

## **RESEARCH EXPERIENCE**

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### ***Contract***

Drechsel, Paul (Principal), Jorgenson, Terra (Supporting), Carlson, Craig (Supporting), Schroeder, William (Supporting), Iseminger, Colt (Supporting), "Air Traffic Control Optimum Training Solution - General Dynamics," Sponsored by Federal Aviation Administration, Federal, Not Funded. (January 26, 2014 - April 7, 2015).

### ***Grant***

Carlson, C. D. (Supporting), Poltavski, D. (Principal), Jorgenson, T. A. (Supporting), Drechsel, P. (Supporting), Petros, T. (Supporting), Ferraro, F. R. (Supporting), Iseminger, C. A. (Supporting), Grant, "Evaluation of physiological markers of cognitive load and engagement in simulated air traffic control scenarios as a function of visual information processing and training experience.", DIVISION OF RESEARCH & ECONOMIC DEVELOPMENT RESEARCH DEVELOPMENT & COMPLIANCE, Local, Research, \$9,300.00, \$0.00, Funded. (January 1, 2015 - May 1, 2016).

### ***Sponsored Research***

Carlson, Craig D (Principal), Jorgenson, Terra (Co-Principal), Drechsel, Paul (Co-Principal), Petros, Thomas (Co-Principal), Iseminger, Colt (Co-Principal), "A Comparison of Student Air Traffic Controllers Fatigue Levels and Reaction Times While Actively Controlling and Passively Monitoring Air Traffic.," Sponsored by Federal Aviation Administration, Federal, Currently Under Review. (April 23, 2018 - Present).

Jorgenson, Terra (Principal), Waller, Zach (Principal), Drechsel, Paul (Co-Principal), Carlson, Craig (Co-Principal), Iseminger, Colt (Supporting), Nowatski, Neil (Supporting), "UAS Training for ATCS," Sponsored by Federal Aviation Administration, Federal, \$91,773.00, Currently Under Review. (September 1, 2017 - Present).

Drechsel, Paul V (Principal), Van Eck, Richard (Co-Principal), Ferraro, Richard (Co-Principal), Carlson, Craig (Co-Principal), Iseminger, Colt (Co-Principal), "Explore Use of Gamification for Training," Sponsored by FAA AJI-COE TTHP, Federal, \$121,964.00, Not Funded. (October 1, 2016 - September 30, 2017).

Drechsel, Paul (Principal), Carlson, Craig (Supporting), Jorgenson, Terra (Supporting), Waller, Zach (Supporting), Iseminger, Colt (Supporting), "Integrating Unmanned Aircraft in the National Airspace System," Sponsored by Northrop Grumman Information Systems, Private, \$40,000.00, Funded. (December 11, 2015 - January 15, 2017).

## **PUBLICATIONS**

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### ***Journal Publications***

Carlson, C., Iseminger, C., Schroeder, W. H. (2022). Teaching the Importance of Coordination and Teamwork in ATM. *Air Traffic Control Association*, 64(3), 14-17.

Bernhardt, K. A., Poltavski, D., Petros, T., Ferraro, R., Jorgenson, T., Carlson, C., Drechsel, P., Iseminger, C. (in press). The Effects of Dynamic Workload and Experience on Commercially Available EEG Cognitive State Metrics in a High-Fidelity Air Traffic Control Environment. *Applied Ergonomics*.

### ***Newspaper/Media***

Iseminger, C. A. (2023). *As close calls mount on US runways, UND aero leaders assure that students are getting vital training* (March 21, 2023 ed., pp. <https://www.grandforksherald.com/news/local/as-close-calls-mount-on-us-runways-und-aero-leaders-assure-that-students-are-getting-vital-training>). Grand Forks: Grand Forks Herald.

Iseminger, C. A. (2023). Close Calls on Runway: A Perspective from an Air Traffic Control Tower. *CNN Primetime Special: Flight Risk: Turbulent Times for Air Travel* (March 16, 2023 ed., pp. <https://twitter.com/OmarJimenez/status/1636712061584506883>). CNN.

### ***Newsletters - College***

Iseminger, C., Drechsel, P. (2013). *ATC Hiring for (near) UND Grads* (1st ed., vol. 2, pp. 3). Grand Forks, ND: SAAC Skyward.

### ***Instructional Material/Case - Department***

Drechsel, P., Bartelson, G., Carlson, C., Jorgenson, T., Schroeder, W., Iseminger, C., Andriello, V. *Air Traffic Control Training Guide* (5th ed., vol. 1, pp. 135 pages). Grand Forks, North Dakota: The UND Aerospace Foundation.

## PRESENTATIONS AND INVITED LECTURES

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**Lecture**, Iseminger, C. (Presenter & Author), “Air Traffic Controller Training, Work life, and Lifestyle,” Fargo Public Schools, Fargo, ND. (November 8, 2018).

**Paper Presentation**, Carlson, C. (Presenter & Author), Iseminger, C. (Author Only), "Integrating UAS into the National Airspace System," Northrop Grumman, Washington D.C. (November 15, 2016).

**Workshop**, Schroeder, W. (Presenter & Author), Iseminger, C. (Presenter & Author), ND Spring Collaborative Conference, "Mathematics, Technology and Air Traffic Control," ND Council of Mathematics, NSTA, ND Dept of Public Instruction, ND STEM, UND STEM, ND Council of Arts, Red River High School, Grand Forks, ND. (April 22, 2016).

**Workshop**, Iseminger, C. (Presenter & Author), “Air Traffic Control and Aviation Procedures and Best Practices,” Civil Air Patrol - ND Wing, Grand Forks, ND. (May 31-June 1, 2014).

**Workshop**, Schroeder, W. (Presenter & Author), Iseminger, C. (Presenter & Author), “Knowledge of general aviation and ATC procedures in the US National Airspace System,” UND Aerospace Foundation, Grand Forks, ND. (July 17-19, 2012).

## HONORS AND AWARDS

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**UND Foundation Award for Departmental Excellence in Teaching** 2018  
Department of Aviation, University of North Dakota

**Boy Scouts of America Eagle Scout** 2003

## PROFESSIONAL TRAINING

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**Small UAS Certificate**, Federal Aviation Administration, Certificate #FA34P94MKT, 2015

**Control Tower Operator (CTO) Certificate**, Federal Aviation Administration, 2010

**Private Pilot – Single Engine Land License**, Federal Aviation Administration, Certificate #3302666, 2008

**Amateur Radio Service – Technician License**, Federal Communication Commission, License #K0QCI, 2006

**NWS SKYWARN Storm Spotter**, NOAA-National Weather Service

## PROFESSIONAL AFFILIATIONS

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American Association of Colleges and Universities (AAC&U), 2023-Present

Air Traffic Control Association (ATCA), 2018-Present

National Air Traffic Controller Association (NATCA), 2012-Present

## PROFESSIONAL DEVELOPMENT AND SERVICE

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### **FAA/NATCA Communicating for Safety (CFS)**

Conference Attendance, 2013, 2016, 2017, 2018, 2019, 2022, 2023, 2024

*Hosted annually by the National Air Traffic Controllers Association (NATCA), Communicating For Safety (CFS) is the aviation industry's leading conference focusing on safety, technology and building relationships.*

### **Air Traffic Collegiate Training Initiative Best Practices**

Conference Attendance, 2013, 2023, 2024

*Annual Conference for AT-CTI Schools to come together with the FAA and discuss Hiring, new procedures, and best practices of the CTI schools in training.*

### **HiPoCON Technology Show and Conference**

Conference Attendance, 2013, 2014, 2015, 2016, 2017, 2018, 2021

*North Dakota's premier technology conference hosted annually.*

### **BSA WoodBadge for the 21st Century**

Leadership Training, 2013

*Wood Badge courses aim to make Scouters better leaders by teaching advanced leadership skills, and by creating a bond and commitment to the Scout movement.*

## INSTRUCTIONAL SERVICE

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### **Undergraduate Courses Taught:**

Aviation (AVIT) 103 (2 cr) Introduction to Air Traffic Management (Control)

Aviation (AVIT) 105 (3 cr) Essentials of Flight

Aviation (AVIT) 208 (3 cr) Aviation Safety

Aviation (AVIT) 260 (4 cr) ATC: Tower Operations 1

Aviation (AVIT) 261 (4 cr) ATC: RADAR Operations 1

Aviation (AVIT) 362 (4 cr) ATC: Advanced Tower Operations 2

Aviation (AVIT) 363 (4 cr) ATC: Advanced RADAR Operations 2

Aviation (AVIT) 465 (4 cr) ATC: Tower and RADAR Operations 4

### **Service as Prime Instructor:**

Aviation (AVIT) 103 2012-Present

Aviation (AVIT) 105 2023-Present

Aviation (AVIT) 260            2019-Present  
Aviation (AVIT) 362            2021-Present

**Academic Mentorship:**

Mentor on the average of 20 undergraduate aviation students per semester.

**Academic Advisement:**

Siechen, A., Undergraduate Honors Thesis, Honors, 489, 1 credit hours, "FAA Aptitude Assessments for Air Traffic Control Specialist Candidates: An Analysis of change over time of test format and assessed attributes", Completed. (January 2024 - May 2024).

**Curriculum Development Activities:**

Curriculum rewrite of Aviation (AVIT) 103: Introduction to Air Traffic Management, standardize course content across all sections and allow an easier transition to the online teaching environment.

Curriculum rewrite of Aviation (AVIT) 105: Essentials of Flight, standardize course content and transition to the online teaching environment.

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**INSTITUTIONAL SERVICE**

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**University of North Dakota**

Ryan Hall Building Safety and Security Representative (BSSR) (2019 - Present)

Student Academic Services,

    JDO College Liaison for UND Starfish Retention Software, 2019-2023

    UND Starfish Retention Software College Tenant Administrator, 2016-2019

University Senate, Elected JDO College Senator, 2023-2024

University Senate, Elected At-Large Senator, 2017-2023

University Senate Library Committee, 2018-2021

    Chair, 2019-2021

Parking and Transportation Advisory Committee, 2018-2020

Summer Orientation Program, Faculty Student Advisor, 2013-2019

**John D. Odegard School of Aerospace Sciences, Department of Aviation**

Student Organization Faculty Advisor

    Student Air Traffic Controller Association (SATCA), 2012-Present

Scholarship Committee, 2013-2014 and 2015-Present

    Chair, 2018-Present

Scientific Computing Center / Aerospace Network Aviation Faculty Liaison, 2014-Present

*Serve as liaison between Aviation Department Faculty and SCC/Aerospace Network of JDO School of Aerospace Sciences on issues and problems.*

Technology Committee, 2020-2021

Assessment Committee, 2014-2018

Aerospace College Computer Lab Relocation AD-HOC, 2017-2018

Curriculum Committee, 2013-2014 and 2015-2016  
Technology on Teaching Committee, 2012-2014  
Chair, 2013-2014

## **COMPUTER SKILLS**

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### **Proprietary Systems:**

- Adacel Inc. – Air Traffic Control MaxSim Tower and RADAR Simulation Subject Matter Expert Certification
- UFA Inc. – Air Traffic Control ATCoach Global RADAR Simulation Proficiency Certification

### **Platforms and Operating Systems:**

- Microsoft Windows
- Linux (Red Hat, Fedora, and Ubuntu Distros)

## **COMMUNITY SERVICE**

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### **BSA Scouts of America**

Cubmaster, Grand Forks, ND, 2023 – Present

Assistant Cubmaster, Grand Forks, ND, 2022 – 2023

Den Leader, Grand Forks, ND, 2021 – 2022

Assistant Scoutmaster, Grand Forks, ND, 2003 – 2017

*Assist the Cubmaster/Scoutmaster as directed and works with other responsible adults to bring Scouting to children. Uses the methods of Scouting to achieve the aims of Scouting by teaching honesty, leadership and outdoor skills.*