

**Aviation 203 (AVIA 203)**  
**Air Traffic Control 3 – AT-CTI Capstone Class**

Tuesday, Wednesday, Thursday 1-2:40, 5 credits

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**Course Description:**

AVIA 203 - Expands on the foundations of basic control procedures students learned in AVIA 201, improves those skills and also provides an evaluation platform for students aspiring to attend the FAA ATC Academy to become FAA Certified Air Traffic Controllers.

AVIA 203 Capstone will review all FAA ATB course lessons – See last page for List of ATB lessons

**Materials for AVIA 203:**

Texts

- FAA publications (available via the internet)
  - [www.faa.gov/atpubs/](http://www.faa.gov/atpubs/) (for FAA Order publications)
    - 7110.65
    - FAR/AIM
    - FLIPS
- Fundamentals of Air Traffic Control – Michael S. Nolan, 4<sup>th</sup> Edition
- Basic Aviation FUN-damentals – Scott and Comollo, 1<sup>st</sup> edition

Handouts

- Handouts for memorization, study and scenario practice

Websites

- [www.instruction.greenriver.edu/aviation](http://www.instruction.greenriver.edu/aviation)
- [www.aviationweather.gov](http://www.aviationweather.gov)
- [\\*www.faa.gov/atpubs/](http://www.faa.gov/atpubs/)
- [www.faa.gov/library/manuals/aircraft/](http://www.faa.gov/library/manuals/aircraft/)
- [WWW. LiveATC.net](http://WWW.LiveATC.net)

Other

- USB drive with at least 2.0GB capacity

**Learning Objectives:**

AVIA 203 will

- Review all FAA Air Traffic Basics Lessons and Information
- Improve student knowledge of 7110.65 and the FAR/AIM including skills and abilities to:
  - Issue ATC clearances
  - Use Radar and non-Radar procedures to control Air Traffic with better awareness how to address typical problems that occur in ATC operations
  - Apply rules and procedures in 7110.65 with greater speed and accuracy, with fewer mistakes in application, and with better understanding of which rules to apply, where, when and how
  - Use correct phraseology for all communications
  - Understand aircraft characteristics and limitations for flight and air traffic control
  - that include airspace considerations and weather situations
- Prepare the student for attendance at the FAA Academy

### **Attendance/Absence/Tardiness Policy:**

**Class Attendance:** AVIA 203 is the final ATC class and will have direct bearing on the Instructor's recommendation to the FAA about each GRCC ATC student. Consistent class attendance is one of several key factors in the recommendation criteria for fitness to hold an FAA Air Traffic Control job. Students should view AVIA 203 as working for the FAA and act accordingly. Try to not miss class, but if missing a class is unavoidable, advise me in advance, or as soon as possible after the class you missed.

### **Grading/Evaluation Standards**

For AVIA 203 evaluation is based on

- (1) Testing of:
  - a. FAA ATB lesson materials
  - b. 7110.65, FAR/AIM, and other applicable FAAOs
  - c. Detailed knowledge of the Area of Operation (Area Chart and related information)
  - d. ATC clearances, Strip marking and records keeping
  - e. Phraseology and communications procedures
- (2) Overall awareness of the ATC environment during scenario practice

Grades will derive from a combination of knowledge tests and scenario tests based on total accrued points compared with total possible points for 100% score. Course learning goals are to have every student attain these levels of knowledge competency (which are above the minimums required for a positive recommendation to the FAA)

1. Complete the Area Chart Test with at least 90% score (two attempts allowed)
2. Complete all Strip Marking tests with at least 90% score (two attempts allowed)
3. Complete all Phraseology tests with at least 90% score (two attempts allowed)
4. Complete all General Aviation Knowledge Tests with at least an 85% score (two attempts allowed)
5. Complete the FINAL FOUR ATC Capstone Tests with at least a 90% average on all four tests, AND, with no Final Four ATC Capstone Test score below 80% on any individual Final Four Test (two attempts allowed for each test)
6. Demonstrate excellent teamwork skills
7. Demonstrate excellent student deportment in and out of class (at all times)

### **Student Learning Evaluated But Not Graded**

For AT-CTI students, the evaluation of non-graded items will be part of the overall faculty recommendation I must make to the FAA on your fitness to proceed into the FAA ATC work force. I will discuss the recommendation process with each student. The criteria I use to make a recommendation are: (this list is not all-inclusive, but rather representative)

- Ability to accurately hear, understand, repeat and record ATC information and instructions, using keyboard entry, manual entry on a Flight Strip, or note taking
- Ability to perceive potential ATC conflicts and take appropriate action in a timely manner
- Awareness of when to coordinate with other Air Traffic Controllers, the pilot, and with Air Traffic and other Aviation entities
- Comprehensive knowledge of ATC procedures and ability to apply rules appropriately
- Ability to work efficiently, effectively, thoughtfully, and cordially with others in a team environment
- Ability to attend classes on time, to complete work on time, to be ready for instruction with all necessary materials on time, and be a ready and able learner

### Testing, Make-ups, Retakes & Grading

- Student may retake any written test. For grading purposes, Make-up and Retake and test scores cap at 90% maximum. Coordinate Make-up and Retake with me.

### Grade percent to GRCC Scale Conversion (GRCC decimal grading system)

%	GRCC	%	GRCC	%	GRCC	%	GRCC
100	4.0	90	3.5	80	2.5	70	1.5
99	4.0	89	3.4	79	2.4	69	1.4
98	3.9	88	3.3	78	2.3	68	1.3
97	3.9	87	3.2	77	2.2	67	1.2
96	3.8	86	3.1	76	2.1	66	1.1
95	3.8	85	3.0	75	2.0	65	1.0
94	3.7	84	2.9	74	1.9	64	0.9
93	3.7	83	2.8	73	1.8	63	0.8
92	3.6	82	2.7	72	1.7	62	0.7
91	3.6	81	2.6	71	1.6		

**Academic Honesty:** Any forms of cheating are grounds for receiving a zero score and the student can not retake the test. Cheating on a Capstone Test will result in student a negative recommendation to the FAA on fitness to work in the FAA ATC work force.

**Instructional methods:** I will use any and all of these methods to teach AVIA 203

- Lectures
- In-class quizzes
- In-class tests
- Seminar discussions
- Homework
- ATC Computer Lab scenario demonstrations and practices
- Group and team in-class and out-of-class assignments
- Student presentations.
- Tours of ATC facilities and other facilities

### Homework:

- Study to prepare for scheduled tests on ATB Lesson Material, FAAH 7110.65 information, and FAR/AIM information, and expect occasional Pop Quizzes on ATB Lesson Material, FAAH 7110.65 information, and FAR/AIM information
- Memorize information about the airspace, airports, NAVAIDs and other data pertinent to conducting scenarios in the ATC lab specifically the Area Chart we use for scenario practices
- Use LiveATC.NET to monitor ATC communications. Practice specific authorized radio and landline communications phraseology ATC controllers use to talk to other controllers and to Pilots

### Campus-wide Outcomes:

Green River Community College (GRCC) identified specific fundamental knowledge, skills, behaviors, attitudes, and values that GRCC students must possess to be successful after leaving the Green River Community College environment:

- A sense of the individual's responsibility to the community
- Quantitative and symbolic reasoning
- Critical thinking and rational decision-making
- Written & Oral Communications skills suitable for the modern business environment

#### A. Responsibility:

1. Student must demonstrate knowledge of and a willingness to accept stated and agreed expectations, policies, behavior, and procedures.
2. Student must demonstrate accountability (be punctual and ready to learn), integrity (do own work individually and in collaborative tasks), initiative (seek help when needed), and tolerance (develop awareness of own biases).
3. Student actively and appropriately interacts with others and is able to respect everyone's opinion.

**Student demonstrates these attributes by preparing for lectures and discussions, submitting assignments in on time, and being accountable to work groups within which the student participates**

#### B. Quantitative/Symbolic Reasoning:

1. Student evaluates and interprets information and data accurately and usefully.
2. Student recognizes which processes or methods are appropriate for solving a given problem, and correctly implements those processes.
3. Student demonstrates the ability to estimate a solution to problem the instructor or the situation presents
4. Student translates data into various formats such as graphs, tables, formulas, and sentences accurately.

**Student demonstrates these attributes through class work, homework, project work and tests.**

#### C. Critical Thinking:

1. Student provides reasons for the conclusions he or she reaches and assesses the relevance and adequacy of those reasons.
2. Student connects past learning with current topics.

**Student demonstrates these attributes through class work, homework, project work and tests.**

#### D. Written & Oral Communications:

1. Student demonstrates involvement with the material by expressing a clear awareness of purpose, unity, and focus in his or her writing or speaking.
2. Student demonstrates clear organization of his or her thoughts in written and oral communications.
3. Student demonstrates well-organized and logical writing and uses correct grammar and spelling.

**Student demonstrates these attributes through class work, homework, project work and tests.**

#### **Special Needs:**

If, because of a disability, the student:

- Needs special accommodations (adapt a course activity, have additional assistance, etc.),
- Has emergency medical information the instructor should know about, or
- Has a need for special assistance in the event of a building evacuation,

Please contact the Instructor and be sure the instructor fully understands the special need.

Students may use alternate modes to communicate Special Needs information (email, phone).

In any case, and using any format, students should inform the Instructor as soon as possible after the start of school.

**Students should also contact Disability Support Services (DSS) in LSC 277 –  
Phone DSS at: 253-833-9111, ext. 2631 or TDD at 253-288-3359.**

## **FAA AT-CTI Air Traffic Basics (ATB) Lessons**

1. ATC and National Airspace System
2. Team Work
3. Airports
4. Separation Criteria
5. NOTAMs
6. Radar Fundamentals
7. FAA Manuals and Orders
8. LOAs and SOPs
9. Airspace
10. FARs
11. FAR Part 91
12. Principles of Flight
13. Wake Turbulence
14. Aircraft Characteristics
15. Special Ops – Not covered, Classified Information
16. Basic Navigation
17. Radio and Satellite Navigation
18. VFR Charts and Publications
19. Enroute IFR Charts
20. DPs and STARs
21. Approaches
22. Pilot's Environment
23. Emergencies
24. Search and Rescue (SAR)
25. Weather and Weather Services
26. Hazardous Weather
27. Current Weather (METARs)
28. PIREPs
29. Weather Forecasts (TAFs, FAs)
30. Communications
31. Strip Marking
32. ATC Clearances

## **AT-CTI RECOMMENDATION CRITERIA:**

Each GRCC AT-CTI student must receive a positive recommendation from the GRCC ATC Faculty as part of the FAA ATC Candidate Selection process. Completing GRCC FAA AT-CTI degree program and receiving a positive recommendation from GRCC is not a guarantee of employment with the FAA.

With due regard for all factors associated with FAA needs for Air Traffic Control Candidates, and to ensure that GRCC ATC Students will have a reasonable chance of success throughout each FAA ATC Candidate's selection, hiring, training and job qualification process, GRCC has established the following standards for a Positive Recommendation to the FAA from the GRCC ATC Faculty:

### **Academic Performance**

Students **must** successfully complete

1. **All non aviation** courses with at least a grade of 75% (GRCC grade 2.0) or higher.
2. **All aviation** courses (except ATC courses) with at least a grade of 80% (GRCC grade 2.5) or higher.
3. **All Air Traffic Control** (ATC) courses (except AVIA 203 capstone course) with at least a grade of 85% (GRCC grade 3.0) or higher
4. **AVIA 203 Capstone ATC course** with at least 87% (GRCC grade 3.2) or higher **and**  
Complete the following AVIA 203 tests
  - A. AVIA 203 Area Knowledge Test with a grade of at least 90%
  - B. AVIA 203 Phraseology Tests series with grades at or above 80%,
  - C. AVIA 203 Strip-Marking Tests, with grades at or above 80%,
  - D. AVIA 203 *Final-Four* AT-Basics Final Tests, with an average score for all four tests of 90% and at least 80% or higher on each individual test

***NOTE:** Each student has two opportunities to take each of the AVIA 203 Capstone course tests that require minimum scores to earn a positive recommendation*
5. **Complete the Air Traffic degree program with at least a minimum GPA of 85% (GRCC 3.0).**

### **Conduct and Demeanor**

Excellent judgment is an essential aspect of being an Air Traffic Controller. Team work is also vital to success in the Air Traffic Control profession. **For those reasons, students in the GRCC ATC program must demonstrate excellent judgment and superior cooperative and respectful behavior at all times and in all situations or circumstances.** Any inappropriate factual situation or circumstance involving a student that shows the student lacks good judgment or that shows a student's inability to work effectively in a team environment will affect the recommendation GRCC makes to the FAA about that student.