BOSTON ARTCC (vZBW)
TRAINING SYLLABUS

LEVEL: Tower Controller (S2)

"The primary purpose of the ATC system is to prevent a collision between aircraft operating in the system and to organize and expedite the flow of traffic…" (FAA Order 7110.65, Air Traffic Control).

RELEASE RECORD			
Version	**Date**	**Author**	**Notes**
1.0	02 Jan 2008	EE	Initial Release
1.1	01 Feb 2009	PB, DO	General/Maintenance update, added VFR Coded Arrivals, added exam request links
2.0	01 Aug 2009	DO	Incorporates changes made as a result of VATSIM GRP 2.0, including separation of DEL/GND and TWR, updates all links.
2.1	01 Mar 2010	DO	Updated links, added references/links to new KBOS and A90 SOPs, updated document to reference new KBOS RNAV Departure Procedures, updated VATUSA reference information.
2.2	01 Aug 2010	DO	Implements Minor/Major training tracks
2.3	18 Feb 2014	KZ	General/Maintenance update, edited/updated links

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Introduction

"Because there are many variables involved, it is virtually impossible to develop a standard list of duty priorities that would apply uniformly to every conceivable situation. Each set of circumstances must be evaluated on its own merit, and when more than one action is required, controllers shall exercise their best judgment based on the facts and circumstances known to them. That action which is most critical from a safety standpoint is performed first." (FAA Order 7110.65, Air Traffic Control).

The VATSIM Boston ARTCC Training Program is self-learning centric. The training staff at ZBW is both extremely professional and experienced with Air Traffic Control on the VATSIM network. It is the primary goal of the training staff to ensure that students possess the fundamental skills needed to control at the Boston ARTCC on VATSIM. They are always available to answer questions, and provide insight and training advice on all aspects of virtual Air Traffic Control.

However, the vast majority of the "book work" is expected to be completed by the student. This will allow the training staff to focus on where the practical learning takes place, behind the scopes. The fundamental precept, on which the training program is based, can be derived directly from the quote at the top of this page. We're here not to provide you a cookbook recipe to all aspects of controlling, but rather to teach you how to think on your feet, and know where to go to find the information you need. In short, we are here to provide you what you need, so that you can gain the experience and knowledge to utilize your best judgment in all situations.

With some exceptions (due to network peculiarities), all of our procedures and the standards we hold ourselves to here, are directly based upon real world FAA orders, Facility Standard Operating Procedures (SOPs) and inter-facility Letters of Agreement (LOAs).

This Tower Controller (S2) Syllabus will provide you links to reference material that you'll be expected to read and have a fundamental grasp of in order to obtain your Tower Certifications at VATSIM's Boston ARTCC. Additionally, each syllabus in the training program builds upon the previous syllabus; it is expected that you are competent in previous knowledge and skillsets prior to embarking on future training. You won't be expected to know ALL the material, just the basics, which your instructor or mentor will go over during your training sessions. Just as with the Delivery/Ground Controller (S1) syllabus (and associated certifications), the training staff will expect you to complete most of the "book work" on your own. We will provide you with the fundamentals of local control positions, so that you can gain the experience to remain vigilant and recognize and resolve potential safety and separation issues early on, and successfully earn your certification.

Regards,

Rich Bonneau (BU)
Air Traffic Manager
Boston ARTCC (vZBW)

1 National Airspace System (NAS)

1.1 Charts

1.1.1 SkyVector (Sectional / Terminal Area Charts)

1.1.2 Introduction to Sectional Chart VFR Symbols

1.1.3 VFR Aeronautical Chart Symbols

1.2 Airspace Classes

1.2.1 AIM Chapter 3-2: Controlled Airspace

1.2.2 AIM Chapter 3-3: Class G Airspace

1.3 Special Use / Restricted Airspace

1.3.1 FAAO 7110.65 9-3: Special Use and ATC Assigned Airspace

1.3.2 AIM Chapter 3-4: Special Use Airspace

1.4 NAVAIDS

1.4.1 AIM Chapter 1-1: Navigation Aids

1.4.2 FAAO 7110.65 2-5: Route and NAVAID Description

1.5 Airways

1.5.1 SkyVector (Low/High Altitude Route Charts)

1.5.2 Introduction to IFR Enroute Terms and Symbols

1.5.3 IFR Aeronautical Chart Symbols

1.6 Aircraft Equipment / Suffixes

1.1.1 FAAO 7110.65 2-3-8: Aircraft Equipment Suffix

1.1.2 FAAO 7110.65 Table 2-3-10: Aircraft Equipment Suffixes

2 Local Control

2.1 Responsibility

2.1.1 ZBW General SOP

2.1.2 K90 TRACON SOP

2.1.3 G90 TRACON SOP

2.1.4 Y90 TRACON SOP

2.1.5 KALB TRACON SOP

2.2 Runway Selection

2.2.1 FAAO 7110.65 3-5: Runway Selection

2.3 VFR Traffic Pattern

2.3.1 ZBW VFR Tutorial

2.3.2 AIM Chapter 4-3: Airport Operations

2.4 Departure Procedures

2.4.1 FAAO 7110.65 3-9-1: Departure Information

2.4.2 FAAO 7110.65 3-9-9: Takeoff Clearance

2.4.3 FAAO 7110.65 3-11-2: Helicopter Takeoff Clearance

2.4.4 FAAO 7110.65 3-9-5: Anticipating Separation

2.4.5 FAAO 7110.65 3-9-6: Same Runway Separation

2.4.6 FAAO 7110.65 3-8-1: Sequence/Spacing Application

2.4.7 K90 TRACON SOP

2.4.8 G90 TRACON SOP

2.4.9 Y90 TRACON SOP

2.4.10 KALB TRACON SOP

2.5 Arrival Procedures

2.5.1 FAAO 7110.65 3-10-1: Landing Information

2.5.2 FAAO 7110.65 3-10-5: Landing Clearance

2.5.3 FAAO 7110.65 3-11-6: Helicopter Landing Clearance

2.5.4 FAAO 7110.65 3-10-3: Same Runway Separation

2.5.5 FAAO 7110.65 3-10-6: Anticipating Separation

2.5.6 FAAO 7110.65 3-10-8: Withholding Landing Clearance

2.5.7 FAAO 7110.65 3-10-11: Closed Traffic

2.5.8 FAAO 7110.65 3-10-12: Overhead Maneuver

2.5.9 FAAO 7110.65 3-8-1: Sequence/Spacing Application

2.5.10 K90 TRACON SOP

2.5.11 G90 TRACON SOP

2.5.12 Y90 TRACON SOP

2.5.13 KALB TRACON SOP

2.6 LUAW / LAHSO

2.6.1 FAAO 7110.65 3-9-4: Line Up And Wait (LUAW)

2.6.2 FAAO 7110.65 3-10-4-b: Land And Hold Short Operations (LAHSO)

2.6.3 Airport/Facility Directory (AFD)

2.7 IAP Chart Basics (Missed Approach)

2.7.1 Introduction to IAP Symbols

2.7.2 Boston ARTCC Chart Lookup

2.7.3 Terminal Procedures Publications (TERPS)

2.7.4 FAA IPH Chapter 5: Approach

2.8 Handling Emergencies

2.8.1 VATUSA General Division Policy

2.8.2 FAAO 7110.65 10-2: Emergency Assistance

2.8.3 VATSIM Code of Conduct Paragraph (b)8: Pilot's Conduct

When you have reviewed the previous section and are comfortable with the information you have been provided, you may: ***Request the ZBW Local Control (TWR) exam here***

Upon passing, including successful completion of exam corrections, you will begin training with a mentor in the sweatbox until basic competency is demonstrated during an Over The Shoulder (OTS) exam.

Upon passing, you will be assigned the ***VATUSA Tower Controller (S2) exam.***

- *VATUSA References*
    - VATUSA Training Resource Center
    - VATUSA S2 Training Page
    - VATUSA S2 Advanced Topics

Note: In the event of a discrepancy between the above VATUSA training material, and that material taught at ZBW, the material taught locally (ZBW) will take precedence.

Upon passing, including successful completion of exam corrections, you may be promoted to the rating of Tower Controller (S2) and be awarded your Class C/D Tower certification.

Students enrolled in the Minor Track may now proceed to the Approach Controller (S3) syllabus. Students enrolled in the Major Track may now proceed to the next section.

3 *Advanced Local Control*

3.1 KBOS / A90 SOP Review

1.1.3 KBOS Tower Cab SOP

1.1.4 A90 TRACON SOP

3.2 Class Bravo VFR Procedures

3.2.1 ZBW VFR Tutorial

3.2.2 FAAO 7110.65 7-9: Class B Service Area - Terminal

3.2.3 Boston Class B VFR Coded Arrival Routes

3.2.4 SkyVector (Sectional / Terminal Area Charts)

3.2.5 Introduction to Sectional Chart VFR Symbols

3.2.6 VFR Aeronautical Chart Symbols

3.3 Published Helicopter Routes

1.1.5 KBOS Tower Cab SOP

3.3.1 SkyVector (Helicopter Routes)

3.4 Departure Procedures

1.1.6 KBOS Tower Cab SOP

1.1.7 A90 TRACON SOP

1.1.8 KBOS Airport Information Page, including Departure Procedures

3.5 Preferred Taxi Routes

3.5.1 KBOS Preferred Taxi Routes

3.5.2 KBOS Airport Diagram

3.6 Active Runway Selections

1.1.9 KBOS Tower Cab SOP

3.6.1 FAAO 7110.65 3-9-8: Intersecting Runway Separation (Departure)

3.6.2 FAAO 7110.65 3-9-7: Wake Turbulence Separation For Intersection Departures

3.6.3 FAAO 7110.65 3-10-4: Intersecting Runway Separation (Arrivals)

3.7 Adverse Weather operations

3.7.1 FAAO 7110.65 3-3-4: Braking Action

3.7.2 FAAO 7110.65 3-3-5: Braking Action Advisories

3.7.3 FAAO 7110.65 2-8-2: Arrival Departure Runway Visibility

3.7.4 AIM Chapter 7-1-15: Runway Visual Range (RVR)

3.7.5 Introduction to IAP Symbols

3.7.6 Boston ARTCC Chart Lookup

3.7.7 Terminal Procedures Publications (TERPS)

3.7.8 FAA IPH Chapter 5: Approach

3.8 Military Operations / Formation Flights

3.8.1 FAAO 7110.65: 2-1-12: Military Procedures

3.8.2 FAAO 7110.65: 2-1-13: Formation Flights

3.8.3 FAAO 7110.65: 3-10-12: Overhead Maneuver

3.8.4 FAAO 7110.65: 3-10-13: Simulated Flame Out (SFO) Approaches

3.8.5 VATSIM Code of Conduct Paragraph (b)9: Pilot's Conduct

When you have reviewed the previous section and are comfortable with the information you have been provided, you may: ***Request the vZBW Advanced Local exam here***

You will then be eligible to begin training with a mentor/instructor for your Class B Tower certification until basic competency is demonstrated during an Over The Shoulder (OTS) exam.

Upon passing, including successful completion of exam corrections, you may be awarded your Class B Tower certification.