



Virtual Air Traffic Simulation Network
People's Republic of China Division (VATPRC)
Training Department

Training Syllabus and Exam Overview for
VATPRC home controllers
July 2010 Edition
(Doc TD001E)

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A. Preface

VATSIM is a network dedicated to simulate the aviation world that many people found themselves a hard time to access. Even though flight simulator is generally considered as an entertainment, every person who tries to connect to the VATSIM network should make the best effort to make our online network as realistic as possible.

Based upon individual experience, each controller is assigned certain positions for their online duty. We the training team at VATPRC believe that as a mean to ensure high quality controlling service, continual evaluation is necessary to ensure high quality of air traffic control service. Both local and visiting controllers who wish to advance to the next level should challenge themselves with the next promotional test. Written test is mandatory for all promotions in VATPRC, and an Over-the-Shoulder (OTS) test is mandatory for promotions above student level (STU). Visiting controllers are required to take OTS exams to qualify for more positions.

In addition to exams, we do encourage controllers to get online more frequent to enhance their controlling experience. Even though reading materials may provide general knowledge of air traffic control in VATSIM, the only way to consolidate this knowledge is by performing them behind the screen. Each student is assigned an instructor or mentor who is always glad to help with anyone who has doubts and concerns over their level of controlling. Instructors' contact methods are listed in the VACC website for reference.

This book contains a brief overview of the training system in Shanghai VACC. All controllers in Shanghai VACC should spend time on reading this booklet for a clear image of the training process.

Should you have any comments or concerns over the content of this booklet, please contact us via email (vatprc@gmail.com). We wish you a pleasant controlling experience in Shanghai FIR.

Best Regards,

Alfred Y. Tang
Acting Training Director

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B. Brief Overview of ATC Career at VATPRC

Thank you for joining VATPRC. In this airspace packed with traffic of a wide variety, you will find yourself working at some of the busiest airports in China. Whether it is Pudong Airport, the busiest international gateway of China, or Xiamen Airport, a midsize city in south China where it is about a hundred miles away from the shore of the island of Taiwan, the controlling experience you earn at VATPRC will be rewarding.

ATC management is well-structured in the VATSIM network. The entire world is divided into regions based upon geographical location. Each region is then divided into different divisions based upon countries or again geographical locations. Depending on the size of a division, each will be responsible for one to several FIR (Flight Information Region). Divisional staff holds the responsibility for providing training to individual controllers. The VATSIM government (VATGOV), Executive Committee (EC), Founders oversee the general operation of the VATSIM network. Refer to figure 1 below for a better understanding of this structure.

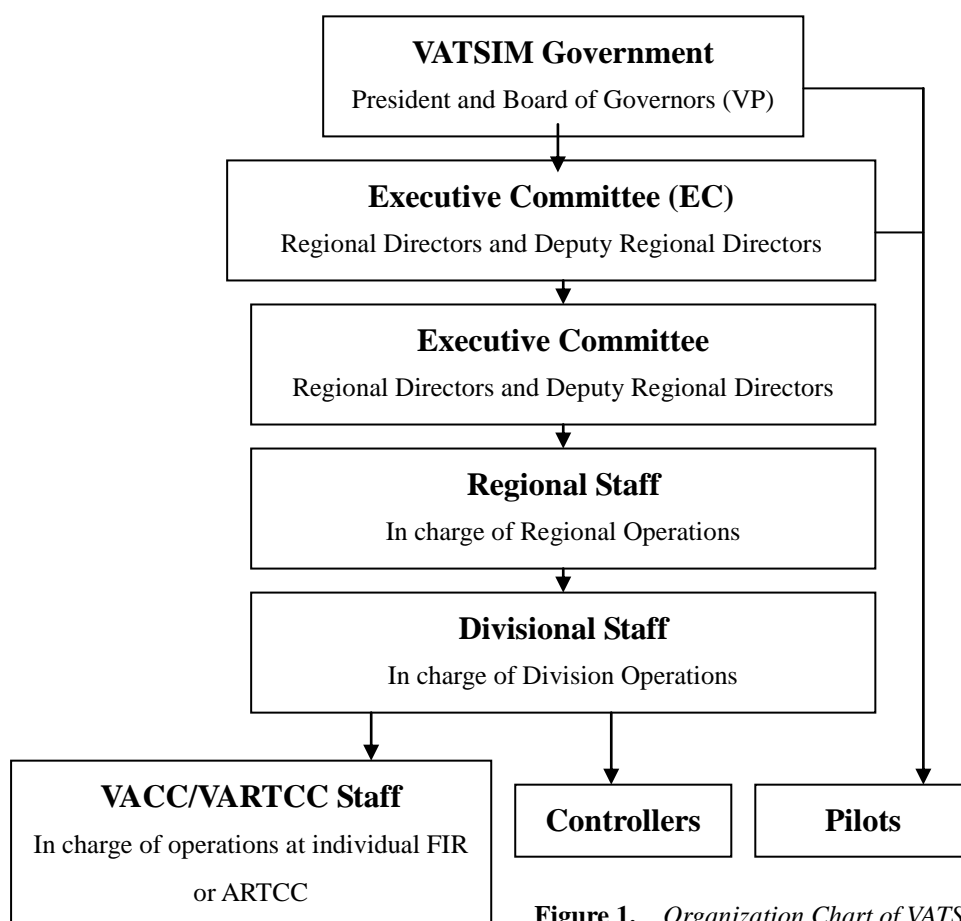


Figure 1. Organization Chart of VATSIM

Anyone wishing to use the VATSIM network for either flying or controller must apply for a VATSIM account. This can be done by going to the VATSIM home page (<http://vatsim.net>) and

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follow the listed instructions. Once you have registered, you will be assigned a 6 or 7 digit ID number and a password, which you will be using to log onto the VATSIM network through a third-party client. VATSIM members who have no previous experience in air traffic controlling (no logged working hours) in VATSIM are considered as “Observers”. You are automatically assigned an Observer (OBS) rating upon your registration. Observers can log onto the network with ATC radar clients (such as ASRC, VRC, Euroscope etc.) but are limited to observer positions (i.e. cannot control traffic under any circumstances).

To get on the control tower and talk with the aircrafts on the ground or in the air through the ground transmitter, you must be certified as a controller. On VATSIM, the training director or head instructor supervises all the training activity within the respective FIR/ARTCC. In some cases in which the division is charge of only one FIR or there is no VACC listed under that division, the training director of the division will be responsible for managing training. VATSIM members who are interested in becoming a controller in China on the VATSIM network should contact the training department of the local VACC for an entry exam. This open-book entry exam, also known as Student Promotional Exam, consists of multiple-choice questions testing your knowledge and determines whether you are ready for the challenge. On VATSIM, a rating system is in place to distinguish each controller’s knowledge.

- 1. Administrator (ADM)** – *this highest rating is reserved for administrative staff member at government level or in executive committee*
- 2. Supervisor (SUP)** – *personnel monitoring network activity and enforce regulation on the network*
- 3. Senior Instructor (I3/INS+)** – responsible for ATC training. Usually more experienced than I1
- 4. Instructor (I1/INS)** – responsible for ATC training
- 5. Senior Controller (C3/CTR+)** – *the highest level of rating based upon controlling skills. Senior controllers possess advanced knowledge of controller on the network.*
- 6. Controller (C1)** – *this position is permitted to control all positions including Flight Service Station (FSS) according to Global Policy Review*
- 7. Student 3 (S3)** – *this position is permitted to control all positions up to APP/DEP level according to GRP*
- 8. Student 2 (S2)** – Advanced level aerodrome control Controllers holding this rating can control any positions up to tower (TWR)
- 8. Student 1 (S1)** – *Beginning level of controller. Limited to positions of Ground and Clearance Delivery according to GRP*
- 9. Pilot/Observer (OBS)**

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Once you have passed the exam, you will be promoted to Student rating (STU). At this level you with tutorial lessons and evaluations, you will work on your certificates of controlling the positions of Clearance Delivery (DEL), Ground Control (GND), and Tower Control (TWR). Due to the complexity of certain airspace, you may also be required to receive certificate before controlling at some busy airports. If you are adept with control all three positions previously mentioned, you can apply for the Senior Student promotional exam. Promotion to the next level (up to Senior Controller) requires a promotional exam.

The following sections will discuss the details of the training process in depth.

C. Beginners Training Course Syllabus

1. Purpose

To introduce the VATSIM controlling environment to the new controllers and to convert member's knowledge earned from flying into controlling skills. The course will review the very basic knowledge of flying and discuss some new materials necessary for future controlling

2. Eligibility

Any VATSIM holding observer rating can apply for controlling at VATPRC. Those members should go to the "Member Service" section under the vatsim.net index page to register themselves to join VATPRC as their home division. After the registration, the member shall contact the local training department he or she wishes to join for training arrangement. *Extensive flying experience on the network is a recommendation though not a requirement.*

3. Training

The training for beginners usually consist of extensive reading and one or two instructor session. Reading material can be found under the VATPRC website. Length of training time is upon individual instructor's discretion

Covered topics:

1. Review Basic Piloting Skills
2. Brief Overview of the work of air traffic controllers
3. Airspace Classification
4. Metric System vs. English System
5. Transition altitude and transition level
6. Radio Phraseology
7. Basic Aviation Weather and its impact on ATC

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8. Decoding Weather Info (METAR and TAF)
9. Determining Runway in Use
10. Introduction to IFR and VFR
11. SID, STAR & IAP
12. Basics of Clearance Delivery
13. Roles of ATC and functions
14. VATSIM regulations and structure

In addition to the items listed above, students shall be introduced to the use of the VRC radar client. The following is a list of things that shall be taught:

1. Opening a sector file
2. Setting Primary Frequency (Tx, Rx)
3. Alias File and POF File
4. Visibility Range
5. Other general setting (Under "Setting" → "General")
6. Use of all function keys (F1-F12)
7. Use of the top toolbar
8. Use of Ruler (double clicking on the screen)
9. Aircraft List, Controller List, and Flight Strip
10. Other relevant information

4. OBS to S1 Exam (a.k.a. Entry Exam)

The student will be given a written exam with 30 multiple-choice questions after the completion of training. Reading materials and navigation charts are allowed on the test, while assistance from others is not permitted. Examinee will be given about a period of 2 weeks to complete the test after assignment.

Written Exam

1. This exam consist of 30 multiple choice questions and a short-answer question. Each multiple-choice consists of four choices. Candidates should select the best answer among the choices. The multiple-choice questions are worth 90% of the total points while the short-answer question is worth 10 % of the total points. No penalty will result from wrong answers or providing no answer.
2. Candidates can use any documented training materials during the written exam. They, however, should not consult anyone about the questions of the exam as the exam is designed to test the candidate's own knowledge. Any cheatings will result in a grade of zero.
3. Exam forms vary from months to months, so as the total score of each test. The passing rate of the exam, however, is uniformly 80% of the

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overall points. Students who fail the written has to await the next available test form or a period of seven (7) days if an alternative test form is already available.

5. Promotion

Once a controller has completed the written test, the controller's instructor will send a grade report to the candidate's email box within 7 days. Candidates who have successfully passed the test will be promoted to Student (STU+). Once the rating has been updated, the candidate will receive a notification from the VATSIM email system.

D. Student 1 Training Course Syllabus

1. Purpose

- To further explore ATC skills at clearance delivery (DEL) and ground (GND) levels with a certain period of practical controlling,
- To further discuss topics relating to delivery and ground ATC
- To gear students up with adequate skills to advance to tower (TWR) level aerodrome control

2. Training

- Training includes theoretical lessons (Ex. Lecture, one-to-one tutorials sessions etc.), mandatory reading, optional reading, and online practice.
- Student controllers shall obtain certificate to controller at each position (i.e. delivery, ground, and tower) during the course of this training. The controller may control positions that he or she has not been certified under instructor's or mentor's supervision. After the reception of certification, the controller may then control the specific position individually. This also applies to certain positions in busy airspace.
- *Covered topics:*
 - I. Review materials covered in the beginner course
 - II. ATC Conversations pertaining delivery and ground
 - III. Inspection of a flight plan (both IFR and VFE)
 - IV. Compare the elements of IFR clearance and VFR clearance
 - V. Pushback and startup clearance
 - VI. Taxi Clearance for fixed wing aircraft, helicopters and VTOL aircraft
 - VII. Taxi Clearance for multiple aircraft
 - VIII. Crossing active runways

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- IX. Coordination with other positions
- X. Introduction to collision awareness and prevention

In addition to the items listed above, students at this level will be introduced to the features of VRC related to delivery and ground ATC.

3. Exam Eligibility

- Per the Global Rating Policy (GRP) of VATSIM, S1 controllers have the option s of either a promotion to S2 or a promotion directly to S3, skipping the required training and exam for S2. The training director and/ or authorized personnel has/have the right to approve or reject the request of a S1 to S3 promotion
- Shall a controller wish to be promoted directly from S1 to S3, the promotional exam for such promotion will be a combination of S1-level and S2-level materials. Said exam will be discussed in a following section
- Controllers who wish to take either exam should consult their respective instructors about their eligibility. Generally, a controller who is qualified to take the S1 to S2 exam should have sufficient experiences, know clearly the procedures of aerodrome control up to ground (GND) level, have an awareness of various situations, a sense of potential conflicts, and have thorough understandings over the training materials.

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4. S1 to S2 Exam

- The exam consists of two parts: an open-book written exam and practical (OTS) exam. Each exam is administered independently, and grades of each individual exam will be calculated separately. (i.e. The grade of the written exam will not effect the grade of the OTS exam, and vice versa)

- Written Exam

- This exam consist of 25 multiple choice questions. Each consists of four choices. Candidates should select the best answer among the choices. No penalty will result from wrong answers or providing no answer
- Candidates can use any documented training materials during the written exam. They, however, should not consult anyone about the questions of the exam as the exam is designed to test the candidate's own knowledge. Any cheatings will result in a grade of zero.
- Exam forms vary from months to months, so as the total score of each test. The passing rate of the exam, however, is uniformly 80% of the overall points. Students who fail the written has to await the next available test form or a period of seven (7) days if an alternative test form is already available.

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- Practical Exam (Over-the-Shoulder Exam)

- This exam consists of a practical test during which the candidate will be controlling online on the VATSIM network for evaluation. The exam is most likely administered by the candidate's instructor. The exam will last about one to two hours, depending on the traffic volume during the exam.
- The examiner will be grading the candidate's performance with a standard grade sheet provided by the VATPRC Training Department.
- Candidates taking the test should familiarize themselves with the local procedures of the airport at which the examination takes place. Should they have any concerns or questions, they should consult their instructors before the exam.
- Candidate will be graded on the following criteria:
 1. Correct Use and Accuracy of Phraseology
 2. Ability of handle multiple aircraft at the same time
 3. Communication and Coordination with other positions
 4. Accurately granting IFR and VFR clearance (order, elements etc.)
 5. Handling Ground Movements
- Tools: Although it is not mandatory, candidates are strongly recommended to have navigation charts and cue cards with them during the test for quick references. Charts and VATPRC cue cards are available on the VATPRC website.

5. Promotion

- Once a controller has completed both written and OTS exams, the controller's instructor will send a grade report to the candidate's email box within 7 days. Candidates who have successfully passed both exams will be promoted to Student 2 (S2). Once the rating has been updated, the candidate will receive a notification from the VATSIM email system.

E. Student 2 Training Course Syllabus

1. Purpose

- To complete aerodrome control training by focusing on the last part, tower control (TWR)
- To further discuss topics relating to tower control (TWR)
- To gear students up with adequate skills to advance to radar control environment

2. Training

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- Training includes theoretical lessons (Ex. Lecture, one-to-one tutorials sessions etc.), mandatory reading, optional reading, and online practice.
- Student controllers shall obtain certificate to controller at each position during the course of this training. The controller may control positions that he or she has not been certified under instructor's or mentor's supervision. After the reception of certification, the controller may then control the specific position individually. This also applies to certain positions in busy airspace.
- *Covered topics:*
 - I. Review materials covered at previous levels
 - II. ATC Conversations pertaining tower control
 - III. Clearance related to an active runway
 - IV. Methods of granting takeoff clearances
 - V. Compare and contrast IFR departures and VFR departures
 - VI. Compare and contrast departure with SID and radar vector departure
 - VII. Takeoff clearance for fixed wing aircraft, helicopters and VTOL aircraft
 - VIII. Controlling aircraft in traffic circuits (pattern)
 - IX. VFR in tower airspace
 - X. Separation method and wake turbulence categories
 - XI. Aircraft performance at high-altitude airports
 - XII. Collision awareness and prevention in tower airspace
 - XIII. Handoffs and coordination with tower airspace

In addition to the items listed above, students at this level will be introduced to the features of VRC related to tower ATC.

3. Exam Eligibility

- i. Per the Global Rating Policy (GRP) of VATSIM, S1 controllers have the option of either a promotion to S2 or a promotion directly to S3, skipping the required training and exam for S2. The training director and/ or authorized personnel has/have the right to approve or reject the request of a S1 to S3 promotion
- ii. Shall a controller wish to be promoted directly from S1 to S3, the exam for such promotion will be a combination of S1-level and S2-level materials. Those controllers taking S1 to S3 exam are assumed to already have the knowledge in all aspects of aerodrome control in hand
- iii. Controllers who wish to take either exam should consult their respective instructors about their eligibility. Generally, a controller who is qualified to take the S2 to S3 exam should have sufficient experiences, know clearly all the procedures of aerodrome control, have an awareness of various situations, a

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sense of potential conflicts, and have thorough understandings over the training materials.

4. S2 to S3 Exam

- The exam consists of two parts: an open-book written exam and practical (OTS) exam. Each exam is administered independently, and grades of each individual exam will be calculated separately. (i.e. The grade of the written exam will not effect the grade of the OTS exam, and vice versa)

- Written Exam

- This exam consist of 25 multiple choice questions. Each consists of four choices. Candidates should select the best answer among the choices. No penalty will result from wrong answers or providing no answer
- Candidates can use any documented training materials during the written exam. They, however, should not consult anyone about the questions of the exam as the exam is designed to test the candidate's own knowledge. Any cheatings will result in a grade of zero.
- Exam forms vary from months to months, so as the total score of each test. The passing rate of the exam, however, is uniformly 80% of the overall points. Students who fail the written has to await the next available test form or a period of seven (7) days if an alternative test form is already available.

- Practical Exam (Over-the-Shoulder Exam)

- This exam consists of a practical test during which the candidate will be controlling online on the VATSIM network for evaluation. The exam is most likely administered by the candidate's instructor. The exam will last about one to two hours, depending on the traffic volume during the exam.
- The examiner will be grading the candidate's performance with a standard grade sheet provided by the VATPRC Training Department.
- Candidates taking the test should familiarize themselves with the local procedures of the airport at which the examination takes place. Should they have any concerns or questions, they should consult their instructors before the exam.
- Candidate will be graded on the following criteria:
 1. Correct Use and Accuracy of Phraseology
 2. Ability of handle multiple aircraft at the same time
 3. Communication and Coordination with other positions
 4. Accurately granting IFR and VFR clearance (order, elements etc.)
 5. Handling Ground Movements

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- Tools: Although it is not mandatory, candidates are strongly recommended to have navigation charts and cue cards with them during the test for quick references. Charts and VATPRC cue cards are available on the VATPRC website.

5. S1 to S3 Exam

- The purpose of this special exam is to give S1 controllers an opportunity to show their proficiency in aerodrome control. No previous experience on other network or real life experience is required to take this special exam. Students are suggested to take the S1 to S2 exam instead if they do not have the required knowledge (including practical online knowledge) for a S2 to S3 promotion
- Students can decide if they wish to take this special exam. However, the training director or the instructor in charge of the student's training has the final decision on whether the student is allowed to take the exam based on the student's previous online ATC performance and experience.
- Since this exam covers a relatively long list of topics, the exam itself should be longer in length than the S1 to S2 exam or the S2 to S3 exam alone.
- The exam consists of two parts: an open-book written exam and practical (OTS) exam. The written exam consists of 35-40 questions from the covered topics of S1 and S2 training. The OTS exam shall require the student to staff a tower position providing top-down service covering all parts of the aerodrome. Students taking this OTS exam shall demonstrate the required knowledge of both the S1-S2 and the S2-S3 exams. Each exam is administered independently, and grades of each individual exam will be calculated separately. (i.e. The grade of the written exam will not effect the grade of the OTS exam, and vice versa)

- Written Exam

- This exam consist of 35-40 multiple choice questions. Each consists of four choices. Candidates should select the best answer among the choices. No penalty will result from wrong answers or providing no answer
- Candidates can use any documented training materials during the written exam. They, however, should not consult anyone about the questions of the exam as the exam is designed to test the candidate's own knowledge. Any cheatings will result in a grade of zero.
- Exam forms vary from months to months, so as the total score of each test. The passing rate of the exam, however, is uniformly 80% of the overall points.

Students who fail the written has to await the next available test form or a period

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of seven (7) days if an alternative test form is already available.

- Practical Exam (Over-the-Shoulder Exam)

- This exam consists of a practical test during which the candidate will be controlling online on the VATSIM network for evaluation. The exam is most likely administered by the candidate's instructor. The exam will last about one to two hours, depending on the traffic volume during the exam.
- The examiner will be grading the candidate's performance with a standard grade sheet provided by the VATPRC Training Department.
- Candidates taking the test should familiarize themselves with the local procedures of the airport at which the examination takes place. Should they have any concerns or questions, they should consult their instructors before the exam.
- Grading criteria for this exam shall be a combination of the criteria of both the S1 to S2 exam and the S2 to S3 exam.
- Tools: Although it is not mandatory, candidates are strongly recommended to have navigation charts and cue cards with them during the test for quick references. Charts and VATPRC cue cards are available on the VATPRC website.

6. Promotion

- Once a controller has completed both written and OTS exams, the controller's instructor will send a grade report to the candidate's email box within 7 days. Candidates who have successfully passed both exams will be promoted to Student 3 (S3). Once the rating has been updated, the candidate will receive a notification from the VATSIM email system.

F. Student 3 Training Course Syllabus

1. Purpose

- Training at this level takes substantial amount of time as an extensive amount of material will be covered during the course
- To introduce students to the radar control environment and learn about radar identification
- To thorough understand the structure of the terminal airspace and learn to provide adequate separation
- To gear students up with relevant skills to advance to en-route control

2. Training

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- Training includes theoretical lessons (Ex. Lecture, one-to-one tutorials sessions etc.), mandatory reading, optional reading, and online practice.
- Student controllers shall obtain certificate to controller at each position during the course of this training. The controller may control positions that he or she has not been certified under instructor's or mentor's supervision. After the reception of certification, the controller may then control the specific position individually. This also applies to certain positions in busy airspace.
- *Covered topics:*
 - I. Review materials covered at previous levels
 - II. ATC Conversations pertaining terminal airspace control
 - III. Review airspace classification
 - IV. Structure and boundary of Terminal airspace
 - V. Compare IFR and VFR in terminal airspace
 - VI. VFR radar control (traffic advisory, separation minima etc.)
 - VII. Reading and make use of a SID/STAR/IAPcharts
 - VIII. SID/STAR clearance
 - IX. Climb rate, descend rate and aircraft velocity
 - X. Calculating descent distance
 - XI. Various IAPs and radar vectoring to these approaches
 - XII. How does visual approach work?
 - XIII. Vertical and Lateral Separation
 - XIV. Wake Turbulence in terminal airspace
 - XV. Fundamentals of Radar Vectoring
 - XVI. Collision awareness and prevention in terminal airspace
 - XVII. Handoffs and coordination with aerodrome control and en-route control

In addition to the items listed above, students at this level will be introduced to the features of VRC related to tower ATC.

3. Exam Eligibility

Controllers who wish to take the S3 to C1 exam should consult their respective instructors about their eligibility. Generally, a controller who is qualified to take the S3 to C1 exam should have sufficient experiences as APP/DEP controller, know clearly all the procedures of terminal control, have an awareness of various situations, a sense of potential conflicts, and have thorough understandings over the training materials listed above.

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4. S3 to C1 Exam

- The exam consists of two parts: an open-book written exam and practical (OTS) exam. Each exam is administered independently, and grades of each individual exam will be calculated separately. (i.e. The grade of the written exam will not effect the grade of the OTS exam, and vice versa)

- Written Exam

- This exam consist of 20 multiple choice questions and 5 short-answer question. Each multiple-choice consists of four choices. Candidates should select the best answer among the choices. The multiple-choice questions are worth 80% of the total points while the short-answer question is worth 20 % of the total points. No penalty will result from wrong answers or providing no answer
- Although this is an open-book exam, they should not consult anyone about the questions of the exam as the exam is designed to test the candidate's own knowledge. Any cheatings will result in a grade of zero.
- Exam forms vary from months to months, so as the total score of each test. The passing rate of the exam, however, is uniformly 80% of the overall points. Students who fail the written has to await the next available test form or a period of seven (7) days if an alternative test form is already available.

- Practical Exam (Over-the-Shoulder Exam)

- This exam consists of a practical test during which the candidate will be controlling online on the VATSIM network for evaluation. The exam is most likely administered by the candidate's instructor. The exam will last about one to two hours, depending on the traffic volume during the exam.
- The examiner will be grading the candidate's performance with a standard grade sheet provided by the VATPRC Training Department.
- Candidates taking the test should familiarize themselves with the local procedures of the airport at which the examination takes place. Should they have any concerns or questions, they should consult their instructors before the exam.
- Candidate will be graded on the following criteria:
 1. Correct Use and Accuracy of Phraseology
 2. Ability of handle multiple aircraft at the same time
 3. Communication and Coordination with other positions
 4. Accurately granting IFR and VFR clearance (order, elements etc.)
 5. Accurately radar-identifying an aircraft
 6. Proper separation amongst aircraft in the airspace
 7. Able to predict movement of radar identified aircraft from what is on the

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screen and through communication

8. Awareness of potential conflict

- Tools: Although it is not mandatory, candidates are strongly recommended to have navigation charts and cue cards with them during the test for quick references.

Charts and VATPRC cue cards are available on the VATPRC website.

5. Promotion

- Once a controller has completed both written and OTS exams, the controller's instructor will send a grade report to the candidate's email box within 7 days. Candidates who have successfully passed both exams will be promoted to Controller 1 (C1). Once the rating has been updated, the candidate will receive a notification from the VATSIM email system.

G. Controller 1 Training Course Syllabus

1. Purpose

- The training at this level shall complete everything a controller needs to know to
- To continue the study of radar control at en-route level
- To introduce students to procedural control (non-radar control environment)

2. Training

- Training includes theoretical lessons (Ex. Lecture, one-to-one tutorials sessions etc.), mandatory reading, optional reading, and online practice.
- Student controllers shall obtain certificate to controller at each position during the course of this training. The controller may control positions that he or she has not been certified under instructor's or mentor's supervision. After the reception of certification, the controller may then control the specific position individually. This also applies to certain positions in busy airspace.
- *Covered topics:*
 - I. Review materials covered at previous levels
 - II. ATC Conversations pertaining terminal airspace control
 - III. Review airspace classification
 - IV. Structure and boundary of Terminal airspace
 - V. Compare IFR and VFR in terminal airspace
 - VI. VFR radar control (traffic advisory, separation minima etc.)
 - VII. Reading and make use of a SID/STAR/IAPcharts
 - VIII. SID/STAR clearance

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- IX. Climb rate, descend rate and aircraft velocity
- X. Calculating descent distance
- XI. Various IAPs and radar vectoring to these approaches
- XII. How does visual approach work?
- XIII. Vertical and Lateral Separation
- XIV. Wake Turbulence in terminal airspace
- XV. Fundamentals of Radar Vectoring
- XVI. Collision awareness and prevention in terminal airspace
- XVII. Handoffs and coordination with aerodrome control and en-route control

In addition to the items listed above, students at this level will be introduced to the features of VRC related to tower ATC.

3. Eligibility for Promotion

Controllers who wish to take the S3 to C1 exam should consult their respective instructors about their eligibility. Generally, a controller who is qualified to take the S3 to C1 exam should have sufficient experiences as APP/DEP controller, know clearly all the procedures of terminal control, have an awareness of various situations, a sense of potential conflicts, and have thorough understandings over the training materials listed above.

4. C1 to C3 Exam and Certification

- The exam consists of two parts: an open-book written exam and practical (OTS) exam. Each exam is administered independently, and grades of each individual exam will be calculated separately. (i.e. The grade of the written exam will not effect the grade of the OTS exam, and vice versa)

- Written Exam

- This exam consist of 20 multiple choice questions and 5 short-answer question. Each multiple-choice consists of four choices. Candidates should select the best answer among the choices. The multiple-choice questions are worth 80% of the total points while the short-answer question is worth 20 % of the total points. No penalty will result from wrong answers or providing no answer
- Although this is an open-book exam, they should not consult anyone about the questions of the exam as the exam is designed to test the candidate's own knowledge. Any cheatings will result in a grade of zero.
- Exam forms vary from months to months, so as the total score of each test. The

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passing rate of the exam, however, is uniformly 80% of the overall points.

Students who fail the written has to await the next available test form or a period of seven (7) days if an alternative test form is already available.

- Practical Exam (Over-the-Shoulder Exam)

- This exam consists of a practical test during which the candidate will be controlling online on the VATSIM network for evaluation. The exam is most likely administered by the candidate's instructor. The exam will last about one to two hours, depending on the traffic volume during the exam.
- The examiner will be grading the candidate's performance with a standard grade sheet provided by the VATPRC Training Department.
- Candidates taking the test should familiarize themselves with the local procedures of the airport at which the examination takes place. Should they have any concerns or questions, they should consult their instructors before the exam.
- Candidate will be graded on the following criteria:
 1. Correct Use and Accuracy of Phraseology
 2. Ability of handle multiple aircraft at the same time
 3. Communication and Coordination with other positions
 4. Accurately granting IFR and VFR clearance (order, elements etc.)
 5. Accurately radar-identifying an aircraft
 6. Proper separation amongst aircraft in the airspace
 7. Able to predict movement of radar identified aircraft from what is on the screen and through communication
 8. Awareness of potential conflict
- Tools: Although it is not mandatory, candidates are strongly recommended to have navigation charts and cue cards with them during the test for quick references. Charts and VATPRC cue cards are available on the VATPRC website.

5. Promotion

- Once a controller has completed both written and OTS exams, the controller's instructor will send a grade report to the candidate's email box within 7 days. Candidates who have successfully passed both exams will be promoted to Controller 1 (C1). Once the rating has been updated, the candidate will receive a notification from the VATSIM email system.