

MEASUREMENT OF MASTERY

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4000. MEASUREMENT OF MASTERY. All training conducted by AAS will be based on the mastery concept and performance evaluation will be the preferred method of mastery measurement. Three levels of mastery will be evaluated within each course of instruction. These levels are learning objective, duty area, and course mastery.

1. Learning objective mastery is achieved when a student demonstrates that they can perform to the standard specified in the corresponding ITS. To the maximum extent possible, terminal learning objective (TLO) mastery will be evaluated on a simple mastery or non-mastery basis without being otherwise scored. The student should receive remedial instruction and be given the opportunity to retake the examination to demonstrate mastery.

2. Duty area mastery is determined by evaluation of accumulated knowledge after related instruction has been completed in a duty area as specified in the POI. Academic failure and disenrollment may be contemplated when a student's performance in a duty area or areas indicates a failure to master the course material.

3. Course mastery is achieved when a student demonstrates that they can perform to the standards specified in the associated POI. It is the goal of AAS that each student masters each TLO in the associated POI. As necessary, remediation should be utilized to ensure achievement of this objective.

4. Specific mastery requirements will be outlined in Section V of each POI produced by AAS. Some courses may have different standards for mastery, e.g. MOS producing courses versus non-MOS producing courses.

4001. WRITTEN EXAMINATIONS. Written examinations are utilized to assess student knowledge with regards to performing an objective or task. Written examinations should be utilized when the knowledge required to perform an objective or task is complex or when a lack of knowledge prior to practicing an objective or task may likely result in damage to equipment or personnel. Written examination may also be utilized when resource constraints prohibit the school from having the student actually perform the task.

1. Developing Written Examinations. Written test items and examinations will be developed using the guidelines established in the Systems Approach to Training User's Guide. A minimum of two versions of each written examination will be developed in the event of an academic failure and retest. True/False test items should not be used on any examination due to the difficulty in effectively validating these items. Written examinations will be completely reviewed by the platform instructor prior to being given. This is to ensure all questions are clear and relevant to the material being tested.

2. Examination Security. Course supervisors will ensure that examinations are controlled and properly secured at all times. No written examination materials will be left in a place where students might gain access to them. When reproducing an examination, all spoiled materials will be recovered and destroyed. Examination materials no longer required will be destroyed. Appropriate precautions will also be taken to safeguard test materials maintained electronically. Examinations will remain in the Curriculum Development Section until time of administration.

3. Administering Written Examinations. The course supervisors will ensure that only qualified instructors who are familiar with the procedures for administering examinations are allowed to administer a written examination. The guidelines for administering a written examination include:

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a. Instructions regarding specifically how the examination will be administered will be provided to the student prior to beginning the examination. The points that must be addressed prior to beginning the examination include:

(1) Students will be informed of the learning objectives and the specific periods of instruction measured by the examination.

(2) Students will be informed of the appropriate method for responding to the examination items.

(3) Students will be informed of how the examination will be graded and the minimum score, which they must achieve to demonstrate mastery.

(4) Students will be informed of the amount of time they have to complete the examination. The start and stop time for the examination should be posted so that it is easily visible to all students during the examination.

(5) Students will be informed of what they are to do once that they have completed the examination.

b. Students will be informed of what constitutes cheating and the associated consequences for being discovered cheating. A student who is found cheating on an examination will be given a zero for that examination and disciplinary action may be taken, as appropriate. If allowed to remain enrolled, the student will be given an alternative version of the test. For computing the students overall GPA, the student will receive a zero.

4. Grading Written Examinations. The course supervisor will ensure that written examinations are graded and the results provided to the respective student in a timely manner. The timely tabulation and reporting of test results reduces the test anxiety experienced by most students and allows them to better focus on the next examination or block of instruction.

5. Analyzing Written Examinations. The MCAIMS evaluation module will be used to analyze test items and examinations. Each item of every examination administered will be analyzed to determine its validity, reliability, objectivity, economy, administrative feasibility, and standardization. Examination items which are continually missed by a significant number of students should be examined to determine if the item is poorly constructed, not covered in the lesson plan, on a higher level than the instruction delivered, not covered or incorrectly covered due to poor instruction, etc. As a rule of thumb, an examination item missed by more than 40% of the student population should be thoroughly examined for validity and reliability.

6. Written Examination Critique. Each written examination will be critiqued as soon as possible following the completion and scoring of the examination. The critique will consist of reading the test item, stating the correct answer, and explaining why the other answers are not correct, as appropriate. Student complaints or grievances regarding examination items should only be considered if the examination item is determined to be invalid or unreliable based on the instruction provided.

4002. PERFORMANCE EXAMINATIONS. An examination item that requires the student to perform a task is considered a performance examination. A performance examination duplicates job behaviors by using the same equipment, resources, setting, or circumstances that the student will encounter on the job.

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1. Types of Performance Examinations. A performance examination can evaluate a process, a product, or a process and product.

a. A process performance examination is utilized when only the steps of a procedure are to be measured or assessed. (i.e. disassemble the M240G machinegun using the procedure outlined in the technical manual)

b. A product performance examination is utilized when a task can be performed in a number of acceptable ways to achieve the desired outcome or product. (i.e. with the M16A2 service rifle, fire a 3 round shot group)

c. A process-product performance examination is utilized when it is important that the steps of a procedure and the outcome of a task are both measured or assessed. (i.e. throw a grenade within five meters of a target while demonstrating the proper procedure for throwing a grenade from the prone position)

2. Developing Performance Examinations. To the extent possible, performance examination items will be designed to meet the standards of the ITS / T&R Event. All performance items will be developed in detail to the extent that any instructor would reasonably be able to conduct and grade the examination in the same manner given the examination materials. All performance test items will be developed in the MCAIMS curriculum module. Process and process-product performance examination items will be created in MCAIMS using the "Performance Checklist" fields. Product only performance examination items will be created in MCAIMS using the "Performance" fields. The Platform Instructor, in conjunction with the Curriculum developer, is responsible for ensuring the performance test is in accordance MCAIMS.

3. Administering Performance Examinations

a. The Practical Application Instructor Guide used to conduct the practical application exercise will be referenced and used to administer the performance examinations. Exceptions to the requirements or procedures documented in the guide should be documented in the appropriate MCAIMS examination item field. If it would be inappropriate to utilize the corresponding guide, a specific guide will be created to administer the performance examination.

b. Specific instructions on how the examination will be administered will be provided to the student prior to beginning the examination by the Platform Instructor. The Platform Instructor will ensure that all Practical Application Instructors understand the grading criteria for each event prior to testing. The points that must be addressed to the students prior to beginning the examination include:

(1) Students will be informed of the learning objectives and the specific periods of instruction measured by the examination.

(2) Students will be informed of how the examination will be graded and the minimum requirements that they must achieve to demonstrate mastery.

(3) Students will be informed of the safety hazards and precautions associated with performing the task. Students will also be informed of the consequences of violating a safety precaution or rule. (i.e. point deductions, examination failure, disciplinary action, etc.)

(4) Students will be informed of the amount of time they have to complete the examination, as appropriate.

4. Grading Performance Examinations. Specific criteria will be established and documented for grading performance examinations. Criteria established for grading performance examination items will be based on the extent to which the student correctly performs the procedure established in the reference(s), the ITS / T&R Event Code, or other approved document. To the extent possible, criteria established for grading will be clearly defined and consistent with the associated ITS / T&R Event Code.

5. Analyzing Performance Examinations. The results of all performance examinations will be tracked and analyzed. This analysis will be used to ensure that the examination item is designed appropriately and to ensure that shortcomings do not exist in the instruction that may preclude students from performing the task to standard. For process performance examination items, results should be tracked and analyzed regarding the degree to which students appropriately perform each of the performance steps. For product performance examination items, results should be tracked and analyzed regarding the degree to which students achieve the desired outcome. For process-product performance examination items, each of the above factors should be tracked and analyzed.

6. Performance Examination Debrief. A debrief of the performance examination should be conducted as soon as possible after the examination results have been reviewed. Any shortcomings in class performance should be addressed and the appropriate procedure and/or standard for performance should be reinforced.

4003. MEASURES OF EFFECTIVENESS (MOE). Each platoon/section involved in student training at AAS will become familiar with the Measures of Effectiveness (MOE) program that has been designed to record the effectiveness of the instruction for its courses. At a minimum, this MOE will consist of a list of students and subject areas for which a recorded efficiency (grade, pass/fail, mastery/non-mastery) can be recorded. This MOE will also be designed to provide empirical data such as the student's overall GPA and the average grade of all students for each individual subject. The MOE will be a part of the After Instruction Report.

4004. OBSERVATION AS A MEASUREMENT METHOD. Any behavior that can be observed can be measured. Student behavior such as motivation, perseverance, and attitude may be assessed provided that a set of criteria that defines expected behavior is established to evaluate exhibited behavior. Training unit platoon commanders are encouraged to evaluate and record student behavior in regards to defined expected behavior and to consider this information when assessing student progress and course mastery.

4005. TEST FAILURES. When a student fails a test, either written or performance, the following actions will occur:

a. After the first test failure the student will be counseled by the Course Supervisor, or Course Chief.

b. If the student fails a second test the student will be interviewed and counseled by the Academics Officer. The Course Supervisor will ensure the Academics Officer is provided with the student's entire record jacket. The Academics Officer will make an attempt to determine any deficiencies in the students learning abilities. The Academics Officer will recommend any extra tutoring the student may require. All students failing two exams will be placed on academic probation and required to attend study halls for two hours on Sunday and one hour on Monday, Wednesday, and Friday. Platform Instructors are responsible for conducting study hall.

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c. If a student fails a third test during the course of instruction the student will be interviewed and counseled by the Battalion Commander. The student will be recycled to another class unless the Battalion Commander dictates otherwise after interviewing the student.

d. All three counseling sessions will be formal, in writing, and a record maintained in the student's AAS Battalion student record jacket. All counseling sessions will be documented. At a minimum, the academic counseling documentation will include:

1. Date counseling was conducted.
2. Name and rank of counselor.
3. Name and rank of student.
4. Course title and number.
5. Description of the academic deficiency.
6. Student's reactions/explanation for the academic deficiency.
7. Recommendations for the improvement of academic performance.
8. Dated signature of the counselor and the student. The student's signature does not specify agreement with the recommendations of the instructor, but serves as the student's acknowledgement that they have received academic counseling.

e. If a student is recycled to another class due to academic deficiencies they will be assigned to the next available class. The student will be required to start over at a point in the course determined by the Battalion Commander.

f. Each student who fails an exam will be provided remedial instruction, and at least one additional opportunity to demonstrate mastery. At such time as remediation is completed, the student will be administered an alternate version of the test to assess mastery. Original test scores will be used in calculation of grade point averages.

4006. CHALLENGING A COURSE. Due to the nature of AAS courses, it is the policy of AAS that a course cannot be challenged. In exceptional situations, intermediate or career level students may request an exemption in writing and submit to the CO, AAS for approval or disapproval. In the event that an exception is granted, the challenge examination will be constructed from the same written and performance examination items established in the respective POI.