

How do I create a test schedule and assign a grade weight for each test?

[What is a test schedule and why is it necessary?](#)

[How do I develop a test schedule?](#)

[What is a grade weight?](#)

[How do I assign grade weights to assessments?](#)

What is a test schedule and why is it necessary?

The test schedule is one section of a testing plan. A test schedule is a list of all the formal assessments/tests in the course. It contains the test number, test name, test type, the unit corresponding to the test, the lesson number after which the test is given, the learning objectives covered on each test, and the grade weight of the test. A test schedule ensures that all highly and moderately critical objectives are assessed.

How do I develop a test schedule?

Click on the steps below to guide the development of a test schedule.

1. [Determine the natural breaks in the instruction for test placement.](#)
2. [Determine the formal assessment types for each break.](#)
3. [Fill in test number, test name, and test type.](#)
4. [Select units and/or lessons to be covered for each test.](#)

1. **Determine the natural breaks in the instruction for test placement.**

The Course Master Schedule (CMS) may be used as a guide. A CMS is a curriculum control document that lists the sequence of units and lessons by days or periods for the course. In this sequence, test periods are indicated. These test periods should be used to decide after which units and lessons a test should be given. (Source: NAVEDTRA 135B, A-5-18, J-3; NAVEDTRA 130A, Volume I, 7-2-9)

Keep the following points in mind as you determine where tests should be placed:

- A test should cover about 40 to 50 hours of instruction, but varies depending on the complexity of the material. Schedule more frequent tests if critical skills are necessary before new skills are learned and schedule less frequent tests if the skills need time to develop. If the tests are too frequent, short-term memorization may result.
- Knowledge tests are usually limited to 10% of the total instructional time.
- Tests should be scheduled so that a minimum of one overnight period is set aside for student preparation.
- Tests should cover multiple lessons, but may cover just one lesson.

(Source: NAVEDTRA 135A, 8-A-7-1; NAVEDTRA 135B, A-5-18, J-3)

2. **Determine the formal assessment types for each break.**

The assessment type should reflect the outcomes (knowledge or skill) of the LOs that precede the testing break. More than one testing type may be used when both a knowledge test and a performance test are necessary. For example, if students must understand transistor theory before troubleshooting a particular radar device, it may be appropriate to formally test students' knowledge on a knowledge test before testing their skill on a performance test.

- A **knowledge progress test** is a test used to measure student achievement of theory and/or background knowledge. Knowledge progress tests are given at different points within the course to assess student progress. They may include multiple choice, true-false, matching, completion, and essay items. (Source: NAVEDTRA 130A, Volume I, 8-A-5-1, 8-1-1)
- A **performance progress test** is given at different points within the course to assess student progress. Performance progress tests measure the students' ability to perform a specific skill or behavior by having them use actual equipment or training devices. It is a sample work situation in which the student demonstrates the ability to do and/or complete a task or job. Performance tests can be a process test and/or a product test. **Process tests** focus on whether the student can correctly perform the steps of the procedure or process. **Product tests** focus on whether the student can produce or construct a product that meets specifications. **Combination tests** focus on both the correct performance of the procedural steps and construction of the product. (NAVEDTRA 130A, Volume I, 8-A-3-1; NAVEDTRA 135, C-1)
- A **comprehensive test** may be a performance and/or a knowledge test. It is used to measure mastery and/or retention of previously tested material. Within-course comprehensive tests are used in long courses where it would be impractical to administer one final test. Final comprehensive tests are given at the end of the course. Each course is required to have one comprehensive test. (NAVEDTRA 135B, Appendix C-2)
- A **pretest** is the only formal assessment that is NOT grade weighted. A pretest is a test that occurs before the instruction is given. Pretests are designed to measure student mastery of the learning objectives that will be taught. This information is used to determine if a student has the knowledge and skill needed for acceleration. Pretests can also be used to determine if the student has the required prerequisite knowledge and skills necessary for the course. (Source: NAVEDTRA 135B, Appendix C-2)

3. **Fill in test number, test name, and test type.**

The test number and test name should conform to Navy and command standards, while the test type reflects the test type determined in Step 2.

4. **Select units and/or lessons to be covered for each test.**

The unit and lesson selections should be based on the units and lessons that precede the test break and will be assessed on the test. In the case of progress tests, the units and lessons will generally be the units and lessons that followed the last progress test.

What is a grade weight?

When calculating the course grade, grade weighting is the practice of counting critical assessments more highly than less critical assessments. Grade weights should correspond to the relative importance and the number of learning objectives being assessed on the test. Tests that contain more critical learning objectives (Los) should receive a higher grade weight, while tests with less critical LOs should be given a lower grade weight. However, the total weight for the

course, when all assessments are added, must always equal 1.00 (100%). (Source: NAVEDTRA 135B, 5-1-3)

How do I assign grade weights to assessments?

Assigning grade weights is a complex process, especially as the number of learning objectives (Los) increase. There are many ways of assigning grade weights and no one process is necessarily the best. Click on the steps below to guide your assignment of grade weights.

1. [Develop the test schedule.](#) (Completed in "Create Test Schedule" section of Scheduling and Grading)
2. [Determine if the informal assessments used in the course will be grade weighted.](#)
3. [Determine the grade weight\(s\) of the comprehensive test\(s\).](#)
4. [Determine the initial grade weight for each progress test used in the course.](#)
5. [Determine the grade weight of each progress test used in the course.](#)
6. [Revise all grade weighted assessments to determine if they have the appropriate grade weights and that all grade weights sum to 1.00.](#)
7. [Make sure all grade weights are in decimal form.](#)

1. Develop the test schedule.

The test schedule should be completed prior to assigning grade weights. This is created in "Create Test Schedule" section of Scheduling and Grading. A completed test schedule contains all of the tests that will be grade weighted. See [How do I develop a test schedule?](#) above for more information.

2. Determine if the informal assessments used in the course will be grade weighted.

Informal assessments may or may not be grade weighted in the class.

- If they have **not** been standardized, the informal assessments cannot be used as a grade weighted assessment. For example, for a quiz to be grade weighted, the quiz should have gone through the same developmental and revision process as the formal assessments in the course.
- If the material is complex and usually difficult for the students, graded informal assessments can be used to reduce the students' stress by spreading the grade weight of the material across many assessments.
- If the formal assessment is constrained in some way so that a complete assessment cannot occur, an informal assessment or a series of informal assessments can be used to completely assess the material.
- If the formal assessments fully assess the objectives of the course, it may be unnecessary to grade weight informal assessments.

If the informal assessments will not be used as part of the grade weight, enter a 0 into the grade weight box. Generally, informal assessments are not heavily weighted. In most instances, they should be assigned about 10% or .10 of the course grade. However, this percentage (weight) can vary depending on the number of informal assessments weighted, the total number of formal assessments, and the complexity of the objectives. For instance, if a course has only a few formal assessments but a large number of informal assessments, the informal assessments in this course should be weighted more than they would be in a course with a large number of formal assessments.

3. Determine the grade weight(s) of the comprehensive test(s).

Use the following guidelines to determine how to weight comprehensive tests:

- If there is only one comprehensive test in the course, it is usually given more weight than any one progress test in the course.
- If more than one comprehensive test is given, they should be weighted on the amount of information they cover and the criticality of the information.
- If the critical objectives of the course are performance oriented, then knowledge comprehensive tests may be weighted less than a performance comprehensive test and/or some other performance progress tests. The exception occurs when the performance tests are graded SAT/UNSAT. In these cases, knowledge comprehensive tests should be weighted more than performance tests.

4. **Determine the initial grade weight for each progress test used in the course.**

Divide the unused (not taken up by informal assessments and comprehensive tests) grade weight by the amount of progress tests in the course. This is the starting grade weight for each progress test.

For example, in Course A the grade weight for quizzes is 0.05 and practical work is 0.05. Also, there is a comprehensive test that has a grade weight of 0.20. The total used portion of the grade weight is 0.30 (0.05 + 0.05 + 0.20). Thus, the total unused grade weight is 0.70 (1.00 - 0.30). There are five progress tests in the course. Initially, each progress test should be worth 0.14 (0.70 divided by 5).

5. **Determine the grade weight of each progress test used in the course.**

One method of determining the grade weights is to rank order the tests based on the criticality of the objectives. The tests that assess more critical learning objectives should have a higher grade weight. Click on the steps below to guide you in ranking the tests:

Step 1. [For each test, sum the criticality scores of its learning objectives.](#)

Step 2. [Calculate the average criticality score for the learning objectives on the test.](#)

Step 3. [Rank the tests based on their averages. When there are ties, use the total test criticality score sum as the tiebreaker. In general, the HIGHER the average and the sum of the ranks, the more critical the items covered on the test.](#)

Step 4. [When necessary, use personal judgment to slightly shift the ranked order of the tests.](#)

Step 1. For each test, sum the criticality scores of its learning objectives.

(Add all of the criticality scores for a learning objective.)

Below are examples on how to sum the criticality scores.

Examples:

| Test Name | Learning Objectives | Learning Objective's Criticality Scores | Total Test Criticality Score Sum |
|-----------------|---------------------|---|----------------------------------|
| Progress test 1 | 1.1 | 4 | 12 (4+3+5=12) |
| | 1.2 | 3 | |
| | 1.3 | 5 | |
| Progress test 2 | 2.1 | 8 | 30 |
| | 2.2 | 4 | |
| | 2.3 | 6 | |

| | | | |
|-----------------|-----|---|----------------|
| | 2.4 | 8 | |
| | 2.5 | 4 | (8+4+6+8+4=30) |
| Progress test 3 | 3.1 | 4 | 40 |
| | 3.2 | 4 | |
| | 3.3 | 3 | |
| | 3.4 | 6 | |
| | 3.5 | 6 | |
| | 3.6 | 4 | |
| | 3.7 | 3 | |
| | 3.8 | 2 | |

- Progress test #1 has three learning objectives (1.1, 1.2, and 1.3) with the corresponding criticality scores of 4, 3, and 5. The total test criticality score sum is 12 (4+3+5).
- Progress test #2 has five learning objectives (2.1, 2.2, 2.3, 2.4, and 2.5) with criticality scores of 8, 4, 6, 8, and 4. The total test criticality score sum is 30 (8+4+6+8+4).
- Progress test #3 has eight learning objectives (3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8) with criticality scores of 4, 4, 3, 6, 5, 4, 3, and 3. The total test criticality score sum is 32 (4+4+3+6+6+4+3+2=32).

Step 2. Calculate the average criticality score for the learning objectives on the test.
(Average is a sum of the criticality scores divided by the amount of LOs on the test.)

Below are examples of how to determine the average criticality score.

Example:

| Test Name | Learning Objectives | Total Test Criticality Score Sum | Average Criticality Score |
|-----------------|---------------------|----------------------------------|---------------------------|
| Progress test 1 | 1.1 | 12 | 4 |
| | 1.2 | | |
| | 1.3 | | |
| Progress test 2 | 2.1 | 30 | 6 |
| | 2.2 | | |
| | 2.3 | | |
| | 2.4 | | |
| | 2.5 | | |
| Progress test 3 | 3.1 | 32 | 4 |
| | 3.2 | | |
| | 3.3 | | |
| | 3.4 | | |
| | 3.5 | | |
| | 3.6 | | |
| | 3.7 | | |
| | 3.8 | | |

- Progress test #1 has a test total criticality score sum of 12 and three learning objectives. The average criticality score is determined by dividing 12 (the total test criticality score sum) by 3 (the number of learning objectives). The average criticality score is 4 (12/4=3).

- Progress test #2 has a test total criticality score sum of 30 and five learning objectives. The average criticality score is determined by dividing 30 (the total test criticality score sum) by 5 (the number of learning objectives). The average criticality score is 6 ($30/5=6$).
- Progress test #3 has a test total criticality score sum of 32 and eight learning objectives. The average criticality score is determined by dividing 32 (the total test criticality score sum) by 8 (the number of learning objectives). The average criticality score is 4 ($32/8=4$).

Step 3. Rank the tests based on their averages.

When there are ties, use the total test criticality score sum as the tiebreaker. In general, the HIGHER the average and the sum of the ranks, the more critical the items covered on the test.

Below is an example on how to determine the ranked order of tests.

Examples:

| Rank | Test Name | Total Test Criticality Score Sum | Average Criticality Score |
|------|-----------------|----------------------------------|---------------------------|
| 1 | Progress Test 2 | 30 | 6 |
| 2 | Progress Test 3 | 32 | 4 |
| 3 | Progress Test 1 | 12 | 4 |

- By comparing the averages, progress test #2 is more critical than progress test #1 and progress test #3, because progress test #2's average criticality score is higher than both progress test #1 and progress test #3's average criticality scores. Therefore, progress test #2 is ranked 1.
- Progress test #1 and progress test #3 have the same average criticality scores; however the total test criticality score sum for progress test #3 is higher than the total test criticality score sum for progress test #1. Therefore, progress test #3 is ranked 2 and progress test #1 is ranked 3.

Step 4. When necessary, use personal judgment to slightly shift the ranked order of the tests.

Once the test rankings have been determined, add or subtract grade weight from the initial grade weight of each progress test based on the test rankings. In general, tests that are ranked higher should have a larger grade weight than tests that are ranked lower.

Below is an example of how to determine the grade weights based on test rankings.

Example:

| Test Name | Rank | Grade Weight |
|------------------|------|--------------|
| Progress test #1 | 3 | .12 |
| Progress test #2 | 1 | .16 |
| Progress test #3 | 2 | .14 |

Progress test #2 should have the highest grade weight and progress test #1 should have the lowest grade weight. Thus, a few points should be added to progress test #2 and removed from progress test #1. The grade weight for progress test # 2 is now .16 ($.14 + .02$), while progress test #1 is now .12 ($.14 -.02$).

6. **Revise all grade weighted assessments to determine if they have the appropriate grade weights and that all grade weights sum to 1.00.**

If necessary, change the grade weights of the informal assessments, the comprehensive tests, and the progress tests to balance the grade weights for the course. It is important to look at all of the learning objectives covered by the assessments and add more grade weight when:

- The knowledge or skills is needed for day one in the fleet
- The basic skills used for rest of course is built upon these learning objectives
- The student will perform the learning objectives with little or no supervision in the fleet.
- The knowledge or skill tested in this section is critical upon arrival to the fleet.
- When the knowledge is more important than the skill. Rank the knowledge test higher than the performance test.
- When the performance is more important than the knowledge. Rank the performance test higher than the knowledge test.

Make sure to balance all additions with subtractions and vice versa. Remember, the total grade weight should not exceed 1.00.

7. **Make sure all grade weights are in decimal form.**

Decimals are numerical forms of fractions. Decimals are calculated by dividing the numerator (the top number in the fraction) by the denominator (the bottom number in the fraction).

Examples:

- $.27 = 27/100$
- $.7 = 7/10$
- $.5 = 1/2$

If you have two tests that are equal weight then each test is worth $1/2$ of the grade. The grade weight for each test is $.5$ (1 divided by 2 is $.5$).

If you have a course with five tests each of equal weight. Each test is worth $1/5$ of the grade of the whole course. The grade weight for each test is $.2$ (1 divided by 5 is $.2$).

If you have a test worth $2/3$ of the total course grade, then the grade weight for each test is $.67$ (2 divided by 3 is $.67$).

Percents are fractions in which the denominator (the bottom number) is always 100 . % means divided by 100 . Percents can be converted to decimals by dividing the percent (numerator) by 100 .

Examples:

- $27\% = 27/100 = .27$
- $70\% = 70/100 = .7$
- $50\% = 50/100 = .5$

If a test has a grade weight of $.30$, then 30% of the final grade in the course depends on this test.

If a test has a grade weight of $.45$, then 45% of the final grade in the course depends on this test.

If a test has a grade weight of 1.00, then 100% (the entire grade) of the final grade in the course depends on this test.