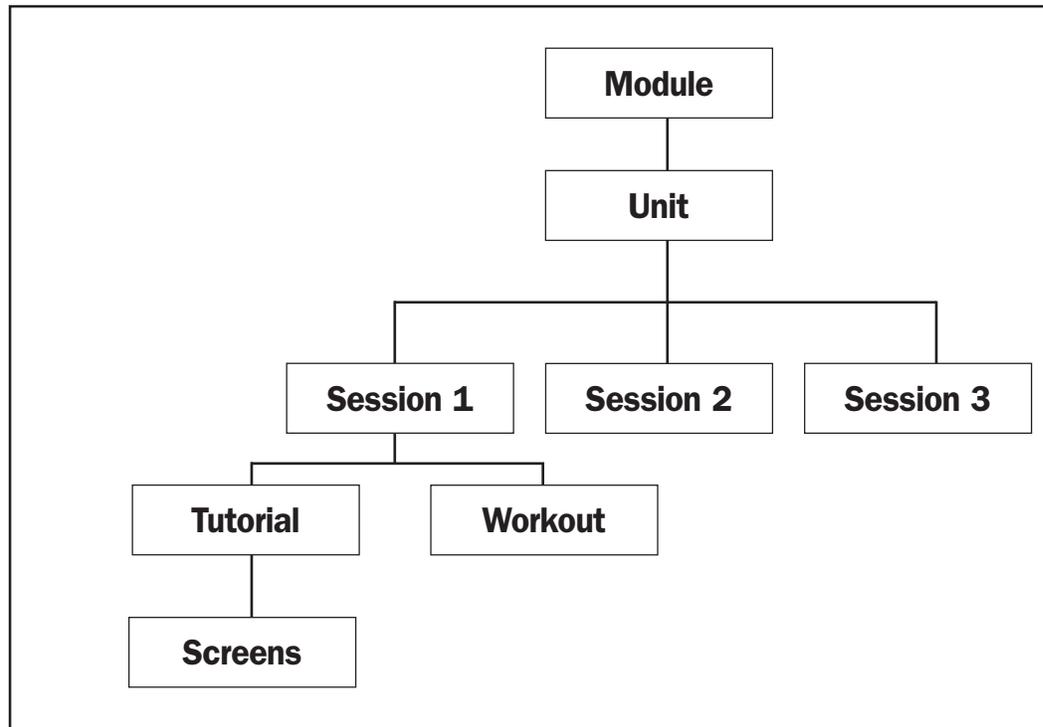


Course Overview — Mastering Skills and Concepts: Course II (MSC II)

Course Components

The following are the components of the *MSC II* program.



Module

A **module** addresses a major topic in the mathematics curriculum. In *MSC II* the four modules are:

- Fractions
- Decimals
- Percents
- Integers and Order of Operations

Unit

Each module is broken into easily understood components, called **units**. For example, the module *Essentials of Algebra* is divided into these units:

- Algebra Fundamentals
- Evaluating an Algebraic Expression

- Simple Equations
- Variables on Both Sides of the Equation
- Solving Literal Equations

Session

Session

Each unit is broken into two or three **sessions**. Each session addresses between one and seven learning objectives. For example, the unit *Algebra Fundamentals* is divided into sessions on:

- Introducing Variables
- Identifying Components of Algebraic Expressions
- Replacing Variables in a Formula

Each **session** contains a **tutorial** and a **workout**.

Tutorial

Each session contains a **tutorial**, which presents the instruction. It is composed of a series of screens, each addressing one or more learning objectives. Tutorials provide explanations, definitions, and interactive practice using audio, text, animation, graphics, and sound.

Workout

Each tutorial is followed by a **workout**, which usually consists of three or more problems based on the learning objectives of the tutorial. The difficulty level of each workout is reflected in the color-coding: Type 1, green (easiest level); type 2, blue; and type 3, purple (most difficult level). The workout problems require deep thought and an application of math concepts and principles. The learner is given an attempt to solve each workout problem and the option to see a detailed solution of the problem with graphics, audio, and text. The solution itself contains questions and interactivities to keep the student engaged.

And More...

Other tools are available to the user at all times: a comprehensive glossary of the mathematical terms used throughout the course and a calculator with all the functionality necessary at this level.

Assessment

The *Destination Success* management system provides assessment tools for identifying a student's understanding of curriculum concepts. Educators have visibility into student performance through immediate test scoring and progress

reports. All assessments can be previewed and printed prior to administering a test. Students who do not exceed the pass rate set by educators on assessments can be prescribed additional curriculum content from MSC II. For details on assessment tools, please refer to the Assessment section in the *Riverdeep Learning Management System (RLMS) User Guide*.

Pre-Defined Tests

To enable the educator to monitor student achievement and progress, the Destination Success management system provides 102 pre-defined tests for MSC II. These tests have been carefully structured to provide comprehensive coverage of the learning objectives at the Course, Module, Unit, and Session levels, with question distribution reflecting the relative importance of learning objectives. The tests are designed to be of average difficulty, with the occasional easy or more-challenging items to help provide a clearer picture of student mastery of the material.

There are three pre-defined tests available at the Course level. There are also three for each and every Module and Unit in the course. At the Session level, for which there may be only one or two learning objectives, there are two pre-defined tests available. Additional tests may be created using the Random Test function from MSC II.

To enable pre-testing and post-testing, and to allow for make-up tests, the items in Test A and C at the Course, Module, and Unit level are exactly parallel in terms of learning objectives, structure, and difficulty level. This allows for a more accurate and valid comparison of results on the two tests.

Custom Tests

In addition to the predefined tests, educators can generate an unlimited number of custom tests. The educator can choose which sessions, units or modules they wish to test as well as which specific questions they wish to use from a pool of thousands of available test items.

For details on creating and assigning tests, please refer to the *Riverdeep Learning Management System (RLMS) User Guide*.

Product Features

The presentation of content is enhanced through multimedia narration, interaction, and animation.

Narration

There is one main narrator in *Mastering Skills and Concepts: Course II*. This narrator serves as a guide, teacher, and ally for students. Everything the narrator says is reinforced by accompanying text and graphics.

Questions and Interactivities

Students have opportunities during every tutorial to answer questions and experiment with open-ended (non-judged) interactivities, which vary in form. The student may be asked to click or click and drag on-screen objects, to input text, or to use animated controls (for example, using an arrow to highlight a row of objects on the screen). The questions and interactivities give students a chance to practice what they are learning and to receive feedback from the program, so they can assess their own understanding.

The responses that students make during a tutorial are not scored and do not become part of their formal evaluation. This encourages students to answer questions without fear of penalty.

Animation

Animation and colorful graphics appear throughout tutorials and workouts in every unit. They add information and humor. An animation may show how to solve a problem or display a character's reaction to an on-screen event.

Correlations and Performance Standards

MSC II is designed to address both process and performance standards in mathematics. The design of every unit reflects the emphasis of the NCTM Standards on mathematics as problem solving and on mathematical connections. *MSC II* also targets learning objectives.

Mathematics as Problem Solving

Problem solving has always been a primary reason for learning mathematics. In *MSC II*, students are introduced to this concept through the use of recognizable objects, situations, and scenarios. As students work through a unit, they are repeatedly presented with questions and interactive problems that reinforce each step of the learning process.

Mathematical Connections

Students should see mathematics as an integrated whole, rather than as a set of isolated and unrelated topics. Further, the study of mathematics should include seeing how the subject can be applied in other disciplines, such as music, sports, nature, and science. In *MSC II*, the integration and application of mathematics into diverse and interesting environments provides relevance for an otherwise abstract subject and increases the chance of a student successfully learning the material. Applying mathematical rules and procedures to solve real problems shows students the versatility and power of math.

Targeting Learning Objectives

MSC II is designed around specific learning objectives, which have been correlated to state standards. It is simple to select the learning objectives that you would like to cover. You can correlate the objectives of a given unit to your school's curriculum objectives and to the textbooks and other materials you use. Once correlations with your own curriculum have been made, you can make assignments with confidence, knowing that the material you need to cover is available on the computer.

Assignments based on particular learning objectives—or your state mathematics standards—can easily be made through the *Destination Success* management system. For details, refer to the sections earlier in this guide.

Implementation

There are many ways for teachers and students to use this product, depending on the availability of computers in the classroom and school.

Presentation Mode

One way to integrate *MSC II* units into your classroom instruction is to use segments of the course during a teacher-led presentation. This method is particularly useful if only one computer and a large screen monitor or projection device are available. *MSC II* can be paused at any point in the presentation to engage students and pose questions about the topic. Individual students can take turns as a teacher's aide, using the mouse and entering responses into the computer.

Individual Instruction

Individual students who need special attention—for enrichment, remediation, or due to an absence from class—can use the product to learn mathematics at their own pace. This method works well in a computer lab or multi-computer classroom. Students who enjoy a challenge can try their hands at the workout questions. Students needing more support can work through a tutorial, repeating

screens as necessary. When the students have finished the tutorial, they can try solving the workout problems that follow.

Group Work

In its Standards³ publication, the NCTM encourages collaborative problem solving. Assign groups of two or three students to work together at a computer and complete a specific assignment. Upon completion of the assignment, students can talk about what they learned during the session and how they solved the problems in the workouts.

The Destination Success Management System

MSC II is designed to run on *Destination Success* management system—a unique combination of comprehensive courseware, curriculum management, standards-based testing, interactive assignments, and progress reporting. The management system provides teachers and administrators with the tools to guide students toward success.

The Destination Success management system is designed for three types of users: System Administrators, Teachers, and Students.

A **System Administrator** can:

- Install *Destination Success*.
- Create and set up new users.
- Edit user information.
- Set up and edit School Profiles
- Create, edit, and modify Class Rosters
- Import and Export User Profiles and Student Test Results.
- Import, export, and edit user information.
- Create and edit School Accounts.
- Create and edit Class Rosters.
- Add and remove content.

A **Teacher** can:

- Add students from the Class Roster to his or her class.
- Explore content.
- Complete management for curriculum and assessment.
- View student progress.
- View class progress.

3 Curriculum and Evaluation Standards for School Mathematics. (1989) Reston, VA: National Council of Teachers of Mathematics.

A **Student** can:

- Log in with or without typing a password.
- Participate in tests and activities.
- View his or her test and activity scores.
- Review a finished test or activity.
- Explore content.

For more information, please refer to the sections earlier in this guide.