Instructor's Summary for
Murach's PHP and MySQL (3rd Edition)

The instructor's materials for *Murach's PHP and MySQL (3rd Edition)* will help any college instructor or corporate trainer run an effective course based on the book. This summary introduces you to these materials and helps you get started using them. At the least, we recommend that you read the section entitled "What's included in the instructor's materials" because it describes not only the instructor resources but also our underlying instructional philosophy. But first, this summary describes the types of courses that the book can be used for.

A special thanks to Chris Olson at Dakota State University for supplying test questions to supplement our test banks. We appreciate your help and support!

Mike Murach & Associates, Inc.
1-800-221-5528 ● (559) 440-9071 ● Fax: (559) 440-0963
murachbooks@murach.com ● www.MurachForInstructors.com

Courses that the book can be used for

This book presents a complete course in web development with PHP and MySQL, and it works for both programming novices and experienced programmers. As a result, you can use this book for a variety of courses.

Courses for programming novices

One of the target audiences for this book is students and web designers who already know how to use HTML and CSS, but have little or no programming experience. To get them started right, section 1 presents a complete subset of PHP and MySQL. In fact, these students should be able to develop database-driven applications by the time they complete the six chapters of this section. Then, section 2 presents the rest of the PHP programming skills.

By themselves, these two sections represent a complete course in PHP for college students. For complete novices, of course, you'll have to move slowly through section 1 to make sure that everyone is mastering the basic skills. But once your students finish section 1, they'll be ready for rapid progress in section 2.

If you finish all of the chapters in sections 1 and 2 and still have class time, you can go on to either section 3 or section 4, which are written as independent training modules. For instance, you can assign the chapters in section 3 if you want your students to learn more about SQL and database programming. Or, you can assign the chapters in section 4 if you want them to learn more about web development skills like creating secure websites, sending email from a website, and uploading files to a website.

Another option is to combine HTML, CSS, PHP, and MySQL in a single course. To do that, you can first use the first section of *Murach's HTML5 and CSS3* to get your students comfortable with HTML and CSS. Then, you can teach the first two sections of our PHP and MySQL book, plus whatever else you have time for.

Courses for experienced programmers

Another target audience for this book is students with programming experience who want to add PHP and MySQL to their skill sets. After they complete the subset of PHP and MySQL that's in section 1, they should be able to move quickly through section 2 and have plenty of time left over for sections 3 and 4.

Because these students are likely to have minimal HTML and CSS skills, our PHP book has minimal HTML and CSS requirements. Instead, the focus is on PHP and MySQL programming skills, so most of the HTML and CSS is provided for the students.

To enhance your students' HTML and CSS skills, though, you may want to recommend *Murach's HTML5 and CSS3*. The first six chapters of this book present a crash course in HTML and CSS that will quickly get these students up-to-speed. Then, your students can use the rest of the book to get more information about HTML and CSS whenever they need it.

What's included in the student download

To help your students get the most from our book, our website lets them download three types of files: the book applications, exercise starts, and exercise solutions.

Book applications

The book is filled with sample applications that illustrate various coding features and techniques, and the download includes them all. As a result, your students can run the applications to see how they work, review all of the code for an application when the book doesn't show it all, and copy model code from the book applications for use in their own applications.

Exercise starts

To help your students master the skills that are taught in the book, each chapter ends with a set of practice exercises. The download includes applications that provide starting points for these exercises. Since the students don't have to start each exercise from scratch, they are able to practice critical skills without redoing trivial code. In other words, they get more practice in less time.

Exercise solutions

The solutions to the exercises in the book are also included in the download. As a result, your students can get past the learning obstacles that can occur when they're working on their own, avoid getting hung up on trivial coding errors, and check their solutions against the author's solution to see what, if anything, they could have done better. We think this helps students learn faster and better.

We realize, however, that this makes it difficult for you to use the book exercises to test your students. That's why the instructor's materials include additional exercises and projects that can be used for evaluation purposes. The solutions are also included, and we don't make those available to anyone except instructors.

What's included in the instructor's materials

The instructor's materials for our PHP/MySQL book are designed to save you time in preparing and running an effective course based on the text, so that your students gain the web development skills they'll need on the job. Besides the materials in the student download, these resources include instructional objectives, test banks, exercise enhancements, projects, PowerPoint slides, and development notes. A summary of these materials follows.

Book applications, exercise starts, and exercise solutions

These are the same materials that your students can download from our website. We've included them in the instructor's materials so you can demonstrate and review the book applications and exercise solutions in class, without having to download them separately.

Objectives

We believe that instructional objectives should be the start of any educational methodology, so we provide a set of objectives for each chapter in the book. We prepared these objectives based on the principles presented by Robert F. Mager in his classic book, *Preparing Instructional Objectives*. As a result, our objectives describe the skills that your students or trainees should be able to do when they complete a chapter, and you should be able to test whether they can do those skills.

Beyond that, we've tried to make sure that each objective describes a skill that a professional programmer should be able to do. This gives our objectives a real-world context that you usually won't find in the objectives for other books. So, if your students or trainees can do what the objectives state when the course is over, you can be sure that they have learned the skills that they will actually need on the job.

If you review the objectives for one of the chapters, you'll see that the first objectives for each chapter are what we refer to as *applied objectives*. These ask the students to apply what they've learned as they develop PHP and MySQL applications. These of course are the critical objectives of a programming course, and they are best tested by having the students do exercises and projects like the ones that we provide.

After the applied objectives for each chapter, you'll find what we refer to as *knowledge objectives*. These objectives define skills like identifying, describing, and explaining the required concepts, terms, and procedures. These objectives determine whether your students are able to talk intelligently about the topics that are presented. And these objectives can be tested by the test banks that we provide.

To help you get the most from the instructional objectives, we have included them at the start of the PowerPoint slides for each chapter. As we see it, if you can convince your students that they only need to be able to do the skills that are described by the objectives, their study becomes more focused and efficient.

Note, however, that we provide our objectives as a Word document as well, so you can easily modify them to make them more appropriate for your class. For instance, you may want to delete some of our objectives or add some of your own. That's a good way to focus your students on the critical learning objectives for your course.

Test banks

To test comprehension, you can use the test banks that we've created; there's one for each chapter in the book. We developed these test banks in ExamView, and we provide them in multiple formats: ExamView, Rich Text (RTF), the current Blackboard formats (which can be imported into Canvas or D2L), Respondus, and IMS QTI (which can be used by multiple Learning Management Systems). If you're using another LMS we haven't covered, let us know, and we'll see how we can deliver the test banks to you.

Each test bank provides questions that are designed to test the skills that are described by the objectives for that chapter, and each test question is designed to test the skill described by one objective. This keeps the promise to the students that they will only be expected to do the skills that are described by the objectives.

In our test banks, we use only completion and multiple-choice test questions because they have the highest validity. To us, that means that the students who get the best scores are also the ones with the best knowledge and skills. In contrast, matching and true/false questions have low validity, so we don't use them.

Besides matching our questions to the objectives, we use this guideline to check the validity of each question: *A professional PHP and MySQL programmer should be able to get the right answer.* This guideline eliminates questions that test the knowledge of trivial

details that no one should be expected to remember. This guideline also forces us to focus on questions that test the concepts and skills that are required on the job.

Exercise enhancements and solutions

Because we provide the solutions for the book exercises in the student download, we realize that you can't use those exercises for testing. So we've created additional problems that you can use; they're detailed in the document named *Exercise enhancements*. There's a Word version of this document so you can modify the problems if you want, as well as a PDF version that you can distribute to your students as is.

The exercise enhancements are designed so you can have your students start them from the solution to the related exercise in the book itself. For instance, the first exercise enhancements for chapter 2 should be started from the solution for exercise 2-1 in the book. Since the students already have these solutions, you can just assign the enhancements that you want the students to do without any further effort.

Since each of the enhancements can be done in 15 to 45 minutes, they provide a quick way to test the progress of your students. Some of these enhancements also give the students a chance to apply what they've learned in a new context. And the solutions…which are provided *only* to instructors…let you quickly check your students' work, as well as demonstrate and review the model code in class.

There are 10 exercise enhancements, all applying to the exercises in sections 1 and 2. After those sections, we think it's better to test progress by assigning the projects that we provide.

Projects and solutions

The best way to test your students' ability to develop PHP applications is to have them develop complete applications. To that end, we provide a document named *Projects.* It presents a series of projects that are all part of a Technical Support application. In general, each project asks the students to develop one or more web pages for this application, and the description for the application lists the prerequisite chapters. For example, project 6-1 requires that the students have read chapters 1 through 6.

As with the exercise enhancements, we provide these project descriptions in a Word document as well as a PDF, so it's easy for you to modify them. That way, you can make them easier or harder so they're more appropriate for your class.

Because these projects require a tech_support database, we provide that database in the form of a MySQL script that creates the database and its starting data. If you distribute this script to your students, they can use phpMyAdmin to run it on their own computers and thus create the database that they need for the projects.

We've also developed a starting application that you can distribute to your students. It consists of just a Home page, a few folders, a CSS file, and a database script. Then, the links on the Home page provide an easy way to link to the pages for each project, and the header that should be used for all pages provides a link back to the Home page.

To make the projects as useful as possible, we've tried to keep each one short enough so it can be done in an hour or two. That way, you can use selected projects as tests that can be done in a computer lab. That of course is the only sure way to see whether your students can do the applied objectives for this book.

Last, we provide the solutions for the projects at four different levels: the solutions for the projects that go through chapter 6, the solutions that go through chapter 15, the solutions that go through chapter 20, and the solutions that go through chapter 21. That way, you can compare your students' solutions with the author's. But you can also

distribute the solutions at one of these levels to your students so they can proceed with the projects from that point on.

PowerPoint slides

The PowerPoint slides present all of the screen shots, diagrams, tables, and code that you may want to review in class. As a result, these slides make it easy for you to review any of the skills that your students have difficulty with. In addition, the slides for each chapter start with the instructional objectives, so you can review them in class.

If you want to modify any of the PowerPoint slides, you should know that we prepared them by abridging and editing the Word text for each figure in the book and copying it into PowerPoint slides. As a result, you can't use PowerPoint to modify the text in the normal way. Instead, you need to double-click on the text for a slide to open it in Word, make modifications to the text in Word, and click outside the text to return to PowerPoint. You can also use PowerPoint in the normal way to add slides, delete slides, or add your own presentation notes to our slides.

Development notes

To learn more about the development of the book and instructor's materials, please read the PDF document named *Development notes*. This will give you a better idea of how we think you can make the best use of the book and its instructor's materials.

How to get started

You can get the instructor's materials for our book as a download from our website (www.murachforinstructors.com) or on an Instructor's CD. If you download the materials, you'll need to install them on your computer as described below. If you get the CD, you can do a preliminary review of our materials by opening and reviewing the files on it. But if you decide to adopt the book, you'll want to install the folders and files on your computer. Once the installation is done, you can do a thorough review of all of the materials that are provided.

How to install on Windows

1. Find the .exe file that you downloaded from our instructor website *or* the file named Install.exe that's in the root of the Instructor's CD.

2. Double-click on the .exe file and respond to the dialog boxes that follow. This will install the folders and files onto your C drive in a folder structure that starts with:

   `c:\murach\php_mysql`

How to install on Mac OS X or Linux

1. Find the .zip file that you downloaded from our instructor website *or* the file named Install.zip that's in the root of the Instructor's CD.

2. Copy the .zip file to wherever you want to store it on your computer.

3. Unzip the file. It will unzip into a folder structure that starts with

   `php_mysql`

The folders and files that get installed on your system

The table that follows presents the folders and files that get installed on your system. One thing to note is that all of the applications are stored in an htdocs folder. There's one htdocs folder in the student download, and one with instructor-only materials.

To run any of these applications, you need to copy them to the appropriate folder for the Apache server on your system. If you install XAMPP on Windows as described in appendix A of the book, that folder is:

```
c:\xampp\htdocs
```

If you install XAMPP on a Mac as described in appendix B, that folder is:

```
/Applications/XAMPP/htdocs
```

If you install XAMPP on Linux as described in appendix C, that folder is:

```
/opt/lampp/htdocs
```

The student download files that get installed

php_mysql\student_download	Contents
htdocs\book_apps\	One folder for each book application.
htdocs\ex_starts\	One folder for each chapter exercise in the book, with the starting code for that exercise.
htdocs\ex_solutions\	One folder for the solution to each chapter exercise.

The instructor materials that get installed

php_mysql\instructors	Contents
Instructor's summary.pdf	This instructor's summary in PDF format.
Objectives.docx Objectives.pdf	The instructional objectives for all chapters, in Word and PDF formats.
Development notes.pdf	A PDF document with development notes for the book and instructor's materials.
more_exercises\Exercise enhancements.docx more_exercises\Exercise enhancements.pdf	Specifications for enhancements to the book exercises, in Word and PDF formats.
more_exercises\Projects.docx more_exercises\Projects.pdf	Specifications for a series of projects to develop a Technical Support application, in Word and PDF formats.
htdocs\ex_enhancements\	One folder for the solution to each exercise enhancement.
htdocs\project_starts\	Folders and files that help the students get started with the projects, including the tech_support.sql file for creating the required database.
htdocs\project_solutions\	One folder for the solutions to the projects at four levels: chapters 1-6; 1-15; 1-20; and 1-21.
slides\	One PowerPoint file for each chapter.
test_banks\	One test bank for each chapter in a variety of LMS (Learning Management System) formats.

Any comments?

If you have any comments about our book or its instructional materials, we would be delighted to hear from you. Also, if you like the book but aren't going to adopt it because you would like us to provide other instructor's materials, please let us know what you're looking for. You can e-mail us at the addresses below. But whether or not we hear from you, we thank you for your interest in our products.

Joel Murach, Author   Judy Taylor, Educational Liaison
joel@murach.com   judy@murach.com