

# Instructor's Summary for *Murach's JavaScript and jQuery* (4<sup>th</sup> Edition)

The instructor's materials for *Murach's JavaScript and jQuery (4<sup>th</sup> 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 topics under *What's included in the instructor's materials* because they not only describe the instructor resources but also our underlying instructional philosophy. Then, the section entitled *How to get started* guides you in getting the materials on your system and gives you charts that summarize the components at a glance.

But first, we've included some thoughts about the structure of this book that you should be aware of. This structure is important because it gives you instructional options that you just don't have with other books.

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## About the structure of the book

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To present the JavaScript and jQuery skills that your students need in a manageable progression, this book is divided into four sections. These sections reflect the levels of expertise that your students will develop with this book.

### Section 1: JavaScript essentials

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This section presents a 7-chapter course in JavaScript that gets your students off to a great start. It works for students with only HTML and CSS experience as well as for students with some programming experience because it lets them set their own pace. If they're beginners, they'll move slowly and do all the exercises. If they have some programming experience, they'll move more quickly and do just the exercises that you assign. When they finish this section, your students will be able to code, test, and debug real-world JavaScript applications of their own.

### Section 2: jQuery essentials

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This section presents the jQuery skills that every web developer should have. The first chapter in this section presents the core jQuery skills, and the next three chapters focus on effects and animations, forms and data validation, jQuery plugins, and jQuery UI widgets.

### Section 3: Advanced JavaScript skills

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If you have the time and your students are anxious to know more, section 3 presents skills that a professional JavaScript developer should have. Here, your students will learn more about using numbers and strings as well as how to use dates. They'll learn how to handle exceptions, how to use regular expressions, and when and how to use browser objects, cookies, web storage, arrays, sets, and maps. Finally, the last chapter shows your students how to organize their code by creating and using their own objects and libraries.

What's especially interesting about section 3 is that all of the examples show how JavaScript and jQuery are used together. Because that's the way applications are often coded in the real world, this is an excellent way to learn advanced JavaScript skills.

### Section 4: Take it to the next level

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The last three chapters will help you take your students to a new level of expertise. In chapter 17, they'll learn how to use closures and modules to safely share code with other programmers. In chapter 18, they'll learn how to use the Fetch API to make Ajax calls that allow an application to update its web pages with data from a web server without reloading the entire page. And in chapter 19, they'll learn how to use Node.js to run JavaScript on the server.

## Our thoughts on using this book

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For most courses, *Murach's JavaScript and jQuery* will present more concepts and skills than there is time for. With that in mind, we offer these thoughts on how you can use our book:

- All students should read the seven chapters in section 1, since that section presents the JavaScript skills that are required today and that will allow them to use jQuery effectively.
- After your students read chapter 8 to get going with jQuery (the first chapter in section 2), you can skip to any other chapter in section 2 or go on to section 3 or 4. In other words, you don't have to assign all of the chapters in section 2 and you don't have to assign them in sequence.
- The chapters in section 3 move from the simple to the complex, so they are best taught in sequence. If the focus of your course is more on JavaScript than jQuery, you should be sure to complete chapters 13 through 16.
- The chapters in section 4 present concepts and skills that are at an expert level, so they may be beyond the scope of most courses. If you have the time for these chapters, though, you'll find that they are a true test of programming aptitude. Regardless, your students who go on to work as web developers will use them for training and reference on the job.

## What's included in the student download

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To help your students get the most from our book, [our website](#) lets them download (1) the book applications, (2) the starting code for the exercises at the end of each chapter, and (3) the solutions to the exercises. Appendixes A (Windows) and B (macOS) show your students how to download and set up these materials on their own systems.

### Book applications

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All of the applications in this book and some of the extended examples are included in what we refer to as the *book applications*. These are all stored in a folder named *book\_apps* when they're downloaded.

Once your students have set up the book applications on their own systems, they can run them to see how they work. They can review all of the code in any application when the book presents only the coding highlights. And they can copy and paste code from the book applications into their own HTML, CSS, and JavaScript files.

## Exercise starts

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Each chapter in the book ends with exercises to help your students master the skills covered in the chapter. For each exercise, the students start from folders and files that contain some of the routine code that the exercise requires, including the HTML and CSS files. That way, your students get the most JavaScript and jQuery practice in the least time. These exercise starts are stored starting in a top-level folder named *exercises*.

If you review the exercises, you'll see that they guide the students through the process of building a variety of web applications. These exercises also force the students to use all of the critical skills that are needed for website development. In fact, if your students can successfully do all of the exercises, they will be well on their way to a professional level of competence.

## Exercise solutions

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To help students get over any learning obstacles when they're working on their own, the download also provides the solutions to the exercises in a top-level folder named *solutions*. That way, students can check the solutions to see how something is done whenever they're wasting time on what is likely to be a trivial coding mistake. We think that providing the solutions is the right approach didactically because it helps students learn faster and better.

We realize, though, that this makes it difficult for you to use the book exercises to test or grade your students. That's why the instructor's materials include two additional sets of exercises and their solutions that can be used for testing.

## What's included in the instructor's materials

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The instructor's materials for this book are designed to save you time in preparing and running an effective course based on the text so that your students gain the JavaScript skills they'll need on the job. So besides the materials in the student download, we provide instructional objectives, test banks, PowerPoint slides, a second set of chapter exercises, short exercises for quizzes or tests, and case studies. A summary of these materials follows.

## Book applications, exercise starts, and solutions

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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

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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 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 have when they complete a chapter, and you should be able to test whether they have those skills.

Beyond that, we've tried to make sure that each objective describes a skill that a professional web developer should have. 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, 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 web pages and websites. These of course are the critical objectives of a JavaScript course, and they are best tested by having the students or trainees do exercises and case studies 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 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 they 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 have the skills that are described by the objectives, their study becomes more focused and efficient.

## Test banks

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To test comprehension, the instructor's materials include one test bank for each chapter in the book. We developed these test banks in ExamView, and we provide them in multiple formats, including those that can be used in various LMSs (like Blackboard, D2L, and Canvas), as well as Rich Text Format (for Microsoft Word).

Each test bank provides multiple-choice questions that are designed to test the skills 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 have the skills that are described by the objectives.

Besides matching our questions to the objectives, we use this guideline to check the validity of each question: *A professional in the field 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. It also forces us to focus on questions that test the concepts and skills that are required on the job.

## Extra chapter exercises and solutions

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Because we provide the solutions for the book exercises in the student download for this book, the instructor's materials include a second set of exercises that are analogous to the ones in the book.

We've provided these exercises in a Word document so you can modify them if you want, as well as a PDF document that you can distribute to your students if you don't want to make any changes. Some additional files that your students will need for these exercises are also in the instructor's materials so you can distribute them. And the solutions are provided so you can demonstrate and review them in class.

Both the book exercises and the extra exercises force students to use all of the critical JavaScript and jQuery skills. So you can assign any of them to your students. The only significant differences are these:

1. The students will have the solutions for the book exercises.
2. The extra exercises provide less guidance than the book exercises.
3. The extra exercises require you to distribute the exercise specifications and any starting files that are needed.

Because the book exercises are so easy to use, we suggest that you start by assigning them to your students for practice. That will give them a chance to try out what they've been learning and build their confidence. Then, you can use the extra exercises to reinforce their skills.

And even if you don't assign any of the extra exercises, you might want to demonstrate some of them in class. That way, your students can see other applications of the skills they're learning.

## Short exercises for quizzes or tests

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We've also provided another set of short exercises in both Word and PDF format. You'll want to take a look at these, regardless of how you use the chapter exercises.

As you'll see, each short exercise tests just one or two web development skills, and each is designed so it can be done in 30 minutes or less. For instance, a short exercise might ask students to enhance the code in one of the book applications by applying one of the skills presented in the chapter. Or, it might ask them to improve the data validation in one of the book applications.

You can use the short exercises to provide quick reinforcement for something that you've just presented in class or for quick tests. If your students have the required skills, they should be able to do each of the short exercises in less than 30 minutes, and often in less than 15 minutes. If they don't have the skills, this will help them realize what they need to know.

Call it reinforcement, call it classroom stimulation, call it a quiz, or call it a test: We think the short exercises will help make any class more effective.

## Case studies and solutions

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To provide a more extensive way to test the programming skills of your students, the instructor's materials also include three case studies.

The first case study has students develop an application for placing an order at a coffee shop. Students can complete this case study after they read chapters 1 through 8.

The second case study has students develop an application for a memory game. Before completing this case study, students must read chapters 1 through 16. Note that if you're not teaching the chapters of the book in sequence, students don't need to read chapters 10 or 12 to do this case study; it doesn't require the skills in those chapters.

The third case study has students enhance the memory game that they develop in case study 2. To do this case study, students must read chapters 1 through 18. As with case study 2, though, they can skip chapters 10 and 12 if they aren't reading the chapters in sequence.

The instructor's materials provide a write-up as well as a start and solution for each case study. The starts for the first two case studies consist of the required HTML and CSS, so your students only need to add the JavaScript and jQuery that make the applications work. If your students are required to know HTML and CSS, though, you may choose to have them develop these applications from scratch.

In contrast, the third case study builds on the second case study. So the start for that case study is our solution to the second case study, and you'll want to give your students this application so they all start from the same code.

If you want to make the case studies easier or more difficult for your students to do, you can modify the write-ups that you give them. For example, you can provide more information to make a case study easier, or you can provide less information to make it more difficult.

You can also add or remove specific requirements for a case study depending on what chapters your students have read. For example, if you have your students read chapter 9 before assigning case study 1, you can have them add effects or animations to the application. Conversely, if you want to assign case study 2 before your students have read chapter 9, you can remove the effects that are used by the application. If you do that, of course, you will need to provide your own solutions to the case studies.

## PowerPoint slides

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The PowerPoint slides present all of the critical information from the figures in the book. That includes 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.

## How to get started

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You can request the instructor's materials for our book from our instructor website ([www.murachforinstructors.com](http://www.murachforinstructors.com)) and download them from your account page there. The download is available as a zip file. Then, you can install the materials on your computer as detailed below.

Once the installation is done, you can do a thorough review of all of the materials. In particular, you'll want to run some of the book applications and solutions to the various sets of exercises to see the level of competence that our book develops. You'll also want to click through some of the PowerPoint slides to see how they can help you review and reinforce the information that's presented in the book.

To help you find what you're looking for, the entire file structure for the instructor's materials is shown on the next page.

## How to use the .zip file

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1. Download the .zip file of instructor's materials from your Murach account page.
2. Create a folder named *murach* directly on your hard drive.
3. Unzip the .zip file into the *murach* folder to create a file structure that starts with `/murach/javascript_jquery_4e`
4. Look through this Instructor's Summary PDF thoroughly to familiarize yourself with what's provided and where to find each component in the file structure (see the next page).



## The student folders and files that get installed

javascript_jquery_4e/ student_download	Contents
book_apps	The applications presented in this book.
exercises	The starting points for the exercises that are at the end of each chapter.
solutions	The solutions to the book exercises.

## The instructor folders and files that get installed

javascript_jquery_4e/ instructors	Contents
Instructor's summary.pdf	This document in PDF format.
Objectives.pdf	A PDF document that contains the instructional objectives for all chapters.
case_studies/Case studies.docx case_studies/Case studies.pdf	The specifications for three case studies in Word and PDF format, so you can change the specs or hand them out as is.
case_studies/starts	The starting points for the case studies that you can distribute to your students. The start for Case Study 3 is the solution to Case Study 2.
case_studies/solutions	The solutions to the case studies.
extra/Extra exercises.docx extra/Extra exercises.pdf	The specifications for a complete set of exercises that are similar to the exercises in the book; in Word and PDF format, so you can change the specs or hand them out as is.
extra/exercises_extra	The starting points for the extra exercises that you can distribute to your students.
extra/solutions_extra	The solutions to the extra exercises.
short/Short exercises.docx short/Short exercises.pdf	The specifications for short exercises that take from 5 to 30 minutes each to complete; in Word and PDF format, so you can change the specs or hand them out as is..
short/exercises_short	The starting points for the short exercises that you can distribute to your students.
short/solutions_short	The solutions to the short exercises.
slides	PowerPoint files for each chapter. Each file starts with the chapter objectives.
test_banks	One test bank per chapter, organized by format: ExamView, RTF (Word), Blackboard (which can be imported into Canvas and D2L), Respondus, and IMS QTI (the standard test bank format).

## Any comments?

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If you have any comments about our book or its instructional materials, we would be delighted to hear from you. If you discover any errors in our applications or exercise solutions, we would appreciate hearing about them. And if you want to let us know that you're going to adopt our book for your course, that would make our day.

Just email us at the addresses below. But whether or not we hear from you, we want to thank you for your interest in our JavaScript and jQuery book.

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