# Beginning Programming: JavaScript
# Syllabus for Spring 2017

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| **Course Number** | CS 133JS | | **Instructor** | Brian Bird |
| **CRN** | On campus 43453, online 44165 | | **E-mail** | birdb@lanecc.edu |
| **Classroom** | 19/126 | | **Office** | Building 19, Room 152 |
| **Credits** | 4 | | **Office Phone** | 541-463-3024 |
| **Day & Time** | Tu, Th  10:00am–11:50 | | **Lab and Office Hours** | M, W: 10:30am–12:00 (lab) Tu, Th: 2:00pm–3:00 (office) |

## Course Description

This course provides students who have working knowledge of HTML with the concepts and skills required to create dynamic, interactive web pages using client side JavaScript.  Through lectures, demonstrations and independent hands-on activities students will learn fundamental programming concepts and will learn about variables, operators, functions, control structures, arrays, pre-defined objects, and event handling in JavaScript. Students will also be introduced to jQuery, a popular JavaScript framework.

## Learning Outcome

The intention of the course is to enable you to create and maintain interactive pages containing client side script that might be part of any web site using modern technologies and tools.

## Course Content

### *Technologies*

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|---|---|---|
| JavaScript | HTML 5 | CSS 3 |
| jQuery | Core FTP or Filezilla | Visual Studio Code or Notepad ++ |

### *Themes and Issues*

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|---|---|---|
| Internet technologies | Dynamic and static web sites | Client and server side code |
| Syntax, semantics and style | Communication | Giving and receiving feedback |

### *Concepts*

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|---|---|---|
| Programming languages | Compilation and interpretation | Loose and strong typing |
| Variables and scope | Operators and expressions | Functions, parameters and return values |
| Control structures | Event handling | Pre-defined objects |

### *Skills*

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| Explain the relationship between presentation layer, client side programming and server side programming and JavaScript in modern web sites. |
| Effectively use: variables, operators, functions, control structures, arrays, document object model, math object, date object, string object, regular expressions and event handlers. |
| Design, implement and test algorithms and client side JavaScripts to: write to a web page, display random images or ads on a web page, automatically update the display on a web page at |

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| regular time intervals, create a dynamic monthly calendar on a web page, create an interactive puzzle on a web page. |
| Use jQuery to write scripts that: create dynamic menus on a web page, validate forms on web page. |
| Use jQuery UI library to add a variety of Widgets to a web page. |
| Discuss concepts, themes and issues orally and in writing. |
| Evaluate your own web site implementation work. Evaluate the web site implementation work of other students and provide constructive feedback orally and in writing. |
| Respond appropriately to and assimilate feedback provided by other students and your instructor. |

## Learning Resources

### *Texts*
Required: *HTML, CSS and Dynamic HTML Comprehensive* by Patrick Carey and a jQuery text (*Developing Web Pages with jQuery* by Gosselin). It is a good introduction to the concepts associated with the creation of interactive web sites as well syntax of JavaScript and jQuery.

Optional: *Eloquent JavaScript: A Modern Introduction to Programming* by Marijn Haverbeke.

### *Web Sites*
Moodle is the learning management system used for this course; LCC's Moodle site is at: classes.lanecc.edu.

The web host where you will publish your programming lab assignments is citstudent.lanecc.edu. This is the same web server that you used in your html class. Please send your instructor an email message if you have not used this server before and need your user id and password.

### *Software*
The minimum hardware and software required for programming using JavaScript is discussed in Tutorial 10 of the textbook, Programming with JavaScript. The ideal development platform involves a web client machine running:

- An appropriate operating system. Windows 7 is installed on the machines on campus but you can use Windows 10, any recent version of the Mac OS, or Linux to do your work for class.
- A code (text) editor to create and edit your web pages and JavaScript files. Visual Studio Code is a free editor that can be downloaded via the internet and used on Windows, OS X (Mac OS) or Linux. Alternatively, you can use TextWrangler on OS X, or Notepad++ on Windows.
- At least two modern browsers to view/test your web pages. The latest versions of Chrome, and Firefox can be downloaded via the internet. Many other browsers like Safari, Internet Explorer, and Edge, are also suitable for your use in this class.
- An ftp client to upload your web pages to citstudent.lanecc.edu. FileZilla is a free ftp client that can be downloaded via the internet and used on Windows, OS X, or Linux. Alternatively, you can use CyberDuck on OS X or CoreFTP on Windows.

### *CIT Computer Lab*

The hardware and software required for the course is available to all students in the CIT Main Lab in building 19, room 135. You paid a fee when you registered for this course that provides you with unlimited access to CIT lab facilities.

### *Microsoft Imagine*

LCC has a subscription to Microsoft Imagine (formerly Microsoft Dream Spark) which provides students with free software. Your instructor will provide you with an opportunity to enroll in Imagine. None of the software offered through Imagine is required for this class, but you may want to take advantage of the offer of free software.

## Assessment and Grading

The table below summarizes the possible points for each assessment task as well as the course as a whole:

| Assessment Tasks | Points Each | Total Points |
|---|---|---|
| Labs 1 - 9 | 40 | 360 |
| Code Reviews 1 - 9 | 10 | 90 |
| Reading Quizzes 1 - 9 | 10 | 90 |
| Midterm and Final Quizzes | 100 | 200 |
| Term Project | 260 | 260 |
| *Course Total* | | *1000* |

Letter grades for the course will be determined by the following percentages:

| | + | | - |
|---|---|---|---|
| *A* | | 100 to 92 | 91 to 90 |
| *B* | 89 to 88 | 87 to 82 | 81 to 80 |
| *C* | 79 to 78 | 77 to 72 | 71 to 70 |
| *D* | 69 to 68 | 67 to 62 | 61 to 60 |
| *F* | Below 60 | | |

### *Code Reviews*

Students will work in groups of two or three, to review the *beta* version of each other's lab assignment solutions. The code review does not affect the grade of the student whose work is being reviewed. Students will use the feedback provided on the code review form to revise their code prior to submitting the *production* version of their software solution.

### *Academic Honesty*

While students are encouraged to discuss labs and to use each other as resources, each student is responsible for his/her own work. In other words you can help each other, but you can't copy any part of someone else's work. The end product must be each student's own individual work.

### *Attendance*

Class attendance is not graded but will be essential for successful completion of the class. Students who miss a class are responsible for obtaining the course content provided in class and mastering it.

## No Show Drop

The college's "no show, drop" policy requires that: during the first week, on-campus students must physically attend at least one class session. Online students must complete at least one activity (a quiz or assignment) otherwise the student will be dropped from the class.

## Late Work

- Grades for code reviews will be <u>reduced by 20%</u> if either the beta version or the code review is submitted late.
- Grades for lab production versions submitted after the due date will be <u>reduced by 10%</u>
- Quizzes and exams <u>cannot be taken after the due date</u>. Plan ahead! Exceptions will only be made for illness or emergency situations.

# Accessibility and Accommodations

To request assistance or accommodations related to disability, contact Disability Resources at [(541) 463-5150](tel:5414635150) (voice), 711 (TTY), disabilityresources@lanecc.edu (e-mail), or stop by Building 1, Room 218.

Please be aware that any accessible tables and chairs in this room should remain available for authorized students who find that standard classroom seating is not usable.

# Schedules

## Academic Calendar for Spring Term 2017

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|---|---|
| Term begins | 4/3/17 |
| Last day to receive refund | 4/19/17 |
| Spring Conference, College closed | 5/5/17 |
| Last day for schedule changes | 5/26/16 |
| Memorial Day holiday | 5/29/16 |
| Finals week | 6/6/16 - 6/11/16 |

## Weekly Learning Activities

<u>By Tuesday</u>
- Complete a code review of last week's lab work for your lab partner

<u>By Thursday</u>
- Finish this week's reading and take the reading quiz
- Complete the Programming Quiz (only some weeks)
- Submit the production version of your lab work from last week

<u>By Saturday</u>
- Post the beta version of your lab work for this week

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*Tentative Course Schedule*

| Week | Topic / Reading | Activities | Due |
|---|---|---|---|
| **1**<br><br>*4/2 – 4/8* | Intro to JavaScript programming<br><br>Tutorial 10, Session 10.1<br>Pg. 685—707 (22 pages) | Reading Quiz 1<br>Beta version of lab 1 | Thu, 4/6<br>Sat, 4/8 |
| **2**<br><br>*4/9 – 4/15* | Functions<br><br>Tutorial 10, Session 10.2<br>Pg. 708—730 (22 pages) | Review of your partner's lab 1 beta<br>Reading Quiz 2<br>Production version of your lab 1<br>Beta version of your lab 2 | Tue, 4/11<br>Thu, 4/13<br>Thu, 4/13<br>Sat, 4/15 |
| **3**<br><br>*4/16 – 4/22* | Objects and Methods<br><br>Tutorial 11, Session 11.1<br>Pg. 743-761 (18 pages) | Review of your partner's lab 2 beta<br>Reading Quiz 3<br>Production version of your lab 2<br>Beta version of your lab 3 | Tue, 4/18<br>Thu, 4/20<br>Thu, 4/20<br>Sat, 4/22 |
| **4**<br><br>*4/23 – 4/29* | Experssions and Operators<br><br>Tutorial 11, Session 11.2<br>Pg. 762—791 (29 pages) | Review of your partner's lab 3 beta<br>Reading Quiz 4<br>Production version of your lab 3<br>Beta version of your lab 4 | Tue, 4/25<br>Thu, 4/27<br>Thu, 4/27<br>Sat, 4/29 |
| **5**<br><br>*4/30 – 5/6* | Midterm<br><br>Review | Review of your partner's lab 4 beta<br>Production version of your lab 4<br>Midterm | Tue, 5/2<br>Tue, 5/2<br>Thu, 5/4<br>Thu, 5/4<br>Sat, 5/6 |

***Tentative Course Schedule (continued)***

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| **6**<br><br>*5/7 – 5/13* | Arrays and Loops<br><br>Tutorial 12, Session 12.1 and 12.2<br>Pg. 803—834 (30 pages) | Reading Quiz 6<br>Beta version of your lab 5 | Thu, 5/11<br>Sat, 5/13 |
| **7**<br><br>*5/14 – 5/20* | Conditional Statements<br><br>Tutorial 12, Session 12.3<br>Pg. 836—857 (21 pages) | Review of your partner's lab 5 beta<br>Reading Quiz 6<br>Production version of your lab 5<br>Beta version of your lab 6 | Tue, 5/16<br>Thu, 5/18<br>Thu, 5/18<br>Sat, 5/20 |
| **8**<br><br>*5/21 – 5/27* | DOM<br><br>Tutorial 13<br>873—918 (45 pages) | Review of your partner's lab 6 beta<br>Reading Quiz 7<br>Production version of your lab 6<br>Beta version of your lab 7 | Tue, 5/23<br>Thu, 5/25<br>Thu, 5/25<br>Sat, 5/27 |
| **9**<br><br>*5/28 – 6/3* | Intro to JQuery<br><br>TBD | Review of your partner's lab 7 beta<br>Reading Quiz 8<br>Production version of your lab 7<br>Beta version of your lab 8 | Tue, 5/30<br>Thu, 6/1<br>Thu, 6/1<br>Sat, 6/3 |
| **10**<br><br>*6/4 – 6/10* | JQuery / Review<br><br>TBD | Review of your partner's lab 8 beta<br>Production version of your lab 8<br>Term Project<br>*No new assignments* | Tue, 6/6<br>Thu, 6/8<br>Sat, 6/10 |
| **11**<br>*6/11 – 6/17* | Finals week | Final Exam | Tue, 6/13 |