

8:30 – 9:20 AM in room 1302 MTW + 40% online, **item 0817**, Section Y1 –hybrid 5 credits

Professor: Robert Shields; **Email:** rshields at shoreline dot edu; **Tel:** (206) 546-4773

Office 1420 - **Hours:** see my web site (<http://shoreline.edu/rshields>) or by appointment

2 Required Text books: 1. [*Learning to Program with Alice*](#) 2nd ed. By Wanda Dann, Stephen Cooper, & Randy Pausch, Prentice Hall, ISBN-13: 978-0-13-208516-8 and 2. [*JavaScript and AJAX*](#), 2nd ed. By P. Carey and F. Canovatchel, Cengage Learning ISBN-13: 9781439044032. Both are available from our bookstore.

COURSE DESCRIPTION: Use Alice & JavaScript to learn programming, storytelling animation, problem solving, analysis, modular design & debugging - concepts for all programming languages. No prior programming experience needed. Topics: syntax, classes, data types, control flow, loops, if, procedures, parameters, input/output & arrays. Previously COMPU 131. Student option grading.

Prerequisites: MATH 099 (2.0 or better) or a score of 85 or higher on the Algebra COMPASS test.

Required supplies: (1) USB drive (2) a 2nd USB drive for backups (3) #2Pencil.

Start here: Check the [web site](#) daily for revisions to the [Schedule](#) of assignments and due dates.

Read about important matters such as grades and participation in the [additional syllabus details](#); they are included by this reference. Start reading the assigned material early (perhaps today). Get free software at [alice.org](#).

Welcome to the marvels of problem solving. We spend about 4 weeks animating stories with the Alice language and environment to introduce fundamental concepts for designing and building stories, sequences, decisions and repetitions. These activities will use ideas and techniques from many different areas: storytelling, 3-d animation, anime, storyboards, design, computer science, etc. After mastering fundamentals with Alice, we spend our time using JavaScript, a more conventional programming language. We will apply those fundamental concepts to enhance web pages. You should review HTML before week 4 as it is the platform for our JavaScript exercises.

To master the material in this class: plan to study all assigned readings **at least 3 times** and complete all assignments and exercises. Solo activities require you to demonstrate your mastery of material and must be done individually. Work assigned to a team must be completed and turned with printed names for all team members to receive full credit. Part of the value of team activities comes from working together, at the same time and place.

Late Work: will not be accepted or graded. Your lowest solo project/homework score will be dropped. You cannot re-do or resubmit changed work for re-grading.

Grades: Weighted grading is used for this class:

Activity	Expect	Style	Weight
Solo Exams	2 or 3	Objective & hands-on parts (probable weights: 10+15+25 %)	=50%
Solo Projects solo quizzes	8-11 of each	Solo work must be done alone. You may not communicate about them with anyone but the instructor.	30%
Team exercises	weekly	For full credit, all paired/team exercises must be done by both members of a team.	20%

This course is designed to help you learn to explain and use these key computer science concepts and topics:

- | | |
|---|--------------------------------------|
| 1. Analysis & design, refinement | I. Sequence |
| 2. Mathematical & logical expressions | II. Loops/iteration |
| 3. Algorithms | III. If/then/else, select/case |
| 4. Data types, variables, objects, arrays | IV. Modules/functions/Sub-procedures |
| 5. Coding and documentation style | 7. Input & output |
| 6. Programming language structures: | 8. Testing, fixing and debugging |

Optional topics:

1. Sort, 2. Search, 3. Data structures

Be sure to put the course number (121) in the Subject line of any email message so it does not get lost. Use your **Shoreline college email account** for this class and for other communications with me (sign up at <http://www.shoreline.edu/StudentAccounts.aspx>). These accounts are free to you. Use clear business-style English (not text-messaging). Avoid graphics unless requested.

Read the additional syllabus details. They apply to this class, as they are included by this reference. Check on my web site (<http://www.shoreline.edu/rshields/>) bi-weekly for changes to this schedule. **All reading and work is due by the time class starts (or time specified below) on the day listed.** **Alice** = *Learning to Program with Alice 2nd ed.* – the text used in the first part of our course. **JS** = *JavaScript and AJAX, 2nd Ed* - the text used in the second part of our course. **Apx.** = Appendix. **Ch.** = chapter in the text book. Read assigned material before class and submit answers by start of class. **QC/RQ** = **Quick Check/Review Questions** – do all review questions for assigned reading for quiz practice. **TE** = Team Exercises – these must include all member’s full names and the date and exercise numbers. Submit all **TE** work for each week **together** by **noon Fri.** (or as specified below) of the week it is assigned. **SP** = Solo Project. Submit all **SP** work for each week **together** by **9PM Fri.** Each file name must include your name and the assignment name. Work must be done **by the start of class to earn full credit**; late work is discounted. **web** = topics you must research on the internet before class. For each topic, email a 1-sentence summary and 2 non-Wikipedia URL references. You may consult Wikipedia; but, must find and submit at least 2 other sources. Downloading the Alice worlds may change the file extension to .ZIP (or .XML). You must reset these to .a2w

week	Mon.	Tue	Wed	Thu	Fri (no classroom)
1 9/20	Read the syllabus and additional syllabus details; get the required text book(s)	Get Alice 2.2 for Windows with Learning to Program with Alice textbook worlds or for Mac at Alice.org	Introductions: me, you, course. Quiz: covers the Syllabus	Before class read Alice Ch 1 + Apx A & B for quiz p. 19 questions 1,5,7,9 TE: in class do tutorials	TE p.19: Exercise 1, 3 all this week’s all TE1 are due in one batch with both names of both team member by noon today. SP1: exercise 4 Due 9PM Fri.
2 9/27	read Alice Ch 2 for quiz p. 58 questions 1, 4, 7, 8, 11, 12, 16, 17 in class TE pg. 59. Exercise 2-1#1a & 2-2 #2a&b.first encounter-extend	SP2A: p. 59 Exercise 2-2 #3 snowpeople read Alice Ch.3 , p. 82 questions 1,2,4,7-10 in class TE: p. 83-4 Ex. 3-1#1-Robot, & 3-1#3-Hop Get the JS book	SP2B: p.84 Ex 3-2#5 SpdRbtWlk read Alice Ch.4 for quiz p.128 quest. 2,5 & 11 in class TE: p.129, 4-1-FlipHats	for quiz p.129 questions 10,12 TE due by noon TE: 4-2#5-BeetleBand & 4-2#6-frog Escape SP2C: p.85: 3-2 Ex#6-blimp	All SP together are due by 9PM Fri.
3 10/4	Due SP3A: 4-3#9-Enhanced cleverSkater & #11-Funky Ckn	read Alice Ch. 5 p.158 quest.1,4, 5, 9,11 TE: 5-1# 1 & 2-Flgts & #3-Robotctrl	TE: 5-2 # 10-Furniture & #12-Snow Festival	TE due by noon web: review html	TE3 due noon SP3B: 5-1 #8 Cheshire SP are due 9PM
4 10/11	Due SP4A: 5-2 #14Penguin read Alice Ch.6 , p.195 quest.2-6, 10, 11	TE: 6-1 #2 Tires & 3 Bee	read Alice Ch. 7 , p.223, quest. 3-7,9-11 TE: 7-1 #2hop & #3 sign	web: winscp & ada set up TE due by noon TE: put your index.html on ada. TE4 is due noon	SP4B: 7-2#5 frog & #10 penguin. SP are due 9PM Study for Exam

week	Mon.	Tue	Wed	Thu	Fri (no classroom)
5 10/18	Exam 1: Alice Ch1-7 To turn in JavaScript work, Link from index.html to each TE & SP file then email me your url.	read JS Apx A1-35 & start B1-B35 RQ 1-29 p. A46 are due at start of class TE: create and put on ada: tagExamples.html w3 :html introduction, basic	TE: continue tagExamples put w5, w6, etc folders on ada w3 :html elements + w3javaScript Home RQ 1-24 p.B45 due Thurs.	TE: make each index.html valid TE due noon today SPa: w5.htm: all tags so far + w3js How to	SPb. w3 js Where to SP due 9PM
6 10/25	read JS Ch. 1 Do QC to prepare for the quiz w3 Home through Comments & Guidelines, debugging functions, variables	SPa: tutorial mpl.htm. w3 functions, external .js files	TE Review-library mpl2: p.43-4	TE due noon today SPb: Case 1-skyWeb	SP due 9PM today
7 11/1	read JS Ch. 2, Do QC to prepare for the quiz w3 events, Math, date, logical operators	SPa: tutorial:clock.htm w3 time	TE Review events Tulsa read w3 For loop through For...in	TE due noon today SPb: Case2 home ctr.	SP due 9PM today
8 11/8	Exam 2: JS Apx A,B,1-2 Eschew "break" in our class.	read JS Ch.3 Do QC w3 array, loops, dates, Comparison through Switch, conditional if, SPa: tutorial: civic center ccc.htm	TE: Review yearly calendar	TE due noon today SPb: Case1 lighthouse	SP due 9PM today
9 11/15	read JS Ch. 4.1-4.2 Do QC w3 Objects, DOM by name, by id, event handlers	SPa: tutorial: Holmes top menus	TE: Review Sherlock left links (may skip animation)	TE due noon today Start JS Ch. 5 SPb: Case1 JE printers	SP due 9PM today
10 11/22	read JS Ch. 5 Do QC w3 forms, fields, validation, String & RegExp	SPa: tutorial: GPS-ware forms and validation	TE: Review: gps-ware revised	TE due noon today SPb: Case2-exptxt	SP due 9PM today
11 11/29	read JS 9 w3 cookies Do QC	SPa: tutorial: CycloCrossings	TE: Review CycloCrossing revised	TE due noon today SPb: Case1-hangers counter	SP due 9PM today
12 12/6	preparation day		tbd Exam 3: JS Ch.1-5+9		