

**DRAFT CS 121 – Intro. to Programming, Alice + JavaScript Syllabus Shoreline CC Winter 2010 1/1**

8:30 – 9:20 AM MTWTh room 1401 + 20% online, **item 0723**, Section Y1 –hybrid 5 credits

**Prof.:** 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

**Required Texts:** Plan to read all assigned chapters **at least 3 times**. 1. *Learning to Program with Alice 2nd ed.*

Wanda Dann, Stephen Cooper, & Randy Pausch, Prentice Hall, ISBN: 0-13-208516-X

**and** 2. *JavaScript a beginners guide, Third Edition* by John Pollock, McGraw-Hill, ISBN: 0071632956 .

**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:** See the tentative [Schedule](#) and my [web site](#). Check (at least weekly) for updates since requirements will change often. Start reading the assigned material early (perhaps today). Get free software at [alice.org](http://alice.org) .

**Read the [additional syllabus details](#).** They apply to this class, as they are included by this reference.

We spend weeks 1-5 (chapters 1-7) 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 weeks 5-11 on JavaScript, a conventional programming language (chapters 1-7, 11-14 and 16). We will apply those concepts to enhance web pages. You should review HTML before week 5 as it is the platform for our JavaScript exercises.

To master the material in this class, study all assigned readings 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 (perhaps virtual) place.

**Grades:** Weighted grading is used for this class:

Activity	Expect	Style	Weight
Solo Exams	2 or 3	Objective and hands-on parts	10+15+25=50%
Solo Projects	10-11	Complete solutions: design documentation, code & listing. Solo Projects must be done alone. You may not communicate about them with anyone but the instructor.	30%
Team exercises & quizzes	weekly	For full credit, team exercises must be done by all members of the team. Quizzes include objective and code questions.	20%

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

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

**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.