

# COURSE SYLLABUS

**Information  
Systems**

**CSC 115**

**Introduction to Programming with Alice**

**Credit 3 hours – hybrid course**

Prepared by

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Faculty Member

**Fall 2018**  
Date

Course prerequisites: Hands on familiarity with computers.

Course Location (bldg/room #): **Wheaton Hall – Room 308**  
Meeting time **Thursday 6:35--9:05 & IP dates 8/30, 10/5, 11/1, 12/6**  
(days/hours): Online at Blackboard

## Course Description:

An introductory course teaches computer programming using Alice, a revolutionary software system that is freely available from Carnegie Mellon University. Alice is a 3-D graphical system that can be used to create animations and computer games. With Alice, students build virtual worlds inhabited by objects from the real world. While learning to program in Alice, students learn the programming fundamentals.

## Scope of Course:

### Program/Discipline Learning Outcomes Contained in Course:

The goal of the Science Allied Health Engineering and Technology (SAHE&T) Division is to incorporate the following learning outcomes into each course:

- Written and oral communication skills
- Critical thinking, problem solving, and analytical skills
- Interpersonal skills and awareness
- Teamwork, team-building, and project focus
- Knowledge of ethical and legal business behavior
- Awareness and respect for other perspectives
- Global awareness and diversity
- Flexibility and adaptive to change
- Personal productivity and organizational skills
- Ability to understand your customer
- Understand process management

## **Importance of Course in Program/Discipline:**

### **Learning Outcomes:**

Alice is an innovative 3D programming environment that makes it easy to create an animation for telling a story, playing an interactive game, or a video to share on the web. Alice is a freely available teaching tool designed to be a student's first exposure to object-oriented programming. It allows students to learn fundamental programming concepts in the context of creating animated movies and simple video games. In Alice, 3-D objects (e.g., people, animals, and vehicles) populate a virtual world and students create a program to animate the objects.

In Alice's interactive interface, students drag and drop graphic tiles to create a program, where the instructions correspond to standard statements in a production oriented programming language, such as Java, C++, and C#. Alice allows students to immediately see how their animation programs run, enabling them to easily understand the relationship between the programming statements and the behavior of objects in their animation. By manipulating the objects in their virtual world, students gain experience with all the programming constructs typically taught in an introductory programming course.

Textbooks and other required readings/computer software/materials/library reserve room:

Office Location  
(building/room  
number):

Wheaton Hall Room 308

Office  
Email:

[rvaughan@mxcc.commnet.edu](mailto:rvaughan@mxcc.commnet.edu)  
RoseAnn.Vaughan@ct.gov

### **Withdrawal:**

You may withdraw from this class any time before the end of the 11th week\* of the semester. A completed and signed withdrawal form must be on file in the Records Office by the deadline in order to receive a "W" on your transcript. If you fail to complete this process on time, you will receive a letter grade at the end of the semester, which will include zeroes for any work not submitted. Course withdrawals may affect financial aid and veteran's benefits. Please make this decision carefully and with the help of your advisor. See the Academic Calendar and the College Catalog for specific dates and procedures regarding the withdrawal process."

\* The withdrawal deadline for accelerated courses (late start/early end, winter, and summer) is the date at which 75% of the total course time has been completed.

### **Additional Syllabus Information**

For information about the college's policies and procedures regarding academic honesty, accessibility/disability services, attendance, audio recording in the classroom, grade appeals, plagiarism, religious accommodations, weather and emergency closings, and more, please go to the following website:

[www.mxcc.edu/catalog/syllabus-policies/](http://www.mxcc.edu/catalog/syllabus-policies/) or scan the QR code with your smart phone. In addition, please become familiar with the policies regarding nondiscrimination, sexual misconduct, and general student conduct at the following website:

[www.mxcc.edu/nondiscrimination/](http://www.mxcc.edu/nondiscrimination/).

### **Evaluation:**

The final grade will be determined by hands-on computer projects and quizzes. All projects and assignments will have a point value. Deductions from total points for each assignment could be e for incomplete or incorrect work. The final grade is the total possible points will divide all earned points. (Example 450/500, would be a 90, or an A-). Each unit will cover specific topics from the textbook as well as a software product. Each student is expected to read the assigned work, complete homework assignments, and projects. The projects, homework assignments, are all given a point value and posted in Blackboard

# All assignments will be posted in blackboard

Schedule subject to change **\*\*\*Specific assignments will be posted to blackboard\*\*\***

**NO BOOK IS NEEDED! All resources are free resources.**

Week	Instructional Unit	Specific Objectives of Instructional Unit
1		Introduction to Class, Syllabus, Alice & Blackboard
2	Week 2 Introduction to Alice and Objects	Introduction to programming concepts The student will be able to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe what is a computer program</li> <li><input type="checkbox"/> Explain algorithms and programming languages</li> <li><input type="checkbox"/> Discuss the importance of programming languages</li> <li><input type="checkbox"/> Utilize Alice software, objects and the three-dimensional graphical environment</li> <li><input type="checkbox"/> Code Editor</li> </ul>
3	Week 3 Methods	Introduction to Alice programming tool The student will be able to: <ul style="list-style-type: none"> <li>• Compare &amp; contrast the Scene Editor</li> <li>• Locate and describe the purpose of the methods and procedures tab</li> <li>• Add Java programming procedures to the code editor</li> <li>• Create programming comments</li> <li>• Flowchart a story board</li> <li>• Describe inheritance and traits, superclasses and sub classes</li> </ul>
4	Week 4 Variables	Variables The student will be able to: <ul style="list-style-type: none"> <li>• Understand control statements</li> <li>• Use functions</li> <li>• Multiple control statements</li> <li>• Programing constructs to invoke simultaneous movement</li> <li>• Add motion to objects</li> <li>• Add a control statement to the code editor</li> <li>• Use random numbers to randomize motion</li> </ul>
5	Week 5 Decisions	Coding Decision Structures The student will be able to: <ul style="list-style-type: none"> <li>• Use functions to control movement based on a return value</li> <li>• Use the if and while control structures</li> <li>• Create an expression to perform a math operation</li> <li>• Interpret a math expression</li> </ul>
6	Week 6 Arrays	Coding Repetition Structures The student will be able to: <ul style="list-style-type: none"> <li>• Understand and use variables in programming</li> <li>• Use Keyboard controls to manipulate objects in an animation</li> <li>• Write a scenario and storyboard</li> <li>• Reposition objects at runtime</li> </ul>

7	Week 7 Events	Events The student will be able to: <ul style="list-style-type: none"> <li>• Handle Mouse clicks</li> <li>• Categorize Events</li> </ul>
8	Week 8 Putting it all together	<i>The student will be learning to:</i> <ul style="list-style-type: none"> <li>• Put all technologies and programming concepts together</li> </ul>
9-12	Week 9-12	<i>The student will be able to:</i> <ul style="list-style-type: none"> <li>□ Create their own programs in Alice</li> </ul>
<b><i>Projects will be posted on blackboard</i></b>		

### **ADA Accommodations Statement**

Students with physical or learning disabilities who may require accommodations are encouraged to contact the Counseling Office. After disclosing the nature of the disability, students are urged to discuss their needs with individual instructors. This should be done at the beginning of each semester. Instructors, in conjunction with appropriate college officials, will provide assistance and/or accommodations only to those students who have completed this process.

### **Academic Ethics and Classroom Behavior**

At Middlesex Community College we expect the highest standards of academic honesty. Academic dishonesty is prohibited in accordance with the Board of Trustees' Proscribed Conduct Policy in Section 5.2.1 of the Board of Trustees' Policy Manual. This policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism, and other proscribed activities. Plagiarism is defined as the use of another's idea(s) or phrase(s) and representing that/those idea(s) as your own, either intentionally or unintentionally.

### **Use of Computing Resources**

All resources and facilities of the Data Processing Labs, including the computer classroom sites, are to be used solely for the legitimate and authorized academic and administrative purposes. Any unauthorized or illegitimate use of the computer systems, resources, and/or facilities will be subject to appropriate disciplinary action, including but not subject to criminal prosecution in accordance with Section 53a-250, et seq., of the General Statutes.

### **Religious Accommodation Statement**

If your religious obligations conflict with the course calendar requirements, and if you wish to request an accommodation, you must make your request in writing prior to the date of the assessment or activity you will miss and preferably at the beginning of the semester. When requesting a make-up quiz, test, exam, assignment, or activity, state the reason for your request and the date(s) on which your religious obligation(s) will conflict with the course calendar requirements. Also, if your religious obligation/holiday is unfamiliar to your instructor, you may be asked to provide a calendar which shows the published date(s) of your religious observance(s) or holiday(s).

### **Inclement Weather Statement**

In the event of inclement weather either before the start of a day when classes are in session or during the school day, you may check for information on delayed openings, college closings, class cancellations, etc by listening to the radio and television stations. Additionally, a message will be posted on the MxCC website at [www.mxcc.commnet.edu](http://www.mxcc.commnet.edu) and an announcement made on the college's main phone number, (860) 343-5800. If classes are already in session, everyone on campus will be notified of any changes. Decisions to cancel classes or close the college early will be made as soon as practicable. The school also sends an automated text and voice message.