Advanced Computer Topics

South Eugene High School

2017-2018

Faculty Name:	Mary Taylor
Contact:	taylor_m@4j.lane.edu
Room:	9 (Computer Center)
IA time:	Ms. Taylor is always available via email (taylor_m@4j.lane.edu) and by appointment.
Credits:	.5 credit, Applied Arts (elective)
College Credits:	None
Course website:	eugene4j.edmodo.com
Grade updates:	staff.4j.lane.edu/~taylor_m login with last name (username) and student ID number (password)

Course Description

Advanced Computer Topics (ACT) is a "choose your own adventure" experience for students who are able to drive their own learning in technology. It is ideal for mature students who have a passionate interest in developing skill in a technology area, and need only time, tech resources, and independent learning materials (online tutorials, books, experimentation) to be productive. Students in ACT create their own learning goals and follow a structure based on Agile Project Management, to define and guide their work. They are assigned a computer outfitted with the programs and equipment they need to pursue their goal. Grading is based on productivity as measured by weekly reports, periodic sharing, and teacher observation.

Topics can include anything of great interest to the student, including: Web design, multimedia, 2D/Flash animation, 3D modeling/graphics/animation, engineering (AutoCAD, etc.), video production/editing, music production/audio editing, digital photography, programming/scripting, game/app development, etc. We are fortunate to be able to offer suitable software and equipment for these pursuits.

Learning Objectives

In ACT, students have the opportunity to write their own learning objectives, and, in a real sense, to create their own lesson plans for each day. These are completely unique to each individual. The one common learning objective is that students work toward proficiency in project management. We use **Agile Project Management** techniques and language. This means that:

- Students create an ACT **Project Backlog** at the start of the term, with their overall goal for the class and a comprehensive listing of increments/tasks that need to be completed to reach that goal.
- Students work in **Sprints**, each with their own **Sprint Backlog** (taken from the Project Backlog, in accordance with what seems best to work on next), and a **Sprint Retrospective** in which they review their process for the sprint. They may choose to complete 12 weekly sprints, 6 two-week sprints, or 4 three-week sprints.
- Students participate in **Daily Scrum Meetings** – five minutes at the start of each period – with a self-selected partner or group to address three questions for each individual:
    1. What did I do yesterday?
    2. What will I do today?
    3. Are there any impediments in my way?

At the end of the term, students verify that the goal was reached and complete a "lessons learned" exercise. There is no Final Exam in ACT; rather, students give a formal presentation to peers, summarizing their project.

Textbooks and Learning Materials

Ms. Taylor keeps a plethora of great ACT topic books, DVDs, and online subscriptions for tutorials. As new topics emerge, and older ones are updated, newer materials are purchased, usually at the request of students who are eager to use them. We also strive to acquire any software that students wish to learn/use.

Classroom/Behavioral Expectations

1. Students are expected to arrive on time. Attendance is reported within the first 10 minutes of class.
2. Students are expected to use their assigned computer and to report any difficulties to Ms. Taylor.
3. Students are expected to ask for help ANY time a direction is not clear or there is any other hindrance to their learning. It is not acceptable to skip over anything that is not understood.
4. Students are expected to work consistently for the duration of the class; when one lesson is finished, the next one should be started. (Likewise, if a course is finished, another is begun!)
5. Games of any kind are not allowed (except as they are being tested by Game Dev students).
6. Students are expected to save ALL work on in their school server (files1) account, instead of the particular computer (hard drive) where they sit and work. This is a much safer place for the files.
7. Students in this class are not allowed to use the Internet for anything other than completing course activities.
8. Students may not have food (including candy) or drink at the computers, except for water in closed containers. They may keep other drinks, in closed containers, at the computer-less tables, and visit them there.
9. Students are expected to check in with Ms. Taylor if they need to leave the room for a short period of time (bathroom, drink, etc.).
10. Students are expected to take breaks when and if they are needed; staring at a monitor for 70 minutes straight is not encouraged. Simple exercises to relieve eyes, wrists, etc. are encouraged.
11. Students may not socialize (talk) during class, other than to help each other understand the computer concepts at hand.
12. Cell phones should not be seen or heard, with the exception of their use with headphones for providing music, if it helps the student work.

Special Needs

Appropriate modifications and accommodations will be made for students with identified special needs. Identified IEP, 504, and TAG students generally feel at home in this classroom environment, since learning is pursued without comparisons of any sort being made, and distractions are minimized. Each student is encouraged to take the time they need for the activities of this course, which they have elected to take.

Grading Policies

Grading for this course uses the following category weights, to honor the relative importance of various assignment types:

Project Backlog	10%
Weekly Reports with evidence, Sprint Backlogs & Sprint Retrospectives as needed	79%
Start-of-term (syllabus, etc.)	1%
End-of-Term Paper/Presentation	10%

Grading is done on a 1-4 scale (with zero for missing assignments, until they are made up).

The rubric for the **Project Backlog** is:

Level of Mastery/Competence	**Indicated by**	**Score given**
Complete	All aspects are completed thoughtfully; the work has been completely visualized and broken down into a logical sequence of tasks that approximate the length of available work time (55 days x 70 mins./day) realistically.	4
Approaching	An aspect of the plan is missing, one or more aspects are unclear.	3
More work needed	Plan needs major work to be useful.	2
Much work needed	Plan is completely unuseable.	1

The rubric for the **Weekly Reports** is:

Level of Mastery/Competence	**Indicated by**	**Score given**
Complete	Weekly Report completed on time and reflective, with evidence of learning (screenshot, mp3, graphic, snatch of code, link to online creation, etc.) is included in post. If the week marks the beginning of a sprint a **Sprint Backlog** must be included. If the week marks the end of a sprint, a **Sprint Retrospective** must be included. If appropriate, BOTH documents are included.	4
Complete but late	Since the Weekly Reports are the only graded items in ACT, and it is an Advanced course, late reports cannot earn more than a B.	3.5
Approaching	Weekly Report lacking one of the above aspects – late, skimpy, unrelated to plan, and/or no evidence included.	3
More work needed	Weekly Report lacking 2-3 of the above aspects – late, skimpy, unrelated to plan, and/or no evidence included.	2
Much work needed	Weekly Reflection is unrelated to coursework and/or inappropriate.	1

Advanced Computer Topics – Sample Topics/Options

Topic	Notes/Details
3-D Graphics	In the past: Bryce, Maya, Poser. Currently most work is in Blender (on every computer). Some students use Steam, etc. to create levels for their 3D games.
3-D Printing	Room 9 now has two 3D printer! There are many ways to learn to use it.
Accounting	Books and materials used in Accounting courses at LCC.
Animation	Since Flash has fallen out of favor, we are now using a range of other means for creating 2D animations.
Audio and/or music production and editing	GarageBand (and Jam Packs), Ableton Live 9, Logic Pro X, FL Studio 12 and Reason for composing; Sibelius and Finale Notepad for transcribing. Many MIDI keyboards available, and mics. Always adding (Ms. Taylor is a musician ☺) Also music theory software. Please note that we now have a course in Music Tech!
App Development	Students can (and do) pursue this topic on their own, or with the help of Ms. Taylor's new course using MIT AppInventor. Nexus 7 tablets available for testing.
Computer-Assisted Design (CAD)	In recent years, Autodesk (students.autodesk.com) has made the full range of their industry standard software available for download by students. This includes AutoCAD and MANY other titles. We also enjoy Google SketchUp.
Digital Photography	Online tips and tutorials, books and cameras available.
Game Development	Students who have taken **Beginning Game Development** (a separate College Now credit course) often wish to continue their game dev studies, either continuing with Game Maker software or moving into 3-D engines such as Unity.
Graphic Design & Image Creation	Adobe Creative Suite is on every computer with MANY learning materials available, as well as (Wacom) tablets. UltraFractal, zBrush, Corel Paint, Gimp, etc.
Programming/scripting	Python, Javascript, Visual Basic, C, C++, C#,PHP, Java, Ruby on Rails, jQuery, etc. MANY learning materials online as well as books.
Video production and editing	iMovie, and Final Cut Pro HD for Mac – Older copies of Adobe Premiere Pro and Premier Express for PCs. AfterEffects. Scriptwriting is encouraged.
Web Design	Dreamweaver, Fireworks (& Flash). LOTS of learning materials re: CSS & XHTML. Books and online tutorials available in plenty. Also aspects of dynamic and database driven pages – PHP/MySQL, Ruby on Rails, AJAX, jQuery, Javascript, etc. Tutorials for all CMS – WordPress, Joomla!, Drupal – also available. Please note that there is a Web Design course offered for college credit, and that students can gain skills needed to become a Web Developer through the Programming & Prototyping course. Also, this is a focus for the CIS CTE Program of Study.

After reviewing the information and policies detailed above, please detach this portion of the syllabus, sign it, and bring the signature portion (only!) to Ms. Taylor. Thank you!

I have read the syllabus: _____

Print Parent Name Parent Signature Date

I have read the syllabus: _____

Print Student Name Student Signature Date