| Course Name | Multimedia Design and Production |
|---|---|
| **Course Code** | CIT314 |
| **Type of Course** | COMPULSORY |
| **Course Level** | UNDERGRADUATE |
| **ECTS Credits** | 5 |
| **Weekly Theory Hour** | 2 |
| **Weekly Practice Hour** | 2 |
| **Weekly Laboratory Hour** | - |
| **Year** | 2013-2014 |
| **Term** | SPRING |
| **Instructor (s)** | Assist. Prof. Dr. Seren  Başaran |
| **Teaching System** | Lecturing.<br>This course utilizes the Moodle course management system to share information and resources. To access the course site, log on to this link: http://elearning.gau.edu.tr  and select the course from list of courses. All course materials will be posted here. |
| **Education Language** | ENGLISH |
| **Prerequisite Course** | - |
| **Other Recommended Matters** | - |
| **Training Status** | - |
| **Course Objectives** | The major goals of this course are:<br>1. Learn how learning theories influence the development of multimedia product<br>2. Explore a brief history of multimedia in education;<br>3.  Develop competencies in designing and creating interactive multimedia applications by explaining how elements of these applications reflect a theory of how learning will occur;<br>4. Work with all aspects of text, audio, images and video;<br>5. Learn the phases involved in multimedia planning, design and production;<br>7. Be able to use various multimedia authoring tools<br>8. Be able to design and create interactive multimedia products<br>9. Develop competencies in designing and producing instructional multimedia<br>10. Apply contemporary theories of multimedia learning to the development of multimedia products.<br>11. Evaluate existing multimedia products that can be used to design instructional and informational material.<br>12. Analyze instructional and informational media (print materials, audio/visual materials and/or web-based materials, games/simulations, etc.) |

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| | 13. Apply theory and principles of learning, instructional design, and perception to the design of instructional media products<br>14. Demonstrate proficiency with common software applications used to create multimedia assets |
| **Learning Outcomes** | Upon successful completion of the course, students should be able to:<br>*Knowledge and understanding :*<br>1. Understand the concepts and processes which underpin the design and development of multimedia products.<br>2. Understand the techniques and technologies used in the development of multimedia solutions.<br>*Intellectual / cognitive skills:*<br>3. Plan the development of an idea into the realisation of a product.<br>4. Design and implement multimedia solutions.<br>*Practical, research and independent learning skills:*<br>5. Use appropriate tools for the design, development and creation of digital media artefacts.<br>6. Locate relevant information from a variety of sources and assimilate, interpret and apply knowledge.<br>7. Can positively influence educational improvement through altering classrooms, schools, and school systems.<br>8. Learn how to be proactive and reflective<br>*Transferable / key skills:*<br>9. Manage time and prioritise workloads<br>10. Communicate effectively through written and electronic means<br>11. Function effectively in diverse educational settings with competencies that are instrumental to planning, implementing, assessing, and re-evaluating existing or proposed practices<br>12. Become successful decision makers, lifelong learners and adaptive<br>13. Work collaboratively<br>14. Culturally sensitive and empathetic |
| **Course Content** | Introduction of course development software, electronic courseware planning, design and development stages, screen design principles, digital image/audio/video software, animation, user interaction, feedback techniques, navigation, multimedia courseware packaging, evaluation. Creating, publishing and evaluation of multi-media applications. This course introduces students to the design and production process of developing interactive multimedia, a combination of text, sound, animation, graphics, and video. Students will be given an opportunity to work with a variety of software including programs used for sound and video production, multimedia presentations & image editing. |

| | WEEK | TOPICS | |
|---|---|---|---|
| | | **Theorotical** | **Lab (Prtactical)** |
| **Weekly Detailed Plan** | 1 | Introduction to Multimedia and Hypermedia. Brief history of multimedia, benefits, examples of multimedia, hypermedia, hypertext. Diferences between these three terms | Discussing history, benefits |
| | 2 | Theories of Multimedia Learning Cognitive Theory of Multimedia, Dual Coding Theory Introduction to Multimedia Principles An Integrated Model of Text and Picture Comprehension The Four-Component Instructional Design Model: Multimedia Principles in Environments for Complex Learning | Assignment 1: Instructional Poster Introducing Multimedia authoring softwares required for projects |
| | 3 | Implications of Cognitive Load Theory for Multimedia Learning The Signaling Principle The Segmenting Principle The Modality Principle The Multimedia Principle The Coherence Principle Visual Design Principles: Balance, Harmony, Closure, Proximity, Contrast, Color, Alignment, Emphasis | Applications with Adobe Fireworks& Adobe Photoshop |
| | 4 | Functions of Graphics How can we improve multimedia learning? *Techniques for Reducing Extraneous Processing* Coherence principle Signaling principle Redundancy principle Spatial contiguity principle Temporal contiguity principle | Applications with Adobe Fireworks& Adobe Photoshop |
| | 5 | *Techniques for Managing Essential Processing* Segmenting principle Pre-training principle Modality principle *Techniques for Fostering Generative Processing* Personalization principle Voice principle | Assignment 2: Instructional Audio Introducing Audacity (Audio Authoring Software) for creating a podcast |
| | 6 | Revision | Quiz1 |
| | 7 | **Mid Term** | |

| | 8 | Creating Multimedia<br>　　　Text, Sound, Images, Video and animation | Applications with Audacity |
|---|---|---|---|
| | 9 | Principles of Stack Design | Assignment3: Video Project Introducing Windows Movie Maker |
| | 10 | Publishing Multimedia<br>Planning and Costing<br>Designing and Producing<br>Delivering | Applications with Windows Movie Maker |
| | 11 | Multimedia Learning in Advanced Computer-Based Contexts<br>Multimedia Learning with Animated Pedagogical Agents<br>Multimedia Learning in Virtual Reality<br>Multimedia Learning with Games, Simulations, and Microworlds<br>Multimedia Learning with Hypermedia<br>Multimedia Learning in e-Courses | Assignment 4: Ineractive Multimedia Project Introducing Scratch |
| | 12 | Advanced Multimedia Principles<br>Guided-discovery<br>Worked out example<br>Collaboration<br>Self-explanation<br>Animation and interactivity<br>Navigation<br>Site map<br>Prior knowledge<br>Cognitive aging | Applications with Scratch |
| | 13 | Evaluation Criteria for Multimedia Product | Quiz 2 |
| | 14 | Revision | |
| | 15 | **Final** | |

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| **Textbook/Recommended Readings** | Mayer, R. E. (2001). Multimedia learning. Cambridge: Cambridge University Press. MA: Course Technology.<br>Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (1999). Instructional media and technologies for learning. Upper Saddle River, NJ: Prentice-Hall.<br>Alessi,S. & Trollip,S.(2001) Multimedia for Learning . Needham, MA: Allyn & Bacon, 2001<br>Mayer, R. (2005). The Cambridge Handbook of Multimedia Learning. New York: Cambridge University Press<br>Adobe Fireworks CS5 Classroom in a Book:Adobe Training book<br>Audacity. The Free, Cross-Platform Sound Editor (http://audacity.sourceforge.net) |

| Scratch: http://scratch.mit.edu/ | | |
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**ASSESSMENT METHODS**

| Term Activities | Number | Semester(Year) Contribution % |
|---|---|---|
| Assignment1 | 1 | 8 |
| Assignment2 | 1 | 8 |
| Assignment3 | 1 | 8 |
| Assignment4 | 1 | 13 |
| Quiz | 2 | 8 |
| Midterm | 1 | 20 |
| Final | 1 | 35 |
| **TOTAL** | | **100** |

| | | |
|---|---|---|
| **Percentage of Classroom Activities** | | **65** |
| **Percentage of Final Activities** | | **35** |
| | **TOTAL** | **100** |

**Calculation work load within the framework of learning, teaching and evaluation activities**

| Activities | Number | Time (Hour) | Total Work Load (hour) |
|---|---|---|---|
| Weekly Theory Hour | 14 | 2 | 28 |
| Weekly Practice Hour | 14 | 2 | 28 |
| Assignment 1 | 1 | 20 | 10 |
| Assignment2 | 1 | 20 | 10 |
| Assignment3 | 1 | 20 | 10 |
| Assignment4 | 1 | 25 | 25 |
| Quiz | 2 | 5 | 10 |
| Midterm | 1 | 12 | 12 |
| Final | 1 | 20 | 20 |
| **TOTAL WORKLOAD (hour)= 153** | | | |
| **COURSE ECTS CREDIT=Total Work Load (hour) /(30 hour/ECTS)= 153 / 30 = 5** | | | |

**Programme and learning outcomes**

| Learning Outcomes (LO) | Programme Outcomes (PO) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 | PO 13 | PO 14 | PO 15 | PO 16 | PO 17 |
| LO1 | 5 | 3 | 3 | | 5 | 5 | | | 4 | | 5 | | 3 | 5 | | | |
| LO2 | 5 | 4 | 3 | | 5 | 5 | | | 4 | | 5 | | 3 | 5 | | | |
| LO3 | 5 | 3 | 3 | | 5 | 5 | | | 4 | | 5 | | 3 | 5 | | | |
| LO4 | 5 | 3 | 3 | | 5 | 5 | | | 4 | | 5 | | 3 | 5 | | | |
| LO5 | 5 | 3 | 3 | | 5 | 5 | | | 4 | 4 | 5 | | 3 | 5 | | | |
| LO6 | 5 | 4 | 3 | 5 | 5 | 5 | | | | | 5 | | 3 | 5 | | | |
| LO7 | 3 | 5 | | | | | | 5 | | | | | 2 | | 5 | 5 | |
| LO8 | | 5 | | 4 | 4 | 4 | | | | | | | | | 5 | | |
| LO9 | 2 | 3 | | | | | 5 | | | | | | | | | | |
| L10 | 5 | 3 | 3 | | | | | | | | | | | 4 | | | |
| L11 | 5 | 5 | | 4 | 5 | | | | | | 5 | | | 5 | 4 | 5 | |
| L12 | 4 | 3 | | 4 | | 5 | 5 | | | | 4 | | | 4 | 5 | | |
| L13 | | 2 | | | 4 | | 5 | | | | | | | | 5 | | |
| L14 | | 3 | | | | | | 5 | | | | | | | 5 | 5 | |

**Contribution Level:**
**1** very low
**2** low
**3** medium
**4** high

Additional Information about the Assignments(100 points each):

Individual projects are assigned to students on a specific topic and at a given grade level that is previously determined by the instructor.

Students should apply the principles of multimedia learning, instructionaland visual design, and the pedagogical principles during the production of each project.

Assignment 1: Students will create an instructional poster by using Adobe Fireworks/Photoshop on a given topic assigned by the instructor.

Assignment2: Students will create an instructional audio podcast by using Audacity on the same topic.

Assignment3: Students will create a video including an introduction of the topic by recorded by themselves, relevant images with provided background music and related videos on thesubject matter.

Assignment 4: Students will create an interactive multimedia game on the same topic by using Scratch.

**CITT Department Programme Outcomes**

**1.** Having adequate level of knowledge and skills in current/new computing and educational technologies.
**2.** Having sufficient communication and teaching skills in teaching profession.
**3.** Being able to teach updated computing technologies efficiently in English.
**4.** Being able to identify information technology problems through using various analysis and synthesis.
**5.** Being pragmatic to develop and apply persistent information technology solutions to educational and business problems.
**6.** Being able to use critical and computational thinking skills to produce alternative solutions at every level of project development life-cycle.
**7.** Being capable to work in disciplinary and interdisciplinary teamwork.
**8.** Being sensitive, reactive and responsive to professional, social and ethical issues. Having social and ethical awareness in teaching and in providing solutions to problems.
**9.** Having adequate level of knowledge and skills in current/new computer hardware, operating systems and computer networks.
**10.** Adequate level of knowledge and skills in current/new programming languages, programming paradigms (procedural and object-oriented) and programming environments (visual, console-based programming).
**11.** Being able to analyse, plan and manage educational software design and project development.
**12.** Having the capability of evaluating and criticising educational software design and development.
**13.** Adequate level of knowledge in using and integrating current/new e-learning and distance education systems such as learning management systems (LMS).
**14.** Having sufficient skills and knowledge in using instructional technology and material design.
**15.** Having skills to apply and use special teaching approaches, theories, teaching strategies, methods and techniques (such as to those people with disabilities).
**16.** Using appropriate measurement and evaluation techniques to assess students' learning and development in addition to supporting them with good level of feedback.
**17.** Having sufficient knowledge in the process of establishment of Republic of Turkey. Identifying social, cultural, political and economic problems through understanding Ataturk's principles and revolution.