Department: Computer Science
Course Title: 3D Animation II
Section Name: ARTV 2451. H30C
Semester: Spring 14
Time: M-W 5:00 – 9:50pm
Classroom: CT 136
Instructor: Josette Zeigler
Email: jzeigler@odessa.edu
Office: N/A
Phone: 432-352-3399
Office Hours: Call for Appointment

Course Description:

ARTV 2451   3D Animation II   (3-3) (10.0304) 4 hours
Advanced level 3-D course utilizing animation tools and techniques used to develop movement, with an emphasis on advanced animation techniques.   Lab fee required.

Required Texts:

1. Getting Started in 3D with Maya: Create a Project from Start to Finish—Model, Texture, Rig, Animate, and Render in Maya by Adam Watkins   Required
2. How to Cheat in Maya 2014: Tools and Techniques for Character Animation by Eric Luhta, Kenny Roy   Required
3. Maya Studio Projects: Game Environments and Props by Michael McKinley
   ISBN: 978-0-470-52403-9   Recommended

Description of Institutional Core Objectives (ICO's)

Given the rapid evolution of necessary knowledge and skills and the need to take into account global, national, state, and local cultures, the core curriculum must ensure that students will develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in life. Therefore, with the assistance of the Undergraduate Education Advisory Committee, the Coordinating Board has approved guidelines for a core curriculum for all undergraduate students in Texas.

Through the application and assessment of objectives within the institution's core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning. Appropriate Odessa College faculty periodically evaluates all of the courses listed in the descriptions on the following pages of this catalog and keys them to Odessa College's Institutional Core Objectives (ICOs), as defined by the Texas Higher Education Coordinating Board (THECB). (Source: *Odessa College Catalog of Courses 2012-2013, page 73*)

Odessa College's Institutional Core Objectives (ICOs):
1) *Critical Thinking Skills* - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2) *Communication Skills* - to include effective development, interpretation and expression of ideas through written, oral and visual communication
3) *Empirical and Quantitative Skills* - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4) *Teamwork* - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
5) *Personal Responsibility* - to include the ability to connect choices, actions and consequences to ethical decision-making
6) *Social Responsibility* - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

Learning Outcomes for <u>ARTV 2451   3D Animation II</u>   (Source: *Odessa College Catalog of Courses)*

Outcome	ICO
1) Utilize Autodesk® Maya® 2013 3D software and its file management capabilities. 2) Utilize advanced features of Autodesk® Maya® 2013 3D modeling, animation, and rendering software. 3) Student will learn and implement advanced character modeling and animation structuring and techniques that include knowledge and use of programming logic, using a high level programming language (MEL/PYTHON)	*Critical Thinking Skills* - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
1) Utilize Internet Explorer to use the Internet for research. 2) Student will utilize and communicate via e-mail, text or phone. 3) Student will submit all work via Blackboard. 4) Student will write and submit chapter synopsis that will comprise all new techniques learned in the new lesson.	*Communication Skills* - to include effective development, interpretation and expression of ideas through written, oral and visual communication
1) Extensive simulation tools for creating high-quality, realistic fluid, particle, cloth, fur, hair, rigid-body, and soft-body dynamics 2) Advanced rigging tools, advanced muscle deformation, heat map skinning, and Autodesk® HumanIK® full-body inverse kinematics (FBIK)	*Empirical and Quantitative Skills* - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
1) Complete and submit all assignments online on your own, by turning in work that is created by the student with academic integrity	*Personal Responsibility* - to include the ability to connect choices, actions and consequences to ethical decision-making

Odessa College Policies

Academic Policies
Note that the OC Student Handbook states (page 32) that "[i]n cases of academic dishonesty, the instructor has the authority to impose appropriate scholastic penalties. Complaints or appeals of disciplinary sanctions may be filed in accordance with the college due process procedure. Copies of the college due process procedure are available in the office of The Director of Student Life (CC104)."
For more information on your rights and responsibilities as a student at Odessa College, please refer to the following: *The 411 of OC: Student Handbook 2012-2013; Student Rights & Responsibilities*
http://www.odessa.edu/dept/studenthandbook/handbook.pdf

Scholastic Dishonesty
Scholastic dishonesty shall constitute a violation of these rules and regulations and is punishable as prescribed by board policies. Scholastic dishonesty shall include, but not be limited to, cheating on a test, plagiarism and collusion.

"Cheating on a test" shall include:
- Copying from another student's test paper
- Using test materials not authorized by the person administering the test.
- Collaborating with or seeking aid from another student during a test without permission from the test administrator.
- Knowingly using, buying, selling, stealing or soliciting, in whole or in part, the contents of an unadministered test.
- The unauthorized transporting or removal, in whole or in part, of the contents

of the unadministered test.
• Substituting for another student, or permitting another student to substitute for one's self, to take a test.
• Bribing another person to obtain an unadministered test or information about an unadministered test.
• "Plagiarism" shall be defined as the appropriating, buying, receiving as a gift, or obtaining by any means another's work and the unacknowledged submission or incorporation of it in one's own written work.
• "Collusion" shall be defined as the unauthorized collaboration with another person in preparing written work for fulfillment of course requirements. (Source: *Odessa College Student Handbook 2012-2013, page 29-30*)

Special Populations/Disability Services/Learning Assistance
Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

Odessa College affirms that it will provide access to programs, services and activities to qualified individuals with known disabilities as required by **Section 504 of the Rehabilitation Act of 1973 and Title II of the Americans with Disabilities Act of 1990 (ADA)**, unless doing so poses an undue hardship or fundamentally alters the nature of the program or activity Disabilities may include hearing, mobility or visual impairments as well as hidden disabilities such as chronic medical conditions (arthritis, cancer, diabetes, heart disease, kidney disorders, lupus, seizure disorders, etc.), learning disabilities or psychiatric or emotional disabilities. A student who comes to Odessa College with diagnosed disabilities which may interfere with learning may receive accommodations when the student requests them and submits proper documentation of the diagnosis. A Request for Accommodations form and guidelines for beginning the request process are available in the OC Help Center or on the Odessa College web site at www.odessa.edu/dept/counseling/disabilities.htm. The college strives to provide a complete and appropriate range of services for students with disabilities such as assistance with testing, registration, information on adaptive and assistive equipment, tutoring, assistance with access and accommodations for the classroom where appropriate. For information regarding services, students with disabilities should contact the Office of Disability Services in the OC Help Center located in Room 204 of the Student Union Building or call 432-335-6433. (Source: *Odessa College Catalog of Courses 2012-2013, page 52*)

Dropping a Course or Withdrawing from College
Students wishing to drop a non-developmental course may do so online using WebAdvisor, at the Wrangler Express, or Registrar's Office. A student wishing to drop a developmental course or withdraw from college should obtain a drop or withdrawal form from the Wrangler Express or the Registrar's Office. Students are encouraged to consult with instructors prior to dropping a class. Students may not completely withdraw from the college by use of the Web. Students must drop a class or withdraw from college before the official withdrawal date stated in the class schedule. Students who are part of the Armed Forces Reserves may withdraw with a full refund if the withdrawal is due to their being ordered into active duty. A copy of the student's orders must be presented to the Registrar's Office at the time of the withdrawal. For details, please contact the Office of the Registrar. **No longer attending class does not automatically constitute withdrawal from that class, nor does a student's notification to an instructor that the student wishes to be dropped. Failure of a student to complete the drop/withdrawal process will result in a grade of "F."** (Source: *Odessa College Catalog of Courses 2012-2013, page 36*)

Learning Resource Center (LRC; Library)
The Library, known as the Learning Resources Center, provides research assistance via the LRC's catalog (print books, videos, e-books) and databases (journal and magazine articles). Research guides covering specific subject areas, tutorials, and the "Ask a Librarian" service provide additional help.

Student Success Center (SCC)
Located in the LRC, the Student Success Center (SSC) provides assistance to students in meeting their academic and career goals. We strive to provide new and updated resources and services at no charge to OC students. Academic support services include tutoring, study skills training, workshops, and the mentoring program. Tutoring is available for a variety of subjects including college mathematics, English, government, history, speech, chemistry, biology, and all developmental coursework. Appointments are preferred, but walk-ins will be served as soon as possible. Smarthinking online tutoring is also available. All computers in the center have Internet access, Microsoft Office, and software resources to assist OC students in improving their reading, writing and mathematical skills. The center also offers special assistance to students preparing for the THEA/COMPASS test. Computer lab assistants are available to assist students with student email, Blackboard, OC portal, Course Compass and more. For more information or to make an appointment, please call 432-335-6673 or visit www.odessa.edu/dept/ssc/ (Source: *Odessa College Catalog of Courses 2012-2013, page 54)*

Student E-mail
Please access your Odessa College Student E-mail, by following the link to either set up or update your account: http://www.odessa.edu/gmail/. **Correspondence will be submitted using your Odessa College email as an alternative method to contact you with information regarding this course.**

Technical Support
For Blackboard username and password help and for help accessing your online course availability and student email account contact the Student Success Center at 432-335-6878 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm.

Expectations for Engagement – Face to Face Learning
To help make the learning experience fulfilling and rewarding, the following Expectations for Engagement provide the parameters for reasonable engagement between students and instructors for the learning environment. Students and instructors are welcome to exceed these requirements.

Reasonable Expectations of Engagement for Instructors

1. As an instructor, I understand the importance of clear, timely communication with my students. In order to maintain sufficient communication, I will
- provided my contact information at the beginning of the syllabus;
- respond to all messages in a timely manner through telephone, email, or next classroom contact; and,
- notify students of any extended times that I will be unavailable and provide them with alternative contact information (for me or for my supervisor) in case of emergencies during the time I'm unavailable.

2. As an instructor, I understand that my students will work to the best of their abilities to fulfill the course requirements. In order to help them in this area, I will
- provide clear information about grading policies and assignment requirements in the course syllabus, and
- communicate any changes to assignments and/or to the course calendar to students as quickly as possible.

3. As an instructor, I understand that I need to provide regular, timely feedback to students about their performance in the course. To keep students informed about their progress, I will
- return classroom activities and homework within one week of the due date and
- provide grades for major assignments within 2 weeks of the due date or at least 3 days before the next major assignment is due, whichever comes first.

Reasonable Expectations of Engagement for Students

1. As a student, I understand that I am responsible for keeping up with the course. To help with this, I will
   - attend the course regularly and line up alternative transportation in case my primary means of transportation is unavailable;
   - recognize that the college provides free wi-fi, computer labs, and library resources during regular campus hours to help me with completing my assignments; and,
   - understand that my instructor does not have to accept my technical issues as a legitimate reason for late or missing work if my personal computer equipment or internet service is unreliable.

2. As a student, I understand that it is my responsibility to communicate quickly with the instructor any issue or emergency that will impact my involvement with or performance in the class. This includes, but is not limited to,
   - missing class when a major test is planned or a major assignment is due;
   - having trouble submitting assignments;
   - dealing with a traumatic personal event; and,
   - having my work or childcare schedule changed so that my classroom attendance is affected.

3. As a student, I understand that it is my responsibility to understand course material and requirements and to keep up with the course calendar. While my instructor is available for help and clarification, I will
   - seek out help from my instructor and/or from tutors;
   - ask questions if I don't understand; and,
   - attend class regularly to keep up with assignments and announcements.

Institutional Calendar

2014-2015 ACADEMIC CALENDAR & LEGEND
Fall Semester August 25 – December 11, 2014
Fall 1 (8 WK Term) August 25 – October 15, 2014
Fall 2 (8 WK Term) October 20 – December 11, 2014
Midwinter December 16, 2014 – January 6, 2015
Final Exams for semesters and terms scheduled on the last day of the class meeting.
Spring Semester January 14 – May 7, 2015
Spring 1 (8 WK Term) January 14 – March 6, 2015
Spring 2 (8 WK Term) March 17 – May 7, 2015
Maymester May 12 – June 4, 2015
Final Exams for semesters and terms scheduled on the last day of the class meeting.
[ ] Beginning/End of Fall or Spring Semester
( ) Beginning/End of Midwinter, Maymester, Summer or Term
Bold Dates: Important Dates
Underlined Dates: College Holidays or Campus Closings

Disclaimer
This syllabus is tentative and subject to change in any part at the discretion of the instructor. Any changes will be in accordance with Odessa College policies. Students will be notified of changes, if any, in timely manner.

Original Effort
The work submitted for this course must be original work prepared by the student enrolled in this course. Efforts will be recognized and graded in terms of individual participation and in terms of ability to collaborate with other students in this course.

Description of students
Students enrolled in this course **ARTV 2451   3D Animation II**

Student will utilize advanced animation techniques and production skills; and develop a sense of weight and motion with rigs in animated shots.   During the term of the course, students will learn to work within virtual 3-D space and animate volumetric objects including: transformations in positions, rotations, and scale. Most importantly for games, a student will get a fundamental understanding of interactive animation techniques and technical issues so that they create their best "in game" motions. Students will learn these fundamental game tools: Animation controllers, hierarchies, exporting, and checking animations in-game. Students will also learn the importance of file backup and management.

Course prerequisites
ARTV 1403 Basic Animation and ARTV 1441 3-D Animation I
(Source: *Odessa College Catalog of Courses 2012-2013, page 116*)

Digital Protocol
Cell phones must be placed on either *vibrate* or *silent* mode and are to be accessed in emergency cases only. The use of laptops or any other digital device is permitted in order to facilitate note-taking relative to instruction. Any written assignments will be submitted electronically on Blackboard. **The electronic recording of the time on Blackboard will be considered the time of assignment submission. Take necessary steps to ensure that your assignments are submitted on "Blackboard" time.** Back-up and/or additional copies of all assignments submitted is encouraged. **Computers/printers are available to OC students in the LRC (301-303); therefore, not having access to a computer due to technical issues (crash; corrupted files) will not be considered as an acceptable reason for not completing assignments.** If there is a loss of server connection with Odessa College due to maintenance, then an email will be sent to student with pertinent information and status reports. Assignments submitted electronically need to be **WORD documents (doc or docx).**

Attendance Policy
Students are expected to attend class regularly. Attendance will be recorded using a "sign-in" sheet. Excessive absences will be grounds for disciplinary action, and will be determined on a case-by-case basis. If you are more than 15 minutes late to class or leave class early without notifying the instructor, this will count as an absence. Students are permitted 3 absences before a loss of point(s).

AVID
This course has been identified as a course by Career, Technical, and Workforce Education as one in which teaching and learning strategies adopted by AVID will be implemented. As a student in the legal program, you will be expected to develop an understanding of the strategies, to model the strategies, to maintain fidelity of implementation, and to examine how these strategies may impact your effectiveness as a professional in your chosen area of occupation, either through coursework or practicum experience as outlined by the course instructor.

Grading Policy
Please understand that this is a required course for the **Applied Science Degree – Computer and Information Science** program in order to prepare you the **Gaming Option**. Quality work and active participation is expected and not to be negotiated. As a general policy, grades will be taken in class. Any written assignments or tests will be graded outside of class. You can expect feedback on assignments within a week's time.

Grade Inquiry Policy
It is the responsibility of the individual taking this course to maintain accurate track of assignment submissions and grades. There will be opportunities during the semester to meet with the instructor to discuss your academic

progress. Contact the instructor to schedule an appointment. Class time will not be used for grade inquiries. All grades are final**.**

Communication Plan
The best way to communicate with the course instructor is via email or through Blackboard. Also, check in Blackboard regularly for announcements, including any changes in the course schedule due to instructor illness or conference attendance. Appointments with the instructor may also be scheduled.

General Course Requirements
1. Attend class and participate.
2. Contribute and cooperate with civility.
3. **Submit assignments on time. Late work will not be accepted. Medical and/or family circumstances that warrant an extension on assignments need to be presented to the instructor. Extensions will be allowed at the instructor's discretion.**

Grading Scale:
"A" = 90-100
"B" = 80-89
"C" = 70-79
"D" = 60-69
"F" = 0-59

WEIGHT OF COURSE REQUIREMENTS:	
Synopsis	25%
Attendance	5%
Final Exam	10%
Projects	60%

Incomplete Policy
An 'Incomplete' grade may be given only if:

1. The student has passed all completed work
2. If he/she has completed a minimum of 75% of the required coursework. A grade of an "I" will only be assigned when the conditions for completions have been discussed and agreed upon by the instructor and the student.

Schedule (Tentative and Subject to Change)

Chapter	Assignment	Topic	Due
Getting Started in 3D with Maya Textbook Chapter 1: Animation Workflow	Read entire chapter and write Synopsis, Submit to Blackboard.	Read all: Hi-Rez VS. Low-Rez 3-D, Modeling, Modeling, Research, UV Layout, Texture, Rigging and Skinning, Animation, Lighting and Rendering, and Flexibility in the Process	*1/23*
Chapter 2: Maya Philosophy	Read entire chapter and write Synopsis, Submit to Blackboard.	Read all: Bit of History, So, what is this? How Maya "thinks", Interface. Tool box, Channel Box, Outliner, Modes	*1/23*
Chapter 3: Architectural Modeling	Read entire chapter and do chapter projects and DO the Homework additions on page 118, Submit to Blackboard.	Read and do all tutorial project portions: **Escaping the Madness Tutorial 3.1 Project: Game Modeling: Escaping the Madness Tutorial 3.2 Project: Prop Polygonal Game Modeling Tutorial 3.3 Project: NURBS Modeling Architecture**	*1/25*
Chapter 4: Organic Modeling	Read entire chapter and do chapter projects and DO the Homework additions on page 177, Submit to Blackboard.	Read and do all tutorial project portions: **Escaping the Madness Tutorial 4.1 Project: Game Character Modeling**	*1/30*
Chapter 5: UVs and UV Layout	Read entire chapter and do chapter projects and DO the Homework additions on page 223, Submit to Blackboard.	Read and do all tutorial project portions: **Escaping the Madness Tutorial 5.1 Project: UV Layout for Architecture and Level Design Tutorial 5.2 Project: Organic Form UV Layouts**	*2/6*
Chapter 6: Material Creation and Texture Painting	Read entire chapter and do chapter projects and DO the Homework additions on page 270, Submit to Blackboard.	Read and do all tutorial project portions: **Escaping the Madness Tutorial 6.1 Project: Game Level and Architectural Texturing Tutorial 6.2 Project: Textures for Organic Forms**	*2/13*

Chapter 7: Lighting and Rendering	Read entire chapter and do chapter projects and DO the Homework additions on page 317, Submit to Blackboard.	Read and do all tutorial project portions: **Escaping the Madness** **Tutorial 7.1 Project: Lighting Instrument Exploration** **Tutorial 7.2 Project: Mental Ray and Shaders** **Tutorial 7.3 Project: Character Lighting**	*2/20*
Chapter 8: Character Rigging and Skinning	Read entire chapter and do chapter projects and, Submit to Blackboard.	Read and do all tutorial project portions: **Escaping the Madness** **Tutorial 8.1 Project: Joint Chain for the Alien** **Tutorial 8.1 Project: Skin Weighting**	*2/27*
Chapter 9: Animation in Maya.	Read entire chapter and do chapter projects and DO the Homework additions on page 399, Submit to Blackboard.	Read and do all tutorial project portions: **Escaping the Madness** **Tutorial 9.1 Project: Animating a Bouncing Ball** **Tutorial 9.2 Project: Wagging a Tail** **Tutorial 9.3 Project: A Walk Cycle**	*3/6*
Appendix A& B: Preparing a Character Sheet & Creating Seamless Textures	Read entire chapter and do chapter projects, Submit to Blackboard.	Read and do all tutorial project portions	*Extra Credit*
How to Cheat in Maya 2013 textbook Chapter 1 - Animation Principles in Maya	Read entire chapter and do chapter project and, Submit to Blackboard.	12 Principles of Animation: 1. Squash and stretch 2. Anticipation 3. Staging 4. Straight ahead action and pose to pose 5. Follow through and overlapping action 6. Slow in and slow out 7. Arcs 8. Secondary action 9. Timing 10. Exaggeration 11. Solid drawing 12.Appeal **Project: make animated movie using the 12 principles**	*3/8*
Chapter 2 - Splines	Read entire chapter and do chapter project and, Submit to Blackboard.	How splines work; Splines and Spacing; Tangent Types; Tangent Handles; Spline Techniques; and Spline Reference	*3/20*
Chapter 3 - Graph Editor	Read entire chapter and do chapter project and, Submit to Blackboard.	Graph Editor Windup; Visual tools; Working with keys; Value Operators; Buffer Curves; and Speed Cheats	*3/21*
Chapter 4 - Techniques	Read entire chapter and do chapter project and, Submit to Blackboard.	Auto key; Timeline Techniques; Cartoony Motion; Trax Editor; Copying Curves; Editable Motion Trails; IK & FK; IK/FK Switching; Character Sets; Multiple Pivot Points; and Reblocking	*3/25*
Chapter 5 - Constraints	Read entire chapter and do chapter project and, Submit to Blackboard.	Parenting; Parent Constraints; Constraining a Prop; Constraint Weights; Animating with Constraints	*3/28*
Chapter 6 – Rigging Cheats	Read entire chapter and do chapter project and, Submit to Blackboard.	Rig Testing; Sprucing it up; Visual Switches	*4/1*
Chapter 7 - Cameras and Layout	Read entire chapter and do chapter project and, Submit to Blackboard.	Framing and Lenses; Camera Sequencer; UberCam; Animation Cameras	*4/5*
Chapter 8 - Workflow.	Read entire chapter and do chapter project and, Submit to Blackboard.	Planning/Reference; FCheck Trick; Stopped keys; Checking Silhouette; Moving Holds when Splining; Moving Holds/Retime Tool; Refining Arcs in Polish; Final Texture	*4/12*
Chapter 9 - Cycles	Read entire chapter and do chapter project and, Submit to Blackboard.	Cycle Basics; Stride Length; Walk Cycle; Flying Cycle; Quad Cycle	*4/19*
Chapter 10 - Referencing	Read entire chapter and do chapter project and, Submit to Blackboard.	Referencing basics; Offline Edits; Saving Reference Edits	*4/26*
Chapter 11 - Facial Animation	Read entire chapter and do chapter project and, Submit to Blackboard.	Planning and Prep; Core Poses; Lip Sync 1- Jaw motion; Lip Sync 2- Mouth Corners; Lip Sync 3- Mouth Shapes; Lip Sync 4- Tongue; Blinks; Blinks and Brows; Eye Darts; Final Touches	*5/3*
Chapter 12 - Animation	Read entire chapter and do	How animation layers work; Animation layer Basics; Creating	*5/10*

| Layers | chapter project and, Submit to Blackboard. | Variations;   Creating Variations 2;   Layers for Texture | |