ANI 478 **Dynamics**	Spring 2017 Instructor: Joel D Benjamin **Joel.benjamin@depaul.edu (or joeldbenjamin@gmail.com)** Office (room CDM 702): M/W 11:50 – 1:20
Course Description	This course will provide an introduction to dynamic simulation and effects in 3D animation. An emphasis will be placed on how effects can enhance an idea or narrative, establish mood, or even be used as a basis for experimental animation. Students will use traditional animation and visual design principles as a basis for creating several small projects. *PREREQUISITE(S): The Graduate 3D Seminar*
Course Objectives	After completing this course, you will have: - Gained an intermediate understanding of the covered topics (this shouldn't be a shock...). - Enhance the *feel and mood* of your films, games, and animations with smoke, fire, water, cloth, etc. - Feel comfortable *experimenting* with some of the dynamic systems in order to create new and possibly unintended visual results. This course is meant as a jumping-off point for you. - Learn how to fix problems that *will* arise. **Figuring out HOW to learn and fix is a tremendously important part of this course.** - We won't have time to cover ALL of Maya's power in 10 weeks. Grad students must research an additional effects/dynamics topic of your choosing (within specific guidelines that you will receive). You will decide to shoot for either realism or abstraction, and implement the effect into a short project. - Speak about your work – you will do a 5-10 minute presentation to the class on the additional topic you chose.
Important Things to Know	All things animation are WORK! If 3D modeling and design/animation/effects is what you want to do, expect to spend hours upon hours sitting in front of the computer. Working with dynamic simulations can be a *beast*. Things crash. A LOT. Things don't work because of some small detail you're missing. You will spend probably 75% of your time adjusting small values by tiny increments, trying to get something to work. This is just how this works, unfortunately! We are working with computers. Computers suck. They crash, they fail, they eat your work and generally hate you. Maya crashes. Maya eats your files. Expect to lose progress at some point! **Computers crash.** Hard drives die, software fails, etc. It is ALWAYS possible to lose your work. *HARDWARE/SOFTWARE FAILURE CAN NOT BE AN EXCUSED FOR LATE / MISSING WORK.* **How to reduce the likelihood of data loss:** - Save. Save often. Save constantly. If you make a change, save your file! - Save incrementally. Meaning – save your files in versions, like Scene10__01.mb, Scene10__02.mb, Scene10__03.mb, etc etc. ***You will absolutely HAVE to do this with dynamics projects!*** - Back up your files *somewhere else* at the end of each work session. Buy an

	external hard drive of some kind or sign up for dropbox / Google Drive / Amazon Cloud. Do NOT expect your work to be saved onto the school's computers – it's possible the files won't be there later. • **HOWEVER – NEVER work directly off of a flash drive!** They are cheap and die and are slow. They should ONLY be used to back up and transport information, never as the sole means of storage. 1) Copy your files from the flash drive to the computer. 2) Remove the flash drive. 3) Work work work animate work. 4) Then when you're done, put the flash drive back in, copy the files back over to the flash drive. NEVER work directly off of those USB drives!
What to expect – Projects and Lectures and Demos	Each week will introduce a new topic / technique. Topics Outline (subject to change) • Week 1 – Dynamic Objects – passive and active – and fields / constraints • Weeks 2-3 – nCloth objects, more constraints • Weeks 5-6 – nParticles, instanced particles. • Weeks 7-8 – Fluids • Week 9-10 – Hair/fur, introduction to other misc tools. The course will also cover some basics of rendering and compositing - making practical use of the techniques, not just doing exercises. Classes will start with demo & questions, the rest of the time will be in-class work time and one-on-one problem-solving time. ***Students are expected to be prepared to work in class with their files each week for the full class!***
In the Classroom	Students are expected to come prepared to every class. Coming prepared means: • Being prepared to work with headphones, hard drives or files online where you can access them – sometimes there will be one-on-one time with the instructor. Students should be productive during those times when they are not speaking with the instructor. • Being able and ready to pay attention and participate in class. It is unacceptable to check e-mail, browse or social network while class is in session; it's not only rude, but distracting. Nothing distracting to you, your classmates, or the instructor is allowed. • Using lab computers during class *for (this classes') animation work only*. Consistently wasting time in class (over-socializing, Facebook/YouTube/other social media, cell phones, etc) will result in reduced grade for the quarter. • Being well-rested and excited to go!
Attendance	**Excused absences:** You are allotted 20% of the number of the classes scheduled for the quarter (for a night class, that's two classes. For a twice-a-week class, that's four). <mark style="background-color:red">More than that and you will not pass the class</mark>. Note that *THESE are your excused absences* – if there is an emergency or you must miss class, this is what these excused absences are for. These excused absences are NOT for being lazy, so use them wisely as

	there will be NO exceptions.

Tardiness is defined as not in the classroom when attendance is called or departing before the class has been formally dismissed by the instructor. Tardiness that exceeds thirty minutes will be counted as an absence. TWO late arrivals or early departures, or a combination of both, are counted as one absence.

If you arrive late for class, it is your responsibility to make sure that you have been marked tardy rather than absent! Talk with instructor after class AND email instructor. Failure to do both may result in you continuing to be counted as Absent for the day rather than Tardy.

The student is responsible for any lectures or assignments missed. If the class is recorded you can (and should) watch missed lectures online on D2L.

<mark>READ THIS:</mark> You may not miss the final class exam date (June 07, 2017, from 11:30 AM to 1:45 PM). Doing so means a drop in your final grade of 20% (2 letter grades). If for some reason you cannot make this day you must contact your instructor at the beginning of the quarter to work out the details. Excuses given after the fact will not be accepted. Check the school's calendar for final exam dates. |
| Classroom and Class Work | This class is project-based and work-intensive. Students are expected to come to class ready with questions and problems, as well has being prepared to work during in-class work time. Yes, we all have trains to catch - you must stay until the end of class.

Expect to spend 6-10 hours outside of class per week, *minimum*. Much of this time will be spent problem-solving, and figuring out how to get a render. If you're spending less than 6-10 hours per week, you're not giving it your all!

Assignments
• Must be completed and submitted online one hour BEFORE class starts.
• Class time is for working with the material at hand, not finishing late assignments.
• Full, high quality renders will be expected to be submitted with each of the assignments - 720p Quicktime.mov files (NOT mp4 or avi or otherwise) using H264 compression. Lights and shadows and any appropriate textures/colors are required.

A note on using "stock" or found models for assignments:
Unless otherwise stated in the assignment, assume that you should be creating your own models for use in this class. It is not a modeling class so the models do not have to be complicated and pristine, but you should be creative and use your own designs whenever possible. ***There will be some exceptions to this rule***.

NO LATE ASSIGNMENTS WILL BE ACCEPTED (emergencies and accidents happen, you get one freebee assignment that may be submitted late).

However, any assignment turned in that receives at least a passing grade (basically you tried to do the work and got a C-) may be resubmitted before the final class of the |

	quarter with fixes and changes for a (potentially) better grade. Rarely in real life will you receive any credit for something not submitted when it was asked for, but you will often be asked to make changes. Late assignments and resubmissions must be turned in **by the final lecture date, week 10.**
	Some assignments will be focused namely on the technical aspects of dynamic simulation in Maya. Because these are tricky subjects, we'll occasionally pay more attention to figuring out *how* to do something rather than focus on looks. However, some of the assignments will focus on using these techniques in unexpected, unique and visually interesting ways so be prepared to bust out your best creativity cap. Yes. That picture is an important part of the syllabus.
	* BACK UP YOUR WORK: Failure of computer software and or Hardware will not be accepted as an extenuating circumstance for late projects or incomplete grades so back up your work daily. All assignments and grades will be listed on D2L https://d2l.depaul.edu/ * Accommodations/Disabilities: If you have any particular considerations or concerns, please talk to me and/or contact the Center for Students with Disabilities (CSD) at: csd@depaul.edu.
Bibliography	Unfortunately there are few quality Dynamics books. No specific book will be required – HOWEVER, you WILL benefit from a book. Emailing the instructor with questions will usually result in an answer, but a book on your desk is MUCH faster and easier! Plus you will often find new tricks/tips by accident while browsing through a book. Learning Autodesk Maya 20xx The Special Effects Handbook: Official Autodesk Training Guide Get one of the **"Mastering Maya 20xx"** books. Any version after 2014 will be perfectly fine – few of the changes in recent versions will affect our class. "Dynamics" by Todd Palamar is a decent book but very tutorial based (meaning he steps you through projects but is light on the explanations) **Webites:** http://forums.creativecow.net/maya http://usa.autodesk.com/adsk/servlet/index?siteID=123112&id=13710022&linkID=9242256 http://area.autodesk.com/blogs/duncan (This site is AMAZING and inspirational)

Software and Supplies	You will need access to the Maya, Photoshop and an editing program like Premiere or Final Cut. All softwares are available in the main CDM computer labs. The entire Adobe CC 2015 is available for students through Adobe at a (variable but) very reasonable price on a month-to-month basis.
Grading	Grades are based almost entirely on the 10 projects. Participation and preparedness in class can affect your final grade at instructor's discretion - be sure to be both present in class, and Present. A = 100-93 A- = 92-90 B+ = 89-88 B = 87-83 B- = 82-80 C+ = 79-78 C = 77-73 C- = 72-70 D+ = 69-68 D = 67-63 D- = 62-60 F = 59-0 Standards for Achievement: Grade A: • Student performs in an outstanding way. Student exhibits achievement and craftsmanship in all work. Design criteria is exceeded and student challenges him/herself in project design. Student exhibits commitment to expanding ideas, vocabulary and performance. Grade B: • Student performs beyond the requirement of the project. Student exhibits above average progress and craftsmanship. A design criterion is exceeded. Student exhibits above average interest in expanding idea, vocabulary, and performance. Grade C: • Criteria of assignment is met, and all requirements are fulfilled. Student shows average quality work and minimum time and effort on projects. Student shows moderate interest. Grade D: • Student performance is uneven and below average. Requirements for projects are only partially fulfilled. Minimal interest is shown and attendance, participation and involvement are inadequate. Grade F • Student fails to meet minimum course requirements and shows no interest. Levels of participation and craftsmanship are extremely poor. Student's attendance is inadequate. Requesting an incomplete grade: An incomplete grade may only be assigned to a student if the student has experienced an extenuating circumstance near the end of the term, the student is in good standing in the class, and the request is made *before* the end of the term.
Things that shouldn't be	**Class Discussion:** Student participation in class discussions will be measured in two ways. First, students are highly encouraged to ask questions and offer comments relevant to the day's topic. Participation allows the instructor to "hear" the student's voice when grading papers. Secondly, students will be called upon by the instructor to offer

necessary to include in a syllabus (but have to be)	comments related to the reading assignments. Students must keep up with the reading to participate in class discussion. **Attitude:** A professional and academic attitude is expected throughout this course. Measurable examples of non-academic or unprofessional attitude include but are not limited to: talking to others when the instructor is speaking, mocking another's opinion, cell phones ringing, emailing, texting or using the internet whether on a phone or computer. If any issues arise a student may be asked to leave the classroom. The professor will work with the Dean of Students Office to navigate such student issues. **Civil Discourse:** DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be Socially Responsible Leaders. It is the expectation that all dialogue in this course is civil and respectful of the dignity of each student. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course. The professor will partner with the Dean of Students Office to assist in managing such issues. **Cell Phones/On Call:** If you bring a cell phone to class, it must be off or set to a silent mode. Should you need to answer a call during class, students must leave the room in an undisruptive manner. Out of respect to fellow students and the professor, texting is never allowable in class. If you are required to be on call as part of your job, please advise me at the start of the course.
Official Policies (from the school)	**Additional Course Policies** **Changes to Syllabus** This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email. **Online Course Evaluations** Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in Campus Connect. **Academic Integrity and Plagiarism** This course will be subject to the university's academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/. If you have any questions be sure

to consult with your professor.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at:

http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: csd@depaul.edu.

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