



Art 265-011: Core 3D-Modeling: Syllabus COVID-19 Version

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Office Hours | by appointment only (through email).

|| Course Description

Introduction to using software to create 3D models and computer animations. Students will be given a comprehensive introduction to the various components including modeling, animating, rendering and lighting.

|| Course Meetings

Mon/Wed 12:20 PM - 2:50 PM via Zoom
(The period of time might be modified(shorten) accordingly)
Originally @ Recitation Hall Room 203, Mac LAB
No meeting on **Blue Hen Re-Coop Day, April 19th**

|| COVID-19 Condition

Thank you all for your understanding and tolerance in such a difficult situation. No one signed up for this, so let's work it out together to go through such an unexpected situation. And I would like you to try to understand from both faculty and students' point of view if there is any imperfection in the coming future. We cannot predict the future, but we can make it better for our present.

Besides the course, if you're having trouble, please talk to someone. I'm available of course, but you should also be aware that the University is offering support via the [Center for Counseling & Student Development](#) at (302) 831-2141 or (302) 831-1001 for after-hours emergencies. You can also contact Student Health Service at (302) 831-2226 or University Police at (302) 831-UDPD."

All classes will transmit to the online version. Fortunately, most of our content in this course is digital. **In general, my plan is to meet you remotely and all classes will be recorded and post on Canvas.**

|| Course Meetings under COVID-19

Mon/Wed 12:20 PM - 2:50 PM via ZOOM (<https://udel.zoom.us/>)
Invitation links will be sent to you before each class due to cybersecurity issue.

Regular classes/Presentation:

1. All classes will run via Zoom on the regular course time. Please follow the "Zoom" slides I put on Canvas for instruction.

2. Invitation links for each Zoom section will be sent to you by emails and announcements on Canvas.
3. All classes will be recorded and posted on the Media Gallery of your Canvas.

Discussion/DeskCritics:

1. The discussion/desk critics might be executed the same as regular classes described above but split into 2 groups. Each group will have around 7 participants with different Canvas invitation. Each group will have around an hour for critics. You will take turn to be in different time slots.
2. 1st slot: 12:20 – 1:30 pm | 2nd slot: 1:40 – 2:50 pm
3. You just have to follow the time on your invitation.
4. Please go through the “Zoom” slides that I put on Canvas to know how to turn on/off your audio as well as how to share your desktop.

Work-in-Class Session:

1. I will still start a Zoom meeting during those Work-In-Class Session and put you all on hold in the “virtual waiting room” in Zoom. Once you have the question, please send me a message via “chat” function in Zoom, and I will admit you to start a private conversation with me.

Office Hours:

1. Please sent me an email if you have any questions and I will write you back my feedback. And we will set up an individual private Zoom meeting if that’s easier for communication.
2. If there are many people who would like to have discussions, then I might set up a Zoom meeting with “the waiting room”, so to solve your question within the same period of time (I plan to have it on Thursday).

|| Software Used

Rhinoceros 5 and **Cinema4D** (MagicaVoxel and Blender might be used according to your learning progress)

|| Software installed requirement:

Since this would be online courses, please follow up with my announcement and prepare to have the software installed before we start to use them.

1st half of the semester:

Rhinoceros Installation details:

- **For Mac:**

If you are using Mac system, you will have to get the Rhino 6 for Mac via this link: <https://www.rhino3d.com/download/rhino-for-mac/6/evaluation> . Please fill in your email to have the installation file download. They will send you a temporary key(license) you have to put it in your Rhino software to make your 90-days trial to work.

- **For Windows:**

If you are using Windows system, you will have to get the Rhino 6 for Windows via this link: <https://www.rhino3d.com/download/rhino-for-windows/6/evaluation> . Please fill in your email to have the installation file download. They will send you a temporary key(license) you have to put it in your Rhino software to make your 90-days trial to work.

MagicaVoxel:

Please find the “Download 0.99.6” tag and hit it via this link (<https://ephtracy.github.io/>), and select the file comparing to your OS(Windows/Mac) to download the proper version.

2nd half of the semester:

Cinema4D Installation details:

Go to their official website (<https://www.maxon.net/en/educational-licenses>) and get the Maxon One (6-Month Subscription - Promo Code) via Kivuto (<https://estore.onthehub.com/p/MaxonOne?&pr=true>)to install Cinema4D.

For the third step, you will have to pay 2.99 dollars for subscription and provide your school ID or either a certificate of enrollment to get the educational license. (More info will be followed up when it comes closer to the time to be used).

|| Course Philosophy and Objectives

Living in a digital/information age, it is relatively naïve to ignore the existence of virtual space, especially at this particular moment that the virtual and reality seem to be inevitably blending/blurring with each other. After the invention of the Internet, human beings have created a world within a boundless virtual space as a parallel universe(s) breaking the regulation of the time zone and shorten the distance of locations. It was also the time while digital visualization was first generated and been applied to make people engage into this Internet world more. No doubt, the making of the 3D objects and environment plays a crucial role in it. It has been a long time to be generally understood that the development of the 3D creations has only focused and benefited in the animation or game industry. In fact, the 3D has gradually played a more and more important role in our lives no matter if it is in virtual or reality world. We tried to break 3D creations down into 3 major parts. One is Reality to virtual (R to V), one is virtual to reality (V to R), one is virtual mixes with reality (V x R).

1. R to V =

Based on our **Real/Physical** experience/inspiration, we create **Virtual** environment/objects in Virtual world. It is the fundamental process/skill while you first engage in 3D creations. As a broad definition, this R to V part here also implies(includes) the parts of creating Virtual directly in Virtual environment (V to V), like some monsters invented by the animators. However, these creations are all based on the creators’ physical experience. The technology of “3D-scanning” is another approach to translate physical objects into virtual world. But it seems to be more as a tool, not a creating process. In other words, some interesting creativities have to come after the scanning process to be inclusive in the "R to V"'s definition.

2. V to R =

This part mostly takes place in the design industry after the heavy implementation of digital fabrication. With the trainings/practices of “R to V”, most the designers/architect/creators/ begin to utilize the 3D modeling skill as a tool/medium to create and realize their objects/buildings, and furthermore to convince their clients with their fabulous renderings. But after the idea/method of digital fabrication came, it extended the possibility/ability for designers to not only create their

design in a virtual environment but also take back the power of making them real as it used to. Laser cutter, CNC milling machines, and the 3D printer become the new treasure/toys of designers who are willing to collaborate with these new technics. Not as traditional 3D model makers to only create the “appearance” of the object, as a “V to R” designer, you have to consider the production process to create your designs. This is a trend in nowadays industrial and architectural practice.

3. V x R

2016 has been called the year of VR. Numerous VR products have been launched during that year. We have seen massive development afterward. Under this category, VR(Virtual Reality) might seem to be uncertain to be inclusive here since it mostly only creates a non-existing world. However, the impression of the feelings is definitely real within these VR devices. So I rather put them into this part. And the more we understand about VR, we know that it would sense more realistic once it combines with the real/physical object. For example, “The Void” a VR theme park in Utah, has created physical interior space and decorated with its VR to make the audiences’ experiences more immersive. In the summer of 2016, Pokemon Go has released to open up a new genre of gaming, which is an AR(augmented reality) game. It is like the first time that a virtual world has blended with the real world. And with the worldwide contributions, the potential of utilizing this AR technology in the real world might change the way how we live, work, and entertain. We don’t have to only sit and stare at our computer screen to “interact” by using the keyboard and mouse. In other words, the whole space can transform into your interface as a screen of your laptop and you may use your whole body to interact with it. Mixed Reality or Spatial Computing is its new name but the spirits are relatively the same.

Aforementioned, it is the misunderstanding that only the people in the movie, animate and gaming industries have to work on “3D-modeling”. We see highly potentials of this inevitable tendency of mixing the virtual and reality together for artist/creators to deliver contribution, and “3D-modeling” IS the fundamental key to open up this new world. It is also not to claimed that you “HAVE” to only use computational technology to generate your designs in the coming future, but to say that you should have this extremely powerful tool in your toolbox and it can benefit your design/artistic projects. However, it is not only a technical course emphasizing merely on how to operate the 3D-Software. The ultimate goal is to make you inspire through the modeling process and be able to translate/create your design/artistic idea via these digital tools.

The objectives of the course are:

- Understand and gaining basic knowledge relating to 3D modeling.
- Learn how to operate 3D-modeling software from modeling, animating, rendering and lighting
- Understand the tendency of the 3D modeling utilization/implementation in Art/Design industry.
- Understand and have the ability to transform/translate their design/artistic idea via 3D modeling skills.

** Highly encourage students to explore new method and techniques beyond the skills and knowledge taught in class and discover their own thinking outside the box.

|| Course Structure

Following the structure composed of “V to R”, “R to V” and “R x V”, the students will learn certain skills from each category. The course will mostly focus on the practicality of the “V to R” to make the students have the strong foundation to explore the “R to V” and “R x R” later on. The part of “R to V” and “V x R” will be delivered within conceptual and design discussion blending within the assigned art/design project. For the sake of understanding and training, the Course Structure here can also be separated into 3 major parts as a flowing process: Observation, Creation, Imagination.

1. Observation:

observing existing objects carefully and clearly, do engineering-like drawing, then translate them directly into virtual world.

2. *Creation:*

creating practical design projects purely in virtual world by operating the assigned 3D software to deliver your ideas and final project/product.

3. *Imagination:*

creating imagining character and realize it virtually with the digital tools learned in the format of animation.

The assignments will follow up with the structures to assist the students to gain the required skills.

We will not meet on **Blue Hen Re-Coop Day, April 19th**

|| Course Schedule (will be modified accordingly)

This is a tentative schedule. Updates and revisions will be posted via Canvas.

#Week	Month	Date	Title	Brief
01	FEB (02)	15	Introduction	Course overview
		17	Drawing	Lectures
02		22	1 review	Physical Cube assignment
		24	3D Model Intro	3D Modeling start
03	MAR (03)	1	3D Modeling Basic	Geometry + Transformation
		03	3D Modeling Basic	Geometry + Transformation
04		08	3D Modeling Basic	Surface
		10	2 review	Animal Review
05		15	3D Modeling Basic	Surface Editing
		17	Digital Fabrication	Lecture
06		22	3D Modeling Basic	Surface Editing
		24	*Work in Class	MovieMonument
07		29	*Work in Class	MovieMonument
		31	*Work in Class	MovieMonument
08	APR (04)	05	3 review	MovieMonument
		07	Animation	Basic Navigation
09		12	Animation	Texture Mapping
		14	4 review	4_Virus review
10		19	Blue Hen Re-Coop Day (no class)	
		21	Animation	Deformation + Generator
11		26	Animation	Deformation + Generator
		28	Animation	Particles + Joints
12	MAY (05)	03	Animation	Camera & Rendering
		05	*Work in Class	Self-portrait (Final)
13		10	*Work in Class	Self-portrait (Final)
		12	*Work in Class	Self-portrait (Final)

|| Project Schedule & Point Value

This is a tentative schedule. Updates and revisions will be posted on Canvas or through emails. Projects will not be accepted after due dates. Failure to turn-in a Project will result in zero points for that Project.

<i># Topic</i>	<i>Tentative Due Date</i>	<i>Point Value</i>	<i>Intention</i>
1 Cube	2/22	50	Physical Modeling
2 Animal	3/10	50	Nurbs Modeling (Creative)
3 MovieMonument	4/5	100	Spatial Design (Translation)
4 4_Virus	4/14	50	Mesh Modeling (Creative)
5 Self-portrait (Monster)	5/7	100	Animation (Creative)

***It might have minor changes in the future according to the schedule. And there will be some work-in-class assignment along the practice. Total Points Possible for Projects: **350**

|| Assignment Evaluation

The evaluation of your assignments' scores will be based on

1. Timeliness of project submission
2. The percentage of the skills you applied in your project
3. The creativity of your projects
4. Your oral presentations (including Q&A)
5. The aesthetics of presentation slides.

On a 50-point (100%) scale, the rubric is:

45-50 points (90-100%)

- submitted on time.
- excellent execution and application of 90% of the skills taught in class.
- great oral and visual presentation.

40-44 points (80-89%)

- submitted on time.
- good execution and application of 80% of the skills taught in class.
- good oral and visual presentation.

30-39 points (60-79%)

- submitted on time.
- acceptable execution and application of 60% of the skills taught in class.
- acceptable oral and visual presentation.

|| Readings

This class will consist of lecture, discussion, and physical capture, modeling and outputting. And a certain amount of related reading materials will be hand out for study. I expect you to give the same energy to reading and discussion that you give to your digital work.

|| Attendance

Do not to miss class and do not be late to class. If you do, you are responsible for asking your fellow classmates about what you missed and check the video record on Canvas to catch up with the class. Please send me an email and provide your notes as proof for the excused absences. For example, you are not allowed to have any absences without a written excuse from Student Health Services or a doctor. Unexcused absences will automatically reduce your final grade. Total Points Possible for Attendance: **100**.

|| Participation

You are required to actively participate in every class period. Your level of participation in every class meeting will be evaluated. Total Points Possible for Participation: **100**.

|| Contact

E-mail is the best way to get in touch with me, and it is how I will contact you. You are required to check your email a minimum of 12 hours prior to the next class period.

|| Classroom

Class sessions will be held remotely on Zoom.

|| Course Format

Students are required to be self-motivated and to actively participate in the course both inside and outside of class. If there is anything that is interfering with your ability to perform what is required in this class, it is your responsibility to speak with me so that accommodations can be discussed.

|| Course Website

Canvas will be the course website for this course. It will be used for the distribution of assignments, course schedule, posting announcements, weblinks, and grades. Bookmark this website and check it often. I will also send you information via email, so please also pay attention to the announcements, documents, and assignments send out to your Udel email.

|| Maintaining your digital files & Backing up your work

You are required to keep your files for this course on an external hard drive and regularly back up this drive to prevent loss of data if your drive malfunctions. Files left on any computer in the classroom may be deleted at any time, for any reason. Late or missing submissions due to lost files will receive "0" points.

|| Documentation of Art & Design Projects from ALL CORE classes for CORE REVIEW:

It is essential that you document all of your work from all of your CORE classes. You will need high quality (clear, color-balanced, high resolution) images of your art and design assignments for the required CORE Review. It is highly recommended that, in addition to storage on your computer, that you store these images on a back-up drive and in some form of cloud storage. The submission of images of your work from your CORE classes is a requirement of CORE Review, which is a requirement to advance in the department to complete your BA or BFA degree. It is also an important professional practice. NOTE: Required for all CORE classes.

|| Final Grade Evaluation

The final grade shows your overall performance including assignments' scores, attendance, and participation (in-class performance) throughout the whole semester. Final letter grades will be determined according to the University of Delaware's Official Grade Scale.

Rubric

A

- completion of all assignments
- evidence of care and creative solutions in the finished work
- assignments are executed well and apply 80% - 100% of the skills taught in class.
- attentiveness during class and openness to criticism

B

- completion of all assignments
- evidence of effort given to finished work
- assignments apply 60% - 79% of the skills taught in class.
- attentiveness during class

C

- missing completion of one assignment
- absence of more than three classes

- evidence of effort given to finished work
- assignments apply less than 60% of the skills taught in class.
- leaves class early and/or arrives late at times

D

- missing more than one assignment
- absent more than four classes
- lack of effort given to finished work
- leaves class early and/or arrives late on a regular basis

F

- has fallen significantly short of above requirements, or basic competence, or both
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|| Field Trips (not applied at this moment):

Academic field trips are an important—and enjoyable—element of education. They often significantly enhance the content of a course by providing a type of information hard to convey in the classroom. Site visits to museums, galleries, contemporary art centers, design studios, and advertising agencies help to contextualize and enhance understandings of contemporary and historical practice. Students are strongly encouraged to attend.

|| Statement on Attending Visiting Artists, Designers, Critics, and Curators Lectures and Gallery Exhibits (not applied at this moment):

Art Majors are expected to attend all Visiting Artist Lectures in the Department of Art & Design during the semester. In addition, students are expected to see all the art exhibitions in the department's galleries. As a part of this course, you are asked to bring a sketchbook and take notes. Engaging in dialogue with our guests by asking questions is highly recommended.

|| Academic Honesty

All students must be honest and forthright in their academic studies. To falsify the results of one's research, to steal the words or ideas of another, to cheat on an assignment, or to allow or assist another in committing these acts corrupts the educational process. Students are expected to do their own work and neither give nor receive unauthorized assistance.

“Any violation of this standard must be reported to the Office of Student Conduct. The faculty member, in consultation with a representative from the Office of Student Conduct, will decide under which option the incident is best filed and what specific academic penalty should be applied.”
<http://www1.udel.edu/stuguide/17-18/code.html#honesty>

|| Inclusion of Diverse Learning Needs

Any student who thinks they may need an accommodation based on a disability should contact the Office of Disability Support Services (DSS) office as soon as possible. The DSS office is located at 240 Academy Street, Alison Hall Suite 130, Phone: 302- 831-4643, fax: 302-831- 3261, DSS Website (<http://www.udel.edu/DSS/>). You may contact DSS at dssoffice@udel.edu

|| Harassment and Discrimination

The University of Delaware works to promote an academic and work environment that is free from all forms of discrimination, including harassment. As a member of the community, your rights, resource and responsibilities are reflected in the non-discrimination and sexual misconduct policies. Please familiarize yourself with these policies at <http://www.udel.edu/oei> . You can report any concerns to the University's Office of Equity & Inclusion, at 305 Hullihen Hall, (302) 831-8063 or you can report anonymously through UD Police (302) 831-2222 or the EthicsPoint Compliance Hotline at <http://www1.udel.edu/compliance>. You can also report any violation of UD policy on harassment, discrimination, or abuse of any person at this site: <http://sites.udel.edu/sexualmisconduct/how-to-report/>

|| Title IX Statement

The University of Delaware does not discriminate on the basis of race, color, national origin, sex, disability, religion, age, veteran status, gender identity or expression, or sexual orientation, or any other characteristic protected by applicable law in its employment, educational programs and activities, admissions policies, and scholarship and loan programs as required by Title IX of the Educational Amendments of 1972, the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, Title VII of the Civil Rights Act of 1964, and other applicable statutes and University policies. The University of Delaware also prohibits unlawful harassment including sexual harassment and sexual violence. For inquiries or complaints related to Title IX, Section 504 of the Rehabilitation Act of 1973 and/or the Americans with Disabilities Act, and Title VII and age discrimination please contact:

Susan L. Groff, Ed. D.
Director, Institutional Equity & Title IX Coordinator
305 Hullihen Hall
Newark, DE 19716
(302) 831-8063
titleixcoordinator@udel.edu

OR contact the U.S. Department of Education – Office for Civil Rights
(<https://wdcrocolp01.ed.gov/CFAPPS/OCR/contactus.cfm>).

|| Statement on Attending Visiting Artists, Designers, Critics, and Curators Lectures and Gallery Exhibits (not applied at this moment):

Art Majors are expected to attend all Visiting Artist Lectures in the Department of Art & Design during the semester. In addition, students are expected to see all the art exhibitions in the department's galleries. As a part of this course, you are asked to bring a sketchbook and take notes. Engaging in dialogue with our guests by asking questions is highly recommended.