

MRTS 4755.001 – VIRTUAL STUDIO PRODUCTION

Wednesday 9:00am –11:50am

Fall 2025

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Office Hours: Currently by appointment only.

2025-08-20

THE CLASS SCHEDULE/ASSIGNMENTS MAY CHANGE-PLEASE BE FLEXIBLE

NO TEXT- Handouts for reading as assigned

KEY REFERENCES FOR CLASS AND ASSIGNMENTS

Operations Manual Brainstorm InfinitySet 2025

<https://drop.brainstorm3d.com/wl/?id=U4XR0L1SDBDwRxBI5tU5zZlhjZ8tvR9>

Operations Manual Aston 2024

<https://drop.brainstorm3d.com/wl/?id=U4XR0L1SDBDwRxBI5tU5zZlhjZ8tvR9>

Operations Manual Ultimatte 12. (2018).

<https://documents.blackmagicdesign.com/UserManuals/UltimatteManual.pdf? v=1533193933100>

Ross Carbonite Manual Getting Started [Getting Started \(rossvideo.com\)](http://rossvideo.com/GettingStarted)

[User Manual \(rossvideo.com\)](http://rossvideo.com/UserManual)

Foster, J. (2015). The Green Screen Handbook: real-world production techniques. Focal Press. 978-1138780330

OBJECTIVES:

This course will introduce students to history, theory, creative and technical techniques and general workflow used in contemporary in-studio virtual production (VP). A combination of lectures and in studio hands on applications will leverage the major technical software and hardware components of virtual studio production including greenscreen, LED, lighting, camera tracking and virtual studio environments. The primary aim by the end of the course is to allow those enrolled to:

- Develop critical evaluation skills to determine when Virtual Production (VR, AR, XR, MR) is and is not an appropriate production technique.
- Understand the power of virtual and ethical responsibility of users and leadership in media.
- Develop the skills needed to analyze a scene and determine the proper compositing techniques for the most efficient production solution.
- Understand the artistic skills and graphic pipelines needed to make realistic composites in pre-production, production, and post- production.
- Learn the technical and critical decision-making skills needed for efficient project completion.
- Learn how the basic principles and theory of image compositing editing apply to various formats

and genres of media.

- Understand the Media and Technology industry standards, expectations and opportunities to leverage the acquired skills in industry.

CLASS COMMUNICATION:

UNT student email accounts are used for all course correspondence about projects, scheduling and lab status. The course learning hub will be Canvas. Any needed information will be sent via individual campus email or the Canvas system. If you predominantly use another email service, you must forward messages from your UNT email account and Canvas.

TARDINESS AND ABSENCE POLICY:

Due to the nature of this course, attendance is vital. However, ***two unexcused absences and two late arrivals are allowed without penalty***. Each subsequent ***unexcused*** absence will result in a 2% deduction in the overall course grade percentage. A student missing the ***first two*** class meetings (with unexcused absences) or incurs ***two or more*** unexcused absences during the full semester may be subject to administrative withdrawal if they have not met with the instructor prior to this action.

Late Arrival: (one late arrival is allowed without penalty)

If you arrive after 9:20 am a penalty of 2.0 percentage points. If you are not 10 minutes early in the production world, you are looked upon as late. Having **ten - 10-minute early** arrivals will wipe out one unexcused tardy. Don't just be on time, be early! If you arrive after 9:40 pm marked as an unexcused absence.

These deductions will be factored into the final course grade.

NOTE: Students who leave class early without instructor approval (with exceptions for situations such as illness or emergency) will be assigned an unexcused absence.

GRADING:

Midterm	15 %	History, Ethics, Definitions
Final Project	30 %	VP Finished composited project
Online Exercises	20%	Mini Quizzes/Writeups
Attendance/Participation	20 %	
Final Exam	15 %	Comprehensive Final

A = 100 – 90% B = 89 – 80% C = 79 – 70% D = 69 – 60% F = 50% - below

Assignments will be accepted at the beginning of class on the assigned due date. Assignments submitted within 24 hours of the due date will receive an automatic 15% grade deduction. An additional 5% deduction will be applied for each 24-hour period elapsed before the assignment is

submitted for grading.

COURSE EXPECTATIONS:

The course goal is to provide each student with the tools, materials and information to learn about the course content and complete all required assignments. The amount of learning (and resulting depth of knowledge gained) is up to each individual student.

Access to a computer. We will attempt to avoid the printing of paper. Electronic submission will be of posts, assignments and communication is required. Please see me if you cannot comply with this requirement.

Virtual Production and compositing are both an art and a craft. While it may only take a short time to learn acceptable mechanics, a good editor is more than a technician. The most successful editors also understand the language of the visual medium including tone, balance, pacing, color as well as the use of music and sound effects.

Grades on individual assignments reflect a total evaluation of how well the skills and theories in the course are exemplified. Each assignment will also be graded based on how closely each project adheres to the instructions and content of the requisite course unit.

STUDENT BEHAVIOR:

Student behavior that interferes with other students' opportunity to learn is both disruptive and unacceptable in an instructional forum. Students engaging in unacceptable behavior will be directed to leave the classroom. The student in question will then be referred to the student to the Center for Student Rights and Responsibilities to determine how the conduct in question violated the Code of Student Conduct. The Code of Student Conduct can be found at [**deanofstudents.unt.edu/conduct**](http://deanofstudents.unt.edu/conduct).

CLASSROOM SCREENINGS:

Course meetings will include viewing and discussion of various compositing examples from multiple forms of media including, television, film, video on-demand, streaming platforms, video games, trailers, and documentaries. Examples will cover various genres, cultures, and subject matter to provide a holistic view of VP compositing styles and techniques. Students who participate in course discussions are expected to do so in a courteous and constructive manner. If there is any uncertainty, please refer to the section on student behavior above.

BASIC COURSE SCHEDULE:

In addition to normal assignments this course may also include guest speakers, screenings and supplemental lectures and readings. *Information from any supplemental course materials is subject to formal examination.*

The Schedule Below May Change- Be Flexible

Some of these lectures will occur online via Teams

DATE	TOPIC
Aug 20 Wednesday	<p>Class Introduction: 001: Purpose of course: Virtual Production Today and You</p> <ul style="list-style-type: none">▪ “Start With the Why” - Video▪ In class Assignment: Victory Log
Aug 20 Wednesday	<p>Lecture 1: Foundations</p> <ul style="list-style-type: none">• Intro to Virtual Production: The History and Precursors of VP• Core Technologies Overview▪ Why Virtual Production?▪ An example of a modern-day Virtual Production Newscast in a <u>GREEN environment</u>:<ul style="list-style-type: none">○ Univision Phoenix▪ An Example of modern-day Virtual Production in an <u>LED environment</u>:<ul style="list-style-type: none">○ <u>The Mandalorian</u>▪ <u>HOMEWORK DUE: Aug 27th</u><ul style="list-style-type: none">○ Read and provide a 300 word summary: Understanding VP (Virtual Production)○ Writing Assignment-Post: “The Story of Me”

Aug 27 Wednesday	<p>Lab 1: Tech Components of Virtual Production and Workflows</p> <ul style="list-style-type: none"> ▪ Review of UNT “Studio A” Technical Components ▪ Review Technical Drawing of Studio ▪ VP Studio components overview include: <ul style="list-style-type: none"> ○ Green Screen ○ Lighting ○ Cameras (UE 150) and Others ○ Lens (PDF) ○ Jib and Peds ○ Camera Tracking (MARS VIBE) ○ InfinitySet Software and HW ○ BMD Ultimatte Hardware Keyer ○ Graphics: Xpression, Aston ○ Ross Carbonite Switcher ○ Inception NRCS ○ Infrastructure ▪ Intro to InfinitySet <p><u>HOMEWORK DUE: Sept 3rd</u></p> <p>Read and provide a 300 word summary: Brainstorm Guide to Virtual Sets</p> <p>Read InfinitySet Manual (Chapters TBD for Sept 10 Lab)</p>
Sept 3 Wednesday	<p>Lecture 2: Mastering 3D Real-Time Graphics / Understanding Creative Components and Markets they serve.</p> <ul style="list-style-type: none"> ▪ InfinitySet and Aston <ul style="list-style-type: none"> • Virtual sets Library, Video Plates • Unreal Engine and 3D Creative Apps <ul style="list-style-type: none"> • Baking vs. Ray Tracing Video • Photogrammetry and Gaussian Splatter • AI/ML in Virtual Production • Render Engine Hardware Configurations • An example of modern-day Virtual Production: NAB 2024, NAB 2025 Videos <p><u>HOMEWORK:</u></p> <p>Read InfinitySet Manual (Chapters TBD for Sept 10 Lab)</p>

Sept 10 Wednesday	<p>Lecture 3: InfinitySet and InfinitySet OnDemand - Brainstorm</p> <ul style="list-style-type: none"> • Integrating InfinitySet to facility (Graphics/Switcher, MOS for News) • Main Menu Components • Integrating and external Keyer- BMD Ultimatte <p>LAB 2: InfinitySet and InfinitySet OnDemand - Brainstorm</p> <p><u>HOMEWORK:</u></p> <p>Read Ultimatte Manual CH. 5-8</p>
Sept 17 Wednesday	<p>Lab 3: Lighting- IKAN International</p> <ul style="list-style-type: none"> • Lighting the screen • Lighting the foreground • Matching your background and foreground <p>LAB 4: ProCyc Corporation</p> <ul style="list-style-type: none"> • Lighting the screen • Lighting the foreground • Matching your background and foreground <p><u>HOMEWORK:</u></p> <p>Read Ultimatte Manual CH. 5-8</p>
Sept 24 Wednesday	<p>Lab 4: Ultimatte- Black Magic Design</p> <ul style="list-style-type: none"> • Black Magic Design • Lens • Chipping <p>and matching</p>
Sept 30 Midterm	Mid Term Due

Oct 1 Wednesday	Lecture 4: Pre-Production, Creative Pipeline and Management Professional Services <ul style="list-style-type: none"> • Pre-production process • Virtual Set and Motion Graphics Creation Process • Facility Project Expectations and Service
Oct 8 Wednesday	Bringing all components of the “Run of Show” Together: <ul style="list-style-type: none"> • Pre-production • Virtual Sets (Unreal), Video Plates, Photogrammetry • Graphics • Run of Show <ul style="list-style-type: none"> • Going “Onair”
Oct 15 Wednesday	Field Trip - VR/VR/AR <ul style="list-style-type: none"> ▪ Dallas Facility
Oct 22 Wednesday	Facility Design - Guest Speaker (NAB NY)
Oct 29 Wednesday	Assign Final Project <ul style="list-style-type: none"> • Group • Individual
Nov 5 Wednesday	<ul style="list-style-type: none"> • Work on Final Project
Nov 12 Wednesday Final	Final Exam
Nov 19 Wednesday	Work on Final Project
Nov 26 Wednesday	THANKSGIVING HOLIDAY WEEK- No School

	<u>Final Project DUE 10 pm TODAY</u>
Dec 3 Wednesday	<ul style="list-style-type: none"> • Individual meetings with Ruben Ruiz as requested
Dec 10 Wednesday	No class <i>Graduates - Congratulations!!</i>

NO MAKE-UP EXAMS WILL BE GIVEN WITHOUT A VERIFIED EXCUSED ABSENCE.

SYLLABUS POLICY:

While this syllabus outlines the expectations for successful completion of the course, it is not a contract. Therefore, some elements of the course may be altered by the instructor as needed.

DROP POLICY:

As this is a Media Arts course, students without the correct prerequisites (both non-majors and pre-majors) are subject to being dropped from the course automatically with or without notice. Students absent on the first day of class who do not immediately contact the instructor with a legitimate excuse may be dropped immediately and without notice.

ODA INFORMATION:

The Department of Media Arts cooperates with the UNT Office of Disability Accommodation to make reasonable accommodation for qualified students. Students seeking accommodation must first register with the ODA to verify eligibility. If verified the ODA will provide an accommodation letter for faculty to initiate a confidential discussion of specific course needs. You may request accommodation at any time though you are encouraged to do so as early as possible in the semester in order to avoid delays in implementation. Students must obtain a new ODA letter and meet with their instructor at the beginning of each semester. For more information see disability.unt.edu or call **940.565.4323**.

SEMESTER EVALUATIONS:

Students should complete the SETE (Student Evaluation of Teaching Effectiveness). The SETE is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. Feedback from students is very important to the Department of Media Arts. And this evaluation is considered an important part of your participation in this class.

MOBILE DEVICE POLICY:

Department of Media Arts production courses prohibit the use of personal electronic devices during class, unless specifically determined by the individual Instructor. Unless those exceptions are contained in a course syllabus and/or altered by the instructor of record, department policy takes precedence.

Personal electronic devices include (but are not limited to) mobile phones, digital media players, digital readers/tablets, and some handheld computers. All devices should be turned off before entering the classroom or laboratory area. Personal computers and some tablets may be used in the classroom for note taking with instructor permission.

Each student will receive one warning. Afterwards, any student found in violation of the personal electronic device policy will incur a 5% penalty to their overall final course grade for each occurrence. **Penalties are not negotiable.**

RELIGIOUS ACCOMODATION:

HB 256 provides students with an excused absence from attending classes, taking examinations or other required activities in observance of a religious holy day and related travel. It also provides that students be given reasonable time to take an exam or complete an assignment. Requests for accommodation must be made to the instructor a minimum of three days prior to the observed religious holy day.

SUCCESS IN THE COURSE:

UNT endeavors to offer a high-quality education and a supportive environment to help you learn and develop as a future creative professional. My job is to help you make the most of that opportunity. Help me help you. Do your part by: Showing up. Being prepared. Staying Focused. Getting involved. Communicating with your advisors and finding support when you need it.

Everyone has a different learning style and learning pace. If you are having trouble with any aspects of the classroom instruction or assignments, please see me during the office hours listed above. If you cannot schedule time during the posted office hours contact me to make an additional appointment. In addition, there are numerous on-campus resources for help found at: **success.unt.edu/**.

ACADEMIC INTEGRITY:

This course adheres to the standards outlined by the University of North Texas Policy Office (sec: 18.1.16 Student Standards of Academic Integrity). Students who cheat or plagiarize in their work - submitting the work of others as their own, their own work from previous semesters and/or other classes instead of the assigned project- will not receive credit for that assignment. Students who cheat or plagiarize a second time or on the final editing assignment will receive a failing grade for the course. Offenses will be reported to the department chair and UNT Dean of Students. Detailed information is available at: **http://policy.unt.edu/sites/default/files/untpolicy/pdf/7-Student_Affairs-Academic_Integrity.pdf**

INCOMPLETE GRADE FOR THE COURSE:

From the UNT Office of the Registrar: An Incomplete Grade ("I") is a non-punitive grade given only during the last one-fourth of a term/semester and only if a student (1) is passing the course and (2) has a justifiable and documented reason, beyond the control of the student (such as serious illness or military service), for not completing the work on schedule.

Under no circumstances will an "Incomplete" be assigned automatically. A student must make a formal request from the instructor (see the above information from the UNT Registrar) which satisfies the listed guidelines, not have excessive absences or late arrivals, and be able to demonstrate proficiency in the creative and technical techniques covered in the course. All requests will be considered on a case-by-case basis and students must provide verifiable documentation of the reason for the request.

SUCCESS AND ACADEMIC INTEGRITY NOTES:

Submitting an assignment that mimics a pre-existing version, regardless of how a template for this action was obtained *is still plagiarism*. Within the editing industry this would result in banning the individual from future work, jeopardizing their career. In this course such an action is a direct violation of academic integrity and will be treated as such. The thing to remember above all else is:

Do Not Copy the Work of Others. Not Even from The Internet. Don't Do This.

The license agreement which provides the editing footage used in the course limits use to on campus editing assignments. Footage *is not to be downloaded from the server* for outside projects. Students who do so are in violation of academic integrity policies.

MRTS 4411.001 is a production course. Equipment checkout penalties in production courses can result in the *suspension of equipment checkout privileges as well as lab access privileges*. Students in the course who have such penalties should always attend class but are still subject to lab access penalties.