

MRTS 4755.001 – VIRTUAL STUDIO PRODUCTION

Tuesday 3pm-6pm SPRING 2025 | Instructor: Taylor Cleveland

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Office Hours: Currently by email appointment only.

COURSE DESCRIPTION:

This course introduces students to **virtual studio production** through first-principle fundamentals rather than reliance on any single proprietary hardware or software system. Students learn *why* virtual production works, *when* it is appropriate, and *how* different tools and workflows achieve similar outcomes.

A core priority of this course is the creation of **portfolio-ready work**. Projects are designed to result in finished artifacts that clearly demonstrate each student's technical abilities, visual judgment, and conceptual thinking. Emphasis is placed on producing work that can live beyond the classroom to support students in securing freelance opportunities, internships, and employment by showing what they are capable of executing independently.

The course emphasizes hands-on experimentation, visual literacy, and critical decision-making across three contexts: post-production compositing, Real-Time virtual production, and experimental or hybrid workflows. Students will work across industry-standard and emerging tools while grounding their practice in historical, theoretical, and technical foundations.

OBJECTIVES:

By the end of this course, students will be able to:

- Explain the **fundamental principles** behind virtual studio production and image compositing.
- Distinguish between **chroma keying** and **segmentation-based** workflows, including strengths and limitations of each.
- Evaluate when virtual production is an appropriate solution—and when it is not.
- Design and execute clean foreground captures suitable for both keying and segmentation.
- Apply compositing workflows across **multiple software platforms** rather than a single proprietary system.
- Understand how lighting, camera placement, lenses, and color space affect composite realism.
- Use correct **terminology and historical context** when discussing virtual production techniques.
- Produce finished composited work that demonstrates technical competence and conceptual intention.

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. Frequently both. 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 **3:20 pm** 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 **3:40 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:

Weekly Exercises	30 %	
Project ONE	15 %	Keying vs. Segmentation
Project TWO	25%	Integrated Virtual Scene
Quizzes	10%	History/Terminology
Attendance	10 %	+ Participation
Final Project	10%	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 APPROACH AND PHILOSOPHY:

This course is structured around **experimentation, comparison, and iteration**. Rather than mastering one specific tool, students will:

- Learn concepts first
- Test those concepts across tools
- Compare results
- Make informed creative and technical decisions

The goal is adaptability—preparing students for rapidly evolving production environments.

MAJOR PROJECTS:

The course includes **three primary projects**, each aligned to one of the three course sections. Together, these projects build technical competence, conceptual clarity, and adaptability across workflows.

Project 1 — Post-Production Virtual Composite

(Section I: Virtual Production as Post-Production)

Students will composite a recorded foreground performance into a virtual background using post-production tools. Emphasis is placed on clean extraction, lighting consistency, perspective, and color matching.

Focus areas:

- Chroma keying vs. segmentation
- Edge quality and spill control
- Background integration and realism

Project 2 — Real-Time Virtual Production Study

(Section II: Virtual Production as Real-Time Process)

Students will create a short Real-Time or simulated Real-Time virtual production setup. This may include live keying, switching, streaming, or near-real-time compositing workflows.

Focus areas:

- Latency and system constraints
- Tradeoffs between quality and immediacy
- Signal flow and live decision-making

Project 3 — Experimental / Hybrid Virtual Production

(Section III: Virtual Production as Experimental Process)

Students will design an experimental virtual production piece that explores hybrid workflows, nontraditional compositing, or emerging tools. Conceptual intent is evaluated alongside technical execution.

Focus areas:

- Hybrid digital or AI-assisted workflows
- Process-driven experimentation
- Critical reflection on realism, automation, and authorship

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 .

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 compositing styles and techniques. Whether a student has or has not seen the examples used has no bearing on how and when an example will be screened. 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 Be Altered Slightly Based on Course Needs

DATE	TOPIC
Jan 13 (Section I)	Class Introduction: 001: <ul style="list-style-type: none">• Course overview and expectations Exercise: Record a short video against a solid-color background

Jan 20 (Section I)	History of Compositing <ul style="list-style-type: none"> • Optical compositing and early cinema • Digital compositing evolution • Why compositing exists (aesthetic, technical, economic)
Jan 27 (Section I)	Basic Greenscreen Setup <ul style="list-style-type: none"> • Foreground capture • Background sources • Screen materials • Camera and basic lighting considerations
February 3 (Section I)	Digital Compositing <ul style="list-style-type: none"> • Chroma key fundamentals • Bluescreen vs. greenscreen • Strengths and limitations of keying
February 10 (Section I)	Masks, Mattes and Segmentation <ul style="list-style-type: none"> • Layer masks and matte logic • Introduction to segmentation-based workflows • Comparing keying vs. segmentation results
February 17 (Section I)	Lighting for Compositing <ul style="list-style-type: none"> • Lighting the screen vs. lighting the subject • Spill, shadows, and edge quality • Using scopes for exposure and color
February 24 (Section I)	Matching & Finishing <ul style="list-style-type: none"> • Camera position and lenses • Perspective and scale • Color correction fundamentals
March 3 (Section II)	Real-Time Production <ul style="list-style-type: none"> • Guest Speaker? • Examples and Overview
March 17 (Section II)	Real-Time Compositing Systems <ul style="list-style-type: none"> • Hardware and software overviews • Switching, latency, and constraints • Comparing post-production vs. live pipelines
March 24 (Section II)	Real-Time Keying & Switching <ul style="list-style-type: none"> • Types of keys (linear, chroma, auto) • Layering and signal flow • Understanding Real-Time tradeoffs
March 31 (Section II)	Hybrid Workflows <ul style="list-style-type: none"> • Combining Real-Time capture with post-production finishing
April 7 (Section III)	Experimental & Emerging Workflows <ul style="list-style-type: none"> • Hybrid digital approaches

	<ul style="list-style-type: none"> • AI-assisted segmentation • Ethical and aesthetic considerations
April 14	Final Project Assignment & Workshop <ul style="list-style-type: none"> • Proposal reviews • Technical planning
April 21	Final Project Work Session
April 28	Final Project Work Session
May 5	FINAL PROJECT DUE <ul style="list-style-type: none"> • Critiques • Portfolio Review • Next Steps

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 accommodations 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 accommodations 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.