COURSE CONTENT

Course Code	DT3011
Course Title	Visual Effects II
Pre-requisites	DT3010/DT3002 Visual Effects I or DF3013/DF3003 Producing for Film and Media
No of AUs	3
Contact Hours	39 hours studio contact

Course Aims

In this course you will build upon previous learning in visual effects as you engage with more advanced techniques and applications. You will engage with visual effects as part of a narrative, as you work within in a group to create a short visual effects-based film. This learning will consolidate your learning in visual effects and prepare you for advanced independent development in this field.

Intended Learning Outcomes (ILO)

By the end of the course, you should be able to:

1. Describe advanced techniques used in professional-level visual effects practice.
2. Develop skills and techniques of visual effects to design and build effects within a short movie.
3. Apply techniques and aesthetic considerations to create original solutions and applications for visual effects shots.
4. Present and evaluate the effectiveness of a visual effects solutions as part of a narrative.
5. Constructively discuss and critique visual effects concepts, formats, techniques and media employed by peers.

Course Content

Visual Effects in storytelling
Visual effects has evolved to be an extremely important cinematic device for storytelling and is often integral to the narrative arc of feature films. The course will introduce you to the concepts employed in conceiving, planning and executing VFX shots in conjunction with the narrative/creative arc of a film project.

What makes Visual effects shots believable
Analysis of various factors contributing to the believability of VFX shots in a given narrative/aesthetic context, both technical as well as creative such as photorealism, lighting, abiding as well as breaking laws of physics, action, and reaction, acting for VFX.

Preproduction and planning
Through practice-based exercises and project assignments, you will learn the essential skills such as shot-breakdowns and storyboards for VFX; deliberation of techniques to be employed for various shots conceived.

Production

This process involves filming of VFX layers/elements including principal photography, background plates, green-screen elements. This module also entails the generation of computer graphic imageries using advanced 3D production techniques such as image-based lighting, CG compositing

Post Production

Post-production involves creating shots by integrating various VFX layers/elements acquired during the production phase using techniques such as camera tracking, multi-layer compositing, colour correction techniques. The shots thus created will be edited together to create seamless believable sequences while adhering to and complementing the narrative arc of the feature film.

Class Assignments

The assignments will consist of creative projects (individual as well as group) which will explore and evaluate VFX as well as filming techniques for achieving the creative and narrative requirement of a given film.

Assessment (includes both continuous and summative assessment)

Component	ILO Tested	Programme LO	Weighting	Team/ Individual
Continuous Assessment Visual Effects projects 1 - 3	1,2,3,4	N.A.	40	Individual
Final Project: Visual Effects based Short Film	1,2,3,4	N.A.	40	Individual
Continuous Assessment: Participation	5	N.A.	20	Individual
Total			100%	

Reading and References

1. Brinkmann, Ron. *The art and science of digital compositing: Techniques for visual effects, animation and motion graphics*. Morgan Kaufmann, 2008.
2. Brown, Blain. *Cinematography: theory and practice: image making for cinematographers and directors.* Focal Press, 2016.
3. Dobbert, Tim. *Matchmoving: the invisible art of camera tracking.* John Wiley & Sons, 2006.
4. Rickitt, Richard. *Special effects: the history and technique.* (2000).
5. Wright, Steve. *Compositing visual effects: Essentials for the aspiring artist.* Focal Press, 2013.
6. Vaz, Mark C., and Craig Barron. *The invisible art.* Chronicle Books, 2002.

Course Policies and Student Responsibilities

(1) General

You are expected to complete all assigned readings, activities, assignments, attend all classes punctually and complete all scheduled assignments by due dates. You are expected to take responsibility to follow up with assignments and course related announcements. You are expected to participate in all project critiques, class discussions and activities.

(2) Punctuality

You are expected to be punctual for all classes. If you are more than 30 minutes late, you will be deemed as absent and will not be able to sign on the attendance register.

(3) Absenteeism

In-class activities make up a significant portion of your course grade. Absence from class without a valid reason will affect your participation grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities.

Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Planned Weekly Schedule*

*Subject to adjustment by instructor according to the teaching situation, students' progress, public holidays and unforeseeable circumstances. A revised schedule will be issued to students at the start of the semester.

Week	Topic	Course LO	Readings/ Activities
1	**Introduction to Visual effects** Overview of key concepts and various techniques used in visual effects. Analyze diverse techniques using various visual effects shots and sequences. Introduction of the role of a visual effects supervisor. Introduction advanced competencies in visual effects such as CG	1,2,3,5	**Introductory lecture** **In-class discussion and analysis** of visual effects techniques examples **In-class exercise**: Discussion of strategies to create VFX shots by utilizing advanced techniques. **Assigned project 1:** Compositing the render-passes using node-based

	compositing.		compositing
2-3	**Fundamentals of Camera tracking** Introduction to core competencies required in the creation of advanced VFX. Students will learn techniques such as advanced camera tracking and CG integration.	4,5	**Lectures on: Principles of camera tracking** **In-class exercises:** Practice of camera tracking **Project critique and feedback** on in-class exercises and assigned projects **Assigned project 2:** Compositing of 3D rendered objects/elements on moving camera shots **Student presentations** on assigned projects, critique on the assignment
4-5	**Story concept finalization.** Various concepts for the final film will be discussed and evaluated against artistic, narrative and viability of execution.	1, 2, 3, 5	**Lectures on:** Evaluation of resources at disposal and feasibility study **In-class exercise:** Analysis of VFX sequences and shot breakdown. **Assignment 3a:** Storyboarding **Assigned project 3b:** Identification of vfx elements and development of shooting storyboard **Student presentations** on assigned projects and critique.
6-7	**Production planning:** Through analysis of storyboard and the resources at disposal, students will learn the factors to be considered for the filming of visual effects layers and elements a sense, which attributes contribute to a successful composite.	1, 2, 3, 4, 5	**Lectures on:** Production planning and factors to be considered during the filming of various visual effects elements **In-class exercises:** Familiarising with filming equipment and associated gears **In-class rehearsals:** **Assigned project 3c:** Development of Computer graphics elements **Assigned project 3d:** Fulfilment of production requirements and prep for filming
8	**Filming**	4,5	**In-class exercise: Filming**
9-12	**Post-production** Various visual effects layers/elements created during the production phase will be integrated to create visual effects shots. The final project will be subject to review through its various stages of completion. This will be carried out in class presentations by students and will allow for a peer-review-based examination of the works in progress. In this highly interactive process, you will learn through and from the work of your peers and the advice offered by the	1,2,3,5	**Project consultation and continuous review, assessment, and feedback throughout the production of the final project** **Final project:** Live-action short film or sequence demonstrating core competencies, technical skills, and aesthetic considerations

	lecturer.		
13	**Final presentation**	4	**Student Presentations** on a final project with critique and feedback