Specialization Path 05 – Visual Effects for Films (12 Weeks)

Program Objective

To equip learners with advanced skills in film-based visual effects production, covering the complete pipeline from plate preparation to final compositing, enabling them to create high-quality VFX shots for cinema, OTT, and digital media.

Week 01 – Introduction to VFX Pipeline & Production Workflow

Topics Covered:

- Overview of VFX pipeline (Pre-production to Post)
- Types of VFX (invisible, CG, compositing-heavy)
- Roles in VFX production
- Plate analysis and breakdown
- File formats, color spaces, and workflow basics

Learning Outcome:

- Understand the complete VFX production pipeline
- Analyze live-action footage for VFX requirements
- Set up structured workflows for VFX projects

Week 02 – Basic Rotoscopy (Roto)

Topics Covered:

- Introduction to rotoscoping techniques
- Mask creation and animation
- Edge refinement and motion tracking basics
- Layer management
- Clean plate preparation

Learning Outcome:

- Create accurate roto masks for moving subjects
- Isolate elements from live-action footage
- Prepare footage for compositing workflows

Week 03 – Advanced Roto Paint

Topics Covered:

- Paint tools and techniques
- Wire removal and object cleanup
- Frame-by-frame vs patch-based paint
- Clone and healing workflows

- Seamless integration of cleaned footage

Learning Outcome:

- Remove unwanted elements from footage

- Restore and enhance live-action plates

- Deliver clean, production-ready footage

Week 04 – Matchmoving (Camera Tracking)

Topics Covered:

- 2D vs 3D tracking fundamentals

- Camera solving techniques

- Tracking markers and feature points

- Scene reconstruction basics

- Exporting tracking data to 3D software

Learning Outcome:

- Track camera motion accurately

- Reconstruct 3D camera data from live footage

- Integrate CG elements into real-world scenes

Week 05 – Introduction to Compositing

Topics Covered:

- Node-based compositing workflow

- Layer compositing techniques

- Alpha channels and blending modes

- Keying fundamentals

- Color correction basics

Learning Outcome:

- Combine multiple visual elements into a single frame

- Use compositing tools effectively

- Create basic VFX shots with proper layering

Week 06 – Advanced Compositing Techniques

Topics Covered:

- Multi-pass compositing

- Depth compositing and Z-depth

- Advanced color grading

- Light wrapping and edge blending

- Integration of CG with live footage

Learning Outcome:

- Create seamless and realistic composites

- Match lighting and color between elements

- Produce production-quality VFX shots

Week 07 – Live Action Integration

Topics Covered:

- Plate preparation for VFX

- Shadow, reflection, and interaction creation

- Environmental integration

- Perspective and scale matching

- Scene continuity

Learning Outcome:

- Integrate CG elements convincingly into live-action shots

- Match real-world lighting and perspective

- Maintain continuity across VFX shots

Week 08 – Chroma Keying & Virtual Production

Topics Covered:

- Green screen and blue screen workflows

- Keying techniques and edge refinement

- Spill suppression

- Virtual production basics (LED walls, real-time engines)

- Background replacement and environment creation

Learning Outcome:

- Extract clean keys from chroma footage

- Replace backgrounds seamlessly

- Understand fundamentals of virtual production workflows

Week 09 – Motion Graphics for VFX

Topics Covered:

- Motion graphics design principles
- Title animation and overlays
- Tracking-based motion graphics
- Integration with live footage
- Typography in film graphics

Learning Outcome:

- Create motion graphics elements for film
- Integrate graphics with tracked footage
- Enhance storytelling using visual overlays

Week 10 – Sound Design for VFX

Topics Covered:

- Basics of sound design for film
- Syncing audio with visuals
- Foley and ambient sound creation
- Enhancing visual impact with sound
- Audio editing tools and workflows

Learning Outcome:

- Design sound elements to complement VFX shots
- Synchronize audio with visual sequences
- Enhance storytelling through sound design

Week 11 – Rendering & Final Output

Topics Covered:

- Render settings and optimization
- Multi-pass rendering workflows

- File formats and codecs for delivery
- Color management and output pipelines
- Quality control and final checks

Learning Outcome:

- Render VFX shots efficiently and at high quality
- Prepare outputs for different platforms (film, OTT, web)
- Ensure technical accuracy in final delivery

Week 12 – Final VFX Project & Showreel Development

Topics Covered:

- End-to-end VFX shot production
- Combining roto, paint, tracking, and compositing
- Final polish and refinement
- Showreel editing and presentation
- Industry portfolio standards

Learning Outcome:

- Produce a complete VFX shot or sequence
- Demonstrate mastery of the VFX pipeline
- Create a professional VFX showreel

Final Deliverables

- Rotoscopy & Paint Shots
- Matchmove Integrated Shots
- Composited VFX Sequences
- Chroma Key & Motion Graphics Shots
- Sound-Enhanced VFX Clips
- **Final VFX Shot / Sequence (Capstone Project)**