



Advanced 2D/3D Animation

Welcome to the Advanced 2D/3D Animation: Advanced Techniques course at St. Bede's College. This 3rd-year undergraduate program, spanning 45 lectures over 15 weeks, is designed to elevate your animation skills.

Building on foundational knowledge, this course will guide you through professional workflows, advanced simulations, and VFX integration, culminating in a high-quality animation reel.





Course Overview and Objectives

Enhance Professional Skills

Develop expertise in professional-level motion design and advanced animation workflows, preparing you for industry demands.

Explore Advanced Techniques

Learn advanced simulation, procedural animation, and seamless VFX integration for complex projects.

Master Project Development

Gain hands-on experience with pipeline-based project development using industry-standard software like Blender, Maya, and After Effects.

Build a Strong Portfolio

Create high-quality animation reels and case-study-driven motion graphics projects to showcase your talent.

Unit 1: Animation Workflow & Production Planning

Topics Covered:

- Industry pipelines for film, gaming & advertising
- Project scoping, asset management, folder structure
- Scene planning, shot breakdowns
- Timing sheets, animatics & pre-visualization

Practical Applications:

- Create a production plan for a 30-second animation
- Develop a timing sheet and storyboard with transitions
- Use animatics for motion planning

This unit focuses on establishing a solid foundation in animation production planning, crucial for efficient and professional project execution. You'll learn industry-standard practices from concept to pre-visualization.

Unit 2: Advanced Motion Graphics with After Effects



Expressions for Automation

Utilize expressions to automate complex animations and streamline workflows.



Advanced Text Animation

Master kinetic typography and sophisticated text animation techniques.



Motion Tracking & Parallax

Implement motion tracking, screen replacement, and 2.5D parallax effects.

Dive deep into After Effects to create stunning motion graphics. This unit covers advanced techniques like expressions, complex transitions, and integrating live video.



Unit 3: Procedural Animation & Simulation in Blender

Key Topics:

- Geometry Nodes for motion and effects
- Cloth, smoke, and fluid simulations
- Dynamic collisions and soft body physics
- Procedural effects: growth, destruction, waves

Hands-on Practicals:

- Create cloth simulation for flag or cape
- Animate a terrain using geometry nodes
- Build a destructible object animation with physics

Explore the power of procedural animation and realistic simulations in Blender. This unit will equip you with skills to create dynamic and complex visual effects.

Unit 4: Character Performance Animation

Acting in Animation

Master lip-sync, gestures, and expressions to bring characters to life.

Non-Verbal Storytelling

Learn to convey emotions and narratives without dialogue.

Animation Layers & NLA

Utilize animation layers and non-linear animation (NLA) for complex performances.

This unit focuses on the art of character performance, teaching you how to create compelling and emotionally resonant animated characters. You'll learn to use advanced tools for nuanced performances.



Unit 5: VFX Integration & Compositing

Key Topics:

- Blender Compositor: passes, masks, and nodes
- Combining 3D assets with live-action video
- Chroma keying and camera match-moving
- Visual storytelling through effects layering

Practical Applications:

- Match camera footage to a 3D environment
- Composite particles with green-screened footage
- Apply color grading and depth of field

Learn to seamlessly integrate visual effects into live-action footage. This unit covers advanced compositing techniques, chroma keying, and camera match-moving for realistic results.

Unit 6: Portfolio Animation Project & Review

Master Advanced Techniques

Gain mastery in procedural animation, simulation, and motion design, integrating 3D animation into real footage.

Develop Full Pipelines

Learn to develop complete animation pipelines, from initial planning to final post-production.

Build a Professional Showreel

Create a high-quality showreel suitable for studios and freelance work, showcasing your advanced skills.

