



COMPUTER AIDED DESIGN CENTRE JADAVPUR UNIVERSITY

PROSPECTUS



Diploma in Multimedia & Animation

www.cadcentreju.org

THE CAD CENTRE

The Computer Aided Design (CAD) Centre, Jadavpur University was established in the year 1985 by the Electronics Commission and the Department of Electronics, Government of India. The primary objective of the Centre was to promote CAD activities in the eastern part of India. The first supermini computer (Norsk Data ND-560CX) of the Eastern India was established in this Centre for performing CAD activities. However, later the Centre has diversified its activities in other emerging fields like Multimedia and Geoinformatics. A certificate course in Multimedia and Animation was offered by the Centre in the year 2003. One year later, in the year 2004, the Centre introduced a Diploma course in Multimedia and Animation. Since the time of inception, more than 7000 students, researchers and working persons have been trained at the Centre in different fields; among which more than 1000 students have been trained in the field of Multimedia and Animation. A number of projects from the industry have also been successfully completed by the Centre. During the last 39 years, the CAD Centre of Jadavpur University has remained the most prestigious and important centre in Eastern India for promoting CAD / Multimedia & Animation / Geoinformatics activities.

Infrastructure

At present, 60 numbers of Core i7 based PCs and a server are connected in a LAN environment and distributed in three air-conditioned laboratories. Three well-furnished and air-conditioned classrooms provide an excellent ambience for theoretical classes. The classrooms are equipped with multimedia projectors for demonstration. Latest and popular software packages on CAD, Geoinformatics, Digital Image Processing, Multimedia, DBMS and Programming Languages. The Centre has industry grade instruments like high-end workstation, professional camera, drone for videography, etc. The Centre has a library with latest books on CAD, CAM, GIS, Remote Sensing, DIP, Multimedia, RDBMS & other related fields and used by the students on regular basis inside the Centre.

Diploma in **Multimedia & Animation**

Duration: 1 Year

The world of multimedia and animation is exciting and challenging as well. Various formats of technological or digital multimedia are aimed at enhancing the users' experience by conveying information easier and faster. The multimedia programme enables students to learn how to use computer programs to create static or interactive presentation materials.

The course, Diploma in Multimedia and Animation, begins with the fundamentals of Art & Design that will stimulate the creativity and imagination. As the course progresses the students will develop skills in concept designing, illustration, image manipulation, graphics designing, cinematography, photography, cartoons, 2D & 3D animation, video editing, visual effects and game designing. They will also develop skills in creativity and conceptualization ability. This course ensures that the students can get the training in all aspects of multimedia and become proficient in the popular multimedia software. Our students will be equipped with industry endorsed techniques and they will be transformed into an in-demand media creative professional.

The course will be beneficial for those who wish to make their career in the field of Multimedia & Animation and to work with blue-chip animation studios & entertainment companies. Candidates having a decent expertise in Multimedia can get the job in print media (magazines, newspapers, journals, etc), promoting and advertising agencies, TV and film industry. Multimedia professionals are hired as Animator, Art Director, Multimedia Programmer, Storyboard Artist, 2D Animator, UI/UX Designer, 3D Modeller, 3D Animator, Film & Video Editor, Visualizer, Web Designer, AV Editor, Content Developer, Composer, Reviewer and so on. The Animation and Multimedia industry in India is expected to grow at a pace faster than the IT industry.

Education on Multimedia, within India, is although not a new thing but the quality and coverage remained an issue. The CAD Centre of Jadavpur University is very popular in Eastern India in this field. The Centre has achieved an immense amount of reputation and goodwill in this discipline.

Course Structure

Duration: 1 year (2 semesters)

Course Fees: Rs. 40,000/- + 18% GST per semester (the first semester fees to be paid at the time of admission; and second semester fees to be paid before the commencement of the second semester as notified by the Centre)

Class Timing: Regular classes will be conducted from Monday to Friday (except University holidays); special classes and additional practice sessions will be offered on Saturdays. Timing is 11:30 AM to 5:00 PM including recess.

Faculty Members

The Centre has engaged highly experienced faculty members from academic sector as well as industry. The Centre has four internal faculties for this course.

Mr. Chiranjib Karmakar

Mrs. Riddhi Sengupta

Mr. Subhasish Nath

Ms. Poulami Guhathakurata

Other than our internal faculties we also invite academicians from different Universities as well as industry professionals to provide special exposures. Eminent persons from multimedia industry are also associated with this course.

Course Curriculum

Semester-I

GD01 Digital Graphics

Art and Visual Perception
Concept of Graphics
Elements and Principles of Design
Color Theory
The Anatomy of Typography
Corporate Identity
Branding and Marketing Strategy
Design Methodology & Process
Comic Strip & Story Board
Concept ART
Digital Marketing & Media Analytics
Social Media Management and Marketing
Visual Production Strategising
Digital Design
Concept of Advertising

Software use

- Adobe Photoshop
- Adobe Illustrator
- Adobe Indesign

Career Options

Graphic Designer
Layout Designer
Creative Ad Designer
Visualizer
Preproduction Artist

Course Curriculum

Semester-I

UX01 UX/UI Design

The Foundation in User Experience (UX) Design
Understanding the Elements of User Experience
UX Strategy Roadmap & Action Plan
Determining & Controlling Project Scope
Planning & Goal Setting
UX Structure & Skeleton
Information Architecture
UX Surface
Visual Design Principles
User flows
Design Thinking & Process
Design Principles for mobile apps
Paper Sketches into a mobile prototype
Prototype Creation & Testing
Complete App Project

Software use

- Figma
- Adobe XD

Career Options

UX Designer
UX Engineer
Product Designer
UI Designer

Course Curriculum

Semester-I

CA01 2D Character Animation

Principles of Animation
Production Pipeline
Drawing your Thumbnails & Storyboards
The Character Design Process
Creating the Character Rig for Animation
Finalizing & Symbolising the Rig
Animations using Tween & Key Frames
Head Turn & various Walk Cycles
Animating Eye, Eye Brows & Drawing Lip Shapes
Animating Facial Expressions with Lip Sync
Human Attitude Walks - Profile & 3/4th Angles
2 & 4 Legged Character Run, Jump Cycle
Weight lifting, Pulling & Pushing an object
Animating to Dialogue
Animating the Acting Poses & Gestures

Software use

- Adobe Animate

Career Options

2D Animator
Storyboard Artist
Concept Artist
Background Artist

Course Curriculum

Semester-I

WD01 Web Design Part 1

HTML Essentials

Text Basics

Semantics & Organization

Forms & Tables

CSS Essentials

CSS Typography

CSS Selectors & Box Model

Floats, Flexbox & CSS Grid Layouts

Web Design Rules & Framework

Components & Layout Patterns

Responsive Web Design

Webflow Essentials

Creating Connection with Figma

Layout and Design in Webflow

Interaction and Animation in Webflow

Software use

- HTML 5
- CSS 3
- WebFlow

Career Options

Web Designer

Webflow Template Designer

HTML Developer

Course Curriculum

Semester-I

AV01 Video & Audio Editing

Workflow Of Video Editing
Adding, Inserting & Arranging Clips in a Sequence
Adding Video & Audio Transitions
Titles & Graphics
Video Effects
Manipulating Clip Speed
Green Screen / Chromakeying
Color Correction & Color Grading
Workflow Of Audio Editing
Combining Audio Files with Multitrack Section
Changing Pitch & Stretching Time
Audio Effects & Adjustments
Reverb, Echo & Delay
Noise Reduction & Vocal Improvements
Mixing & Mastering Audio

Software use

- Adobe Premiere
- Adobe Audition

Career Options

Video Editor
Audio Editor

Course Curriculum

Semester-II

TV01 3D Visualization with 3DS Max & VRay

3ds Max UI

Viewport Navigation

Primitive vs Editable

Edge modeling techniques

Polygon modelling techniques

Spline Modelling

Subdivision & Compound Modelling

Texturing

UV Unwrapping

Lighting in 3ds Max

Cameras & Composition

Advanced Modelling Techniques

Motion to your Scene with Animation Technique

Camera Animation Techniques

Lighting, Texturing & Rendering with Vray

Software use

- 3DS Max
- VRay

Career Options

- 3D Visualizer
- 3D Modeler
- 3D Lighting Artist
- 3d Rendering Artist

Course Curriculum

Semester-II

MG01 Motion Graphics

After Effects Interface
Animation Basics
Motion Path & Spatial Interpolation
Animating Infographics
Geometric Shapes Animation
Graph Editors
Different type of Layers
Green Screen (Chromakeying)
Rotoscoping
Screen Replacements
Puppet Tool Animations
Masking
Motion Tracking
Camera Tracking & Time Remapping
Expressions

Software use

- Adobe After Effects

Career Options

Motion Graphics Designer
Roto Artist
Visual Effects Artist
Compositor

Course Curriculum

Semester-II

WD02 Web Design & Development Advanced

Overview of Java Script
Condition, Loop & Function
Input & Output
Math Object
Java Script Array
Overview of JQuery
CSS selectors in JQuery
Manipulating the DOM
Event Handling & Ajax with JQuery
Overview of React
React Components
Destructuring & Event Handling
React Hooks & Context API
Overview of Bootstrap
Bootstrap Grid & Columns
Sass Workflow

Software use

- Java Script & React
- Saas & JQuery
- Bootstrap

Career Options

Web Designer
Front-end Developer
React Developer
UI Developer

Course Curriculum

Semester-II

MA01 3D Modelling & Animation

Overview of Maya
Props Modelling
Background & Character Modelling
Texturing
Lighting
Rigging & Animation
Effects
Environment Modelling
Render & Post Production
Overview of ZBrush
Sculpting & Skin Detailing
Overview of Blender
Mesh Modelling in Blender
Textures & Materials
Lighting
Rendering

Software use

- Maya
- Blender
- ZBrush

Career Options

Modeling Artist
Character Animator
Digital Sculptor
Rigging Artist
Lighting Artist

Course Curriculum

Semester-II

FX01 Compositing & VFX

Overview of Nuke

Tracking

Rotoscope

Painting

Keying

Color Correction

Rotoscoping

Motion & Camera Tracking

Node Based Compositing

Special Effects in Nuke

Overview of Houdini

3D Modeling with Houdini

Pyro & Explosion in Houdini

Rigid Bodies & Particles

VOPs & Vellum

RBD Material Fracture

Effects in Houdini

Software use

- Nuke
- Houdini

Career Options

Roto Artist
Visual Effects Artist
Compositor

Admission Rules

Eligibility: Higher Secondary or Equivalent

Candidates who have appeared the final examination of Higher Secondary and result of which are yet to be published are also eligible to apply. However, they have to submit the final mark-sheet before appearing the Semester-I examination; otherwise the registration will be cancelled without any refund of course/semester fees.

Total intake: 30

- Admission will be on first-come-first-serve basis.
- There will be no scope of any kind of reservation.
- The Centre reserves the right of not selecting any candidate who is considered to be physically/mentally challenged or otherwise unsuitable.
- The semester/course fees and supplementary examination/special supplementary examination fees/any other fees cannot be returned/refunded/transferred in any circumstance.
- The 'course fees' includes admission fees, tuition fees, session fees, examination fees, fees for grade card, library fees, course material, study material, books etc. The 50% of the course fee is the tuition fee for which a separate IT certificate may be provided on request. The course does not attract any other additional fees. However, supplementary / special supplementary examination fees will be collected separately from individuals.
- Application form can be submitted through our online admission portal. Application fee is Rs.100/-. We shall approve the applications after verification. Once a student gets the approval (s)he have to pay the semester fees within the stipulated time through our online payment gateway.
- Candidate should bring the following at the time of commencement of the course for the verification:
 - (a) Original certificate / marks sheet along with one photocopy of the Secondary and Higher Secondary examination.
 - (b) Original document for proof of date of birth.
 - (c) One photograph (35 mm x 45 mm) for Identity Card.

- The candidates have to sign a declaration that he/she will pay the determined fees of Semester-II before the commencement of the respective semester as notified by the Centre. If the candidate fails to submit the semester/course fees within the specified time the candidature will be discontinued without further reference.
- Ragging is totally banned in the Jadavpur University Campus, and anyone found guilty of ragging and/or abetting ragging is liable to be punished appropriately. If any incident of ragging comes to the notice of the authority, the concerned student shall be given liberty to explain and if his/her explanation is not found satisfactory, the authority would expel him from the institution.
In case of an event of ragging, the victim will inform the Director, CAD Centre in written and in detail.
- Sexual harassment, criminal offence, or any other kind of misconduct will not be allowed in any circumstance. University has a zero tolerance in this regard.
- Student admitted should have at least 80% attendance of total classes, failing of which the studentship will be treated as cancelled without further reference. While pursuing this course the student should not have any attachment to any kind of other course/assignment during the class hours.
- This course is non-residential. Hostel facility will not be available.
- This course is a fully self-financed course. Railway concession, concession for backward classes or any other type of concession are not available to the students of this course.
- Classes will be commenced as notified by the Centre.

Age limit: not more than 25 years as on the date of announcement of the course. Although any eligible candidate if their age is more than 25 years old can pursue this course, but the Centre does not provide any placement assistance to them.

Placement Opportunity

The Centre maintains a dedicated Job Portal for the placement of the students. Our students are working in many reputed private as well as government organizations in India and even abroad. We are committed to provide placement assistance to regular, sincere and well performed students according to merit list. At least 90% attendance is mandatory.

Examination Rules

- The Examination shall be held at the end of each semester. Students must qualify (a minimum of 40%) separately in every paper of all the semester examinations and those who qualified in a paper shall not be permitted to sit for the examination in that paper again. Non-appearance in a paper/examination will be counted as failure in that paper/examination. Satisfactory completion of the internal assessments is essential for the appearance at the semester examinations.
- Any kind of misconduct in the examination(s) will be treated as failure in that paper of examination.
- Library books, journals, instruments or any other property of University/Centre held by the student must be returned undamaged before the commencement of the semester/supplementary/special supplementary examination. Otherwise, he/she will not be allowed to appear the respective examination.
- Each student will have to pass every paper separately in each semester of the course. If a student fails to pass or appear in one or more paper(s) in the semester examinations, a supplementary examination will be held normally after 30 days and within 60 days from the publication of semester results. Students, who do not have any back papers in first semester examination, shall be only eligible to appear at the regular second semester examinations. Dissertation/project, seminars and viva-voce will also come under the purview of the supplementary examination.
- If a student fails to pass or appear in one or more paper(s) in the supplementary examination(s), a special supplementary examination will be held normally after 30 days and within 60 days from the publication of supplementary examination results. This will be treated as the last opportunity to qualify the examination; failing of which the candidature will be discontinued without further reference.
- A student will appear in all the papers meant for/taken at the regular semester examinations (first semester and second semester) to be held after the conclusion of the respective semester of studies and as per the date announced by the Centre.
- Failure/non-appearance in regular semester examinations will be counted as demerits for getting placement assistance.
- A student will carry on with the second semester program of studies irrespective of the result of the first semester examination. He/she will not be entertained to attain classes in the first semester. Repetition of a semester will attract further payment of semester fees in full.

- Students need to submit the project before commencement of the first & second semester examination as notified by the Centre. Students who fail to submit their project in the given time period as notified by the Centre, will not be allowed in the respective first or second semester examination.
- A minimum of 80% attendance in each semester will be essential for appearing the semester examinations. If a student fails to meet this criteria will be counted as failure for which the candidate will have to repeat the same semester again and appear supplementary examination of respective semester along with the regular students in the next academic session. Attendance requirement may be relaxed only in case of severe medical ground. Repetition of a semester will attract further payment of semester fees in full.
- Pass mark will be 40% in each paper both in theoretical and in practical examination, and viva/seminar/dissertation/project.
- Question paper for each paper will be set by internal paper setter(s). However, the Centre may appoint external paper setter(s) if internal paper setter(s) is/are not available for specific paper(s).
- All the theoretical papers will be evaluated by the internal examiners. Practical papers/projects will also be evaluated by internal examiners.
- For each theoretical and practical paper, 30% marks will be reserved for internal assessment and 10% marks will be reserved for attendance.
- Internal assessment shall be on the basis of class tests. Three such assessments will be conducted in a semester for each paper and the best one of these three will be added with the semester examination results of the respective paper(s).
- Marks for each paper (Theory, Practical, and Project) is 100. Total marks for two semesters is 600.
- Duration of the semester end examination will be 2 hours (for theory papers) and 4 hours (for practical papers).

- The result will be declared in grade system for each semester. In the final semester grade card, there will be a provision for indicating both total marks (theoretical and practical) and grade obtained.

CLASSIFICATION OF GRADES

GRADE	MARKS
A+	90% and above
A	80% to below 90%
B+	70% to below 80%
B	60% to below 70%
C+	50% to below 60%
C	40% to below 50%
X	Below 40% (Failed)

- The office of the Director, CAD Centre will tabulate and publish the result of internal assessments and semester examinations.
- Supplementary/special supplementary examination fees will be charged @ Rs.500/- for each paper; and to be paid by cash at the office of the Centre.
- Fees for transcripts and duplicate grade sheet/certificate etc. will be collected by the office of the CAD Centre. Charges for issuing Transcripts (5 copies): Rs. 300/-; Duplicate Certificate (one copy): Rs. 100/-; Duplicate Mark Sheet (one copy): Rs. 50/-; Duplicate Identity Card: Rs. 50/-. All these charges are payable by cash.
- A Student may apply for post-publication review/re-examination of his/her answer script for any end-semester examinations within 10 days from the date of publication of results. The results of supplementary/special supplementary examinations will not be eligible for review. No review/re-examination of marks will be entertained for practical papers/internal assessment/seminar/dissertation/project/viva-voce. The marks awarded by the reviewer will be considered as FINAL. The fees for review is Rs. 200/- per paper to be paid in cash at the office of the Centre.
- No student shall be permitted to transfer his/her candidature to the next instance of the course.



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