

CHITKARA
UNIVERSITY



2-Year M.Tech in Computer Science & Engineering

in collaboration with

virtusa



CHITKARA
UNIVERSITY



| **virtusa**

virtusa

FUTURE PROOF YOUR IT CAREER

Join 2 Year M.Tech degree program in
Computer Science & Engineering with
specialisation in
Full Stack Web Development at
Chitkara University in collaboration with
bluechip IT giant VIRTUSA.

Student will spend the 1st year at
Chitkara University campus mastering
Full-Stack development followed by
1 year internship at any of the
Virtusa's offices across the country.



Whatever the dream, Chitkara University can help you get there. Located just 30 km from Chandigarh, our campuses in Punjab & Himachal Pradesh offer a world of learning that will help you reach your goals. Avail the opportunity to get placed at one of the 700+ companies that visit for campus recruitment.

Breakthrough programs. Rising rankings. Outstanding alumni network. Highly rated academic credentials. Unlimited opportunities to embark upon research from day one. Experience global education with 250+ foreign University Partners. Kickstart your startup idea at one of the largest University Incubators. Any discipline you pursue at Chitkara University, your success is assured.



CHITKARA UNIVERSITY - an overview

Our pride is driven by some of our accomplishments that have been a result of consistent investment in human resources, infrastructure and a laser sharp focus on student success during, and post their education with us.



STRONG ACADEMIC HERITAGE

Established by passionate academicians with the sole mission of making each and every student "Industry ready".



COUNTED AMONG THE BEST

Our programs are consistently ranked among the top 50 and the University is ranked among top 20 in the country.



STRONG CAMPUS PLACEMENT

We have established an unassailable reputation for strong on-campus recruitments with more than 1500+ companies hiring our graduates year after year.



LEARN FROM THE BEST

You'll work with some of the brightest and most inspiring academicians, lecturers and researchers in the world across all our programs.



5 STARS

All our institutions and academic programs are recognised and approved by UGC and various academic regulators.



CLEANEST CAMPUS

Ranked as one of the cleanest Universities of India in the 'SWACHHTA' ranking of Govt. of India for the year 2019.



MODERN FACILITIES

We have made huge investments in developing facilities with state-of-the-art labs, design studios, sporting and social facilities.



LEADING INNOVATION

Our Incubator is the largest in North India with more than 100+ start-ups helping turn students' business ideas into reality.

COUNTED AMONG THE BEST



Chitkara University has once again been ranked among the Nation's Best in the 2019 NIRF Ranking



The Week-Hansa Research Survey 2019 ranked Chitkara University 6th among 'Non-Government Multi-Disciplinary Universities in North Zone'



Data Quest has awarded Chitkara University as 'Outstanding University with Highest Campus Recruitment 2019'



India Today has consistently ranked Chitkara University among the 'Best in the Country'



Outlook-ICARE India Rankings 2019 ranked Chitkara University highly among the Top 50 Private State Universities list



Careers360 has counted Chitkara University as one of the 'Best in the North Region'

ENGINEERING EDUCATION AHEAD OF ITS TIME

Chitkara University's Engineering Programs were initiated in the year 2002, with the sole focus to prepare students for careers as Engineers in a rapidly changing, technologically driven environment.

Since then our Engineering programs have been ranked in top 50 of the country which speaks volume about our strong academic heritage, innovative teaching methodology and proactive industry collaborations.

Our Engineering graduates go on to achieve great careers, as we're hands on and responsive in our teaching, provide a great environment to study and our research is world class.

We have established an unassailable reputation for very strong on-campus recruitments by virtue of our intensive focus on making all our graduates "industry ready." The brilliant campus recruitment is the end result of our teaching approach which is learning-centric - enhancing knowledge, skills, and understanding through practical experience.

As a result, 30,000+ alumni graduates are in top demand across industry sectors.

250+
Patents

*The UNIVERSITY
with one of the
highest number
of Patents
in the country*



One of the
largest University
Grants' recipient
for the European
Erasmus+ Prog.



500+ | **1500**
campus recruiters
for a batch of | Engineering
Graduates

the largest
incubator
in North India
with more than
100+
start-ups

★★★★★
**HIGHLY
RATED
FOR OUR
WORLD-CLASS,
FACILITIES
TEACHING &
RESEARCH**

A+
**Ranked in
Top 50**

200+
partnership
with top Global
Engineering schools

virtusa

At Virtusa, they accelerate business outcomes for their clients through their expert information technology consulting and outsourcing services. They support a wide variety of Forbes Global 2000 firms with services that span the entire spectrum of the IT services lifecycle. Their industry-leading solutions transform businesses not only for a better today, but also for a better future.

**VIRTUSA IS ONE OF THE RENOWNED DAY 1 CAMPUS RECRUITER
ACROSS TOP UNIVERSITIES IN THE COUNTRY**



50+

OFFICES IN 19
COUNTRIES



23K+

WORLD-CLASS
PROFESSIONALS



216

ACTIVE CLIENTS



1B+

(USD) FY18
REVENUE



22%

CAGR OVER 10
YEARS

Achievements: Proud Recipients of

Gartner®

Positioned by Gartner as a Niche Player
in its 2017 Magic Quadrant for
CRM and CX Implementation Services



2017 Gold Winner

Won Gold Stevie American
Business Award for the
Most Innovative Tech
Company of the Year



**Top 15
Sourcing
Service
Provider**

Everest Group®
**PEAK
MATRIX™**

Recognized by
Everest Group as a
Major Contender in
its PEAK Matrix™ for
Digital Services in
Consumer Banking

Recognized by Indo-American
Chamber of Commerce (IACC)
as a Leader in Corporate Innovation



**Great
Place
To
Work®**

Recognized for
our workplace
culture by
Great Place to
Work®.

**Virtusa's vLife
open innovation
platform wins
Gold Stevie Award**

virtusa



VIRTUSA'S OPEN
INNOVATION PLATFORM
**Game Changer in
Attacking the Digital
Disruption Journey,
wins Gold Stevie Award**

virtusa



**Virtusa's
AIRIS - DevOps
solution wins Gold
Stevie Award**

virtusa





2-Year M.Tech in Computer Science & Engineering

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virtusa

The goal of this M.Tech program with specialisation in Full Stack Web Development is to offer a unique course designed by technology leader Virtusa to equip students with the unique skills they need to build database-backed APIs and web applications and make them industry ready right from Day 1.

After the completion of this highly specialised Master's program, the graduate will be able to design and build databases for software applications, create and deploy database-backed web APIs, and secure and manage user authentication and access control for an application backend along with learning to deploy a Java-based web application to the cloud.

Some Program highlights

- Curriculum designed by Virtusa Software team
- Intensive focus on Full stack Web development
- 1 Year of intensive learning at Chitkara University's Punjab campus
- 2nd Year Internship at any of the Virtusa's offices in the country
- Interactive sessions with Virtusa software architects every semester
- Problem based learning approach with Virtusa real life case studies
- Hackathons conducted with Virtusa team every semester
- Assured placement opportunities in Virtusa | other bluechip IT companies after the completion of the program

Tools & Technologies Used



M.Tech FROM CHITKARA UNIVERSITY

Masters's Degree from Chitkara University - one of the leading Indian Universities.



LEARN FROM THE BEST

Learn full stack principles from highly experienced software architects in Virtusa.



HANDS ON EXPERIENCE

Build a portfolio of industry relevant projects to showcase your programming skills to potential recruiters.



TEAM PROJECTS

Lot of our project-based learning is done in teams. Work in team based projects and learn to collaborate.



PROBLEM SOLVING

Our teaching style emphasises on making students focus on problem solving skills.



LEARN

Learn to design and develop powerful web applications that form the foundation for apps and websites.



500+ HOUR OF LEARNING

Intensive hands on learning session for entire year to help you master full stack web development principles.



PERSONALISED FEEDBACK

Our Placement team will mentor and work with you at an individual level to find the perfect career start for you.



JOB PLACEMENT ASSISTANCE WITH TOP FIRMS

Opportunity to get placed in Virtusa and other blue chip IT companies across the world.



GET INDUSTRY READY

Problem based learning approach with Virtusa software architects.



STUDY- LESS WORK MORE

Coding is learning by doing. You will be spending a lot of time practising your coding skills.



INTERNSHIP OPPORTUNITY

Complete 1 year internship in Virtusa offices across India.





Program Structure

Some of the main technologies and tools which you will learn during the course of this 2-Year Master's program are -

Foundation

Design Patterns, Software Architecture, Agile Methodologies

Front End Engineering – FEE

ReactJS, Angular, HTML5, CSS3-SASS, IONIC Framework

Server Side Engineering – SSE

Java – Spring Boot, Spring Rest Controller, Spring Security, Spring AOP, Spring Data - Hibernate, Spring Reactive, Maven, JVM Internals & Fine Tuning, Actuator, Swagger, Messaging, Junit 5

Data Engineering – DE

Data Design – RDBMS & NoSQL RDBMS – ACID, DDL, DML, TCL, SQL, PLSQL and all Concepts
NOSQL – CAP Theorem, Document, Collection, Key Value, Document Type, Optimization Techniques, Sharding, Replication

DevOps – DO

DevOps – CI/CD-Continuous Delivery/CD-Continuous Deployment, JUnit, Functional Testing, Release Pipelines (Jenkins, Travis CI, GitHub, SonarQube, Docker)

Cloud – AWS / Azure | Tools – GitHub, Jenkins | Docker – Container Services

Business Communication

Intensive focus on enhancement of presentation skills, verbal communication skills and writing techniques so that you are an effective communicator once you join the industry .

Students would have the option to choose at least 4 electives from the following areas

● Python ● IOT ● BlockChain ● BigData ● MicroApps ● Scalable UI Apps

PROGRAM CURRICULUM

FOUNDATIONS

This program will start with a deep dive into the software development fundamentals. Get familiar with Agile and Scrum methodologies to deliver projects on time. Also get an in-depth understanding of GIT to manage version control systems.

- OOP using Java, Data Structures & Algorithms.
- Design Patterns & Software Architecture
- Agile Methodology
- Version control with Git



FRONT END ENGINEERING

Build real-world websites and applications using the front-end stack technologies such as HTML5, CSS3-SASS, JavaScript, and React.

- Front end development with HTML5, CSS3, Javascript
- ES6 & Advanced Javascript
- ReactJS - component states, props object, and JSX



SERVER SIDE ENGINEERING

Master server side engineering by implementing back end logic using SQL, Spring Framework and ORM with Hibernate. Work with RESTful web services and learn to connect databases with your applications.

- Understand basics of SQL including DDL and DML
- MVC Architecture using Spring
- ORM using PostgreSQL and Hibernate
- Build RESTful web services
- Refactoring and Test-Driven Development





DEVOPS & CLOUD COMPUTING

Master DevOps principles to automate your software deployment to the AWS Cloud. Create seamless development and product environments using containerization with Docker and manage applications on Amazon S3 servers.

- Understand CI/CD pipeline.
- Get familiar with AWS and its services such as EC2, IAM, S3, EBS, and VPC
- Develop and deploy modern web applications with Docker



MOBILE APP DEVELOPMENT

Learn about mobile app development with React Native, a popular framework maintained by Facebook that enables cross-platform native apps using JavaScript



CAPSTONE PROJECT

In this final capstone project, you will combine all of the skills you've learned and developed in this course to build a full stack web application. You will choose a real industry-aligned problem and then with dedicated mentoring sessions you'll build an app for that. By developing an entire application from scratch and deploying into a production environment you will get hands-on experience.

#chitkaragrad



INVEST IN YOUR FUTURE

With real work projects and immersive content, built in partnership with IT Giant Virtusa, join industry endorsed M.Tech in Computer Science & Technology.

FEE STRUCTURE

PROGRAM	FEES PER SEMESTER (1 to 4)
M.Tech in Computer Science & Engineering	Rs. 75,000/-

- Students need to pay Rs.15,000/- towards ERP /Career Advancement Services (CAS) at the time of admission.

ADMISSION REQUIREMENTS

- 60% in Class X and XII
- Minimum 55% in B. Tech (CSE | ECE | Software & IT | Electronics)
- Students will be required to go through online coding test followed by personal interview with Virtusa HR team and Chitkara University faculty.

www.chitkara.edu.in/virtusa
admissions@chitkara.edu.in

For more information about the University
give a miss call on 1800 267 1999

Admissions Helpline
+91 95011 05714 | 95011 05715

CHITKARA
UNIVERSITY



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