PGCM (DSFM)

Post Graduate Certificate in Management
(Data Science in Financial Markets)

AICTE Approved

14-month Regular Weekend Programme

Post Graduate Certificate in Management

Data Science

in Financial Markets

NiSM
राष्ट्रीय प्रतिभूति बाजार संस्थान
National Institute of Securities Markets
(An Educational Initiative of SEBI)

**Academic Year
2022-23**

2013

Commemorative plaque of commencement of construction of NISM campus by
Dr. Manmohan Singh,
Former Prime Minister of India.

2016

Inauguration of NISM's state–of–the–art Campus at Patalganga by
Shri. Narendra Modi,
Hon'ble Prime Minister of India.

About the Institute

National Institute of Securities Markets (NISM), is an educational institution registered as a public trust. It is established in 2006 by the Securities and Exchange Board of India (SEBI), the regulator of the securities markets in India. The institute carries out a wide range of educational, research and capacity building activities at various levels aimed at enhancing quality standards and professionalization of the securities markets. The institute's six schools of excellence work in synergy towards achieving these goals.

The institute has six schools of excellence viz.

- School for Securities Education (SSE)
- School for Certification of Intermediaries (SCI)
- School for Regulatory Studies and Supervision (SRSS)
- School for Investor Education and Financial Literacy (SIEFL)
- School for Corporate Governance (SCG)
- School for Securities Information and Research (SSIR)

Vision

To lead, catalyse and deliver educational initiatives to enhance the quality of securities markets.

Mission

To engage in capacity building among the stakeholders in securities markets through professional education, promoting financial literacy, enhancing governance standards and fostering policy research.

Board of Governors

Academic Council

Message from the Director

The Vision of NISM is to impart in–depth knowledge on the financial sector, focusing on the securities markets, to a broad spectrum of participants– both academic and professional– and to build a robust pool of skilled manpower for the Market Infrastructure Institutions, market intermediaries, financial service providers, and other entities in the financial/securities markets. Being an educational initiative of the market regulator SEBI, NISM is uniquely positioned to assimilate and disseminate knowledge on financial markets and related subjects.

NISM, through its academic courses, corporate training programmes, certifications, workshops and industry interactions, has been redefining financial education and awareness over the last 15 years. It has created a bouquet of tailor–made academic programmes to develop new age professionals to cater to the expanding needs and requirements of the markets.

The Post Graduate Certificate in Management (Data Science in Financial Markets),is a specialized programme of NISM, which provides an appropriate blend of knowledge both on financial markets and technology. NISM is one of the very few institutions which are offering this Course. This programme has already equipped two batches of bright fin–technocrats for suitable positions in the financial sector since 2020. This 14 months AICTE approved academic programme is rigorous, built on strong foundation on financial markets & machine learning/artificial intelligence techniques and backed by practical application of data science for addressing the problems in the financial sector. Students also get to interact and learn from business/ financial sector leaders.

This programme is designed to provide a mix of conceptual understanding and exposure to practices and policies, through the use of contemporary learner–centric pedagogies. The institute with its team of dedicated academic and industry experts impart knowledge based on in–depth research, practice and constant interaction with the policymakers and the industry at the senior levels.

In order to further sharpen the minds of our students and broaden their vision, NISM has initiated an ongoing leadership lecture series wherein eminent experts [Regulatory leaders/ Judges/ Professionals/ Academicians/ Technocrats and CEOs are invited to address the students and faculty on relevant contemporary issues. Mr. Rabi Sankar, Deputy Governor, RBI; Mr. Ajit Balakrishnan, Chairman, Rediff; Justice BN Srikrishna, Former judge of Supreme Court; delivered such lectures during November–December 2021. Many more lectures are in the pipeline.

I assure you that the PGCM(DSFM) Programme will be rewarding and enriching. I take this opportunity to welcome you to NISM.

Dr. CKG Nair
Director, NISM

Post Graduate
Certificate in Management
(Data Science in Financial Markets)-
PGCM (DSFM)

Data has emerged as a new functional requirement in modern–age decision making. All organizations treat data as an input to arrive at any decision–making pertaining to their products and services. The **Post Graduate Certificate in Management (Data Science in Financial Markets)**, offered by the National Institute of Securities Markets, is a premier programme which provides the blended knowledge of modern finance and its various application in collaboration with data processing techniques and tools to make, alter, various financial products, to make them more suitable for each class of investors. It offers a unique opportunity to learn and make use of the available financial data to make informed business decisions, keeping in mind the profitability and customer satisfaction. PGCM (DSFM) is a **14–month regular weekend programme, hosted at NISM's facility in Bandra Kurla Complex, Mumbai, and is approved by the All India Council for Technical Education (AICTE)**

For Whom?

PGCM (DSFM) is ideal for Individuals with a passion for financial markets and keenness to acquire in–depth understanding of data mining techniques and financial analytics, to offer and innovate new–age financial products. The programme is suitable for both working professionals and fresh graduates.

Graduates from various disciplines, such as Commerce & Accounting, Management, Economics, Law, Mathematics, Statistics, Engineering, etc. will develop their analytical capabilities for financial markets.

What do I learn?

PGCM (DSFM) will enable professionals to undertake data mining with powerful tools to find trends and answer questions for businesses, researchers, non–profit organizations, academic institutions, and governments. The key take aways from the programme are as follows:

- The programme will equip professionals with necessary financial knowledge and data mining skills to mould and design better and cost–efficient financial products, creation of efficient risk management system and systematic analysis of available financial information to make informed management decisions.

- The programme will provide a platform to its participants to learn the intricacies of Finance and modern age Data Science tools to develop the ability to support their decisions through analytic reasoning using variety of statistical and mathematical techniques.

- The curriculum covers topics such as Financial Economics, Products and Institutions, Programming language for Financial applications, Data Mining, Machine Learning, Algorithmic Trading, Big Data Processing and Visualization and combines academic elegance and business relevance to facilitate the participants to learn modalities of various financial products, followed by analytical techniques and weaves them with applications for data–based decision making.

- Dissemination of knowledge of various financial products to create level playing field between finance and non–finance professionals.

- An integral part of the learning experience is the use of Data Science and Analytics tools wherein the participants get hands–on exposure to R, Tableau, and Python.

- Lectures and hands–on sessions will be conducted by eminent faculty, industry leaders and experts.

Where does PGCM (DSFM) lead to?

PGCM (DSFM) could lead to the following job profiles, which involves the fusion of data science techniques and financial analytics:

- Credit Research and Ratings
- Investment Evaluation and Portfolio Management
- Risk Modelling
- Claim Processing
- Fraud Detection
- Analysing Financial Statements
- Equity Research

NISM provides placement assistance to participants who successfully complete the programme and help them in finding suitable data analyst profiles in financial market intermediaries.

Why NISM?

The Post Graduate Certificate in Management (Data Science in Financial Markets) provides an opportunity to study in a pedigreed institute, under a team of top academicians and practitioners, in a world-class infrastructure.

Over the years, the National Institute of Securities Markets has carved a niche for itself in both education and research. Since 2009, it has conducted a number niche programmes of durations ranging between 1 month to 2 years, with more than1500 alumni rendering their services in professionalizing the markets. NISM has also fulfilled its research mandates through research projects for the Ministry of Finance and SEBI and training projects for the Ministry of External Affairs. It has also been conducting training programmes for officers from IRS, IAS, ICLS, CAG, SEBI, RBI, IFSCA, etc. The Institute's training programmes have also benefitted regulatory staff members from SAARC nations and the CLMV (Cambodia, Laos, Myanmar and Vietnam) nations. Customized corporate training programmes also feature regularly as part of its ongoing activities.

With this rich experience in education and research over a decade, the AICTE–recognized PGCM (DSFM) programme has been carefully crafted to impart the complete set of knowledge and skills in vital and emerging application areas, benchmarked with the best in India and overseas.

NISM's Library has a collection of around 10,000 books, apart from various periodicals. It has one of the richest collections in the country in Economics, Finance, Securities Markets and Compliance. Subscription to electronic journals through EBSCO is also available, for accessing scientific journals.

NISM also hosts an extensive securities market data and participants may get an opportunity to work on this data and make new products for securities markets. In industry interaction sessions held at NISM, the participants get an opportunity to interact with esteemed officers of SEBI, Market Infrastructure Institutions (MIIs), market intermediaries and industry experts in finance and analytics.

Programme Architecture

Architecture

PGCM (DSFM) comprises of **five trimesters** having 16 courses and project / internship carrying a total of 45 credits. The curriculum is designed to provide research–based inputs and industry insights through a team of academicians and market experts. The detailed curriculum is as follows:

Subject Code	Trimester – I	Hours	Credits
101	Mathematics	30	3
102	Statistics	30	3
103	Computer Programming	30	3
Subject Code	**Trimester – II**	**Hours**	**Credits**
201	Financial Economics	15	1.5
202	Financial Institutions & Products	15	1.5
203	Advanced Computer Programming	30	3
204	Econometric and Time Series Analysis	30	3
Subject Code	**Trimester – III**	**Hours**	**Credits**
301	Fixed Income Securities	15	1.5
302	Financial Derivatives	15	1.5
303	Market Microstructure and Algorithmic Trading	30	3
304	Machine Learning and Deep Learning Models	30	3
Subject Code	**Trimester – IV**	**Hours**	**Credits**
401	Applications of Data Science in Securities Markets, Insurance Markets and Banking (Credit Risk)	15	1.5
402	Financial Data and Management	15	1.5
403	Security Analysis and Portfolio Management	30	3
404	Big Data Processing and Visualization	30	3
Subject Code	**Trimester – V**	**Hours**	**Credits**
501	Financial Analytics	30	3
502	Project/Internship		6
Total Programme Credits			**45**

The performance of participants is assessed on continuous evaluation process in each trimester. Evaluation is through quizzes, surprise tests, mid–term tests, end–term examinations, class participation, presentations, submissions, projects, etc., as may be indicated by the faculty members in the course outline. At the end of the programme, participants shall be awarded with Grades, subject–wise as well as the CGPA. The PGCM (DSFM) Certification will be awarded to successful candidates at a convocation ceremony.

Programme Schedule

The programme will take place in class–room mode on weekends at NISM's facility in the Bandra Kurla Complex, Mumbai. The class timings would be as follows:

Day	Timings	Teaching Hours	Break Time
Saturday	6 pm to 9:15 pm	3 hours	15 Minutes
Sunday	10 am to 5 pm	6 hours	1 Hour

Note: The classes may begin in online format (webinar–mode), given the COVID–19 pandemic situation. After the improvement in COVID–19 pandemic situation, classes will be held only in class–room mode, and students have to attend classes in class room mode. No exemption will be given to anyone from attending classes. Prospective students of the program are requested to make a note of the same.

Hostel facility is available, at NISM Campus in Patalganga, for the benefit of participants from outside Mumbai.

Placements

NISM provides placement assistance to participants who successfully complete the programme. The Institute helps the participants in finding suitable data analyst profiles in financial market intermediaries. NISM's past recruiters (from other full–time Post Graduate Programmes) include Investment Banks, Analytics Firms, Rating Agencies, Registered Valuers, Investment Advisory, Stock Exchanges, Commodity Exchanges, Depositories, Clearing Corporations, Mutual Fund Houses, Brokerage Firms, Banks, etc.

Admission Process

Eligibility

Graduates from any discipline with a minimum of 50% marks from a recognized University under 10+2+3 in any stream are eligible. Provisional admission will be granted to those in the final year of graduation and subject to confirmation of the aforesaid criterion.

Selection Criteria

Candidates will be selected based on their profile and their performance in the personal interview (online).

How to apply?

Candidates willing to apply should first register themselves on **slims.nism.ac.in**

Step 1: New Registration: Upon successful registration, a User–ID and Password will be sent to registered email ID and mobile number of the candidate.

Step 2: Application process: Thereafter, candidates are required to log–in and complete the application process by paying application fee. After making the payment of application fee of Rs. 500/– the candidates may submit their application.

Programme Fee

The consolidated programme fee for PGCM (DSFM) is **Rs.2,10,000/–** (Rupees Two lakh and Ten Thousand only). The break–up of the fees is as follows:

Non Residential Students				
Particulars	**First Instalment** (in Rs.)	**Second Instalment** (in Rs.)	**Third Instalment** (in Rs.)	**Total** (in Rs.)
Tuition fee	50,000	70,000	68,000	**1,88,000**
Exam fee	–	5,000	5,000	**10,000**
Library Deposit*	–	10,000	–	**10,000**
Alumni fund	–	2,000	–	**2,000**
Total	**50,000**	**87,000**	**73,000**	**2,10,000**
Due Date	**Within 7 calendar days from the issue of Offer Letter**			

* Refundable

Hostel Facility

Once the classes start in physical mode, hostel facility will be made available for the benefit of participants from outside Mumbai, at NISM's campus in Patalganga, at **Rs. 13,350/–** (Rupees Thirteen Thousand and Three Hundred and Fifty only) per month for twin occupancy non AC accommodation. The break–up for the hostel fees is as follows:

Charge Details	Amount (in Rs.)
Hostel Charges	6,000
Food Charges	7,000
GST on Food	350
Total charges per month	**13,350**

In addition, participants (availing hostel facility) shall pay a refundable hostel deposit of Rs. 10,000/–

Fee Refund Policy

If any applicant requests to withdraw his/her admission, the Institute will refund the collected fees after deducting Rs. 1000/– towards processing fees and return the applicant's certificates, if such withdrawal is made before the commencement of the programme, for whatever reasons, as per the procedures prescribed in various government guidelines. The last date for withdrawal of admissions for the purpose of refund of fees is 13th September 2022.

If any applicant chooses to withdraw, the Institute will follow a three–tier system for refund of fees, as follows:

Sr. No	Percentage of Refund of Aggregate fees	Point of time when notice of withdrawal of admission is served to the Institute
1.	100% less Rs.1,000/–	Before commencement of the programme.
2.	100% Less Rs. 10,000/– of full fee including refundable deposits	After commencement of programme and the vacant seat is filled by another applicant from wait–list.
3.	0% except refundable deposits	After commencement of the programme and the seat remained vacant.

The Management reserves the right to change, amend programme structure and fees as when it deems fit.

Testimonials

The overall course structure and lessons were very well prepared and executed giving me a clear insight into the financial market. This program has given me a better understanding of data and the potential it has in modern finance along with processing techniques. It helped me with hands–on experience with programming languages for financial systems and data analysis. It was really helpful to clear the basic concepts for an amateur like me with no prior finance background.

Ravi Kumar Nalawade
B.Tech, Executive - Lifecell International Private Limited

The programme is well designed to marry the concepts of data science and financial markets. The programme should be pursued by students and working professionals who would like to learn concepts of financial markets and data science and learn application of one field in another.

Nobel Shukla
B.E., Assistant Manager, SEBI

The plus point of NISM is that it has access to quality and bright minds in this field and also data, which is invaluable for this programme. Also, the course offered by NISM is well thought, structured and comprehensive.

Laxmi Rampurawala
MBA, Asst. General Manager, SEBI

The course provides rich experience in various areas like finance, statistics, data management, programming and machine learning. This course has provided me unique experience of implementation of concepts in real market scenarios which has made the learning easy and interesting.

Sumit Gupta
B.E., Assistant Manager, SEBI

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Important Dates

Start Date for Application	**January 24, 2022**
Last Date for Application	**July 31, 2022**
Date of commencement of interviews	**August 01, 2022**
Commencement of Program	**August 27, 2022**

NiSM

NATIONAL INSTITUTE OF SECURITIES MARKETS

REGISTERED OFFICE
5th floor, NCL Cooperative Society,
Plot No. C-6, E-Block, Bandra Kurla Complex,
Bandra East, Mumbai, 400051

CAMPUS
Plot No. IS 1 & IS 2, Patalganga Industrial Area,
Mohopada, District Raigad,
Maharashtra - 410222.

BRANCH OFFICE
Plot No. 82, Sector-17, Vashi, Navi Mumbai - 400 703.

https://bit.ly/34U0Fty

⊕ **Download NISM App**

Admission Helpdesk:	Email at:	Dowload Prospectus from:
+91-8268002412	**pgcm@nism.ac.in**	**www.nism.ac.in/pgcm**