



Post Graduate Certificate Program (PGP) in Business Analytics

IN COLLABORATION WITH



ABOUT NMIMS

The School of Business Management (SBM) of SVKM's NMIMS, Deemed to be University, one of India's premier business schools is situated in Mumbai - the financial hub and nerve centre of the country.

Apart from offering diverse cutting-edge programs for students, it also offers executive education programs for professionals who want to make the key transition in their careers. The SBM educational experience aims to equip students with a bedrock of management skills to help them navigate through the complex business environment of today. A dynamic curriculum designed in conjunction with academics and industry practitioners, provides them the opportunities to master new skills and explore varied perspectives.

SBM has an abundance of intellectual capital in the form of faculty members who are renowned in their respective fields and are committed to creating a dynamic learning environment.

FACULTY

We have a mix of full-time faculty and guest lecturers coming from diverse backgrounds, varying industry experiences & unique skill sets.

CAMPUS

- Modern LIBRARY with over 50000 Volumes, 250+ Indian & Global Periodical Subscriptions, access to online databases & e-journals
- State-of-the-art COMPUTER LAB
- 24X7 Wi-Fi access across the Institute
- Perfect ambience, guidance & support for students to Participate in competitions & organizing signature college events

GLOBAL AFFILIATIONS

NMIMS has well-developed linkages with reputed universities, leading to international assignments for the faculty, research & consultancy & Student Exchange Programs.

We are Associated to:

- Harvard University
- Royal Melbourne Institute Of technology (RMIT), Melbourne
- Case Western Reserve University, Cleveland, OHIO
- Grenoble Ecole de Management, France
- Athens University Of Economics & Business, Greece



Six Modules Taught & Mentored by
NMIMS Faculty & Industry Professionals

ABOUT UNIVERSITY OF SOUTH FLORIDA AND MUMA COLLEGE OF BUSINESS

The University of South Florida is a global research university dedicated to student success. The USF Muma College of Business boasts a nationally ranked MBA program, one of the nation's best accounting schools, a top-ranked entrepreneurship center, exceptional research faculty, & a comprehensive portfolio of programs. They train students to analyze & interpret data - and to think creatively about how to use it when making decisions that impact the bottom line.

- Ranked No. 11 among public universities nationwide for part-time MBA programs - and No. 32 nationwide (Bloomberg Businessweek, 2015)
- Ranked No. 11 nationwide for graduate entrepreneurship education (Entrepreneur magazine, 2015)
- Included in Top 25 ranking for information systems major (Bloomberg BusinessWeek, 2015) & faculty are ranked No. 24 for information systems publication frequency (2013).

- USF ranks 10th nationally - and 13th among universities worldwide - for U.S. patents granted (National Academy of Inventors, 2014).

ABOUT USF MUMA COLLEGE OF BUSINESS FACULTY

- Top researchers in every area - accounting, entrepreneurship, finance, management information systems, management, and marketing.
- Experienced, effective instructors - routinely publish books and articles on relevant business topics, particularly focusing in the areas of business intelligence, data analytics, & information systems
- Faculty have earned their degrees or worked at schools such as the University of Pennsylvania Wharton School, Harvard University, New York University, Stanford University, Northwestern University, National University of Singapore, IIT Kanpur, IIT Madras, IIT Kharagpur, IIM Ahmedabad, Georgia Tech, University of Southern California, Tsinghua University, and the University of Maryland.
- Earned numerous honors including the Fellowship of the American Association for the Advancement of Science, Fellowship of the Association of Information Systems, Fulbright Awards and the INFORMS Information Systems Society's Design Science Award.
- Serve on the editorial boards of leading journals in information systems and analytics such as Management Information Systems Quarterly, Information Systems Research, INFORMS Journal on Computing, and ACM Transactions on MIS.
- Rich practical experience gained from undertaking business engagement projects for global companies such as Bank of America, Citigroup, JPMorgan Chase, Jabil, and Infosys.



Six Modules Taught & Mentored by
Muma College Of Business, Florida

PROGRAM OVERVIEW

- Contemporary 1-year program designed by NMIMS and offered in joint collaboration with the University of South Florida (USF) on behalf of its Muma College of Business.
- Intended for participants who want to build their careers in Business Analytics.
- Blend of classroom training (to be conducted in Mumbai) and technology-enabled learning platform.
- Provides 380+ contact hours for classroom training, one of the highest in the industry for a one-year program.
- Participants are required to be on campus for a 6-day schedule of classroom learning every month over a span of 12 months, which would ideally be planned to include a weekend.
- Program structure allows flexibility for working professionals to work during the day and attend classes in the evening during this 6-day schedule, thus minimizing their work disruption.
- Carefully crafted by academic and industry professionals to cover the essentials of analytics, provide practical training on analytical tools, methodologies and technologies and apply these to solve real-world business problems.
- Six modules out of twelve modules would be taught by renowned international faculty from the USF Muma College of Business while the remaining six championed by leading industry professionals and distinguished NMIMS faculty.

IN-DEPTH. DIVERSE. FUTURISTIC.



PROGRAM STRUCTURE

Days of the Week	Session Timings
Tuesday, Wednesday & Thursday	5:00 p.m. to 7:00 p.m. 7:30 p.m. to 9:30 p.m.
Friday	3:00 p.m. to 5:00 p.m. 5:30 p.m. to 7:30 p.m. 8:00 p.m. to 10:00 p.m.
Saturday & Sunday	10:00 a.m. to 1:00 p.m. 1:45 p.m. to 3:45 p.m. 4:00 p.m. to 6:00 p.m.



TERM 1

MODULE	COVERAGE	DATES**
Module 1 Database Management	<ul style="list-style-type: none"> • Relational Models and Database Design • Transaction Processing • SQL and extensions • Database optimization and query processing • Parallel and Distributed Databases 	24 - 29 May
Module 2 Business Intelligence & Visualization*	<ul style="list-style-type: none"> • Basics of Reporting and BI dashboards • Basics of ETL frameworks • Data warehousing • Data Visualization using Spotfire and Tableau 	14 - 19 June
Module 3 Introduction to Statistics	<ul style="list-style-type: none"> • Basic concepts of probability and statistics • Correlations, Analysis of Variance, Hypothesis Testing • Maximum likelihood methods and fit statistics • Statistical Inference • Introduction to linear models 	26 - 31 July
Module 4 Statistical Programming	<ul style="list-style-type: none"> • Installation and Basics of R • Vectors and Data Structures in R • Matrices, Arrays, Lists and Data Frames in R • Statistical Functions in R • Data Analytics and Visualization Examples in R 	2 - 7 August

* To be taught by Faculty of USF Muma College of Business ** These could change under extra-ordinary situations

MODULE	COVERAGE	DATES**
Module 5 Statistical Data Mining	<ul style="list-style-type: none"> • Data Exploration and Data Visualization • Linear Models • Non-Linear Models • Statistical Inference and Predictive Modeling 	20 - 25 September
Module 6 Optimization*	<ul style="list-style-type: none"> • Overview of combinatorial optimization • Linear Programming and Sensitivity Analyses • Integer Programming • Business Operations and Optimization Examples 	18 - 23 October
Module 7 Machine Learning and Analytics*	<ul style="list-style-type: none"> • Machine Learning Methods for Predictive Analytics • Decision Tree Induction and Analysis • Neural Networks • Nearest Neighbor Algorithms and Clustering 	15 - 20 November
Module 8 Big Data Analytics*	<ul style="list-style-type: none"> • Introduction to Big Data • Big Data Platforms – Hadoop, Spark • Data Storage and Processing – HDFS, HBase and NoSQL • Text and stream analytics in Big Data • Hive, Pig and Hadoop extensions and tools 	20 - 26 December

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EFFECTIVE DECISION-MAKING TOOLS



TERM 3

MODULE	COVERAGE	DATES**
Module 9 Marketing & Media Analytics*	<ul style="list-style-type: none"> • Overview of marketing analytics • Customer Targeting and Lifetime Value Modeling • Attribution, Data and Marketing Models • Social Media Analytics 	10 - 15 January
Module 10 Analytics for Finance and Accounting	<ul style="list-style-type: none"> • Overview of Financial & Accounting Data • Financial Data Analytics • Forensic Accounting and Fraud Detection • Analyzing Financial Statements and Quarterly Filings 	21 - 26 February
Module 11 Analytics in Business*	<ul style="list-style-type: none"> • Business Cases in Analytics covering the use of analytics and data in a variety of industries worldwide 	14 - 19 March
Module 12 Capstone Analytics Project	<ul style="list-style-type: none"> • Students will need to identify a dataset, business problem and do a comprehensive analysis that results in a detailed report and presentation made that highlights the findings, methodology and implications for business. 	April

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INFINITE DATA. INFINITE INSIGHTS.

ADMISSIONS

IMPORTANT DATES

SR. NO.	DETAILS	DATES
1.	Start of Online Registration and payment of fees	Friday, 18th March, 2016
2.	Last Date for Online Registration and payment of fees	Sunday, 8th May, 2016
3.	Call Letter available on website www.nmims.edu	Tuesday, 10th May, 2016
4.	Assessment Test and Interview	Saturday, 14th May, 2016
5.	List of shortlisted candidates on website (after 5.00pm)	Wednesday, 18th May, 2016
6.	Payment of fees & Document verification	19th May, 2016 to 23rd May, 2016
7.	Registration, Inauguration of Program at NMIMs	Tuesday, 24th May, 2016
8.	Closure of Admission	Tuesday, 24th May, 2016

Note: The candidate must check his/her eligibility before applying for the course. Kindly check website www.nmims.edu regularly for any updates.

For Payment of Fees Sundays & Holidays excluded.

REFUND RULES ON CANCELLATION OF ADMISSION:

The Schedule of refund of fees will be as follows:

1.	Till the date of commencement of the Programme (24th May, 2016)	Rs.1000/- will be deducted as administrative charges.
2.	Cancellation after the official closure of admission. (from 25th May 2016 onwards)	Cancellation made after the official closure of admission, fees will NOT be refunded.

PROGRAM FEE

The fee for the program is INR 5,00,000 plus service tax as applicable.

The fee covers the following: • Admission fee • Tuition fee • Course material

Participants could pay the program fee in 2 equal instalments (first instalment payable on admission and second instalment at the end of the first six modules)

ELIGIBILITY

Candidate has to fulfill both the following criteria A and B:

- Candidate must have passed Under-Graduation from a recognized university with minimum 55% marks*
- Candidate must have undergone a course in basic statistics/mathematics/database management/programming language during Under-Graduation OR Candidate must possess at least 2 years of work experience as on the date of submitting the application

WORK EXPERIENCE:

- The applicant should possess a minimum of 2 year of full-time work experience as on the date of submitting the application.
- Freshers with an analytical bent of mind, programming expertise & solid academic credentials would also be considered on a case-by-case basis. This would be subject to the clearance of an assessment test and subsequent interview.

SELECTION PROCESS

The Admissions Committee would evaluate each applicant on several criteria to ensure that the participants selected for the programme are well-rounded individuals with sufficient analytical/programming/statistical backgrounds.

Each applicant would have to undergo an interview process to determine the fit, interest and inclination. Besides, an assessment test would have to be administered for freshers. Each component of the application including the application form, assessment test and the interview would be adequately reviewed, and the subsequent selection of the participants for the program will be made.

Alongwith the application, candidates would be required to submit a write-up of upto 500 words covering the following points:

- a) Educational background
- b) Description of the work experience
- c) Objectives of studying Business Analytics

Selection criteria would be based on:

- a) Educational background and accomplishments
- b) Quality and relevance of work experience
- c) Clarity of objectives of wanting to enrol for the Program
- d) Performance on the Interview
- e) Assessment Test (for executives with work experience less than 2 years as well as freshers)

Ideal candidates would be:

- Professionals who are currently working in a job that has a strong data component
- Work experience in Analytics domain and passion for data analysis
- Evidence of professional/academic success
- At least 2 years of work experience in a relevant area (higher and diverse experience is desirable since that would facilitate maximum learning) Candidates that come in with a specific data analytics project in mind that they intend to work on during the course of the Program
- Candidates who are proficient in at least one programming language and have had exposure to working on statistical packages
- The above mentioned criteria are not in order of preference

USF Muma College of Business - THE FACULTY



Robert M. Nauss

Robert M. Nauss received a Bachelor's degree in Industrial Engineering and Management Science from Northwestern University (1970), a Master's degree in Operations Research from Cornell University (1972), and a Ph.D. in Operations Research from UCLA (1974).

He taught in the College of Business Administration at the University of Missouri-St. Louis from 1975-2015. He also served as Department Chair of Management Science for 17 years and as Dean of the College from 1990-1997. In addition he also taught for one year as a visiting professor in the Graduate School of Business of the University of Chicago, and for a semester at Braunschweig Technical University in Germany. Upon his retirement in 2015 he was named Founders Professor of Management Science and Operations Research at UM-St. Louis. Currently he is an adjunct professor in the Muma College of Business at the University of South Florida.

His primary research entails the design and application of solution methods for models of real world problems. Problem classes of current interest are integer programming, linear programming, network and transportation problems, nonlinear and dynamic programming. Specific application areas include generalized assignment, facility location, capital budgeting, vehicle scheduling, maritime lock scheduling, municipal bond bidding, leveraged leasing, and bond refinancing.



Sajeew Varki

Sajeew Varki is an Associate Professor in the Department of Marketing with the Muma College of Business, University of South Florida. He teaches courses in global marketing, marketing management, and promotions management, marketing strategy, and marketing research; he has taught at the undergraduate, graduate, and doctoral levels.

He holds a degree in engineering from the Indian Institute of Technology, Kharagpur, an MBA from the Indian Institute of Management, Ahmedabad, and a PhD in Management from Vanderbilt University.

His work experience comprises stints as a business economist in Tata Economic Consultancy Services, Mumbai, India and as an account manager in an Ad Agency, New Delhi, India.

His work has been published in, among others, the Journal of Marketing Research, Psychometrika, Journal of Retailing, Journal of Advertising, Marketing Letters, Journal of Service Research, Journal of Business Research, and European Journal of Marketing.



Kaushik Dutta

Kaushik Dutta has 19 years of professional and research experience in the field of enterprise IT infrastructure, data analytics and big data systems.

An associate professor in the Information Systems and Decision Sciences Department, Dutta's current research interest is big data analytics. Dutta's primary expertise combines operations research and data mining techniques with computer science systems knowledge to efficiently handle big data and manage large IT infrastructure. Was a tenured associate professor at the National University of Singapore and Florida International University.

Was the chief technology officer and vice president of engineering of Mobilewalla, a NUS-incubated and Madrona-funded company that developed big data based mobile advertisement platforms.

He has a Bachelor in Electrical Engineering from Jadavpur University, a Masters in Computer Science from Indian Statistical Institute and a PhD in Management Information Systems from Georgia Institute of Technology.



Donald Berndt

Part of the Information Systems and Decision Sciences Department, associate professor Don Berndt is an educator whose areas of expertise include data warehousing, data mining, text mining, health informatics, web analytics, web search, online advertising, information and prediction markets. He teaches courses on information systems, database management and design, and data mining.

His work on business intelligence and the role of data in effective bioterrorism surveillance systems was published in *Decision Support Systems: Special Issue on Cybersecurity for Homeland Security*. Other papers have been published in journals such as the *American Journal of Preventive Medicine* and the *Journal of Computer Information Systems*.

A frequent presenter at academic conferences, Berndt also co-authors for computer science textbooks & serves as the chief technology officer for a healthcare information management company.

His academic credentials include a doctorate from the Stern School of Business at New York University, an MS from SUNY Stony Brook, and a BS from the University of Rhode Island. Prior to joining USF, he was an instructor and lecturer at SUNY Stony Brook and New York University. He was also a research programmer for Yale University.

PROFOUND. EXPERIENCED. GLOBAL.



Balaji Padmanabhan

Balaji Padmanabhan is the Anderson Professor of Global Management and a professor in the Information Systems and Decision Sciences Department. He has created and taught undergraduate, MBA/MS, and doctoral courses in areas related to business/data analytics, computational thinking, and electronic commerce. Prior to joining USF, he taught at the University of Pennsylvania Wharton School of Business.

Padmanabhan's research addresses data analytics for business applications, algorithms for online news recommender systems, management of data analytics in firms, fraud detection in healthcare, analytics in examining service quality and customer churn, behavioral profiling, and pattern discovery. His work has been published in both computer science and information systems journals and conferences including Management Science, Information Systems Research, MIS Quarterly, and INFORMS Journal on Computing.

He received a B.Tech in Computer Science from the Indian Institute of Technology Madras and a PhD from New York University (NYU).

Worked as an associate editor and program committee member of several academic journals and conferences. He has published his research in leading outlets in business and computer science. He also works with several firms on technical, strategic and educational issues related to business and data analytics.



Shivendu Shivendu

Shivendu Shivendu is an assistant professor in Information Systems and Decision Sciences. He has created and taught undergraduate, MBA/MS, and doctoral courses in areas related to economics of information systems, management of information systems, IT strategy, IT consulting, and electronic commerce.

Shivendu's research focuses on analytical modeling of business models based on technology platforms. His research studies economics of digitization of information, intellectual property rights protection in digital mediums, pricing of digital goods, digital product strategies including versioning and bundling, sourcing of IT services, security and privacy in Big Data, digital goods supply chain, information goods pricing under dual medium access, pricing of cloud computing services, multilayer platforms and technology policy.

His work has been published in information systems journals and conferences including Management Science, Information Systems Research, Journal of Management Information Systems, and Information Technology Management. His research papers have won many Best Paper awards in conferences.

He received a B.Tech in Electrical Engineering from Indian Institute of Technology, Kanpur, an MBA from Indian Institute of Management, Ahmedabad, and a MA and PhD in Economics from University of Southern California, Los Angeles.

His professional services include working as member of organizing committees and serving as associate editor and program committee member of several academic conferences. Before moving to academics, Shivendu was a member of the Indian Administrative Service.

NMIMS FACULTY & INDUSTRY PROFESSIONALS



Tohid Kachwala

Tohid Kachwala is a Professor in the Operations & Decision Sciences Area in the School of Business Management, NMIMS. He teaches Statistical Analysis for Business Decision, Decision Analysis & Modeling, Managing Business Operations, Modeling for Decision Making, Workshops on Excel & SPSS for Basic Statistics.

He has authored 2 books – ‘Study of Impact of Quality Management Practices in Select Indian Service Companies’ and ‘Operations Management & Productivity Techniques’. His research interests are in the fields of Quality Management, Operations Management, Inter disciplinary Research (Finance, Marketing).

He holds a Ph.D. from Hemachandracharya North Gujarat University, MBA from University of Mumbai and BE from VJTI, University of Mumbai.



Shailaja Rego

At NMIMS University, she is an Associate Professor & Chairperson of the Department of Operations & Decision Sciences. She has been teaching for the past 12 years. She is the author of two books “Statistics for Management” and "Business Research Methodology", both published by Tata McGraw Hill Publications.

Her specialties include Business Analytics, Statistical Analysis for Business Decisions, Decision Analysis and Modeling, Advanced Statistics/Multivariate Analysis Using SPSS, Operations Research, Optimization models, Research Methodology Using SAS.

She has developed case studies and presented and published papers in various national and international conferences. She has been invited by CIDA (Canadian International Development Agency) to present a paper on “Forecasting of ICT (Information Communication Technology) growth in India” at an international conference in Canada. She has also been invited by Kingston University, London for Faculty Development. She has been trained in case study teaching at Harvard, Boston, GCPCL Program.

Dr. Shailaja Rego holds a doctoral degree in Management from SNDT University. She holds masters degree in Statistics from Mumbai University. She has also completed MBA in Information Technology from ICFAI University.



Harjeet Singh

Harjeet Singh is an Assistant Professor in the Finance Area in the School of Business Management, NMIMS. He completed his Masters in Financial Mathematics from Stanford University and received prestigious scholarships such as Ratan Tata Scholar, JRD Tata Scholar, KC Mahindra Scholar and Prafulla Mukherji Scholar. He also holds a PGDBM (MBA-equivalent) from XLRI School of Business.

Harjeet's research interests include Derivatives Pricing, Quantitative Investment Analysis, Algorithmic Trading and Risk. He is currently authoring books on Advanced Financial Modeling through Excel-VBA and Derivatives Pricing. He has also been involved in Policy formation in Financial Markets with the Ministry of Finance.

Harjeet has had rich and varied industry experience in Consulting and Financial Markets. He previously worked as a Management Consultant at Accenture Strategy, successfully completing projects for Morgan Stanley, Barclays, BoML, Nordea and JPMorgan. He also worked as a Market Risk Manager & Model Validation Quant at Nomura, Treasury Dealer at Standard Chartered Bank and Quantitative Researcher at Merrill Lynch.

Prior to NMIMS, he has been a Visiting Faculty at JBIMS (Jamnalal Bajaj Institute of Management Studies), IIBF (Indian Institute of Banking and Finance) and NISM (National Institute of Securities and Markets), where he taught Quantitative Methods, Financial Modeling, Financial Engineering, Risk Management, Fixed Income and Portfolio Management. He has successfully conducted corporate training programs with leading banks/corporates such as Morgan Stanley, JP Morgan, SIDBI, Nomura, ICICI Securities, Bravura Solutions and Standard Chartered.

WELL-VERSED. PROVEN. PREFERRED.



INDUSTRY ENGAGEMENT

The Program is designed with meticulous inputs and insights from leading industry practitioners regarding program curriculum, case studies, analytical methodologies, data sets, business problems and analytics projects to align the Program to the industry requirements.

A key highlight of the Program is the "Capstone Analytics Project", fostering solid industry-academia partnership. Through the Project, students would need to identify a dataset, business problem and do a comprehensive analysis that results in a detailed report and presentation made that highlights the findings, methodology and implications for business.

PEDAGOGY

The teaching-learning cycle of this highly interactive Certificate Program in Business Analytics involves a judicious mix of a wide range of pedagogical approaches:

- Classroom lectures by international faculty from the Muma School of Business, University of South Florida
- Classroom lectures by leading industry professionals in Business Analytics and distinguished faculty from NMIMS
- Analytics tools
- Case studies
- Industry research project
- Domestic and international exposure to practical Business Analytics
- Developing and implementing business models for decision-making in Business Analytics
- Frequent interaction with leading industry practitioners and academicians in Business Analytics

PROGRAM OBJECTIVES

- The Program is intended for participants who want to build their careers in Business Analytics.
- The Program is carefully crafted by distinguished academic and industry professionals to help participants develop a thorough conceptual understanding of the essentials and advanced topics in Business Analytics.
- The Program aims to provide practical training on contemporary Business Analytical tools, methodologies and technologies.
- The Program intends for participants to apply the above analytics skills-sets to solve real-world business problems.
- Through the industry research project (Capstone), the program intends participants to handle a real-world business problem through various tools and methodologies discussed in the curriculum.



SVKM'S

Narsee Monjee Institute of Management Studies

(Declared as a Deemed-to-be University under Section 3 of the UGC Act, 1956)

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**SCHOOL OF
BUSINESS MANAGEMENT**