

# STEM-DESIGNATED MBA: THE NEW GOLD STANDARD IN BUSINESS EDUCATION

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STEM (science, technology, engineering, and math) skills are becoming increasingly important in today's data-driven business environment. Read this white paper to learn why a STEM-designated MBA can give you skills that will set you apart in the job market and help you excel in the workplace.



**SIMON**  
BUSINESS SCHOOL  
UNIVERSITY of ROCHESTER

245 Gleason Hall  
Rochester, NY 14627  
(585) 275-3533  
[simon.rochester.edu](http://simon.rochester.edu)

For more information:  
[admissions@simon.rochester.edu](mailto:admissions@simon.rochester.edu)



***“STEM education is an interdisciplinary approach to learning where rigorous academic concepts are coupled with real-world lessons as students apply science, technology, engineering, and mathematics in contexts that make connections between school, community, work, and the global enterprise . . .”<sup>i</sup>***

## **A Brief History of STEM Education**

While education in the disciplines of science, technology, engineering, and math itself isn't new, the acronym STEM and a focus on STEM education came into the national spotlight in the 2000s. High-profile reports, such as the landmark *Rise Above the Gathering Storm* published by the National Academies of Sciences, Engineering, and Medicine, warned that the US was not adequately preparing students with the skills needed for the country to continue being a world leader in innovation and next-generation industries.

In response, the federal government announced the “Educate to Innovate” campaign, which aimed to increase American students’ STEM literacy and the number of STEM teachers. The campaign included federal grants to schools that innovate in STEM education, as well as public-private partnerships meant to help spark interest in STEM fields among children.<sup>ii</sup>

***Degrees in business statistics, management science, and quantitative methods can qualify for STEM designation.<sup>iv</sup>***

## **Effects on Immigration Policy**

Not all of the government's efforts focused on domestic talent. In 2008, the optional practical training (OPT) program was expanded to grant international students with STEM-designated

degrees the option to stay and work in the US for up to three years in STEM-related roles. (For non-STEM-designated degrees, international students are eligible for only 12 months of OPT.) Since expanding the amount of time graduates in STEM fields can stay in the US, the number of students in these fields working in the US via OPT has increased by 400 percent.<sup>iii</sup>

The US Department of Homeland Security (DHS) maintains a list of dozens of academic degrees eligible for official STEM designation for the purpose of the 24-month OPT extension. In addition to areas you might typically associate with STEM—engineering, physics, natural sciences, etc.—degrees in business statistics, management science, and quantitative methods can also qualify for the STEM designation.<sup>iv</sup>

# An MBA for Today's Business Environment

## A STEM MBA Is a Reflection of Today's Business Needs

While STEM education has been the topic in classrooms, data and analytics—and using them to help solve complex and unstructured business problems—has been the topic in board rooms. The ability to parse and analyze data for making better business decisions has become increasingly important in all levels of an organization, all the way up to the C-suite. The growing importance of STEM skills in business is evidenced by the US Department of Labor's forecast of nearly 200,000 job openings in STEM management roles by 2024.<sup>v</sup>

But while many companies have lofty plans for using data to their advantage—85 percent of firms aspire to be data-driven, according to a 2017 survey<sup>vi</sup>—most industries are “nowhere close to realizing the potential of analytics,” according to a *Harvard Business Review* article.<sup>vii</sup> The reason for the gap? In many cases it seems to be a lack of acceptance that insights derived from analytics require real change within the organization to be effective.

## MBAs With STEM Designation

Enter leaders with the quantitative and leadership skills needed to leverage data and analytics to their full potential. Traditionally, a master's in business administration (MBA), especially one from a highly ranked program, has been the gold standard in business education. Until

recently, however, the only STEM-designated MBAs were either specialty degrees or limited to students concentrating on a specific area, such as supply chain management.

But in August 2018, the University of Rochester's Simon Business School became the first and only US MBA program with an option for

STEM designation regardless of a student's specialization. Simon students can choose any one of the school's 10 specializations—banking, asset management, venture capital & private equity, corporate finance, brand management, product management, strategy, pricing,

technology, and operations—and graduate with a STEM-designated MBA. Long known for its focus on quantitative analysis and economic frameworks, the Simon School's MBA program is rigorous both in the technical skills to analyze and interpret data and the management capabilities to successfully communicate and implement the organizational changes they infer.

## Benefits for Graduates

Benefits of holding an MBA with STEM designation are several-fold. Students—whether domestic or international—with a STEM degree can gain a major competitive edge in their job searches. A STEM-designated MBA aligns with what companies are seeking in top MBA talent: skilled managers of diverse, international teams who also have expertise in using data

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to drive decision-making. A STEM designation signals to companies about the rigorous training in analytics a candidate's MBA program offers. Recruiters will know that when they hire someone with a STEM-designated MBA, they're getting an individual with both the leadership and quantitative skills to bring value to their organizations from day one. And, once on the job, STEM MBA graduates will have the analytical skills needed to excel in today's data-driven organizations.

For international students, there's the added benefit of an additional 24 months of OPT to work in a STEM-eligible job. The extra time gives the student and company a total of three years without H1B sponsorship, helping bridge the gap between a student visa and a work visa and allowing for more chances at the visa lottery.

## Is a STEM MBA Right for You?

Professionals thinking about advancing their careers by earning their MBA should consider applying to programs that will set them apart in a competitive job market and give them the tools to thrive in the modern workplace. An MBA with STEM designation can accomplish both of these objectives. The Simon Business School's STEM-designated MBA option, for example, provides students with rigorous training in areas such as data analytics, business modeling, information systems for management, and managerial economics—concepts that are

***For international students, there's the added benefit of an additional 24 months of OPT to work in a STEM-eligible job.***

extremely important for business leaders to understand and highly valued by recruiters. For international students wanting to work in the US, earning an MBA with STEM designation has the additional benefit of providing up to

24 additional months of OPT in a STEM-related role without H1B sponsorship. **SBS**

## About Simon Business School at the University of Rochester

Simon offers a rigorously quantitative, economics-based approach to decision-making in one of the most diverse student communities of any business school in America. Our degree programs inspire a new level of clarity: about how analytical frameworks drive success in business; about what it takes to collaborate and manage in the contemporary, global workplace; and about professional growth and goals.

**For more information on Simon Business School's STEM-designated MBA option, visit [simon.rochester.edu/STEM](http://simon.rochester.edu/STEM) or email [admissions@simon.rochester.edu](mailto:admissions@simon.rochester.edu).**

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- ii Wired staff, "Making Science Cool: Educate to Innovate," *Wired*, November 24, 2009, <https://www.wired.com/2009/11/making-science-cool-educate-to-innovate/>.
- iii Ethan Baron, "Job program for foreign graduates of U.S. colleges has quadrupled in size," *Los Angeles Times*, May 10, 2018, <http://www.latimes.com/business/la-fi-foreign-students-jobs-20180510-story.html>.
- iv "STEM Designated Degree Program List Effective May 10, 2016," US Department of Homeland Security, accessed September 5, 2018, <https://www.ice.gov/sites/default/files/documents/Document/2016/stem-list.pdf>.
- v Stella Fayer, Alan Lacey, and Audrey Watson, "STEM Occupations: Past, Present, and Future," US Department of Labor Bureau of Labor Statistics, accessed September 5, 2018, <https://www.bls.gov/spotlight/2017/science-technology-engineering-and-mathematics-stem-occupations-past-present-and-future/home.htm>.
- vi "Big Data Business Impact: Achieving Business Results through Innovation and Disruption," NewVantage Partners, accessed September 5, 2018, <http://newvantage.com/wp-content/uploads/2017/01/Big-Data-Executive-Survey-2017-Executive-Summary.pdf>.
- vii Nicolaus Henke, Jacques Bughin, and Michael Chui, "Most Industries Are Nowhere Close to Realizing the Potential of Analytics," *Harvard Business Review*, <https://hbr.org/2016/12/most-industries-are-nowhere-close-to-realizing-the-potential-of-analytics>.





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