

Curriculum and available concentrations, Advising, Course Registration and Other Procedures for the MS in Management Science and Analytics (MS-MSA) Program effective Fall 2023

Stuart School of Business,

Illinois Institute of Technology (Illinois Tech)

Chicago, IL 60661

Date created: July 30, 2023

Program Name Change

Effective Fall 2023 semester, this MS program at the Stuart School will reflect a name change (from the previous title (MS in Management Science or MS-MS) to MS in Management Science and Analytics or MS-MSA. The main impetus for this change is that many MS-MSA courses already focus heavily on Analytics content that emphasize analytics-oriented learning insights. Furthermore, adding the word "Analytics" in the program title serves to acknowledge recent developments in the field of analytics that have boosted career opportunities for our MS-MSA graduates.

Program Objectives

The MS in Management Science and Analytics program provides students with an introduction to the fundamental mathematical, statistical and programming applications to modern business practice. Students who earn this degree will typically begin work as a quantitative analyst specializing in forecasting, optimization, scheduling, and risk analysis. Graduates should progress in their career towards executive and top management positions.

Advising Process for MS-MSA students

The university has also implemented changes with regard to the advising and course registration process for MS-MSA students.

As a first step, please review your academic record in Graduate Degree Works to check if the area of concentration is already indicated there (you can access Graduate Degree Works through the myIIT portal). If it is not, this is a reminder that all MS-MSA students must select an area of concentration using eforms in Graduate Degree Works. Please complete this step by **September 15, 2023**.

All MS-MSA students should schedule an advising visit with Justine Grant (jgrant2@stuart.iit.edu).

Flexibility for students to Change from MS-MSA to PhD-MSA program

For a variety of reasons, the career goals of MS-MSA students may change while they are enrolled in the MS-MSA program. For example, a student may decide to apply for admission to the PhD program in management science and analytics to pursue other career opportunities, instead of completing the MS-MSA degree. In this case, the MS-MSA student is expected to satisfy other requirements (as described in the next paragraph) prior to admission to the PhD in Management Science and Analytics (PhD-MSA) program. To accommodate this, a MS-MSA student may petition the school to terminate that program after securing admission to the PhD in Management Science and Analytics program (PhD-MSA). Additionally, they can transfer academic credits for a subset of completed MS-MSA courses that are equivalent to required courses in the PhD in Management Science and Analytics (MS-MSA) program.

More specifically, MS-MSA students will have the option to apply for the PhD-MSA program upon completion of their first year coursework. This option also requires the MS student to pass the PhD Qualifying exam before applying for acceptance into the PhD program. The final admission decision is determined by the program director of the PhD program.

To complete the PhD degree, an admitted student who has completed all MS program requirements (33 credit hours, but did not file for graduation) can seamlessly transfer credits for equivalent courses that are required in the PhD-MSA program. However, such students will be required to complete up to 15 credit hours of additional course work in consultation with the PhD-MSA program director. They also need to complete 24 credit hours of dissertation research that are required in the PhD-MSA program. Additionally, this student has to complete other requirements of the PhD program before graduating with a PhD degree.

Transfer Credits/Course Substitution Requests:

Students often ask about MS-MSA program policy regarding transferring credits (from a previously earned graduate degree) or course substitution requests. The MS-MSA program as currently structured requires you to enroll in all the required courses as indicated in this document. This is because of tight sequencing, where courses taken in a given semester are required pre-requisites for courses that students enroll in the following semester. Transfers or waivers are not possible for required courses.

The course registration process for MS-MSA students is outlined next.

Course Registration Process for MS-MSA students:

The MS program in Management Science (MS-MSA) offers two areas of concentration: **Quantitative Finance** and **Analytics**.

All MS-MSA students are required to take the courses listed below depending on their year in the program and their area of concentration. The advising process for MS-MSA students is coordinated by Justine Grant (jgrant2@stuart.iit.edu).

Quantitative Finance Concentration in MS-MSA - First Year Required Courses

MSC 511 Mathematics for Management Science I (3 credits)	(Fall)
MSC 512 Statistics for Management Science I (3 credits)	(Fall)
MSC 631 Theory of Finance I (3 credits)	(Fall)
MSC 514 Mathematics for Management Science II (3 credits)	(Spring)
MSC 515 Statistics for Management Science II (3 credits)	(Spring)
MSC 633 Theory of Finance II (3 credits)	(Spring)

Quantitative Finance Concentration in MS-MSA – Second Year Required Courses

MSC 614 Quantitative Investment Strategies (3 credits) (Fall -cross listed with MSF 546)

Plus

Three elective courses chosen from any 500 level BUS, MAX, MBA, MSC, MSF, PA or SMGT courses offered at the Stuart School.

MSC 613 Structured Fixed Income Portfolio (3 credits) (Spring - cross listed with MSF 545)

Analytics Concentration in MS-MSA - First Year Required Courses

MSC 511 Mathematics for Management Science I (3 credits) (Fall)
MSC 512 Statistics for Management Science I (3 credits) (Fall)
MSC 615 Predictive Analytics (3 credits) (Fall – cross listed with MAX 522)

MSC 514 Mathematics for Management Science II (3 credits) (Spring)
MSC 515 Statistics for Management Science II (3 credits) (Spring)
MSC 616 Social Media Marketing Analytics (3 credits) (Spring -cross listed with MAX 523)

Analytics Concentration in MS-MSA – Second Year Required Courses

MSC 651 Quantitative Marketing Models (3 credits) (Fall)

Plus

Three elective courses chosen from any 500 level BUS, MAX, MBA, MSC, MSF, PA or SMGT courses offered at the Stuart School.

MSC 655 Visual Analytics – Data Analytics & Visualization (3 credits) (Spring)