

# Northwestern | Kellogg

## Prerequisite Checklist for Managerial Analytics Certificate

Revised 9-9-16

Students interested in applying for the Financial Economics Certificate must take prerequisite courses in the five (5) required subject areas listed in the chart below. As a rule, each requirement contains several course options. Each requirement is fulfilled when all of the courses listed in the chosen option are completed.

### Notes:

1. Students do not have to complete all of their prerequisite courses by the time they apply during winter quarter, but should have completed all of them by the end of the spring quarter. Those who are accepted into the program and are still taking prerequisite courses during the spring term must receive a "B" or better in those courses to enter the program in the fall.
2. Many CPU prerequisite courses have their own prerequisites, which are set by the departments offering them. Please check the Undergraduate Catalog or the appropriate department for specifics. Courses are not always offered during the same quarter or time every year.
3. Equal consideration is given to students who take non-honors courses.
4. Most pre-req courses are offered in both WCAS and McCormick, and students may take them in either or both schools.
5. Students are required to have a combined 3.0 average or better among all Certificate Program prerequisite courses to be considered for admission.

### Requirement 1: Calculus and Linear Algebra

<b>Option 1: Regular Math</b> MATH 230-0 and <input type="checkbox"/> MATH 234-0 and <input type="checkbox"/> MATH 240-0 <input type="checkbox"/>	<b>Option 5: MMSS students only</b> MATH 285-1 and <input type="checkbox"/> MATH 285-2 and <input type="checkbox"/> MATH 285-3 <input type="checkbox"/>	<b>Option 7: For McCormick students</b> Honors Calc. ES APPM 252-1 and <input type="checkbox"/> Honors Calc. ES APPM 252-2 and either <input type="checkbox"/> <i>a. Non Honors Engineering Analysis</i> GEN_ENG 205-1 and <input type="checkbox"/> GEN_ENG 205-2 <input type="checkbox"/> or <input type="checkbox"/> <i>b. Honors Engineering Analysis</i> GEN_ENG 206-1 and <input type="checkbox"/> GEN_ENG 206-2 <input type="checkbox"/>
<b>Option 2: MENU 290</b> MATH 290-1 and <input type="checkbox"/> MATH 290-2 and <input type="checkbox"/> MATH 290-3 <input type="checkbox"/>	<b>Option 6: For McCormick students</b> MATH 230-0 and <input type="checkbox"/> MATH 234-0 and either <input type="checkbox"/> <i>a. Non Honors Engineering Analysis</i> GEN_ENG 205-1 and <input type="checkbox"/> or <input type="checkbox"/> <i>b. Honors Engineering Analysis</i> GEN_ENG 206-1 and <input type="checkbox"/>	
<b>Option 3: MENU 291 Accelerated</b> MATH 291-1 and <input type="checkbox"/> MATH 291-2 and <input type="checkbox"/> MATH 291-3 <input type="checkbox"/>		
<b>Option 4: ISP students only</b> MATH 281-1 and <input type="checkbox"/> MATH281-2 and <input type="checkbox"/> MATH 281-3 <input type="checkbox"/>		

### Requirement 2: Probability

<b>Option 1:</b> MATH 314-0 <input type="checkbox"/>	<b>Option 5: ISP students only</b> STAT 383-0 <input type="checkbox"/>	<b>Option 9:</b> BMD_ENG 220-0 <input type="checkbox"/>
<b>Option 2:</b> MATH 310-1 <input type="checkbox"/>	<b>Option 6: MMSS students only</b> MATH 385-0 <input type="checkbox"/>	<b>Option 10:</b> CHEM_ENG 312-0 <input type="checkbox"/>
<b>Option 3:</b> MATH 311-1 <input type="checkbox"/>	<b>Option 7:</b> IEMS 202-0 <input type="checkbox"/>	
<b>Option 4:</b> STAT 320-1 <input type="checkbox"/>	<b>Option 8:</b> EECS 302-0 <input type="checkbox"/>	

### Requirement 3: Econometrics/Statistics

<b>Option 1:</b> ECON 381-1* <input type="checkbox"/>	<b>Option 3:</b> IEMS 303-0 and <input type="checkbox"/> IEMS 304-0** <input type="checkbox"/>	<b>Option 5:</b> STAT 320-2 and <input type="checkbox"/> STAT 350-0** <input type="checkbox"/>
<b>Option 2: MMSS students only</b> MATH 386-1 <input type="checkbox"/>	<b>Option 4:</b> STAT 320-2 and <input type="checkbox"/> IEMS 304-0** <input type="checkbox"/>	<b>Option 6:</b> STAT 383 and <input type="checkbox"/> STAT 350-0 or IEMS 304*** <input type="checkbox"/>

\* Check the Economics Department website FAQ section for information about the new Econ 381-1 prereq requirements

\*\* | IEMS 304-0 or STAT 350-0 may be taken concurrently with the certificate courses.

\*\*\* This option is for ISP students only

### Requirement 4: Microeconomics (2)

<b>Option 1:</b> ECON 310-1 <input type="checkbox"/>
<b>Option 2: MMSS students only</b> MMSS 211-1 <input type="checkbox"/>

### Requirement 5: Optimization

<b>Option 1:</b> MATH 368-0 <input type="checkbox"/>	<b>Option 3:</b> CHEM ENG 345-0 <input type="checkbox"/>
<b>Option 2:</b> IEMS 313-0 <input type="checkbox"/>	