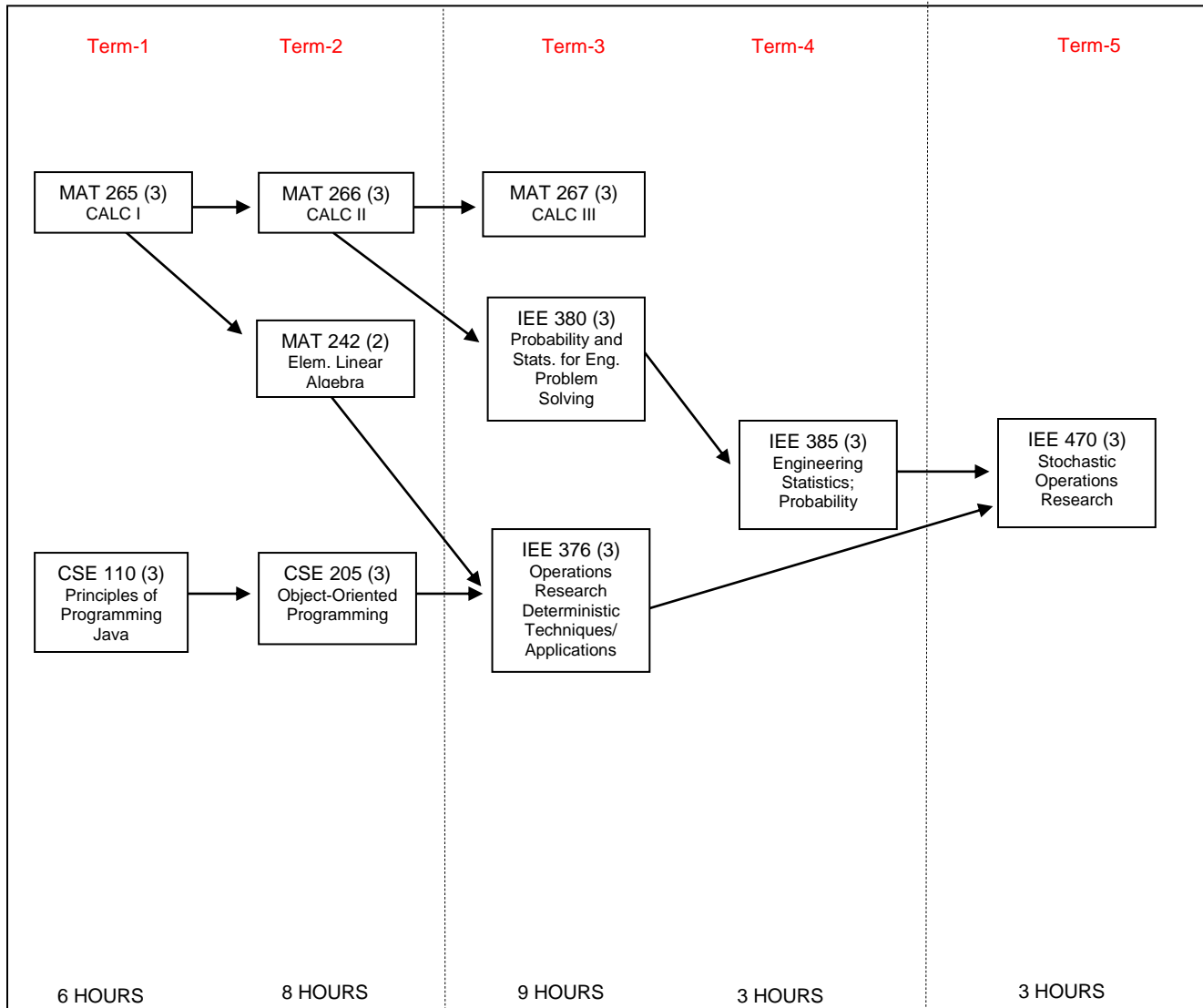


**Industrial Engineering, MS and Ph.D.
Deficiency Courses**

<http://cidse.engineering.asu.edu/forstudent/prospective-students/graduate-admissions/>



**Additional Admission Requirements
(See website for details)**

1. Transcripts/Academic Credentials.
2. Official GRE Test Scores.
3. Three letters of recommendation.
4. Statement of Purpose.
5. If applicable, English Proficiency (TOEFL).
6. GPA Requirement is 3.2 or higher in the last 60 hours of the undergraduate degree.

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Prerequisite



Term 1

CSE 110: Principles of Programming with Java -Concepts of problem solving using Java, algorithm design, structured programming, fundamental algorithms and techniques, and computer systems concepts. Social and ethical responsibility.

MAT 265: Calculus for Engineers I-Limits and continuity, differential calculus of functions of one variable, introduction to integration. Not open to students with credit in MAT 270.

Term 2

CSE 205: Object-Oriented Programming & Data Structures-Problem solving by programming with an object-oriented programming language. Introduces data structures. Overview of computer science topics.

MAT 266: Calculus for Engineers II -Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, Taylor series.

MAT 242: Elementary Linear Algebra-Introduces matrices, systems of linear equations, determinants, vector spaces, linear transformations, and eigenvalues. Emphasizes development of computational skills.

Term 3

MAT 267: Calculus for Engineers III -Vector-valued functions of several variables, partial derivatives, and multiple integration.

IEE 380: Probability and Statistics for Engineering Problem Solving-Applications-oriented course with computer-based experience using statistical software for formulating and solving engineering problems.

IEE 376: Operations Research Deterministic Techniques/Applications- Industrial systems applications with deterministic operations research techniques. Resource allocation, product mix, production, transportation, task assignment, networks.

Term 4

IEE 385: Engr Statistics - Probability- Conditional probability, common probability models, Goodness-of-fit tests and reliability models.

Term 5

IEE 470: Stochastic Operations Research- Modeling and analysis with emphasis on stochastic operations research. Models for stochastic processes, including Markov chains, queuing and decision analysis.