## Departmental/Program Major Courses (79-102 credits)

**Required Major Courses** (43-46 credits):  Average GPA in courses must be 2.00

- (4-5)  Calculus I Selective – Select from MA 16100, MA 16500 *(satisfies Quantitative Reasoning for core)* 🚩
- (4-5)  Calculus II Selective – Select from MA 16200, MA 16600, MA 17300, MA 18100 *(satisfies Quantitative Reasoning for core)*
- (4-5)  Calculus III Selective – Select from MA 26100, MA 17400, MA 18200, MA 27100 *(satisfies Quantitative Reasoning for core)*
- (3)  MA 35100 Elementary Linear Algebra 🚩
- (4)  MA 36600 Ordinary Differential Equations
- (3)  MA, CS, STAT Selective – CS 52000 Computational Methods In Optimization/ MA 34100 Foundations Of Analysis or MA 44000 Real Analysis Honors/MA 52300 Introduction To Partial Differential Equations/MA 54300 Introduction To The Theory Of Ordinary Differential Equations/STAT 42000 - Introduction To Time Series
- (3)  MA 35300 Linear Algebra II With Applications
- (3)  Advance Calculus Selective:  MA 36200 Topics In Vector Calculus/MA 44200 - Multivariate Analysis I Honors/MA 51000 - Vector Calculus
- (3)  CS 31400 Numerical Methods
- (3)  MA 45300 - Elements Of Algebra I or MA 45000 - Algebra Honors
- (3)  MA or STAT 41600 – Probability or STAT 51600 - Basic Probability And Applications
- (3)  STAT 41700 - Statistical Theory or STAT 51700 - Statistical Inference
- (3)  MAOR Math Selective:  MA 37500 - Introduction To Discrete Mathematics /MA 42100 - Linear Programming And Optimization Techniques or MA 52100- Introduction To Optimization Problems /IE 33500 - Operations Research - Optimization

### Other Departmental /Program Course Requirements (36-56 credits)

- (3-4)  ENGL 10600 or ENGL 10800 - *(satisfies Written Communication and Information Literacy for core)*
- (3-4)  Language I Selective –LINK
- (3-4)  Language II Selective – LINK
- (3-4)  Language and Culture III Selective –*LINK* *(Select courses COULD satisfy Human Cultures Humanities for core)*
- (0-3)  Technical Writing Selective LINK  *(Select courses COULD satisfy Oral Communication for core)*
- (0-3)  Technical Presenting Selective LINK *(Select courses COULD satisfy Oral Communication for core)*
- (3-4)  Laboratory Science I Selective LINK  *(satisfies Science Selective for core)*
- (3-4)  Laboratory Science II Selective LINK *(satisfies Science Selective for core)*
- (3)  General Education Selective LINK *(Select courses COULD satisfy Human Culture Behavioral/Social Science for core)*
- (3)  General Education I Selective LINK *(Select courses COULD satisfy Human Culture Behavioral/Social Science for core)*
- (3)  General Education II Selective LINK *(Select courses COULD satisfy Human Culture Behavioral/Social Science for core)*
- (3)  STAT 35000 Introduction To Statistics
- (3-4)  Computing Selective LINK
- (0-3)  Teambuilding Experience LINK
- (0-4)  Multidisciplinary Experience LINK *(Select courses COULD satisfies Science, Technology, and Society Selective for core)*
- (3)  Great Issues Selective LINK

## Electives (18-41 credits)

( ) _____  ( ) _____  ( ) _____  ( ) _____
( ) _____  ( ) _____  ( ) _____  ( ) _____

## University Core Requirements LINK

| | | | |
|---|---|---|---|
| *Human Cultures Humanities* | ☐ _____ | *Science, Technology & Society Selective* | ☐ _____ |
| *Human Cultures Behavioral/Social Science* | ☐ _____ | *Written Communication* | ☐ _____ |
| *Information Literacy* | ☐ _____ | *Oral Communication* | ☐ _____ |
| *Science Selective* | ☐ _____ | *Quantitative Reasoning* | ☐ _____ |
| *Science Selective* | ☐ | | |

**********************************************************************************

**The student is ultimately responsible for knowing and completing all degree requirements.**

**Degree Works is knowledge source for specific requirements and completion**

**********************************************************************************

# Operations Research Mathematics
### http://www.science.purdue.edu/Current_Students/majors/index.html

**Suggested** Arrangement of Courses:

| Credits | Fall 1st Year | Prerequisite | Credits | Spring 1st Year | Prerequisite |
|---|---|---|---|---|---|
| 4-5 | Calculus I Selective | ALEKS 85 | 4-5 | Calculus II Selective | Calculus I |
| 4 | ENGL 10600 | | 3-4 | Computing Selective | |
| 3-4 | Language I Selective | | 3-4 | Language II Selective | Language 10100 |
| 1 | Free Elective MA 10800 | | 0 | Teambuilding Experience | |
| 3 | Free Elective | | 3 | Free Elective | |
| | | | 2 | Free Elective | |
| **15-17** | | | **15-18** | | |

| Credits | Fall 2nd Year | Prerequisite | Credits | Spring 2nd Year | Prerequisite |
|---|---|---|---|---|---|
| 4-5 | Calculus III Selective | Calculus II | 3 | MA/STAT 41600 | Calculus III |
| 3 | STAT 35000 | Calculus II | 3 | MA 35100 | Calculus III |
| 3-4 | Language Selective III | See Course Info | 3 | General Education Selective I | |
| 3 | Free Elective MA 30100 | Calculus II | 3 | COM 21700 | |
| 2 | Free Elective | | 3 | Free Elective | |
| **15-17** | | | **15** | | |

| Credits | Fall 3rd Year | Prerequisite | Credits | Spring 3rd Year | Prerequisite |
|---|---|---|---|---|---|
| 3 | STAT 41700 | STAT 41600 | 3 | Advance Calculus Selective | Varies by Class |
| 3 | MA, CS, STAT Selective | Varies by Class | 3 | CS 31400 | CS Programming and MA 35100 |
| 3-4 | Laboratory Science Selective I | | 3-4 | Laboratory Science Selective II | Lab Sci Selective I |
| 3 | Free Elective | | 3 | Great Issues Selective | Jr/Sr Standing; may require COM or ENGL |
| 3 | Free Elective | | 3 | Free Elective | |
| **15-16** | | | **15-16** | | |

| Credits | Fall 4th Year | Prerequisite | Credits | Spring 4th Year | Prerequisite |
|---|---|---|---|---|---|
| 3 | MA 35300 | MA 35100 | 3 | MAOR Math Selective | Varies by Class |
| 3 | MA 45300 or MA 45000 | MA 35100 | 4 | MA 36600 | Calculus III; co-req or pre MA 35100 |
| 3 | General Education Selective | | 3 | General Education Selective II | |
| 0-4 | Multidisciplinary Experience | | 3 | Free Elective | |
| 3-6 | Free Elective | | 2 | Free Elective | |
| **15-17** | | | **15** | | |

Identified as a critical course.  Student should earn minimum of a B- see advisor for further details.

Students must earn a 2.0 average in MATH/STAT/CS/IE courses required for major.
**120 semester credits required for Bachelor of Science degree.**
**2.0 Graduation GPA required for Bachelor of Science degree.**

*****************************************************************************************************
**The student is ultimately responsible for knowing and completing all degree requirements.**

**Degree Works is knowledge source for specific requirements and completion**
*****************************************************************************************************