PURDUE UNIVERSITY

Operations Research Mathematics
College of Science

MATH-BS
Code-MAOR

Departmental/Program Major Courses (70-98 credits)

Required Major Courses (35-36 credits): Average GPA in courses must be 2.00 excluding Calculus III Selective

_____ (4-5) Calculus III Selective – Select from MA 26100, MA 27101 ***(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) Advanced 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) Probability/Discrete Mathematics Selective: MA or STAT 41600 - Probability, STAT 51600 - Basic Probability And Applications, or MA 37500 - Introduction To Discrete Mathematics
_____ (3) STAT 41700 - Statistical Theory or STAT 51700 - Statistical Inference
_____ (3) MAOR Math Selective: MA 42100 - Linear Programming And Optimization Techniques [offered spring semester of odd years] or MA 52100- Introduction To Optimization Problems/IE 33500 - Operations Research - Optimization

Other Departmental /Program Course Requirements (35-62 credits)

_____ (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 ***(satisfies Quantitative Reasoning for core)***
_____ (3-4) ENGL 10600 or ENGL 10800 - ***(satisfies Written Communication and Information Literacy for core)***
_____ (0-4) Language I Selective –LINK
_____ (0-4) Language II Selective – LINK
_____ (0-4) 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 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) General Education III 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) Teambuilding Experience LINK
_____ (0-3) Multidisciplinary Experience LINK ***(Select courses COULD satisfies Science, Technology, and Society Selective for core)***
_____ (3) Great Issues Selective LINK

Electives (22-50 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	☐ _____		

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

Degree Works is knowledge source for specific requirements and completion

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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 First-Year Composition		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	Probability/Discrete Mathematics Selective	Calculus III
3	STAT 35000 Introduction To Statistics	Calculus II	3	MA 35100 Elementary Linear Algebra	Calculus III
3-4	Language Selective III	See Course Info	3	General Education I Selective	
3	Free Elective MA 30100	Calculus II	3	COM 21700 Science Writing & Presentation	
2	Free Elective		3	Free Elective	
15-17			**15**		

Credits	**Fall 3rd Year**	**Prerequisite**	Credits	**Spring 3rd Year**	**Prerequisite**
3	STAT 41700 Statistical Theory	STAT 41600	3	Advance Calculus Selective	Varies by Class
3	MA, CS, STAT Selective	Varies by Class	3	CS 31400/MA 51400 Numerical Methods	CS Programming and MA 35100
3-4	Laboratory Science I Selective		3-4	Laboratory Science II Selective	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 Linear Algebra II With Applications	MA 35100	3	MAOR Math Selective	Varies by Class
3	MA 45300 or MA 45000	MA 35100	4	MA 36600 Ordinary Differential Equations	Calculus III; co-req or pre MA 35100
3	General Education II Selective		3	General Education III Selective	
0-4	Multidisciplinary Experience		3	Free Elective	
3-6	Free Elective/ Science, Technology & Society Selective Course		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.

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