



**IN PARTNERSHIP**  
Daniels School of Business  
College of Engineering

**DOUBLE DEGREE**

**IBE + IE**

**INTEGRATED BUSINESS  
& ENGINEERING  
AND  
INDUSTRIAL ENGINEERING**

Program/Major Codes:  
IE-BSE/IE  
IBE-BS/IBE  
Major Index: 2.0  
Graduation Index: 2.0  
Credit Hours: 144

# DEGREE MAP - 8SEMESTERS

YEAR 1		
FALL		15 CR
COURSE	COURSE #	CR
General Chemistry <sup>1</sup>	CHM 11500	4
Transform Ideas to Innovation	ENGR 13300	2
Analytic Geo & Calc I <sup>2</sup> *	MA 16500	4
Intro to Accounting (GC)	MGMT 20000	3
EPICS or VIP	EPCS 11100 VIPS 17911	1
IBE Seminar #1 (GC)	MGMT 29110	1
<small>1 OR General Chemistry (CHM 11100) AND General Chemistry (CHM 11200) 2 OR •Plane Analytics Geo &amp; Calc I (MA 16100)</small>		
SPRING		18 CR
EPICS OR VIP	EPCS 12100 VIPS 17912	1
Analytic Geo & Calc II <sup>1</sup> *	MA 16600	4
Modern Mechanics *	PHYS 17200	4
Microeconomics (GC)	ECON 25100	3
Python for Business (GC) <sup>2</sup>	MGMT 38800	3
Oral Communication <sup>3</sup>	OPTIONS	3
<small>1 OR •Plane Analytics Geo &amp; Calc II (MA 16200) 2 OR Problem Solving &amp; Object-Oriented Programming (CS 18000) 3 •Transformative Texts: Critical Thinking &amp; Communication II: Modern World (SCLA 10200) OR Fundamentals of Speech Communication (COM 11400) or Science Writing &amp; Presentations (COM 21700) or Collaborative Leadership:Interpersonal Skills (EDPS 31500)</small>		
SUMMER		9 CR
Electricity & Optics	PHYS 24100	3
Management Acct * (GC)	MGMT 20100	3
Intro to Org Behavior (GC)	OBHR 33000	3

YEAR 3		
FALL		17 CR
COURSE	COURSE #	CR
Ordinary Differential Equation	MA 26600	3
Computing in Ind Eng	IE 33200	3
Op Res- Optimization	IE 33500	3
Op Res - Stochastic Models	IE 33600	3
Int Property Mgmt	MGMT 49200	3
Team Design Selective	OPTIONS	2
SPRING		17 CR
Marketing Management	MGMT 32400	3
Strategic Management * (GC)	MGMT 35200	3
Operations Mgmt * (GC)	MGMT 36100	3
Electrical Engineering Fund	ECE 20001	3
Manufacturing Processes I	IE 37000	3
Team Design Selective	OPTIONS	2
SUMMER		3-4 CR
UC Human Cultures (HUM)	OPTIONS	3-4

YEAR 2		
FALL		17-18 CR
COURSE	COURSE #	CR
Basic Mech I	ME 27000	3
Multivariate Calculus *	MA 26100	4
Written Communication <sup>1</sup>	OPTIONS	3-4
Ind Engineering Seminar	IE 20000	0
Probability & Stat in Eng I	IE 2300	3
IBE #2 Seminar: TBD (GC)	MGMT 29120	1
Financial Management	MGMT 31000	3
<small>1 Transformative Texts, Critical Thinking &amp; Communications (SCLA 10100) OR First Year Comp (ENG 10600) OR Accelerated 1st Year Composition (ENGL 10800) OR Interdisciplinary Approaches in Writing (HONR 19903) OR Interdisciplinary Approaches in Writing (HONR 19903)</small>		
SPRING		16 CR
Linear Algebra	MA 26500	3
Probability & Stat in Eng II	IE 33000	3
Engineering Economics	IE 34300	3
Mechanics of Materials	NUCL 27300	3
C Programming	CS 15900 *	3
IBE #3 Seminar: TBD (GC)	MGMT 29130	1
<small>* If CS 180 is taken instead of MGMT 388, CS 159 is not needed</small>		
SUMMER		3 CR
Thermodynamics I	ME 20000	3

YEAR 4		
FALL		15 CR
COURSE	COURSE #	CR
IBE #4 Seminar: TBD (GC)	MGMT 29140	1
Management Info Sys * (GC)	MGMT 38200	3
Storytelling with Data * (GC)	MGMT 49300	2
Integrated Production Sys I	IE 38300	3
Work Analysis and Design I	IE 38600	3
Industrial Control Systems	IE 47400	3
SPRING		15 CR
Work Analysis and Design II	IE 48600	3
Manufacturing Processes II	IE 47000 <sup>1</sup>	3
Business Depth Selective	OPTIONS	3
Industrial Eng Design	IE 43100 <sup>2</sup>	3
Business Method Selective	MGMT 46600 <sup>3</sup>	3
<small>1 OR Integrated Production Systems (IE 48400) 2 OR IBE Capstone (MGMT 49400) 3 OR Advanced Spreadsheet Modeling &amp; Simulation (MGMT 47200) OR Predictive Analytics (MGMT 47400)</small>		

**Legend:**

\* Prerequisites required • Critical Course  
(Gold) Changed from previous year  
GC - Gateway Course



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# DEGREE MAP - 9 SEMESTERS

YEAR 1		
FALL		15 CR
COURSE	COURSE #	CR
General Chemistry <sup>1</sup>	CHM 11500	4
Transform Ideas to Innovation	ENGR 13300	2
Analytic Geo & Calc I <sup>2</sup> *	MA 16500	4
Intro to Accounting (GC)	MGMT 20000	3
EPICS or VIP	EPCS 11100 VIPS 17911	1
IBE Seminar #1 (GC)	MGMT 29110	1
<small>1 OR General Chemistry (CHM 11100) AND General Chemistry (CHM 11200) 2 OR •Plane Analytics Geo &amp; Calc I (MA 16100)</small>		
SPRING		18 CR
EPICS OR VIP	EPCS 12100 VIPS 17912	1
Analytic Geo & Calc II <sup>1</sup> *	MA 16600	4
Modern Mechanics *	PHYS 17200	4
Microeconomics (GC)	ECON 25100	3
Python for Business (GC) <sup>2</sup>	MGMT 38800	3
Oral Communication <sup>3</sup>	OPTIONS	3
<small>1 OR •Plane Analytics Geo &amp; Calc II (MA 16200) 2 OR Problem Solving &amp; Object-Oriented Programming (CS 18000) 3 •Transformative Texts: Critical Thinking &amp; Communication II: Modern World (SCLA 10200) OR Fundamentals of Speech Communication (COM 11400) or Science Writing &amp; Presentations (COM 21700) or Collaborative Leadership: Interpersonal Skills (EDPS 31500)</small>		

YEAR 2		
FALL		17-18 CR
COURSE	COURSE #	CR
Basic Mech I	ME 27000	3
Multivariate Calculus *	MA 26100	4
Written Communication <sup>1</sup>	OPTIONS	3-4
Ind Engineering Seminar	IE 20000	0
Probability & Stat in Eng I	IE 23000	3
IBE #2 Seminar: TBD (GC)	MGMT 29120	1
Financial Management	MGMT 31000	3
<small>1 Transformative Texts, Critical Thinking &amp; Communications (SCLA 10100) OR First Year Comp (ENG 10600) OR Accelerated 1st Year Composition (ENGL 10800) OR Interdisciplinary Approaches in Writing (HONR 19903) OR Interdisciplinary Approaches in Writing (HONR 19903)</small>		
SPRING		16 CR
Linear Algebra	MA 26500	3
Probability & Stat in Eng II	IE 33000	3
Thermodynamics I	ME 20000	3
Mechanics of Materials	NUCL 27300	3
C Programming	CS 15900 *	3
IBE #3 Seminar: TBD (GC)	MGMT 29130	1
<small>* If CS 180 is taken instead of MGMT 388, CS 159 is not needed</small>		

**Legend:**

\* Prerequisites required • Critical Course  
(Gold) Changed from previous year GC - Gateway Course

YEAR 3		
FALL		17 CR
COURSE	COURSE #	CR
Ordinary Differential Equation	MA 26600	3
Computing in Ind Eng	IE 33200	3
Op Res- Optimization	IE 33500	3
Op Res - Stochastic Models	IE 33600	3
Int Property Mgmt	MGMT 49200	3
Team Design Selective	OPTIONS	2
SPRING		17 CR
Strategic Management * (GC)	MGMT 35200	3
Operations Mgmt * (GC)	MGMT 36100	3
Engineering Economics	IE 34300	3
Electrical Engineering Fund	ECE 20001	3
Manufacturing Processes I	IE 37000	3
Team Design Selective	OPTIONS	2

YEAR 4		
FALL		15 CR
COURSE	COURSE #	CR
Integrated Production Sys I	IE 38300	3
Work Analysis and Design I	IE 38600	3
Industrial Control Systems	IE 47400	3
Marketing Management	MGMT 32400	3
Storytelling with Data * (GC)	MGMT 49300	2
IBE #4 Seminar: TBD (GC)	MGMT 29140	1
SPRING		15 CR
Work Analysis and Design II	IE 48600	3
Manufacturing Processes II	IE 47000 <sup>1</sup>	3
Business Depth Selective	OPTIONS	3
Management Info Sys * (GC)	MGMT 38200	3
Management Acct * (GC)	MGMT 20100	3
<small>1 OR Integrated Production Systems (IE 48400) 2 OR IBE Capstone (MGMT 49400) 3 OR Advanced Spreadsheet Modeling &amp; Simulation (MGMT 47200) OR Predictive Analytics (MGMT 47400)</small>		

YEAR 5		
FALL		15-16 CR
COURSE	COURSE #	CR
Industrial Eng Design	IE 43100 <sup>1</sup>	3
Business Method Selective	MGMT 46600 <sup>2</sup>	3
UC Human Cultures (HUM)	OPTIONS	3-4
Electricity & Optics	PHYS 24100	3
Intro to Org Behavior (GC)	OBHR 33000	3
<small>1 OR IBE Capstone (MGMT 49400) 2 OR Advanced Spreadsheet Modeling &amp; Simulation (MGMT 47200) OR Predictive Analytics (MGMT 47400)</small>		

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PURDUE  
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765-494-4343

# COURSE LIST

## BUSINESS CORE COURSES (34 CR)

Microeconomics (ECON 25100) (3 cr)  
Introductory Accounting (MGMT 20000) (3 cr) (GC)  
Management Accounting (MGMT 20100)\* (3 cr)  
Financial Management (MGMT 31000)\* (3 cr)  
Marketing Management (MGMT 32400) (3 cr)  
Strategic Management (MGMT 35200)\* (3 cr)  
Operations Management (MGMT 36100)\* (3 cr)  
Management Information Sys (MGMT 38200)\* (3 cr)  
Python for Business (MGMT 38800) (3 cr)<sup>1</sup>  
Intellectual Property Mgmt (MGMT 49200) (2 cr)  
Storytelling With Data (MGMT 49300) (2 cr)  
Organizational Behavior (OBHR 33000)\* (3 cr)

<sup>1</sup> or Problem Solving & Object Oriented Programming (CS 18000)

\* Prerequisites required

## BUSINESS METHOD SELECTIVES (3 CR)

Project Management (MGMT 46600) (3 cr)  
Spreadsheet Modeling (MGMT 47200)\* (3 cr)  
Predictive Analytics (MGMT 47400)\* (3 cr)

\* Prerequisites required

## BUSINESS DEPTH SELECTIVE (3 CR)

Managerial Economics (ECON 30100)\*  
Investments (MGMT 41100)\*  
Leadership & Org Change (MGMT 44362)\*  
Technology Strategy (MGMT 44810)\*  
Supply Chain Analytics (MGMT 46300)\*  
Data Mining (MGMT 47300)\*  
Data-Driven Decisions in Dig. Mkt (MGMT 48800)\*

\* Prerequisites required

## INNOVATION LAB COURSES (6 CR)

(4) IBE Seminar/Special Topics (1 cr)  
(MGMT 29110, 29120, 29130, 29140)  
First-Year Participation EPICS or VIP I (EPCS 11100)<sup>1</sup> (1 cr)  
First-Year Participation EPICS or VIP I (EPCS 12100)<sup>2</sup> (1 cr)

<sup>1</sup> or Vertically Integrated Projects (VIP 17911)

<sup>2</sup> or Vertically Integrated Projects (VIP 17912)

## OTHER COURSE REQUIREMENTS (35-39 CR)

Written Communication (3-4 cr)  
Oral Communication (3 cr)  
UCC: Human Cultures (Humanities) Elective (3-4 cr)  
Analytical Geometry & Calc (MA 16500) (4-5 cr)  
Analytical Geometry & Calc II (MA 16600)\* (4-5 cr)  
Multivariate Calculus (MA 26100)\* (4 cr)  
Linear Algebra (MA 26500) (3 cr)  
Ordinary Differential Equations (MA 26600) (3 cr)  
General Chemistry (CHM 11500) (4 cr)  
Modern Mechanics (PHYS 17200) (4 cr)

\* Prerequisites required

## ENGINEERING REQ COURSES (59 CR)

Transforming Ideas to Innovation, EPICS (ENGR 13300) (2 cr)  
Electricity & Optics (PHYS 24100) (3 cr)  
Basic Mech I (ME 27000)\* (3 cr)  
Industrial Engineering Seminar (IE 20000) (0 cr)  
Probability & Statistics in Engineering I (IE 23000)\* (3 cr)  
Probability & Statistics in Engineering II (IE 33000) (3 cr)  
Engineering Economics (IE 34300)\* (3 cr)  
Mechanics of Materials (NUCL 27300) (3 cr)  
C Programming (CS 15900)\*\* (3 cr)  
Thermodynamics (ME 20000)\* (3 cr)  
Computing in Industrial Engineering (IE 33200) (3 cr)  
Operations Research - Optimization (IE 33500) (3 cr)  
Operations Research - Stochastic Models (IE 33600) (3 cr)  
Electrical Engineering Fundamentals (ECE 20001)\* (3 cr)  
Manufacturing Processes I (IE 37000) (3 cr)  
Integrated Production Systems (IE 38300) (3 cr)  
Work Analysis & Design I (IE 38600) (3 cr)  
Work Analysis & Design II (IE 48600) (3 cr)  
Industrial Control Systems (IE 47400) (3 cr)  
Manufacturing Processes II (IE 47000)<sup>1</sup> (3 cr)  
Industrial Engineering Design (IE 43100)<sup>2</sup> (3 cr)

<sup>1</sup> or Integrated Production Systems II (IE 48400)

<sup>2</sup> or IBE Capstone (MGMT 49400)

\* Prerequisites required

\*\* Do not need if taking Problem Solving & Object Oriented Programming (CS 18000)

## TEAM-BASED DESIGN (4 CR)

Sophomore Participation in EPICS (EPCS 20100) (1 cr)  
Sophomore Participation in EPICS (EPCS 20200) (2 cr)  
Sophomore Participation in VIP (VIP 27920) (2 cr)  
Junior Participation in EPICS (EPCS 30100) (1 cr)  
Junior Participation in EPICS (EPCS 30200) (2 cr)  
Junior Participation in VIP (VIP 37920) (2 cr)