BS: INTEGRATED BUSINESS & ENGINEERING - SAMPLE

PURDUE UNIVERSITY: KRANNERT SCHOOL OF MANAGEMENT

Business Core Courses (37 Credits):
- Introduction to Accounting (MGMT 20000)
- Management Accounting (MGMT 20100)*
- Microeconomics (ECON 25100)* UCC-BSS
- Programming for Business Apps (MGMT 28800)
- Intellectual Property Management (MGMT 49200)
- Business Statistics (MGMT 30500)*
- Financial Management (MGMT 31000)*
- Strategic Management (MGMT 35200)*
- Operations Management (MGMT 36100)*
- Management Information Systems (MGMT 38200)*
- Organizational Behavior (OBHR 33000)*
- Storytelling w/Data (MGMT 49300)*

Business Method Electives (6 Credits):
- Pick two of the below courses-
  - Management Science (MGMT 30600)*
  - Project Management (MGMT 46600)
  - Spreadsheet Modeling (MGMT 47200)*
  - Predictive Analytics (MGMT 47400)*

Business Depth Core (3 Credits):
- Managerial Economics (ECON 30100)*
- Int Accounting/Non Acct Majors (MGMT 35300)*
- Investments (MGMT 41100)*
- Digital Marketing Strategy (MGMT 42710)*
- Leadership & Org Change (MGMT 44362)*
- Technology Strategy (MGMT 44810)*
- Supply Chain Analytics (MGMT 46300)*
- Data Mining (MGMT 47300)*
- Data Driven Decisions in Dig Mrkt (MGMT 48800)

Seminar/Innovation Lab Courses (11 Credits):
- (4) IBE Seminar/Special Topics (MGMT 29110, 29120, 29130, 29140)
- (2) Team-based design in EPICS or VIP (EPCS 20100, 20200, 30100, 30200 or ENGR 27920, 37920) 2.0 cr
- Capstone (MGMT 49400)

Engineering Courses (23 Credits):
- General Chemistry (CHM 11500) UCC-SCI
- Analytical Geometry & Calc (MA 16500) UCC-QR
- Analytical Geometry & Calc II (MA 16600)* UCC-QR
- Modern Mechanics (PHYS 17200)
- First-Year Participation in EPICS or VIP I (EPCS 11100)*
- First-Year Participation in EPICS or VIP I (EPCS 12100)*

Engineering IBE Core Courses (6 Credits):
- Choose 6 credit hours from the courses below - Preferred semesters are denoted: S-Summer, SP-Spring, F-Fall, Online availability
  - Computations for Eng Systems (ABE 20500)* (F)
  - Thermodynamics (ME 20000)* (SP/S)
  - Basic Mechanics (CE 29700)* (SP) OR Basic Mechanics I (ME 27000)* (SP/S-Online)
  - Life Cycle Eng & Mgmt of Constructed Facilities (CEM 20100) (SP)
  - Environmental, Ecological & Eng Systems (EEE 25000) (F)
  - Electrical Engineering Fundamentals (ECE 20001)* (SP/S-Online)
  - Environmental & Ecological Systems Modeling (EIE 30000)* (SP)
  - Engineering Economics (IE 23000)* (F/SP)
  - Structure and Properties of Materials (MSE 23000)* (F/SP/S-Online)
  - Intro to Energy Engineering (NUCL 11000) 1 cr (F)
  - Energy Engineering (NUCL 20000)* 3 cr 4 (F)
  - Nuclear Engineering Laboratory (NUCL 25000) (SP)

Electives (3 Credits):
- Choose 3 cr hours

Area Specialty Courses (12 Credits):
- Financial Engineering, Supply Chain Operations Management, Data Analytics, Student Designed Area (with Advisor Approval)

Engineering Electives (3 Credits):
- It's a Complex World: Address GC (SYS 30000)
- Systems Theories & Approaches (SYS 35000) UCC-IL
- Imagine, Model, Make (IE 47200)

Other Course Requirements (16-17 Credits):
- Written Communication UCC-WC
- Oral Communication UCC-OC
- UCC: Human Cultures (Humanities) Elective
- Multivariate Calculus (MA 26100) * UCC-QR
- Probability & Statistics in Business (STAT 30300)*

Other Course Requirements (16-17 Credits):
- Area Specialty Courses (12 Credits):

Other Course Requirements (16-17 Credits):
- Engineering Electives (3 Credits):

Other Course Requirements (16-17 Credits):
- Electives (3 Credits):

* If you choose this course - your four year plan will need to be altered as the pre-req for this course MA 261 comes after the semester slated for the IBE Engineering Core course

** If you choose this course you must choose the pre-req courses of EPICS 111 & EPICS 121

*** If you choose NUCL 20500 as one of your two courses you must also choose NUCL 20000 as it is the pre-requisite course for NUCL 20500

**** If you choose NUCL 20500 you must use 1 cr of your 3 cr elective for ENG 10300 as it must be taken with NUCL 20500
INTEGRATED BUSINESS & ENGINEERING SAMPLE

Courses denoted with a footnote have alternate course choices. Courses marked with * have Pre-requisites.

<table>
<thead>
<tr>
<th>YEAR 1</th>
<th><strong>Fall Semester</strong></th>
<th>(15 Credits)</th>
<th><strong>Spring Semester</strong></th>
<th>(18 Credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(4.0) General Chemistry <em>(CHM 11500)</em></td>
<td>(1.0) Epics or VIP <em>(EPCS 12100 or ENGR 17912)</em></td>
<td>(4.0) Analytic Geometry &amp; Calculus I *(MA 16500) *</td>
<td>(4.0) Analytic Geometry &amp; Calculus II *(MA 16600) *</td>
</tr>
<tr>
<td></td>
<td>(2.0) Transforming Ideas into Innovation EPICS <em>(ENGR 13300)</em></td>
<td>(4.0) Modern Mechanics <em>(PHYS 17200)</em></td>
<td>*(3.0) Microeconomics <em>(ECON 25100)</em></td>
<td>*(3.0) Oral Communication 1</td>
</tr>
<tr>
<td></td>
<td>(4.0) Analytic Geometry &amp; Calculus I *(MA 16500) *</td>
<td>*(3.0) UCC Human Cultures: Humanities</td>
<td>*(3.0) UCC Oral Communication Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.0) Intro to Accounting <em>(MGMT 20000)</em></td>
<td>*(1.0) IBE #1 Seminar: TBD <em>(MGMT 29110)</em></td>
<td>1 Any of the UCC Oral Communication Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.0) Epics or VIP <em>(EPCS 11100 or ENGR 17911)</em></td>
<td>*(1.0) IBE #1 Seminar: TBD <em>(MGMT 29110)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.0) IBE #1 Seminar: TBD <em>(MGMT 29110)</em></td>
<td>*(1.0) IBE #1 Seminar: TBD <em>(MGMT 29110)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YEAR 2</td>
<td><strong>Fall Semester</strong></td>
<td>(16 -17 Credits)</td>
<td><strong>Spring Semester</strong></td>
<td>(16 Credits)</td>
</tr>
<tr>
<td></td>
<td>(3.0) Management Accounting <em>(MGMT 20100)</em></td>
<td>(3.0) Business Statistics <em>(MGMT 30500)</em></td>
<td>*(3.0) Financial Management <em>(MGMT 31000)</em></td>
<td>*(3.0) Programming for Business Apps <em>(MGMT 28800)</em></td>
</tr>
<tr>
<td></td>
<td>(3.0) Marketing Management <em>(MGMT 32400)</em></td>
<td>*(3.0) Engineering IBE Core Course</td>
<td>*(3.0) Engineering IBE Core Course</td>
<td>*(3.0) Business Method Elective</td>
</tr>
<tr>
<td></td>
<td>(3.0-4.0) Written Communication 1</td>
<td>*(3.0) Probability &amp; Statistics in Business <em>(STAT 30300)</em></td>
<td>*(3.0) Business Method Elective</td>
<td>*(1.0) IBE #3 Seminar: TBD <em>(MGMT 29130)</em></td>
</tr>
<tr>
<td></td>
<td>*(3.0) Engineering IBE Core Course</td>
<td>*(1.0) IBE #2 Seminar: TBD <em>(MGMT 29120)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*(3.0) Probability &amp; Statistics in Business <em>(STAT 30300)</em></td>
<td>*(1.0) IBE #2 Seminar: TBD <em>(MGMT 29120)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*(1.0) IBE #2 Seminar: TBD <em>(MGMT 29120)</em></td>
<td>*(1.0) IBE #2 Seminar: TBD <em>(MGMT 29120)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YEAR 3</td>
<td><strong>Fall Semester</strong></td>
<td>(17 Credits)</td>
<td><strong>Spring Semester</strong></td>
<td>(14 Credits)</td>
</tr>
<tr>
<td></td>
<td>(4.0) Multivariate Calculus *(MA 26100) *</td>
<td>(3.0) Engineering Expansion Course</td>
<td>*(3.0) Area Specialty Course</td>
<td>*(3.0) Operations Management *(MGMT 36100) *</td>
</tr>
<tr>
<td></td>
<td>(3.0) Engineering Elective</td>
<td>*(3.0) Area Specialty Course</td>
<td>*(3.0) Area Specialty Course</td>
<td>*(3.0) Management Info Systems *(MGMT 38200) *</td>
</tr>
<tr>
<td></td>
<td>(3.0) Business Method Elective</td>
<td>*(3.0) Area Specialty Course</td>
<td>*(2.0) IBE Innovation Lab: VIP</td>
<td>*(2.0) IBE Innovation Lab VIP</td>
</tr>
<tr>
<td></td>
<td>(2.0) Intellectual Property Management <em>(MGMT 49200)</em></td>
<td>*(3.0) Area Specialty Course</td>
<td>*(2.0) IBE Innovation Lab VIP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.0) Area Specialty Course</td>
<td>*(3.0) Intellectual Property Management <em>(MGMT 49200)</em></td>
<td>*(3.0) Area Specialty Course</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.0) IBE Innovation Lab VIP</td>
<td>*(2.0) IBE Innovation Lab VIP</td>
<td>*(3.0) Area Specialty Course</td>
<td></td>
</tr>
<tr>
<td>YEAR 4</td>
<td><strong>Fall Semester</strong></td>
<td>(12 Credits)</td>
<td><strong>Spring Semester</strong></td>
<td>(12 Credits)</td>
</tr>
<tr>
<td></td>
<td>(2.0) Storytelling w/Data <em>(MGMT 49300)</em></td>
<td>(3.0) Business Depth Course</td>
<td>*(3.0) Area Specialty Course</td>
<td>*(3.0) Business Depth Course</td>
</tr>
<tr>
<td></td>
<td>(3.0) Strategic Management <em>(MGMT 35200)</em></td>
<td>*(3.0) Area Specialty Course</td>
<td>*(3.0) Area Specialty Course</td>
<td>*(3.0) Area Specialty Course</td>
</tr>
<tr>
<td></td>
<td>(3.0) Intro to Organizational Behavior <em>(OBHR 33000)</em></td>
<td>*(3.0) Area Specialty Course</td>
<td>*(3.0) Capstone Project <em>(MGMT 49400)</em></td>
<td>*(3.0) Capstone Project <em>(MGMT 49400)</em></td>
</tr>
<tr>
<td></td>
<td>(3.0) General Elective</td>
<td>*(3.0) General Elective</td>
<td>*(3.0) General Elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.0) IBE #4 Seminar: TBD <em>(MGMT 29140)</em></td>
<td>*(1.0) IBE #4 Seminar: TBD <em>(MGMT 29140)</em></td>
<td>*(1.0) IBE #4 Seminar: TBD <em>(MGMT 29140)</em></td>
<td></td>
</tr>
</tbody>
</table>

* All courses will be subject to any academic standards set by the college that offers the course.
Specialty Areas

Data Analytics (12 Credits)

Select and complete 3 of the below courses-
- Adv. Spreadsheet Modeling and Sim (MGMT 47200)*
- Data Mining (MGMT 47300)*
- Predictive Analytics (MGMT 47400)*
- Econometrics (ECON 36000)

Select and complete 1 of the below courses-
- Six Sigma Quality Management (MGMT 40500)*
- Financial Modeling (MGMT 41300)*
- Marketing Analytics (MGMT 4210)*
- Marketing Research (MGMT 42500)

Select and complete 1 of the below courses-
- Adv Mfg Planning and Control Sys (MGMT 46200)*
- Supply Chain Analytics (MGMT 46300)*
- Project Management (MGMT 46600)*
- Data Visualization (MGMT 47900)*
- Data-Driven Decisions in Dig Mkt (MGMT 48800)
- Database Management Systems (MGMT 54400)

Supply Chain Operations Management (12 Credits)

Select and complete the below courses
- Supply Chain Analytics (MGMT 46300)*
- Supply Chain Logistics (MGMT 46400)*

Select and complete 2 of the below courses
- Six Sigma Quality Management (MGMT 40500)*
- Manufacturing Strategy (MGMT 45200)
- Adv. Mfg. Planning and Control Sys (MGMT 46200)*
- Project Management (MGMT 46600)*
- Predictive Analytics (MGMT 47400)*
- Adv. Spreadsheet Modeling and Sim (MGMT 47200)*

Financial Engineering (12 Credits)

Select and Complete 4 of below courses
- Econometrics (ECON 36000)
- Intermediate Economics I (ECON 51100)
- Investment Management (MGMT 41100)*
- Futures and Options (MGMT 41150)*
- Financial Markets and Institutions (MGMT 41200)*
- Fixed Income Securities (MGMT 41250)*
- Corporate Finance (MGMT 41300)*
- Financial Data Analysis and Modeling (MGMT 41310)*
- Venture Capital and Entre Finance (MGMT 41350)
- International Finance (MGMT 41500)
- Corporate Mergers and Acquisitions (MGMT 41601)*
- Adv. Spreadsheet Modeling and Sim (MGMT 47200)*
- Predictive Analytics (MGMT 47400)*
- Investments (MGMT 61400)*
- Portfolio Management (MGMT 64200)*
- Financial Risk Management (MGMT 64300)*
- Advanced Problems in Management - Financial Engineering (Summer Only) (MGMT 69000)*

Student Designed Specialty Area (12 Credits)

Choose any 20000-40000 level courses with approval from advisor

Notes:

All MGMT & ECON 300 level courses require upper division status

1. Only 1 course may be shared between 2 concentrations or between a major and a concentration
2. Space in MGMT & ECON courses may be limited
3. Pre-requisites should be checked on MyPurdue
4. MGMT, ECON & OBHR courses must be taken at Purdue University West Lafayette and may not be taken through correspondence or online
5. The School of Management CANNOT guarantee offerings of non MGMT, ECON or OBHR courses