Operations and Business Analytics

Michael Pangburn, Department Head
Ehrman V. Guistina Professor of Operations and Business Analytics

Advising and Student Experience
203 Peterson Hall

The curriculum in the Department of Operations and Business Analytics (OBA) prepares students with a solid foundation in operations and data-analytics principles. Understanding analytics and how to manage business operations are essential to the success of all managers in today’s business environment. The OBA concentration is therefore not only appropriate for students interested in supply chain management, sourcing, and logistics, it is also well-suited for business analysts, consultants, and general managers.

Courses offered by the OBA department cover a range of operations and business analytics topics including project management, database systems, predictive modeling (in R), python data analytics, and supply chain management. The department offers a concentration in operations and business analytics for the undergraduate major in business administration; a specialization in operations and business analytics for MBA students; and a Ph.D. in operations management.

Faculty


Behrooz Pourghannad, assistant professor (health care and operations analytics). BS, 2008, Azad; MA, 2003, Sabanci University (Turkey); MA, MA, 2005, Michigan; PhD, 2019, Minnesota.

Yasamin Vahdati, instructor (empirical strategy, CEO and CMO activism). BS, 2009, Azad; MBA, 2013, Mazandaran University of Science and Technology; PhD, 2019, Oklahoma State. (2020)


Fang Yin, senior instructor (business value of IT, electronic commerce). BA, 1992, Peking (Beijing); PhD, 2002, Texas, Austin. (2008)

Emeriti


Larry E. Richards, associate professor emeritus. BA, 1962, MBA, 1963, Washington (Seattle); PhD, 1969, California, Los Angeles. (1966)

The date in parentheses at the end of each entry is the first year on the University of Oregon faculty.

Four-Year Degree Plan

The degree plan shown is only a sample of how students may complete their degrees in four years. There are alternative ways. Students should consult their advisor to determine the best path for them.

Bachelor of Arts in Business Administration

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Milestones</th>
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</thead>
<tbody>
<tr>
<td>First Year</td>
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<tr>
<td>Fall</td>
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<tr>
<td>BA 101</td>
<td>Introduction to Business</td>
<td>4</td>
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<tr>
<td>BA 199</td>
<td>Special Studies: [Topic]</td>
<td>1</td>
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<tr>
<td>MATH 111</td>
<td>College Algebra</td>
<td>4</td>
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<tr>
<td></td>
<td>First term of first-year second-language sequence</td>
<td>5</td>
<td>Review the holistic requirements for admission to the major and establish a plan for developing these traits</td>
</tr>
<tr>
<td>Winter</td>
<td></td>
<td>14</td>
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</tr>
<tr>
<td>EC 201</td>
<td>Introduction to Economic Analysis: Microeconomics</td>
<td>4</td>
<td>Get involved in a club</td>
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<tr>
<td></td>
<td>Second term of first-year second-language sequence</td>
<td>5</td>
<td>Use Career Services</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Calculus for Business and Social Science I</td>
<td>4</td>
<td></td>
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<tr>
<td>WR 121</td>
<td>College Composition I</td>
<td>4</td>
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<tr>
<td></td>
<td>Meet with a Lundquist Academic advisor to make a long-term plan</td>
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Credits 17
### Bachelor of Science in Business Administration

<table>
<thead>
<tr>
<th>Course</th>
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<td><strong>Fall</strong></td>
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<tr>
<td>BA 101</td>
<td>Introduction to Business</td>
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<tr>
<td>MATH 111</td>
<td>College Algebra</td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>BA 240</td>
<td>Spreadsheet Analysis and Visualization</td>
<td>4</td>
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<tr>
<td>General education courses in arts and letters</td>
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<td>8</td>
<td></td>
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<tr>
<td>Third term of second-year second-language sequence</td>
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<td>4-5</td>
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<td></td>
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<td></td>
<td>Apply for business administration major within the first week of the term you are completing business premajor requirements</td>
</tr>
<tr>
<td><strong>Credits</strong></td>
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<td>16-17</td>
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<td><strong>Total Credits</strong></td>
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<td>48-51</td>
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<tr>
<th>Course</th>
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<th>Milestones</th>
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<tbody>
<tr>
<td><strong>Second Year</strong></td>
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<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>ACTG 211</td>
<td>Introduction to Accounting I</td>
<td>4</td>
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<tr>
<td>MATH 243</td>
<td>Introduction to Methods of Probability and Statistics</td>
<td>4</td>
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<td></td>
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<td>Leadership role in club</td>
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<td>Learn Duck Connect</td>
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<tr>
<td>First term of second-year second-language sequence</td>
<td></td>
<td>4-5</td>
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<tr>
<td>Social science course that also satisfies a multicultural requirement</td>
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<td>4</td>
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<tr>
<td>Meet an advisor regarding progress toward admission</td>
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<tr>
<td><strong>Credits</strong></td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td><strong>Winter</strong></td>
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<tr>
<td>ACTG 213</td>
<td>Introduction to Accounting II</td>
<td>4</td>
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<tr>
<td>Arts and letters course that also satisfies a multicultural requirement</td>
<td></td>
<td>4</td>
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<tr>
<td>Second term of second-year second-language sequence</td>
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<td>4-5</td>
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<tr>
<td>General education course in science</td>
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<tr>
<td>See Lundquist Peer Educator about informational interviews</td>
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<td><strong>Credits</strong></td>
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<tr>
<td><strong>Spring</strong></td>
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<tr>
<td>BA 325</td>
<td>Business Law and Ethics</td>
<td>4</td>
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<tr>
<td>Upper-division business elective courses</td>
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<td>8</td>
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<tr>
<td>Elective course</td>
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<td>4</td>
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<tr>
<td><strong>Credits</strong></td>
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<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>OBA 311</td>
<td>Business Analytics I</td>
<td>4</td>
<td>Explore concentration</td>
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<tr>
<td>FIN 311</td>
<td>Economic Foundations of Competitive Analysis</td>
<td>4</td>
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<tr>
<td>BA 308</td>
<td>Leadership and Communication</td>
<td>4</td>
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<tr>
<td><strong>Credits</strong></td>
<td></td>
<td></td>
<td>12</td>
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<tr>
<td><strong>Winter</strong></td>
<td></td>
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<tr>
<td>FIN 316</td>
<td>Financial Management</td>
<td>4</td>
<td>Attend career fairs</td>
</tr>
<tr>
<td>MGMT 311</td>
<td>Managing People in Organizations</td>
<td>4</td>
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<tr>
<td>MKTG 311</td>
<td>Marketing Management</td>
<td>4</td>
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<tr>
<td>General education course in arts and letters</td>
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<tr>
<td><strong>Credits</strong></td>
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<td>16</td>
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<tr>
<td><strong>Fourth Year</strong></td>
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<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>BA 453</td>
<td>Business Strategy and Planning</td>
<td>4</td>
<td>Apply for graduation</td>
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<tr>
<td>Upper-division business elective courses</td>
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<td>8</td>
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<tr>
<td><strong>Credits</strong></td>
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<td><strong>Spring</strong></td>
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<tr>
<td>Upper-division business elective courses</td>
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<td>8</td>
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<tr>
<td>Elective course</td>
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<td><strong>Credits</strong></td>
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<td><strong>Total Credits</strong></td>
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</table>
BA 199  Special Studies: [Topic]  1
Arts and letters course that also satisfies a multicultural requirement  4
General education course in social science  4
Review the holistic requirements for admission to the major and establish a plan for developing these traits  

Credits  17

Winter
EC 201  Introduction to Economic Analysis: Microeconomics  Use Career Services  4
MATH 241  Calculus for Business and Social Science I  4
WR 121  College Composition I  4
General education course in arts and letters  4
Meet a Lundquist Academic advisor to make a long-term plan  

Credits  16

Spring
EC 202  Introduction to Economic Analysis: Macroeconomics  Consider the job shadow program  4
MATH 242  Calculus for Business and Social Science II  4
WR 122  College Composition II  4
WR 123  or College Composition III  4
Arts and letters course that also satisfies a multicultural requirement  4
Access tutoring resources  

Credits  16

Total Credits  49

Course  Title  Credits Milestones

Second Year
Fall
ACTG 211  Introduction to Accounting I  4
MATH 243  Introduction to Methods of Probability and Statistics  Leadership role in a club  4
General education course in arts and letters with a global context  4
Learn Duck Connect  

Course with global context subject matter  4
Meet an advisor regarding progress toward admission  

Credits  16

Winter
ACTG 213  Introduction to Accounting II  Prepare major application  4
Elective course  4
General education courses in science  4
Complete a practice interview  8

Meet Lundquist Peer Educator about informational interviews  

Credits  16

Spring
BA 240  Spreadsheet Analysis and Visualization  Conduct information interviews  4
Elective courses  8
General education course in science  4
Apply for business administration major within the first week of the term you are completing business premajor requirements  

Submit a Non-Business Breadth/Global Context proposal for approval  

Credits  16

Total Credits  48

Course  Title  Credits Milestones

Third Year
Fall
BA 308  Leadership and Communication  4
MGMT 311  Managing People in Organizations  4
OBA 312  Business Analytics II  4

Credits  12

Winter
FIN 316  Financial Management  Attend career fairs  4
MKTG 311  Marketing Management  Apply for internships  4
OBA 335  Operations Management  4
Elective course  4

Credits  16

Spring
FIN 311  Economic Foundations of Competitive Analysis  Utilize networking events  4
OBA 311  Business Analytics I  4
Upper-division business elective course  4
Elective course  4

Credits  16

Total Credits  44

Course  Title  Credits Milestones

Fourth Year
Fall
BA 325  Business Law and Ethics  4
Upper-division business elective courses  12

Credits  16

Winter
BA 453  Business Strategy and Planning  Apply for graduation  4
Upper-division business elective course  4
Courses

OBA 199. Special Studies: [Topic]. 1-5 Credits.
Repeatable when the topic changes.

OBA 311. Business Analytics I. 4 Credits.
Explores standard protocols for describing and modeling business information and processes; techniques for designing management information systems; criteria for analyzing firms' implementations of information technology. Students cannot receive credit for both OBA 311 and OBA 311H. Sophomore standing required.
Prereq: C- or better in BA 101, BA 240, EC 201, MATH 241, MATH 243.

OBA 311H. Business Analytics I. 4 Credits.
Explores standard protocols for describing and modeling business information and processes; techniques for designing management information systems; criteria for analyzing firms' implementations of information technology. Students cannot receive credit for both OBA 311 and OBA 311H. Sophomore standing required.
Prereq: C- or better in BA 101, BA 240, EC 201, MATH 241, MATH 243. Open only to students in the LCB honors program.

OBA 312. Business Analytics II. 4 Credits.
Computer-aided business applications of hypothesis testing, simple linear regression. Introduction to multiple regression and nonparametric techniques. Blocked and completely randomized one- and two-factor experimental designs. Students cannot receive credit for both OBA 312 and OBA 312H. Sophomore standing required.
Prereq: C- or better in OBA 311 or equivalent.

OBA 335. Operations Management. 4 Credits.
Concepts and applications of operations management. Use of information technology in operations. Topics include forecasting, quality, supply chain management, information systems in operations management, and planning and scheduling. Students cannot receive credit for both OBA 335 and OBA 335H. Sophomore standing required.
Prereq: C- or better in BA 101, BA 240, EC 201, MATH 241, MATH 243.

OBA 335H. Operations Management. 4 Credits.
Concepts and applications of operations management. Use of information technology in operations. Topics include forecasting, quality, supply chain management, information systems in operations management, and planning and scheduling. Students cannot receive credit for both OBA 335 and OBA 335H. Sophomore standing required.
Prereq: BA 101, BA 240, EC 201, MATH 241, MATH 243. Open only to students in the LCB honors program.

OBA 401. Research: [Topic]. 1-21 Credits.
Repeatable.

OBA 403. Thesis. 1-6 Credits.
Repeatable.

OBA 405. Special Problems: [Topic]. 1-12 Credits.
Repeatable.

OBA 406. Practicum: [Topic]. 1-12 Credits.
Repeatable.

OBA 407. Seminar: [Topic]. 1-4 Credits.
Repeatable.

OBA 409. Terminal Project. 1-12 Credits.
Repeatable.

OBA 410. Experimental Course: [Topic]. 1-4 Credits.
Repeatable when the topic changes. Recent topics include Service Operations, Business Analytics, Analyzing Big Data.

OBA 444. Business Database Management Systems. 4 Credits.
Techniques for structuring and storing business data; primary focus on relational database theory, with applied skills for business users, including data warehouses, reporting, and normalization.
Prereq: OBA 340 or OBA 340H.

OBA 455. Data Driven Predictive Modeling. 4 Credits.
Introduction to basics of programming and fundamentals of predictive modeling.
Prereq: OBA 312 or MATH 345M.

OBA 466. Project and Operations Management Models. 4 Credits.
Frameworks and solutions for managing complex projects and operations; implementing optimal strategies for producing profitable new products and services in the competitive global business environment.
Prereq: OBA 335 or 335H.

OBA 477. Supply-Chain Operations and Information. 4 Credits.
Strategic and tactical issues pertaining to the distribution and delivery of products and services. Methodologies and systems for designing, tracking, and managing complex global operations.
Prereq: OBA 335 or 335H.

OBA 503. Thesis. 1-16 Credits.
Repeatable.

OBA 510. Experimental Course: [Topic]. 1-4 Credits.
Repeatable when the topic changes. Recent topics include Service Operations, Business Analytics, Analyzing Big Data.

OBA 544. Business Database Management Systems. 4 Credits.
Techniques for structuring and storing business data; primary focus on relational database theory, with applied skills for business users, including data warehouses, reporting, and normalization.
Prereq: all MBA core courses.

OBA 555. Data Driven Predictive Modeling. 4 Credits.
Introduction to basics of programming and fundamentals of predictive modeling.
Prereq: all MBA core courses.

OBA 566. Project and Operations Management Models. 4 Credits.
Frameworks and solutions for managing complex projects and operations; implementing optimal strategies for producing profitable new products and services in the competitive global business environment.
Prereq: all MBA core courses.

OBA 577. Supply-Chain Operations and Information. 4 Credits.
Strategic and tactical issues pertaining to the distribution and delivery of products and services. Methodologies and systems for designing, tracking, and managing complex global operations.
Prereq: all MBA core courses.
OBA 605. Reading and Conference: [Topic]. 1-16 Credits.
Repeatable.

OBA 606. Practicum: [Topic]. 1-16 Credits.
Repeatable.

OBA 607. Seminar: [Topic]. 1-3 Credits.
Repeatable.

OBA 608. Workshop: [Topic]. 1-16 Credits.
Repeatable.

OBA 609. Terminal Project. 1-12 Credits.
Repeatable.

OBA 610. Experimental Course: [Topic]. 1-5 Credits.
Repeatable when the topic changes.

OBA 612. Quantitative Methods for Managers. 3 Credits.
Concepts and techniques of analytic decision making, sampling and
statistical inference, and regression analysis.

OBA 613. Operations Management. 3 Credits.
Overview of the managerial issues associated with production and
delivery of goods and services. Includes the use of quantitative modeling
and several case studies in operations.