
Docket Item:

University Program Approval: Oregon State University, Bachelor of Science (B.S.) in Business Analytics

Summary:

Oregon State University proposes a new degree program leading to a B.S. in Business Analytics. The statewide Provosts' Council has unanimously recommended approval. Higher Education Coordinating Commission (HECC) staff completed a review of the proposed program. After analysis, HECC staff recommends approval of the program as proposed.

Staff Recommendation:

The HECC recommends the adoption of the following resolution:

RESOLVED, that the Higher Education Coordinating Commission approve the following program:
B.S. in Business Analytics at Oregon State University



Prospectus

Institution: Oregon State University
College: College of Business
Location: OSU Main – Corvallis
Delivery: On Campus and Ecampus
Program: BS in Business Analytics

The entire proposal can reviewed at the following website:

CPS Tracking # 106038

<https://secure.oregonstate.edu/ap/cps/proposals/view/106038>

May 2019



Proposal for a New Academic Program

Institution: Oregon State University

College/School: College of Business

Department/Program Name: Business Analytics

Degree and Program Title: Bachelor's of Science in Business Analytics

1. Program Description

- a. Proposed Classification of Instructional Programs (CIP) number.

CIP code 52.1301

Title: Management Science.

Definition: A general program that focuses on the application of statistical modeling, data warehousing, data mining, programming, forecasting and operations research techniques to the analysis of problems of business organization and performance.

- b. Brief overview (1-2 paragraphs) of the proposed program, including its disciplinary foundations and connections; program objectives; programmatic focus; degree, certificate, minor, and concentrations offered.

The College of Business proposes to offer a Bachelor's of Science (BS) degree in Business Analytics with specializations in Human Resource Analytics Market Research and Consumer Analytics, and Digital Marketing Analytics. The BS in Business Analytics provides undergraduate students a focused exploration of complex business problems in terms of analytical models. Students will develop data analysis skills and learn how to interpret and communicate the resulting insights to maximize strategic value. Students will be introduced to topics and techniques associated with data mining, data visualization, text mining, and advanced statistical tools and techniques.

Although broadly defined, Human Resources Analytics is basically a sector within the broader field of analytics that involves the application of analytic processes within a human resource department for the purpose of improving employee performance. Market Research and Consumer Analytics provides the knowledge and skills to collect and analyze data to study market conditions and help businesses to promote their services and products. Digital Marketing Analytics prepares graduates to apply sophisticated methods to analyze big data and solve marketing problems such as consumer analysis, customer segmentation and micro-targeting.

Table 1. Summary of BS in Business Analytics Proposal

Category	Information Summary
Proposal Title	Bachelor’s of Science in Business Analytics
Proposal Purpose (e.g., New; Change—Rename, Move, Reorganization; Suspend; Terminate)	New Undergraduate Degree
Classification of Instructional Program (CIP) #	52.1301
Curriculum Proposal System # (incl link)	106038 https://secure.oregonstate.edu/ap/cps/proposals/view/106038
Banner Student Information System (SIS) #	To be assigned by the Registrar’s Office
Degree Type (e.g., B.S., M.S., or Ph.D.)	B.S., H.B.S.
Program Type (e.g., Undergraduate, Graduate, First Professional)	Undergraduate
Academic Home	College of Business
College Code	02
Contacts (e.g., Name, Title, Tel #, eMail Address)	James R Coakley, PhD Senior Associate Dean, Analytics and Operations 7-4116 Jim.coakley@oregonstate.edu
Faculty (New)	No new faculty will be required to support the launch of the program. Existing faculty are currently delivering all program courses or equivalents. New faculty will be added as enrollment in the program grows.
Staff (New)	No new staff will be required to support the launch of the program. Academic advising staff will be added as program enrollments grow
Library	No additional library resources will be required
Facilities/Space	No new facilities or space will be required
Budget (first four years)	Year 1: \$125,205; Year 2: \$104,910; Year 3: \$243,758; Year 4: \$252,153
Undergraduate Option(s)	Human Resource Analytics, Digital Marketing Analytics, Market Research and Consumer Analytics
Graduate Option(s)	Not Applicable
Undergraduate Minor(s)	Not Applicable
Graduate Minor(s)	Not Applicable
Course Designator (e.g., Existing or New or Change)	BA, MGMT, MRKT (Existing; no new course designator will be required)
Courses (e.g., New Courses)	28 existing BA courses comprising 81 credits in the undergraduate business core

	<p>17 existing baccalaureate core courses comprising 58 credits</p> <p>3 existing and 3 new statistics and business analytics courses comprising 21 credits. Note that the 3 new business analytics courses are undergraduate equivalents of existing graduate courses.</p> <p>10 existing and 2 new specialization courses from management (MGMT) and marketing (MRKT) comprising 23 credits. Note that the new specialization courses are undergraduate equivalents of an existing graduate course.</p>
Location (e.g., Main; Cascades; Ecampus; HMSC)	Main Campus (Corvallis) and Extended Campus
Modality (e.g., Face-to-Face; On-line; Hybrid)	Face-to-Face and 50/50 Hybrid on campus, available fully online via Extended Campus
Enrollment Limitations	None
Accreditation	Association to Advance Collegiate Schools of Business
Program Unique Within Oregon University System (e.g., Yes or No)	Yes
Proposed Effective Term (e.g., term and year; Banner code)	Fall Term 2019 (202001)

- c. Course of study – proposed curriculum, including course numbers, titles, and credit hours.

The proposed course of study totals 180 credit hours, including 40 credits of university baccalaureate core education requirements, 91 credits of business administration core requirements (that includes 18 credits of baccalaureate core), 44 credits of business analytics requirements, and 5 credits of unrestrictive electives.

The BS in Business Analytics curriculum, presented below, provides 25 credit hours beyond the baccalaureate core that emphasizes scientific and quantitative approaches to understanding information, and provides both the business context and analytical skills needed to translate business opportunities into analytics questions that can be solved using analytics techniques. See Appendix 1 for a full description of the major.

Business Analytics Curriculum (45)

Business Analytics Core (21)

In the business analytics core, students will be introduced to topics and techniques associated with data mining, data visualization, text mining, and advanced statistical tools and techniques.

Course List

Code	Title	Hours
BA 275	FOUNDATIONS OF STATISTICAL INFERENCE	4
BA 375	APPLIED QUANTITATIVE METHODS	4
BA 474	DATA MANAGEMENT¹ [CPS 105927]	3
BA 475	DATA EXPLORATION AND VISUALIZATION¹ [CPS 105928]	3
BA 476	DATA AND TEXT MINING¹ [CPS 105929]	3
BA 481	INTRODUCTION TO BUSINESS ANALYTICS	4
Total Hours		21

Human Resource Analytics Option (23)

Although broadly defined, human resources analytics is basically a sector within the broader field of analytics that involves the application of analytic processes within a human resource department for the purpose of improving employee performance. Specifically, human resources analytics involves providing insight regarding the process of gathering data and making advantageous, relevant decisions about how human resource processes can be improved upon. The Human Resource Analytics option trains students to use a data-driven approach to managing people-related issues, such as recruiting, performance evaluation, hiring and promotion, compensation, and employee retention.

Course List

Code	Title	Hours
MGMT 448	EMPLOYEE RECRUITMENT AND SELECTION	4
MGMT 449	COMPENSATION MANAGEMENT	4
MGMT 452	LEADERSHIP	4
MGMT 453	HUMAN RESOURCES MANAGEMENT	4
MGMT 455	INFLUENCE AND NEGOTIATION	4
MGMT 477	INTEGRATED HUMAN RESOURCE ANALYTICS PROJECT¹ [CPS 105930]	3
Total Hours		23

Digital Marketing Analytics Option (23)

Digital Marketing Analysts apply sophisticated methods to analyze big data and solve marketing problems such as consumer analysis, customer segmentation and micro-targeting. The Digital Marketing Analytics option further develops analytical skills

associated with Customer Relationship Management (CRM), web analytics, social media marketing and analytics, and marketing analytics.

Course List

Code	Title	Hours
MRKT 477	INTEGRATED MARKETING ANALYTICS PROJECT¹ [CPS 105931]	3
MRKT 484	DIGITAL MEDIA AND MARKETING INTEGRATION	4
MRKT 485	SEARCH ENGINE MARKETING	4
MRKT 486	CUSTOMER RELATIONSHIP MANAGEMENT	4
MRKT 492	CONSUMER BEHAVIOR	4
MRKT 493	INTEGRATED MARKETING COMMUNICAIONS	4
Total Hours		23

Market Research and Consumer Analytics Option (23)

Market research analysts collect and analyze data to study market conditions and help businesses to promote their services and products. These professionals gather and interpret data on consumer demographics, needs, preferences and buying habits by using statistical techniques and software.

Course List

Code	Title	Hours
MRKT 396	FUNDAMENTALS OF MARKETING RESEARCH	4
MRKT 477	INTEGRATED MARKETING ANALYTICS PROJECT¹ [CPS 105931]	3
MRKT 486	CUSTOMER RELATIONSHIP MANAGEMENT	4
<i>MRKT 491</i>	<i>QUALITATIVE RESEARCH METHODS²</i>	4
MRKT 492	CONSUMER BEHAVIOR	4
<i>MRKT 496</i>	<i>MARKETING RESEARCH PRACTICUM²</i>	4
Total Hours		23

Notes:

1. **These are undergraduate variants of existing graduate-level courses BA 574, BA 575, BA 576 and BA 577 that are currently available in face-to-face, hybrid, and online modalities.**
 2. *MRKT 491 and MRKT 496 are existing courses that need to be developed for online delivery.*
- d. Manner in which the program will be delivered, including program location (if offered outside of the main campus), course scheduling, and the use of technology (for both on-campus and off-campus delivery).

Program will be delivered at the Corvallis campus with courses offered in face-to-face and 50/50 hybrid (50% face-to-face, 50% online) formats. The Digital

Marketing Analytics and Market Research and Consumer Analytics options will also be available fully online through OSU Extended Campus.

The comprehensive set of skills learned in the Business Analytics degree program include programming languages like R, SQL and Python, software applications like RapidMiner and Tableau, as well as advanced statistical methods and techniques for predictive modeling.

The business core courses are offered every term at the Corvallis campus and online.

The Business Analytics courses are schedule such that the major-specific requirements can be completed in one academic year following a fall-winter-spring sequence:

Human Resource Analytics				Digital Marketing Analytics				Market Research and Consumer Analytics			
Course	Fall	Winter	Spring	Course	Fall	Winter	Spring	Course	Fall	Winter	Spring
BA 474		X		BA 474		X		BA 474		X	
BA 475		X		BA 475		X		BA 475		X	
BA 476			X	BA 476			X	BA 476			X
BA 481	X			BA 481	X			BA 481	X		
MGMT 448			X	MRKT 477			X	MRKT 396	X		
MGMT 449			X	MRKT 484	X			MRKT 477			X
MGMT 452	X			MRKT 485		X		MRKT 486	X		X
MGMT 453	X			MRKT 486	X			MRKT 491		X	
MGMT 455		X		MRKT 492	X		X	MRKT 492	X		
MGMT 477			X	MRKT 493		X		MRKT 496		X	

e. Adequacy and quality of faculty delivering the program.

All existing coursework will be delivered by the same faculty who currently delivery the courses. The new undergraduate Business Analytics Core coursework will be delivered by the same faculty who deliver comparable coursework in our graduate programs. The College, accredited by the Association to Advance Collegiate Schools of Business (AACSB), has very strict guidelines regarding qualifications of both academically and professionally qualified faculty. All faculty delivering the Business Analytics coursework will meet those qualifications.

Faculty CVs are available upon request.

f. Adequacy of faculty resources – full-time, part-time, adjunct.

All faculty required to deliver the Business Analytics degree program are on full-time appointments. As enrollment in the program grows, we will add faculty resources to deliver the coursework using the academic and professional faculty guidelines required to maintain our AACSB accreditation.

g. Other staff.

The advising resources for the admitted students are the same as for the existing College of Business undergraduate degree programs. In accordance with

University guidelines, we hire additional academic advisors as the total number of enrolled students in all of our undergraduate degree programs increase.

h. Adequacy of facilities, library, and other resources.

Because we are using existing and equivalent coursework and merely increasing the enrollment in those courses, there is no impact on facilities, library, or other resources. The College currently provides remote connection capabilities (VPN) that allows online students to have access to software and computing resources needed to complete coursework and projects. We expand our capacity for remote connections as our overall online population of students grows, which includes enrollment in this new degree program.

i. Anticipated start date.

Fall 2019 (202001)

2. Relationship to Mission and Goals

a. Manner in which the proposed program supports the institution's mission, signature areas of focus, and strategic priorities.

The Business Analytics degree is most clearly relevant to the university's signature area of "Promoting Economic Growth and Social Progress". Increasingly, businesses, nonprofits, and other organizations are interested in better using available information in operations, tactical, and strategic decision making. Business Analytics employs the combination of rapid growth of available data, both in organizations' data stores and through third parties, and the equally rapid development in software interoperability, data exchange mechanisms, and data mining and visualizations techniques. This combination allows organizations improved ability to extract and employ the value from this information to meet stakeholders' needs.

With respect to the 2030 vision for the University, this new degree program will:

- Offer an affordable and excellent education for all learners by providing educational access in residence in Corvallis and online via OSU Extended Campus. In addition, the College has developed pathways for community college students to complete their four-year degree either online or in-residence.
- Lead in education delivery by being the only business analytics undergraduate degree program offered by State universities.
- Engage students as collaborators in experiential learning and discovery by incorporating actual analytics projects from industry into the capstone analytics course.

b. Manner in which the proposed program contributes to institutional and statewide goals for student access and diversity, quality learning, research, knowledge

creation and innovation, and economic and cultural support of Oregon and its communities.

The College of Business is currently collaborating with multiple community colleges within the State to develop degree pathways that allows place-bound students to earn their four-year degree using fully online classes.

Quality learning is achieved through our external accreditation with AACSB (see below) that has very high standards for assurance of learning. Only three of the seven state institutions have earned AACSB accreditation for their business programs – OSU, Portland State University, and University of Oregon. In addition, the online program will be offered by OSU Extended Campus that is rated as third in the nation by US News for their online degree programs.

- c. Manner in which the program meets regional or statewide needs and enhances the state's capacity to:

- i. improve educational attainment in the region and state;

Educational attainment depends on access. Offering the degree program fully online through OSU Extended Campus maximizes the opportunities statewide for students to engage in the program. Students also have the option of pursuing the degree program in the face-to-face format in Corvallis if they wish a residential program of study. We also cater to part-time students by offering our classes in the evening and/or in a 50/50 hybrid mode with meetings once per week.

For individuals who complete the Associate of Science Oregon Transfer (ASOT) degree in business, this four-year degree can be earned by completing 90 credits at OSU.

- ii. respond effectively to social, economic, and environmental challenges and opportunities; and

As described previously, graduates skilled in the areas of business analytics are of critical importance to the state's economy and workers. The program includes required training in ethical business operations and this, in combination with students who are trained at the forefront in efficient and informed human resource and marketing concepts, and those who can provide best practices in those area, will produce responsible and significant contributors to the Oregon economy.

- iii. address civic and cultural demands of citizenship.

The College of Business has established professional behavior standards that are strictly enforced within all College programs across all locations and modalities (see URL <http://business.oregonstate.edu/about/academic-policies-standards>).

The program of study includes a required ethics course that is specific to business. Ongoing dialogue about the ethical use of big data is integrated throughout the program.

3. Accreditation

- a. Accrediting body or professional society that has established standards in the area in which the program lies, if applicable.

The University, and all of the business programs within the University, are accredited through the Association to Advance Collegiate Schools of Business (AACSB), which is widely considered the benchmark for business programs.

- b. Ability of the program to meet professional accreditation standards. If the program does not or cannot meet those standards, the proposal should identify the area(s) in which it is deficient and indicate steps needed to qualify the program for accreditation and date by which it would be expected to be fully accredited.

The College, and the University, currently meet the accreditation standards.

- c. If the proposed program is a graduate program in which the institution offers an undergraduate program, proposal should identify whether or not the undergraduate program is accredited and, if not, what would be required to qualify it for accreditation.

All graduate and undergraduate degree programs offered by the College of Business are accredited through AACSB.

- d. If accreditation is a goal, the proposal should identify the steps being taken to achieve accreditation. If the program is not seeking accreditation, the proposal should indicate why it is not.

Not applicable.

4. Need

- a. Anticipated fall term headcount and FTE enrollment over each of the next five years.

Year	Corvallis Campus			Online via Ecampus			Total		
	Headcount	FTE	Graduates	Headcount	FTE	Graduates	Headcount	FTE	Graduates
2019-20	20	20.0	20	10	5.0	0	30	25.0	20
2020-21	90	90.0	38	35	17.5	10	125	107.5	48
2021-22	137	137.0	58	65	32.5	35	202	169.5	93
2022-23	161	161.3	58	75	37.5	45	236	198.8	103
2023-24	183	183.2	78	90	45.0	45	273	228.2	123

- b. Expected degrees/certificates produced over the next five years.

See above.

- c. Characteristics of students to be served (resident/nonresident/international; traditional/ nontraditional; full-time/part-time, etc.).

According to the Office of Institutional Research at OSU, 22 percent of the students in the College of Business are from historically underrepresented groups and 17 percent are international. Of the students currently enrolled in online degree programs offered by the college, 40 percent are first generation, 21 percent are from historically underrepresented groups, and 13 percent are international. On campus, 27 percent of our business students transferred to OSU from another academic institution. For our online business student population, 77 percent are transfer students. The degree program is designed to serve both full-time and part-time students.

- d. Evidence of market demand.

Demand for managers with ability to use (big) data analysis to make effective decisions is growing rapidly. McKinsey & Company forecast a shortage of 1.5 million such managers in the United States alone and Price-Waterhouse Coopers suggests that firms will therefore need to compete fiercely for individuals with strong analytics skills and business knowledge. Computerworld surveys consistently identify business intelligence and analytics high in their list of difficult-to-find skills.

The Bureau of Labor Statistics (BLS) predicts an increase demand for Operations Research Analysts. Demand for these positions are expected to increase by 27,600 between 2014-2024, which is a 30% growth rate and “Much Faster than Average” rate, with the Portland/Vancouver market experiencing above-national-average growth. As the use of massive data sets – also known as big data – has expanded, so has the demand for skilled workers to collect and manage this information. The expanding use of big data is also driving the demand for market research analysts with backgrounds in statistics and data analysis. The BLS projects that careers in this field will increase by 23 percent during the same time period.

- e. If the program’s location is shared with another similar Oregon public university program, the proposal should provide externally validated evidence of need (e.g., surveys, focus groups, documented requests, occupational/employment statistics and forecasts).

The University of Oregon (UO) offers a concentration in Operations and Business Analytics that integrates operations management (sourcing, supply chain, manufacturing and service systems) with data analytics. The OSU program offers concentrations in human resources and marketing, distinctly different from operations. Thus, the online delivery mode for this degree program should not conflict with the degree program offered by UO

- f. Estimate the prospects for success of program graduates (employment or graduate school) and consideration of licensure, if appropriate. What are the expected career paths for students in this program?

Student placement/employment rate is a primary indicator of program success for each concentration. The College regularly collects placement data for all students both at graduation and in the 90-days following graduation (these data are reported for ranking and other purposes) using a survey similar to the National Association of Colleges and Employers (NACE) First-Destination Survey. .

5. Outcomes and Quality Assessment

- a. Expected learning outcomes of the program.

Learning Outcomes for the Business Analytics undergraduate degree.

Degree-specific Learning Outcomes: Graduates from the Business Analytics degree program will be able to:	Coursework
Identify and describe complex business problems in terms of analytical models	BA 375, BA 474, BA 475, BA 476
Apply the primary statistical, quantitative and business analytics tools and techniques to support common business decision-making applications	BA 375, BA475, BA 476, MGMT 477, MRKT 477
Analyze the applications of business analytics in real-world business situations	MGMT 477, MRKT 477
Communicate technical information to both technical and non-technical audiences in writing and with visualizations.	BA 476, MGMT 477, MRKT 477
Demonstrate ethical decision-making in structured or unstructured and ambiguous situations	BA 474, BA 475, BA 476, BA 481, MGMT 477, MRKT 477

- b. Methods by which the learning outcomes will be assessed and used to improve curriculum and instruction.

The majority of the learning objectives will be assessed using course-embedded measures. These include exam questions, case analyses, class discussion, class projects and presentations. In conjunction with the MBA option in Business Analytics, each learning objective will be assessed once every two years (a two-year assessment cycle). The 'off' assessment year will allow the course/discipline coordinator to analyze the data from the previous assessment and implement changes to coverage, delivery, etc. if it was deemed necessary. The subsequent

assessment cycle will allow us to 'close the loop', or evaluate the impact of changes implemented related to the objective. If no changes were made, the subsequent assessment cycle will allow us to continue to monitor whether students continue to meet the objective. Note that given the integrative nature of the program, coverage of a particular learning objective will take place in multiple courses or across courses.

- c. Nature and level of research and/or scholarly work expected of program faculty; indicators of success in those areas.

The College of Business sets expectations for the nature and level of research and/or scholarly activity of program faculty. The Associate Dean for Research and Faculty Development evaluates all tenure/tenure-track faculty on an annual basis to ensure they are meeting our expectations for scholarly work. The proposed degree will not impact these expectations.

6. Program Integration and Collaboration

- a. Closely related programs in this or other Oregon colleges and universities.

The University of Oregon offers a concentration in Operations and Business Analytics that integrates operations management (sourcing, supply chain, manufacturing and service systems) with data analytics. The distinction is that the OSU program offers concentrations in human resources and marketing, distinctly different from operations.

The Portland State University School of Business does not currently offer any degree programs with an emphasis in data analytics.

- b. Ways in which the program complements other similar programs in other Oregon institutions and other related programs at this institution. Proposal should identify the potential for collaboration.

All students will complete the undergraduate business core, which provides foundational knowledge for students to pursue graduate programs in business, especially MBA degree programs.

OSU has Degree Partnership Programs with all community colleges within the state, allowing seamless transition for those students to enter this degree program.

- c. If applicable, proposal should state why this program may not be collaborating with existing similar programs.

Not applicable

d. Potential impacts on other programs.

No adverse impacts are expected on other programs. The new degree is intended to attract new students into the business analytics degree and provide flexible alternatives for existing students in the state and region.

7. External Review

If the proposed program is a graduate level program, follow the guidelines provided in *External Review of New Graduate Level Academic Programs* in addition to completing all of the above information.

Appendix 1
Curricular Program for Business Analytics Major

Business Analytics major requirements are divided into two parts – lower-division and upper-division. The lower-division business core program involves completion of courses within the first and second year (see core curriculum below) that build a solid foundation for the upper-division Business Analytics and business curricula. The lower-division business core course work may be completed at OSU or any accredited college or university that offers equivalent courses transferable to OSU.

Summary of Requirements	
Lower Division	59-62
Business Core Classes (40-43)	
Math, Economics, Writing and Communications (15) ¹	
Business Analytics Class (4)	
Upper Division	73
Writing (3) ²	
Business Core Classes (30)	
Business Analytics Classes (40)	
University General Education Requirements	40
Unrestricted Electives	5-8
Total credits required for graduation	180
¹ 11 credits from the lower-division business core satisfy University General Education Requirements	
² 3 credits for the upper-division business core satisfy University General Education Requirements	

Business Administration Core Curriculum (85–91)

The business administration core curriculum provides students with a broad overview of business; basic skills in accounting and quantitative methods; an understanding of the legal and social environment of business; a background in management and organizational behavior, marketing, finance, and operations management; an understanding of the entrepreneurial process; and the opportunity to integrate course work and further develop decision-making skills through the analysis of business cases.

First Year

Hours

Students entering OSU on the Corvallis campus as their first college experience are required to participate in Innovation Nation, the College of Business Living-Learning Community (LLC). These students, as well as students who transfer in the winter term into the business administration major from another college or university, will complete the following three-course sequence during their first year:

BA 160	B-ENGAGED	3
or BA 163	B-ENGAGED	3
BA 161	INNOVATION NATION--AWARENESS TO ACTION	3
BA 162	INNOVATION NATION--IDEAS TO REALITY	3

All other students, including students completing their degree via OSU Extended Campus, will complete the following course:

BA 101	BUSINESS NOW	6
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All students should also complete:

COMM 111	*PUBLIC SPEAKING	3
or COMM 114	or *ARGUMENT AND CRITICAL DISCOURSE	
or COMM 218	or *INTERPERSONAL COMMUNICATION	

MTH 241	*CALCULUS FOR MANAGEMENT AND SOCIAL SCIENCE	4
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Total First Year Business Core Hours 13-16

Second Year

All students in the business administration major should complete the following courses*:

BA 281	PROFESSIONAL DEVELOPMENT	3
BA 282	PERSONAL, PROFESSIONAL AND LEADERSHIP DEVELOPMENT I	1
BA 283	PERSONAL, PROFESSIONAL AND LEADERSHIP DEVELOPMENT II	1
BA 284	PERSONAL, PROFESSIONAL AND LEADERSHIP DEVELOPMENT III	1

*Students who transfer from another college or university into the business administration major who have completed all lower-division business core course work should complete the following course:

BA 381	PERSONAL AND PROFESSIONAL DEVELOPMENT	3
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All second-year students should also complete:

BA 211	FINANCIAL ACCOUNTING	4
BA 213	MANAGERIAL ACCOUNTING	4
BA 223	PRINCIPLES OF MARKETING	4
or BA 390	or MARKETING	
BA 230	BUSINESS LAW I	4
BA 240	FINANCE	4
or BA 360	or INTRODUCTION TO FINANCIAL MANAGEMENT	
BA 260	INTRODUCTION TO ENTREPRENEURSHIP	4

BA 270	BUSINESS PROCESS MANAGEMENT	4
ECON 201	*INTRODUCTION TO MICROECONOMICS	4
ECON 202	*INTRODUCTION TO MACROECONOMICS	4
	Total Second Year Business Core Hours	39-42

Third Year

BA 311	THIRD-YEAR PERSONAL PROFESSIONAL LEADERSHIP DEVELOPMENT I	1
BA 312	THIRD YEAR PERSONAL PROFESSIONAL LEADERSHIP DEVELOPMENT II	1
BA 313	THIRD YEAR PERSONAL PROFESSIONAL LEADERSHIP DEVELOPMENT III	1
BA 347	INTERNATIONAL BUSINESS	4
BA 352	MANAGING INDIVIDUAL AND TEAM PERFORMANCE	4
BA 354	^MANAGING ETHICS AND CORPORATE SOCIAL RESPONSIBILITY	4
BA 357	OPERATIONS MANAGEMENT	4
BA 370 or ACTG 378	BUSINESS INFORMATION SYSTEMS OVERVIEW or ACCOUNTING INFORMATION MANAGEMENT	4
WR 222 or WR 323 or WR 327	*ENGLISH COMPOSITION or *ENGLISH COMPOSITION or *TECHNICAL WRITING	3
	Total Third Year Business Core Hours	26

Fourth Year

BA 411	FOURTH YEAR PERSONAL PROFESSIONAL LEADERSHIP DEVELOPMENT I	1
BA 412	FOURTH YEAR PERSONAL PROFESSIONAL LEADERSHIP DEVELOPMENT II	1
BA 413	FOURTH YEAR PERSONAL PROFESSIONAL LEADERSHIP DEVELOPMENT III	1
BA 466	INTEGRATIVE STRATEGIC EXPERIENCE	4
	Total Fourth Year Business Core Hours	7
	Total Business Core Hours	85-91

* Baccalaureate Core Course (BCC)

^ Writing Intensive Course (WIC)

Business Analytics Curriculum (44)

Business Analytics Core (21)

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MGMT 452	LEADERSHIP	4
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Digital Marketing Analytics Option (23)

Digital Marketing Analysts apply sophisticated methods to analyze Big Data and solve marketing problems such as consumer analysis, customer segmentation and micro-

targeting. The Digital Marketing Analytics specialization further develops analytical skills associated with Customer Relationship Management (CRM), web analytics, social media marketing and analytics, and marketing analytics.

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MRKT 493	INTEGRATED MARKETING COMMUNICAIONS	4
Total Hours		23

Market Research and Consumer Analytics Option (23)

Market research analysts collect and analyze data to study market conditions and help businesses to promote their services and products. These professionals gather and interpret data on consumer demographics, needs, preferences and buying habits by using statistical techniques and software.

Course List

Code	Title	Hours
MRKT 396	FUNDAMENTALS OF MARKETING RESEARCH	4
MRKT 477	INTEGRATED MARKETING ANALYTICS PROJECT ¹ [CPS 105931]	3
MRKT 486	CUSTOMER RELATIONSHIP MANAGEMENT	4
MRKT 491	QUALITATIVE RESEARCH METHODS	4
MRKT 492	CONSUMER BEHAVIOR	4
MRKT 496	MARKETING RESEARCH PRACTICUM	4
Total Hours		23

1. Undergraduate variants of existing graduate-level courses BA 574, BA 575, BA 576 and BA 577 that are currently available in face-to-face, hybrid, and online modalities.

Appendix 2
Four-year Program Plan for Business Analytics Major

	fall		Winter		Spring		
	Course	Credits	Course	Credits	Course	Credits	Total
First Year	BA 160 B-Engaged	3	BA 161 Awareness to Action	3	BA 162 Ideas to Reality	3	
	MTH 111 College Algebra	4	MTH 241 Calculus for Mgmt and SS	4	ECON 201 Intro to Microeconomics	4	
	WR 121 English Composition	3	COMM 111 or 114 or 218	3	WR 222 English Composition	3	
	Bio Bac Core Lab Science	4	Phys Bac Core Lab Science	4	Bio/Phys Bac Core Lab Science	4	
			HHS 231 Lifetime Fitness	2	PAC	1	
		14		16		15	45
Second Year	ECON 202 Intro to Macroeconomics	4	BA 211 Financial Accounting	4	BA 213 Managerial Accounting	4	
	BA 260 Intro to Entrepreneurship	4	BA 275 Foundation of Statistics	4	BA 230 Business Law	4	
	BA 281 Professional Development	3	BA 283 PPL	1	BA 270 Business Process Mgmt	4	
	BA 282 PPL	1	BC: Western Culture	3	BA 284 PPL	1	
	BC: Literature & Arts	3	BC: Cultural Diversity	3	Elective	2	
		15		15		15	45
Third Year	BA 311 PPL	1	BA 312 PPL	1	BA 313 PPL	1	
	BA 223 Marketing	4	BA 240 Intro to Fin. Mgmt	4	BA 370 Bus Info Systems	4	
	BA 352 Managing Indv & Team Perf	4	BA 347 International Bus	4	BA 375 Applied Quant Methods	4	
	BA 357 Operations Mgt	4	BA 354 Managing Ethics	4	BC: Sci/Tech/Society	3	
	BC: Diff/Power?Disc.	3	BC: Cont global Issues	3	Elective	1	
		16		16		13	45
Fourth Year	BA 411 PPL	1	BA 412 PPL	1	BA 413 PPL	1	
	BA 466 Integ. Strat. Exper.	4	BA 474 Data Management	3	BA 476 Data & Tet Mining	3	
	BA 481 Into to Bus Analytics	4	BA 475 Data Explor. & Visual.	3	Mgmt/Mrkt 477 Capstone	3	
	Option 1	4	Option 3	4	Option 5	4	
	Option 2	4	Option 4	4	Elective	2	
		17		15		13	45

APPENDICES

A – Executive Summary

B – Transmittal Sheet

C – Accessibility Form

D – Library Evaluation

E – Letters of Support

F – Liaison Comments

A – Executive Summary

Proposal for the Initiation of a Bachelor of Science Business Analytics

The College of Business proposes a new undergraduate degree program in Business Analytics that will provide students a focused exploration of applying data science tools to a specific business disciplines of human resources and marketing. The proposed course of study totals 180 credit hours, including 40 credits of university baccalaureate core education requirements, 91 credits of business administration core requirements (that includes 18 credits of baccalaureate core core), 44 credits of business analytics requirements, and 5 credits of unrestrictive electives. Five new courses will be added that are equivalents to existing graduate courses offered within the College.

The Business Analytics undergraduate degree will support a rapidly-growing interest from organizations that need people who can integrate data sets and tools to address opportunities and risks. Internal sources such as transaction lists can be combined with and matched to data from social networks, search engines and content providers. These data sets are quickly growing in size, complexity, information content and value. Business Analytics leverages advances in software interoperability, data exchange mechanisms and data mining and visualization techniques to better understand operations, customers, and markets.

The degree program will offer three options to integrate data science with business disciplines:

- The Human Resource Analytics option trains students to use a data-driven approach to managing people-related issues, such as recruiting, performance evaluation, hiring and promotion, compensation, and employee retention.
- The Digital Marketing Analytics option further develops analytical skills associated with Customer Relationship Management (CRM), web analytics, social media marketing and analytics, and marketing analytics
- The Market Research and Consumer Analytics option trains students to collect and analyze data to study market conditions and help businesses to promote their services and products. Students pursuing this option will gather and interpret data on consumer demographics, needs, preferences and buying habits by using statistical techniques and software.

Currently, there is significant demand for business analytics knowledge and skills.

- McKinsey Global Institute report: the United States faces a shortage of 140,000 to 190,000 individuals who possess deep business analytic skills and an additional 1.5 million managers with the skill set to implement the results.
- Computerworld surveys consistently identify business intelligence/analytics high in their lists of difficult-to-find skills.

The existing business courses within this degree program are currently offered face-to-face in Corvallis and fully online (through Extended Campus). The graduate equivalents of the five new courses are also available for on-campus and fully online delivery.

Because the degree program relies entirely on existing courses, administration and infrastructure, it requires no additional resources. Program oversight and review will be included in the duties of the current Associate Dean for Undergraduate Student Development. We plan to hire additional online academic advisors as the enrollment in the online program grows.

B – Transmittal Sheet



Proposal Transmittal Sheet

Full Category I and Abbreviated Category I Proposals

Submit proposals to: Office of Academic Programs, Assessment, and Accreditation
314 Waldo Hall – Oregon State University

Attach Transmittal Sheet; Proposal; Library Evaluation (performed by the Library for Full Category I proposals), Letters of Support (external to OSU); Liaison Correspondence (internal to OSU), External Review (new graduate program proposals), and Budget Information (both OSU and HECC budget sheets for Full Category I proposals and OSU budget sheets for Abbreviated Category I proposals)

Full Category I Proposals: New Programs

Final Approval--for new degrees, extension to OSU's branch campus, and substantive changes:
Higher Education Coordinating Commission (HECC)

Final Approval-- for new certificate programs: OSU Provost

Check one:

- New Degree Program**
- New Certificate Program**
- Extend Program to OSU Branch Campus**
- Substantive Change**

Abbreviated Category I Proposals: Other Proposals

Final Approval--for new academic units, renames, reorganizations, and, suspensions: OSU Provost

Final Approval-- for terminations: OSU Board of Trustees

Check one:

- Establish:** new college, school, department or program
- Rename:** change the name of an existing academic program or academic unit
- Reorganization:** move the responsibility of an academic program from one academic unit to another; reorganize existing academic unit(s), including mergers and splits
- Suspension (or Reactivation):** suspend an academic program (maximum period: three years)
- Termination:** terminate an academic program or academic unit

Title of Proposal:
Bachelor's of Science in
Business Analytics

Proposed Effective Term:
202000, Summer 2019

School/Department/Program:

College:

N/A

Business

I certify that the above proposal has been reviewed by the appropriate Program, Department, School, and College administrators and committees. I approve this proposal.

Sign (Department/School Chair/Head; Director) Date

James R. Coakley

Print (Chair/Head; Director)

Sign (College Dean) Date

Mitzi M. Montoya

Print (College Dean)

Source: Office of Academic Programs, Assessment and Accreditation (2-10-15; rev 1-8-16)

C – Accessibility Form



ACCESSIBILITY New Program Proposal (Degree or Certificate) Guidelines for Addressing Accessibility

Sections 503 and 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 (ADA), as amended by the ADA Amendments Act of 2008 prohibits discrimination on the basis of disability. The Rehabilitation Act and the ADA require that no qualified person shall, solely by reason of disability, be denied access to, participation in, or the benefits of, any program or activity operated by the University. Each qualified person shall receive the reasonable accommodations needed to ensure equal access to employment, educational opportunities, programs, and activities in the most integrated setting feasible.

*For questions and assistance with addressing access, please contact:
the Office of Disability and Access Services (737-4098), or
the Office of Affirmative Action and Equal Opportunity (737-3556).*

Title of Proposal:

Date:

Bachelor's of Arts/Bachelor's of Science in
Business Analytics

1/16/2019

School/Department/Program:

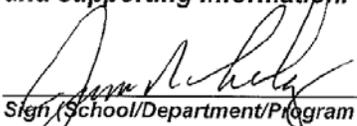
College:

N/A

Business

- Accessibility (<http://oregonstate.edu/accessibility/policies>)
- Faculty Guidelines (<http://ds.oregonstate.edu/facultyguidelines>)
- Information Technology Guidelines (<http://oregonstate.edu/accessibility/ITpolicy>)

By signing this form, we affirm that at we have reviewed the listed documents and will apply a good faith effort to ensure accessibility in curricular design, delivery, and supporting information.



Sign (School/Department/Program Director/Chair/Head)

James R Coakley

Print (School/Department/Program Director/Chair/Head)

Date

1/16/2019

Source: Office of Academic Programs, Assessment, and Accreditation (gib/ch; 4-26-16)

D – Library Evaluation

OSU Libraries
Collection Development

Library Evaluation for Category I Proposal

Bachelor of Arts/Bachelor of Science in Business Analytics
Title of Proposal

N/A
Department

Business
College

The subject librarian responsible for collection development in the pertinent curricular area has assessed whether the existing library collections and services can support the proposal. Based on this review, the subject librarian concludes that present collections and services are:

- inadequate to support the proposal (see budget needs below)
 marginally adequate to support the proposal
 adequate to support the proposal

Estimated funding needed to upgrade collections or services to support the proposal (details are attached)

Year 1: Ongoing (annual):
\$

Comments and Recommendations:

Date Received: 02/01/2019

Date Completed: 02/11/2019

Laurel Kristick
Collection Assessment Librarian


Signature

Kerri Goergen-Doll
Head of Collections & Resource Sharing


Signature

2/11/19
Date

Faye A. Chadwell
Donald and Delpha Campbell
University Librarian and
OSU Press Director


Signature

2/11/19
Date

Oregon State University Libraries Evaluation of the Collection Supporting a Proposal to Initiate a Bachelor of Arts/Bachelor Science Program in Business Analytics

This Oregon State University Libraries and Press (OSULP) assessment reviews the print monographic, e-book, and electronic serials collections needed to support the proposed Business Analytics program. As stated in the Cat 1 proposal, this program will offer specializations in specializations in Human Resource Analytics, Market Research and Consumer Analytics, and Digital Marketing Analytics. The proposed program will include existing undergraduate courses and undergraduate variants of existing graduate-level courses.

A library assessment for the Graduate Certificate in Business Analytics was completed in 2014, and OSULP collections and services were determined to be adequate to support the certificate. The 2016 library assessment is attached as Appendix A.

As OSULP is already supporting the existing undergraduate and graduate courses, the collections and services are adequate to support the proposed program.

Appendix A. Library Evaluation for Graduate Certificate in Business Analytics 2014

**OSU Libraries
Collection Development**

Library Evaluation for Category I Proposal

Graduate Certificate in Business Analytics
Title of Proposal

N/A
Department

Business
College

The subject librarian responsible for collection development in the pertinent curricular area has assessed whether the existing library collections and services can support the proposal. Based on this review, the subject librarian concludes that present collections and services are:

- inadequate to support the proposal (see budget needs below)
- marginally adequate to support the proposal
- adequate to support the proposal

Estimated funding needed to upgrade collections or services to support the proposal (details are attached)

Year 1: _____ Ongoing (annual): _____

Comments and Recommendations:

Date Received: 10/13/14

Date Completed: 10/28/14

Laurel Kristick
Collection Assessment Librarian

Signature

Kerri Goergen-Doll
Head of Collections & Resource Sharing

Signature

Date

Faye Chadwell
University Librarian

Signature

Date

Oregon State University Libraries Evaluation of the Collection supporting a Proposal to Initiate a Graduate Certificate program in Business Analytics

This Oregon State University Libraries' (OSUL) assessment reviews the print monographic, e-book, and electronic serials collections as related to the information needed to support the proposed business analytics certificate program. This proposed program uses existing courses within the MBA degree.

Summary of Recommendations

The most recent library review for MBA programs was the 2011 review for the proposed Master of Business Administration and Accounting (MBAA). The serials and monograph collections were determined to be adequate for the proposed program.

For this proposed graduate certificate, both the monographic and journal collections appear to be adequate to support the program.

Print Monographs and E-Books

Library evaluations of proposed programs have traditionally included the analysis of OSUL's print monograph collection. Comparing the monograph collection with other universities' collections is routine.

Comparing OSUL holdings to University of Washington shows that OSUL has approximately 20% fewer monographs in the key subject areas. However, the Libraries' investment to the Orbis Cascades Alliance provides students and faculty with access to the collections of all the libraries in the Alliance, including the University of Washington, through the Summit Catalog. The Alliance has 18,000 books and videos in the key subject areas. Items requested through Summit are delivered to OSUL within three to five working days.

Table 1. Subject Headings for Business Analytics Comparison
Big data
Business Intelligence
Business planning
Data mining
Data warehousing
Decision making
Information visualization
Knowledge management
Management information systems
Strategic planning
Web usage mining

Appendix A. Library Evaluation for Graduate Certificate in Business Analytics 2014

Table 2. Peer Institution Comparison	Total Monographs
Oregon State University	6,478
University of Washington	8,157
Orbis Cascades Alliance	18,202

The growing availability of e-books makes it possible to expedite access to more information from various locations. This obviously better serves our distance learners and is a convenience for our on-campus students and faculty. Users have access to most titles at any time through their computers, tablets and mobile devices. OSUL currently has 2,477 e-books in the relevant subject areas. Of particular note is the Morgan & Claypool Synthesis Library, a collection of 50- to 100-page e-books that synthesize an important research or development topic, authored by a prominent contributor to the field. While these e-books are primarily in engineering, series include Technology, Management, & Entrepreneurship; Data Mining & Knowledge Discovery; Human-Centered Informatics; Information Concepts, Retrieval, & Services; and Visualization.

Serials/Journals

In business, ready access to current information is expected. The OSUL maintain a satisfactory collection of journals appropriate for the field of business analytics. There is concern that with regular price increases to our licenses and a flat budget that access may be eroded over time. The OSUL already have sacrificed timely access to some titles in favor of an embargo period to cut costs. We identified 24 titles indexed in the Web of Science of possible interest to those involved in the proposed program (Table 3). We indicate those titles that we have current access to, those with embargoes on the most current issues, and those not owned by the OSUL. OSUL has current subscriptions to 12 of the titles, embargoed access to additional three titles, and historical access to one title canceled in 2009.

Table 3 – Core Journals

Journal Title	ISSN	Impact Factor	OSU Holdings
ACM SIGMIS DATA BASE	0095-0033	0.056	1969-present
European journal of information systems	0960-085X	1.654	N/A
Information & management	0378-7206	1.788	1995-present
Information and organization	1471-7727	2.538	2001-present
Information economics and policy	0167-6245	0.588	N/A
Information processing & management	0306-4573	1.069	1995-present
Information research	1368-1613	0.66	1995-present
Information systems and e-business management	1617-9846	0.348	N/A
Information systems journal	1350-1917	1.333	1998-1 year ago
Information systems research	1047-7047	2.322	1990-5 years ago
Information technology and management	1385-951X	0.897	2000-2009
Information technology and people	0959-3845	0.938	N/A
Information technology for development	0268-1102	0.421	1996-18 months ago

Appendix A. Library Evaluation for Graduate Certificate in Business Analytics 2014

Journal Title	ISSN	Impact Factor	OSU Holdings
International journal of information management	0268-4012	2.042	N/A
International journal of strategic property management	1648-715X	1.423	2006-present
Journal of global information management	1062-7375	0.483	1999-present
Journal of global information technology management	1097-198X	0.5	N/A
Journal of management information systems	0742-1222	1.925	1984-present
Journal of strategic information systems	0963-8687	2.571	1995-present
Journal of the Association for Information System	1536-9323	1.25	2003-present
Strategic entrepreneurship journal	1932-4391	1.744	N/A
Strategic management journal	0143-2095	2.993	1980-present
Strategic organization	1476-1270	1.853	2003-present
Technology analysis & strategic management	0953-7325	0.841	N/A

In the past 2 years, there have been fewer than 5 Interlibrary Loan (ILL) requests per year for the titles OSUL does not subscribe to or has delayed access to. We recommend monitoring usage of ILL to determine if there are sufficient requests to justify licensing of additional content.

Indexes and Databases

The core indexes for this program are in Business Source Premier (produced by Ebsco) and Business OneFile (produced by Gale). In addition, OSUL subscribes to the ACM Digital Library and the IEEE Electronic Library, which have relevant journals for business analytics. The OSUL maintain access to all as these are core to multiple research areas at OSU.

Key Library Services & Librarian Expertise

The Primary Contact for the College of Business is Valery King. In that capacity, she coordinates instruction as requested either in-class or via the web, responds to reference inquiries, develops the journal and monograph collection, and creates materials to assist faculty members and students in their research.

Providing access to items not owned by OSUL is the domain of the Interlibrary Loan and Summit staff both at OSUL and at lending libraries. Print articles located in the OSU Libraries collections may be requested via the Scan and Deliver service, which provides PDFs of the requested articles. Additional services for students include the physical attributes of the libraries including excellent computer facilities, study areas for individual and group work, and practice rooms for students.

Respectfully submitted,
 Laurel Kristick
 Collection Assessment and Science Librarian
 October 28, 2014

E – Letters of Support

Mitzi M. Montoya, PhD.

Sara Hart Kimball Dean

College of Business

Oregon State University

Dean Montoya,

This letter is to offer my full support and endorsement of the proposed BS degree in Business Analytics. Companies are collecting huge volumes of data about their customers, operations, products and services, and performance. Graduates who can analyze and interpret this data are vitally important within the rapidly changing and competitive global economy in which businesses now operate.

Companies, like ours, use business analytics to make data-driven decisions. This allows us to automate and optimize our business processes, especially in areas such as market research, human resources, supply chain, procurement, any basic business process. Having individuals skilled in Business Analytics is vitally important for all companies that create products or services.

I completed the OSU graduate program in business analytics. This program provided both the analytical skills and the business context that I need to perform my current role as an Analytics Manager at Nike in the Global Procurement department. Replicating this graduate program at the undergraduate level will produce graduates prepared for entry-level analytics positions and who will be in high demand.

At Nike we have plenty of people that understand just the technical details. We also have plenty of people that understand just the business side of things. But one very important skill set that is hard to find is a person that understand both the business and technical details. Business analytics is the ideal blend of the art and science of analytics. The proposed program would create individuals that understand the technical details of analytics and how to turn that into immense value and strategic insights for the business. Individuals with business analytics backgrounds bridge the big gap between the analytics analysts and the business stakeholders.

I am excited to see my alma mater taking the initiative to create such a much-needed degree program.

Sincerely,



Perren Baker

Analytics Manager

Global Procurement

Nike

E – Letters of Support

Daniel Pitluck

Portland, OR

February 13, 2019

Why does a student enroll in a business analytics degree? Why did I enroll in and complete a business analytics degree? The short answer: to solve problems.

After graduating in 2014 with a BS in math and a minor in business administration it wasn't too long before I found myself wondering "what the hell am I supposed to do now?" Two weeks later I started working as an analyst in the worker's compensation medical billing industry. Who knew at twenty-two years old that this even existed? The company I worked for was small and innovative (for the industry) and I was given free rein to solve problems, and perhaps more importantly, to better learn *how* to solve problems. This is at the heart of business analytics.

As an undergraduate, I took two classes that helped me understand this: Deterministic Decision Making and Probabilistic Decision Making. We simply solved business problems in which we applied rigorous academic techniques without losing the context of the actual case study. Real-world business problems are not clean cut. They are rarely "textbook," and they require a measure of imagination and resource management to execute successfully. After working for a couple years, I chose to enroll in Oregon State's Business Analytics MBA program because it offered the same learning environment and opportunities that I found as an undergraduate and in my career. The coursework, projects, and extracurricular opportunities in that program have directly translated to success in my working career.

One of the biggest advantages a university can give its undergraduates is the ability to tell a story about their capabilities. No interviewer ever cared about the classes I passed and the textbooks I read. The projects I undertook, cases I studied and mastered, and competitions and simulations I won demonstrated my aptitude for applying those things learned in the classroom and from the book. A business analytics degree provides ample opportunities to gain the experiences needed to land that first job out of college, even if it is "entry-level requiring three to five years of experience."

Business analytics is a gateway to understanding data science and AI that is quickly becoming a mainstay in all professions and industries. Undergraduates studying business analytics are primed to enter the workforce with the knowledge and capabilities to adapt and play an important role in this latest industrial revolution.

The following are questions and experiences that I have encountered in my career that an entry-level employee trained in business analytics could immediately impact:

Human Resource Analytics – What role do the employees play during integration after a merger or acquisition? How do employees interact with the physical space at work? What about the digital space? How can companies retain millennials longer, and as happier employees? How can we plan and distribute meals for 130 people over five days?

Market Research and Consumer Analytics – Who are our customers? How do our target markets compare to the picture of the consumer painted by the various data points we collect?

Are there purchasing trends or subscription patterns we can use for targeted marketing campaigns?

Digital Marketing Analytics – Services like Google Analytics provide unprecedented digital marketing data for even the most nascent startups with a website; how can these companies, usually with limited resources, analyze this data and make smarter decisions about their marketing spend?

Supply Chain Analytics – I met three supply chain analysts in my hiring class at Columbia Sportswear. Even as new transportation and logistics is further automated with the advent of AI and machine learning components companies will need time and resources to steady the ship while adapting to these new advancements. Even then, there will be problems and situations that an algorithm cannot solve. These are the moments that “make the headlines” within a company and take a business analyst’s mind to solve.

It is a principle of mine to not make monetary donations to my alma mater while still paying student loans. But supporting the programs that have helped progress my professional career and personal development is of great interest. Being a resource and providing support to the programs that will prepare students to solve problems in the real world absolutely falls within that realm and has my full backing.

Short bio:

- Undergraduate degree: Mathematics, with a Business Administration Minor; Pacific University ‘14
- MBA: Business Analytics; Oregon State University ‘18
 - Member of 2018 ACG Cup Championship team (<http://www.acgcupnw.org/>)
 - Member of two-person winning CapSim team in Business Strategy class
 - Partnered with box subscription company to provide customer subscription analytics as capstone project
- Professional Career: Data/Business Analyst since 2014 in Portland, Oregon area
 - Companies:
 - Qmedtrix/Mitchell International
 - Fisher Investments
 - Columbia Sportswear Company
 - Currently developing computer vision/image recognition model for Portland-based startup

F – Liaison Comments

Coakley, James - COB

From: Williams, Tara
Sent: Thursday, January 17, 2019 6:16 PM
To: Coakley, James - COB
Cc: Doolen, Toni L
Subject: FW: New Undergraduate Degree Program in the College of Business

Hi Jim,

We've reviewed this proposal and don't have any concerns on the HC side; we're happy to support it.

Thanks,
Tara

F – Liaison Comments

Coakley, James - COB

From: Bell, Randy Lee
Sent: Friday, January 18, 2019 9:37 AM
To: Coakley, James - COB
Cc: Doolen, Toni L
Subject: Support for Business Analytics program

Hi Jim,

Thank you for the opportunity to review your proposal for new undergraduate degree program in Business Analytics. I agree that the three options that comprise the program will help prepare students to address the increasing analytics needs that businesses and corporations are experiencing. The proposed degree program has very little overlap/impact with those of the College of Education. We support your moving forward with the proposed program.

Randy L. Bell
Associate Dean/Professor
Oregon State University College of Education
201B Furman Hall
Corvallis, OR 97331
Ph. (541) 737-6387

F – Liaison Comments

Coakley, James - COB

From: Rosenberger, Randall
Sent: Thursday, January 31, 2019 2:00 PM
To: Coakley, James - COB
Cc: Davis, Anthony S
Subject: COF RE: New Undergraduate Degree Program in the College of Business

Hi Jim,

I am providing input on behalf of the College of Forestry. I spoke with a few key individuals in the college, and our consensus is that this will be a great new UG degree program. Business Analytics will serve a key need for many businesses and organizations whose demand for such skills will be sustained over time. The abundance of data and skills needed to work with 'big data' is paralleled in the social and natural sciences.. We think the BA/BS Data Analytics will be a great addition to COB and OSU, and will produce highly valued and sought after graduates.

Sincerely,
Randy

Randall S. Rosenberger, PhD
Associate Dean – Student Success
Mail: 140 Peavy Hall
Office: 415 Snell Hall
College of Forestry
Oregon State University
Corvallis, OR 97331

e-mail: R.Rosenberger@oregonstate.edu
Phone: 541-737-4425
<http://studentservices.forestry.oregonstate.edu/>

From: "Montoya, Mitzi M - COB" <Mitzi.Montoya@oregonstate.edu>
Date: Thursday, January 17, 2019 at 1:45 PM
To: "Sams, Alan" <alan.sams@oregonstate.edu>, "Davis, Anthony S" <anthony.davis@oregonstate.edu>, "Marinelli, Roberta L" <roberta.marinelli@oregonstate.edu>, "Doolen, Toni L" <toni.doolen@oregonstate.edu>, "Rodgers, Lawrence" <Larry.Rodgers@oregonstate.edu>, "Leid, Mark" <mark.leid@oregonstate.edu>, "Nieto, Javier" <javier.nieto@oregonstate.edu>, "Haggerty, Roy" <Roy.Haggerty@oregonstate.edu>, "Tornquist, Susan" <Susan.Tornquist@oregonstate.edu>, "Ashford, Scott Alan" <Scott.Ashford@oregonstate.edu>
Cc: "Coakley, James - COB" <Jim.Coakley@bus.oregonstate.edu>
Subject: New Undergraduate Degree Program in the College of Business

Colleagues,

The College of Business is proposing a new undergraduate degree in Business Analytics with options in Human Resource Analytics, Digital Marketing Analytics, and Market Research and Consumer Analytics. The degree program will add five new undergraduate courses that are equivalent to existing graduate courses. All remaining courses currently exist and are offered on-campus and online.

Because the new degree program relies entirely on existing courses, administration and infrastructure, they require no additional resources. Advising will be handled by our Undergraduate Academic Advising Office, and the program oversight and review will be included in the duties of the current Associate Dean for Undergraduate Student Development.

In accordance with the liaison criteria in the Curricular Procedures Handbook, this memo serves as notification to your college of our intent to offer this new degree program. Please have the appropriate people in your College review the proposal (<https://secure.oregonstate.edu/ap/cps/proposals/view/106038>) and send their comments, concerns, or support to Jim.Coakley@bus.oregonstate.edu by February 1, 2019. Your timely response is appreciated. Please note that a lack of response will be interpreted as support for this proposal.

Thank you for your time and input.

Mitzi

Mitzi M. Montoya, PhD
Sara Hart Kimball Dean
[Oregon State University](#) | College of Business | 541-737-6024
[LinkedIn](#) | [Twitter](#) | [Website](#)

F – Liaison Comments

Coakley, James - COB

From: Montoya, Mitzi M - COB
Sent: Friday, February 1, 2019 6:06 PM
To: Haggerty, Roy; Coakley, James - COB
Cc: Ashford, Scott Alan; Jensen, Carlos; Jansen, Henri Johan F
Subject: RE: New Undergraduate Degree Program in the College of Business

Roy and Scott -

Thanks for your email. Regarding the list of data science programs at MIT, Stanford and UW, I did a quick search of these universities and discovered that each of them also has business analytics courses, certificates and degrees. I expanded your search to include some of our peers -- NC State University, Arizona State University, Iowa State University, Virginia Tech, Colorado State University -- and I found the same thing. All of our peer schools have data science and business analytics programs. This makes sense given that data science and business analytics programs are different, they serve different students and the graduates pursue different jobs. As you may recall, COB is not opposed to COE/COS developing data science programs or courses. COB supported COE/COS' graduate data science program which was proposed and launched after COB's graduate business analytics program. If COE/COS would like to pursue undergraduate data science programs, we are happy to help you succeed in that. As noted in the list of universities above, there are many good models out there to follow for data science programs.

The COB proposal is for a business degree that uses existing COB courses and resources. We would be happy to consider any existing, accessible and related courses in COS/COE that you would like us to evaluate for fit in relation to our program goals and intended target market. We are available to meet and review syllabi next week. In the event there are not any existing, accessible and related courses, we are open to the idea of including future courses in COE/COS whenever they are developed.

Data Science programs are timely and in high demand. We are happy to support your development of these programs. Business Analytics programs are also timely and in high demand. COB is working hard to be responsive to market in order to help OSU grow enrollment. We look forward to receiving details from you regarding which specific courses you would like us to evaluate so we can move our proposal forward.

Sincerely –
Mitzi

Mitzi M. Montoya, PhD
Sara Hart Kimball Dean
[Oregon State University](#) | College of Business | 541-737-6024
[LinkedIn](#) | [Twitter](#) | [Website](#)

From: Haggerty, Roy
Sent: Friday, February 01, 2019 4:01 PM
To: Montoya, Mitzi M - COB <Mitzi.Montoya@oregonstate.edu>; Coakley, James - COB <Jim.Coakley@bus.oregonstate.edu>
Cc: Ashford, Scott Alan <Scott.Ashford@oregonstate.edu>; Jensen, Carlos <Carlos.Jensen@oregonstate.edu>; Jansen, Henri Johan F <Henri.Jansen@oregonstate.edu>
Subject: Re: New Undergraduate Degree Program in the College of Business

Sorry – forgot the attachment.

From: "Haggerty, Roy" <Roy.Haggerty@oregonstate.edu>
Date: Friday, February 1, 2019 at 3:59 PM
To: "Montoya, Mitzi M - COB" <Mitzi.Montoya@oregonstate.edu>, "Coakley, James - COB" <Jim.Coakley@bus.oregonstate.edu>
Cc: "Ashford, Scott Alan" <Scott.Ashford@oregonstate.edu>, "Jensen, Carlos" <Carlos.Jensen@oregonstate.edu>, "Jansen, Henri Johan F" <Henri.Jansen@oregonstate.edu>
Subject: Re: New Undergraduate Degree Program in the College of Business

Mitzi and Jim –

Thank you for circulating COB's proposal for a new undergraduate degree in Business Analytics. We support your goal of helping to meet the demand for students with skills and knowledge in business analytics. We think that you are correct that there is a significant demand and that this could be an area that would help to grow enrollment at OSU.

As you know, the field(s) of data science and data analytics are growing rapidly. Programs are in development or have been announced at several universities including UC Berkeley, MIT, and others. Business Analytics is closely related or overlapping with data science and data analytics. As you state in the overview, "Students will develop data analysis skills and learn how to interpret and communicate the resulting insights to maximize strategic value." The first part of this is data science/analytics, while the second is clearly business. The overview mentions data mining, data visualization, text mining, and advanced statistical tools and techniques. These are clearly data science/analytics.

Other colleges offer classes in data science and data analytics. The College of Engineering offers classes in computer programming and is planning to offer an introductory class in programming that is accessible to non-CS majors. Many faculty in Engineering consider their field to be data science and engineering (<http://eecs.oregonstate.edu/data-science-and-engineering>) and teach classes on these topics. The College of Science offers several important undergraduate classes in mathematics and statistics that are core classes within existing data science and data analytics programs at Berkeley, Stanford, and MIT – see attachment for a rundown of some of these. The Colleges of Science and Engineering are planning to offer an undergraduate certificate in data science that will be modeled after these and that is intended to be complementary to any major.

With this background, we respectfully submit two requests:

1. We request that COB work with the Colleges of Science and Engineering to incorporate existing courses – possibly using the certificate we will propose – as the technical/STEM "core" to the program.
2. We request that prior to submission of a Business Analytics proposal that the various Deans agree to a campus-wide strategy for data science and analytics that maximizes the benefit to students and OSU as a whole.

On our part, we will work to make included courses accessible to Business and other majors. For example, College of Engineering will offer an introductory programming sequence for non-CS majors. The College of Science will continue work to improve the DFW rates and the pedagogy in its introductory statistics and mathematics courses so that more students are successful. For the few courses where prerequisites may cause an undue burden on COB students, our colleges pledge to work with you to alleviate that burden.

It is clear that the field of business analytics has the potential to be very successful at OSU. We would like to help you achieve that and to share that success with you and the rest of the university.

Sincerely,
Roy Haggerty, Science
Scott Ashford, Engineering

From: "Montoya, Mitzi M - COB" <Mitzi.Montoya@oregonstate.edu>
Date: Thursday, January 17, 2019 at 1:45 PM
To: "Sams, Alan" <alan.sams@oregonstate.edu>, "Davis, Anthony S" <anthony.davis@oregonstate.edu>, "Marinelli, Roberta L" <roberta.marinelli@oregonstate.edu>, "Doolen, Toni L" <toni.doolen@oregonstate.edu>, "Rodgers, Lawrence" <Larry.Rodgers@oregonstate.edu>, "Leid, Mark" <mark.leid@oregonstate.edu>, "Nieto, Javier" <javier.nieto@oregonstate.edu>, "Haggerty, Roy" <Roy.Haggerty@oregonstate.edu>, "Tornquist, Susan" <Susan.Tornquist@oregonstate.edu>, "Ashford, Scott Alan" <Scott.Ashford@oregonstate.edu>
Cc: "Coakley, James - COB" <Jim.Coakley@bus.oregonstate.edu>
Subject: New Undergraduate Degree Program in the College of Business

Colleagues,

The College of Business is proposing a new undergraduate degree in Business Analytics with options in Human Resource Analytics, Digital Marketing Analytics, and Market Research and Consumer Analytics. The degree program will add five new undergraduate courses that are equivalent to existing graduate courses. All remaining courses currently exist and are offered on-campus and online.

Because the new degree program relies entirely on existing courses, administration and infrastructure, they require no additional resources. Advising will be handled by our Undergraduate Academic Advising Office, and the program oversight and review will be included in the duties of the current Associate Dean for Undergraduate Student Development.

In accordance with the liaison criteria in the Curricular Procedures Handbook, this memo serves as notification to your college of our intent to offer this new degree program. Please have the appropriate people in your College review the proposal (<https://secure.oregonstate.edu/ap/cps/proposals/view/106038>) and send their comments, concerns, or support to Jim.Coakley@bus.oregonstate.edu by February 1, 2019. Your timely response is appreciated. Please note that a lack of response will be interpreted as support for this proposal.

Thank you for your time and input.

Mitzi

Mitzi M. Montoya, PhD
Sara Hart Kimball Dean
Oregon State University | College of Business | 541-737-6024
[LinkedIn](#) | [Twitter](#) | [Website](#)

Institution: Oregon State University
Program: BS - Business Analytics

Action: At the **June 6, 2019** meeting, the Statewide Provosts Council approved a new program for **Oregon State University, BS in Business Analytics**, to move forward to the Oregon Higher Education Coordinating Commission for its review and approval. The **Oregon State University** Board of Trustees approved the program at its **April 4, 2019** meeting.

Eastern Oregon University

Sarah Witte, provost

Approved
 Opposed
 Abstained



Oregon Health & Science University

Elena Andresen, interim provost

Approved
 Opposed
 Abstained



Oregon State University

Ed Feser, provost

Approved
 Opposed
 Abstained



Oregon Tech

Gary Kuleck, provost

Approved
 Opposed
 Abstained



Portland State University

Susan Jeffords, provost

Approved
 Opposed
 Abstained



Southern Oregon University

Susan Walsh, provost

Approved
 Opposed
 Abstained



University of Oregon

Jayanth Banavar, provost

Approved
 Opposed
 Abstained



Western Oregon University

Rob Winningham, provost

Approved
 Opposed
 Abstained

