Proposal for a New Academic Program

Institution: Oregon State University
College/School: College of Business
Department/Program: Graduate Programs

1. Program Description

a. Proposed Classification of Instructional Programs (CIP) number (*contact your Registrar or campus Institutional Research office for this 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. Includes instruction in optimization theory and mathematical techniques, data mining, data warehousing, stochastic and dynamic modeling, operations analysis, and the design and testing of prototype systems and evaluation models.

Examples: Business Intelligence, Competitive Intelligence

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 Master of Science (MS) degree in Business with concentrations in Financial Planning and Supply Chain Analytics. The MS in Business (MSB) provides students a focused exploration of a specific business discipline or topic. The proposed degree program will offer two specializations: Financial Planning and Supply Chain Analytics.

Financial Planning encompasses individual wealth management planning including such topics as tax planning, estate planning, insurance, retirement planning, and portfolio allocation. An MSB in Financial Planning leads to a candidate earning a Certified Financial Planning designation.

An MSB in Supply Chain Analytics is a combination of the disciplines of Supply Chain and Logistics Management and Business Analytics. Supply Chain and Logistics Management develops a solid mastery of international operations, logistics, and supply chain management concepts and methods. Business Analytics leverages advances in software interoperability, data exchange mechanisms and data mining and visualization techniques to better understand their operations, customers, and markets enabling graduates to manage internal operations

and global supply chains in the manufacturing and service sectors and in government agencies. The combination of these two disciplines into Supply Chain Analytics is a unique focus on the uses of data management and data analytics to explore the characteristics of supply chains and identify value-enhancing efficiencies.

Category	Information Summary
Proposal Title	**Master of Science in Business**
Proposal Purpose (e.g., New; Change—Rename, Move, Reorganization; Suspend; Terminate)	**New Graduate Degree**
Classification of Instructional Program (CIP) #	**52.1301**
Curriculum Proposal System # (incl link)	
Banner Student Information System (SIS) #	**To be assigned by the Registrar's Office**
Degree Type (e.g., B.S., M.S., or Ph.D.)	**M.S.**
Program Type (e.g., Undergraduate, Graduate, First Professional)	**Graduate**
Academic Home	**College of Business**
College Code	**02**
Contacts (e.g,, Name, Title, Tel #, eMail Address)	**Dr. John Becker-Blease,** **Associate Dean** **7-6061** john.becker-blease@bus.oregonstate.edu
Faculty (New)	**No new faculty will be required to support the launch of the program. Existing faculty are currently delivering all of the program courses. 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. An additional academic advisor will be added as enrollment in the program grows.**
Library	**No additional library resources will be required**
Facilities/Space	**No new facilities or space will be required**
Budget (first four years)	**Year 1: $(-117,755); Year 2: $93,444; Year 3: $219,709; Year 4: $276,642**
Undergraduate Option(s)	**Not Applicable**
Graduate Option(s)	**Financial Planning; Supply Chain Analytics**
Undergraduate Minor(s)	**Not Applicable**
Graduate Minor(s)	**Not Applicable**
Course Designator (e.g., Existing or New or Change)	**BA, FIN, MRKT (Existing; no new course designator will be required)**
Courses (e.g., New Courses)	**22 existing courses (BA 513, BA 514, BA 515, BA 516, BA 517, BA 540, BA 551, BA 552, BA 555, BA 561, BA 573,**

	BA 574, BA 575, BA 576, BA 577, BA 578, FIN 542, FIN 550, FIN 551, FIN 552, FIN 553, MRKT 588) No new courses will be required.
Location (e.g., Main; Cascades; Ecampus; HMSC)	**Main Campus (Corvallis), Collaborative Life Sciences Building (Portland)**
Modality (e.g., Face-to-Face; On-line; Hybrid)	**Face-to-Face on campus, available online via Extended Campus as hybrid courses in Portland)**
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 2018 (201901)**

Table 1. Summary of Master of Science in Business Proposal

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

The proposed MSB degree requires 45 credit hours of existing coursework (no new courses are required). The curriculum includes:

- Five (5) courses of general business foundational knowledge (equivalent to the core-1 coursework in the existing MBA degree program) for 15 credits.
- Minimum of 30 credits specific to the desired concentration.

Course Number	Course Title	Credits
Business Core Required		
BA 513	Business Legal Environment	3
BA 514	Operations Management	3
BA 515	Managerial Decision Tools	3
BA 516	Creating Value in Exchange	3
BA 517	Markets and Valuation	3
Total		15
Financial Planning Concentration		
BA 540	Corporate Finance	3
FIN 542	Investments	3
FIN 550	Fundamentals of Financial Planning	4
FIN 551	Insurance Planning and Tax Planning	4
FIN 552	Financial Planning II	3
FIN 553	Financial Planning III	6

MRKT 588	Personal Selling	4
Elective		3
	Total in Concentration	30
Supply Chain Analytics Concentration		
BA 551	Supply and Sourcing Management	3
BA 552	Manufacturing and Service Operations	3
BA 555	Practical Business Analysis	3
BA 561	Supply Chain Management	3
BA 573	Data Analytics for Competitive Advantage	3
BA 574	Data Management	3
BA 575	Data Exploration & Visualization	3
BA 576	Data andText Mining	3
BA 577	Integrated Business Analytics Project	3
BA 578	Supply Chain Analytics	3
	Total in Concentration	30

Table 2. Required Coursework for Master of Science in Business

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).

The business Core-1 courses are currently offered face-to-face in Corvallis and fully online (through Extended Campus). The MSB in Financial Planning will be offered via Extended Campus as a hybrid program in Portland. The MSB in Supply Chain Analytics will be offered on-campus in Corvallis and via Extended Campus as a hybrid program in Portland. Coursework offered via Extended Campus in the "hybrid" format means 80 percent online and 20 percent face-to-face.

We anticipate that the majority of Supply Chain Analytics students located in Corvallis will be full-time students completing the program within one year. Supply Chain Analytics and Financial Planning students completing the hybrid program in Portland will be part-time taking one to two online or hybrid courses per term.

e. Ways in which the program will seek to assure quality, access, and diversity.

The Core-1 and Supply Chain Analytics coursework is shared with the existing MBA degree program. The Financial Planning coursework was developed as a Wealth Management option within the MBA program offered on campus. The Wealth Management option is being terminated, with the existing coursework now offered in hybrid mode via Extended Campus. The assessment and continual improvement process in the existing MBA program extends to assure the quality of the coursework within the MSB program.

Applicants to the MSB must meet the admissions requirements for the existing MBA program: admissible to the Graduate School, completion of the Graduate Management

Aptitude Test (GMAT) with an overall score of 500 and sub-scores at the 22nd-percentile or higher (or GRE equivalents). International students must meet the minimum TOEFL/IELTS requirements of the College.

The programs are offered in-person and/or through Extended Campus and will adhere to all accessibility requirements. To ensure diversity, the programs will be advertised widely through the existing channels used by the College and Extended Campus as well as through our partnership with INTO.

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

See Table 3 below. We anticipate an initial cohort of 18 students for the on-campus program and 30 students across the two concentrations for the Extended Campus offerings in fall 2018. It is estimated that overall enrollment on-campus will grow to approximately 30, and overall Extended Campus enrollment will grow to 85 students annually, across the 2 concentrations, by the end of 5 years. There are no enrollment caps – we will add faculty and additional sections of courses to meet demand for the program.

g. Expected degrees/certificates produced over the next five years.

Graduate business programs typically support a high retention and graduation rate (approximately 90 percent). The on-campus Supply Chain Analytics concentration can be completed in one year. This program is targeted to the INTO-OSU Pathway program where the Core-1 coursework is completed within the Pathway. Thus, the students admitted into the on-campus program are expected to graduate after the first year. The students completing the hybrid programs via Extended Campus will all be part-time and will take two years to complete the degree program. Thus, we do not expect any graduates from the Extended Campus programs until after the first year.

	on Campus			Extended Campus		
	Admit	Total	Graduate	Admit	Total	Graduate
Yr 1	18	18	16	30	30	0
Yr 2	20	20	17	33	61	27
Yr 3	22	23	18	36	67	28
Yr 4	24	27	20	40	76	31
Yr 5	26	31	22	44	85	34

Table 3. Number of Students Admitted and Graduating per Year

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

The on-campus MSB in Supply Chain Analytics will have strong appeal to our international students, especially those in the INTO Pathway program since these students will complete 1/3 of the degree requirements through their Pathway coursework.

The Financial Planning concentration offered via Extended Campus will give current wealth management professionals a graduate credential and qualify them to seek the Certified Financial Planner designation. These students will be predominantly part-time students in or around Portland.

The Supply Chain Analytics concentration offered via Extended Campus will give current workers in the service and manufacturing sectors and government agencies added skills to manage internal operations and global supply chains.

i. Adequacy and quality of faculty delivering the program.

The programs will be delivered by the same faculty who deliver the coursework in the MBA curriculum. 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. The faculty delivering the MSB coursework will meet those qualifications.

j. Faculty resources – full-time, part-time, adjunct.

All faculty required to deliver the MSB and its two concentrations are on full-time 9- or 12-month 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.

k. Other staff.

The admissions and advising resources for the applicants and admitted students are the same as for the existing College of Business MBA program and graduate certificates. We plan to hire an additional academic advisor in year two as the total number of enrolled students in the Portland hybrid programs increases.

l. Facilities, library, and other resources.

Because we are using existing coursework and merely increasing the enrollment in those courses, there is no impact on facilities, library, or other resources.

m. Anticipated start date.

Fall, 2018.

2. Relationship to Mission and Goals

a. Manner in which the proposed program supports the institution's mission and goals for access; student learning; research, and/or scholarly work; and service.

The MSB is most clearly relevant to the university's signature area of "Promoting Economic Growth and Social Progress" and "Advancing the Science of Sustainable Earth Ecosystems". The Supply Chain Analytics concentration targets the efficient allocation of resources marshalled for an economic purpose and to inform this process utilizing the wealth of business data available. Increasingly, businesses, nonprofits, and other organizations are interested in better using available information in operations, tactical, and strategic decision making. The discipline of 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 allows organizations improved ability to extract and employ the value from this information to meet stakeholders' needs. The discipline of supply chain focuses on the oversight of materials and information from the supplier, manufacturer, wholesaler, retailer, and consumer, which the goal of meeting consumer needs as efficiently and timely as possible. Thus, Supply Chain Analytics specifically stimulates economic growth and social progress through the optimization of processes throughout the supply chain based

on the collection and analysis of substantial data. Further, devising the most economically efficient method of planning, manufacturing, and delivering of a good or service facilitates a sustainable ecosystem.

The concentration of Financial Planning focuses more on the individual and the discipline around wealth management, tax, estate, retirement, and insurance planning. The role of the financial planner is to both understand the goals and resources of a client and to plan and communicate options for the client to achieve these goals. At many levels, the financial planner is tasked with aiding clients to form a realistic understanding of their economic condition and prospects and to aid in maintaining and building their clients' economic standing.

b. Connection of the proposed program to the institution's strategic priorities and signature areas of focus.

   The MSB fits within the Portland Strategy of the University by adding hybrid delivery of academic programs to the Portland region.

c. Manner in which the proposed program contributes to Oregon University System goals for access; quality learning; knowledge creation and innovation; and economic and cultural support of Oregon and its communities.

   Both concentrations of the MSB are available through a hybrid program and the Supply Chain Analytics through full/part-time in Corvallis, which allows access to full and part-time students throughout the primary population hubs of Oregon. As accredited degree programs, there exists a credible external indicator of continuous quality. Further, as described above, the MSB program clearly provides economic support to Oregon's businesses and its citizens.

d. Manner in which the program meets broad statewide needs and enhances the state's capacity to respond effectively to social, economic, and environmental challenges and opportunities.

   The MSB program with concentrations in Financial Planning and Supply Chain Analytics directly contribute to Oregon needs. Oregon's economy spans the entire supply chain from abundant natural renewable and non-renewable resources through manufacturing and, ultimately, consumption. The proposed concentration in Supply Chain Analytics will provide the Oregon economy with managers who understand the emerging area of big data-informed supply chain and logistics. Further, Oregon's population faces the same challenges understanding and preparing for the financial considerations of saving, retirement, and estate planning. A graduate concentration in this area will provide the state with financial planners who understand wealth management and its interplay with the global economy.

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 of Business currently meets 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.

   The AACSB accredits all undergraduate and graduate business programs.

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.

   n/a

4. Need

a. Evidence of market demand.

   The Graduate Management Admissions Council (GMAC) reports that between 2013-2016, that the West (defined as California, Alaska, Hawaii, Nevada, Utah, Idaho, Wyoming, Montana, Washington, and Oregon) experienced the largest increase in the number and the highest total number of GMAT test takers compared to the other five regions of the U.S. Indeed, only the Southwest and West regions experienced an increase in the number of test-takers with the West growing by 1.7% and the Southwest by 0.3%. The GMAT is specifically targeted for graduate business programs, thus suggesting an increasing demand for graduate business degrees both in the state and the region.

   Further, GMAC indicates that 51% of GMAT takers are specifically interested in non-MBA business master's or both (MBA/non-MBA) types of programs. Specific to MSB-type of program, only 15% of test-takers reported exclusive interest in an MSB in 2009 compared to 23% in 2016. Business master's programs are especially of interest to women, as only 34% of MBA applicants are women compared to 53% of business master's programs. Among GMAT test-takers targeting Masters programs, 23% were considering Finance, of which Financial Planning is a subfield, and 32% were considering either Supply Chain, Data Analytics, or Global Management, which are three dimensions of the Supply Chain Analytics concentration.

   The Bureau of Labor Statistics (BLS) predicts an increase demand for Personal Financial Advisors of 73,900 between 2014 and 2024, which represents a "Much Faster than Average" growth of 30%. BLS statistics identify the Portland/Vancouver and Bend areas as having higher than national average share of employment opportunities in this field.

Similarly, positions for Operations Research Analysts 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.

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

   There are no other OUS MS programs in Supply Chain Analytics or Financial Planning.

c. Manner in which the program would serve the need for improved educational attainment in the region and state.

   Both concentrations of the MSB degree can be earned through Extended Campus, with both online and hybrid courses. The mixture of the online portion (80%) and face-to-face (20%) provides students the convenience of online education with the important networking opportunities of the common meetings. Students also have the option of pursuing the Supply Chain Analytics concentration in the face-to-face format in Corvallis if they wish a more intensive program of study.

d. Manner in which the program would address the civic and cultural demands of citizenship.

   As described previously, the areas of concentration for the MSB 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 logistics or those who can provide best practices in wealth management, this program will produce responsible and significant contributors to the Oregon economy.

5. Outcomes and Quality Assessment

a. Expected learning outcomes of the program.

b.
   1) Analyze the impact of an enterprise on its various stakeholders.
   2) Propose and collect data necessary to inform a discipline-based evaluation of a complex business challenge.
   3) Apply critical thinking skills to a business challenge in the presence of uncertainty and ambiguity.
   4) Organize and present in written and oral form a persuasive and comprehensive evaluation of a business challenge.

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

   The college has a well-recognized environment for assurance of learning as was noted by the AACSB examination team during the previous accreditation. The Learning Outcomes (LOs) are mapped to particular courses and exercises/activities. Faculty collect and report to the Associate Dean of Graduate Student Development the achievement of LOs on a per

student and per LO basis. Each LO is assessed in a minimum of two courses taught by two separate faculty.

The AACSB requires a closed loop plan of collecting and employing LO data to improve curriculum and instruction.

d. Program performance indicators, including prospects for success of program graduates (employment or graduate school) and consideration of licensure, if appropriate.

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 graduate and in the 90-days following graduation (these data are reported for ranking and other purposes).

Most students who complete the MSB in Financial Planning will also seek the Certified Financial Planner designation.

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

The AACSB publishes standards of the qualifications and coverage ratios of faculty based on professional and/or academic activities. The MSB faculty are the same as those who teach at the MBA/undergraduate levels, and the college must maintain target ratios to retain accreditation.

6. Program Integration and Collaboration

a. Closely related programs in other OUS universities and Oregon private institutions.

To the best of our knowledge, while both PSU and UO have Masters of Business-type programs, neither has concentrations in the areas proposed herein (Supply Chain Analytics and Financial Planning).

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.

The MSB in Financial Planning complements all undergraduate degree programs by offering a curriculum approved by the CFP® Board and prepares students to sit for the comprehensive CFP® Certification Examination.

The Oregon State University Department of Statistics is currently developing a Master's of Science and an associated Graduate Certificate in Data Analytics. We view these as complementary programs for the Supply Chain Analytics.

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 in the areas of budget, enrollment, faculty workload, and facilities use.

All courses within the MSB are taught by the College of Business. All courses currently exist as either part of a Graduate Certificate or an MBA option. At present, each of these courses has sufficient enrollment slack to easily accommodate added enrollments due to the new concentrations. As described below, as the programs approach targeted enrollment, the revenue generated from each program will be sufficient to cover the costs of offering any required additional sections.

Note, the college currently has Graduate Certificates in Business Analytics and Financial Planning. The coursework required for the MSB is in addition to the Certificate coursework and therefore will not negatively impact demand for those courses.

7. Financial Sustainability (attach the completed *Budget Outline*)

a. Business plan for the program that anticipates and provides for its long-term financial viability, addressing anticipated sources of funds, the ability to recruit and retain faculty, and plans for assuring adequate library support over the long term.

Please attached budget narrative. Total costs and revenue are extracted from the attachment and presented below as a summary;

	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Total Program Costs	$ 549,952	$ 1,350,468	$ 1,384,229	$ 1,566,522	$ 1,605,685
Total Program Revenue	$ 715,376	$ 1,443,912	$ 1,603,939	$ 1,842,995	$ 2,102,341
Income/(loss)	$ 165,424	$ 93,444	$ 219,710	$ 276,472	$ 496,656

b. Plans for development and maintenance of unique resources (buildings, laboratories, technology) necessary to offer a quality program in this field.

Not Applicable.

c. Targeted student/faculty ratio (student FTE divided by faculty FTE).

Using the combination of 60 percent tenure/tenure-track and 40 percent professionally qualified fixed-term faculty, a total of 3.6 FTE will be required to initially deliver the MSB program, growing to 6.8 faculty FTE after 5 years.. For the initial launch of the program, there will be approximately 33 FTE students, growing to over 70 FTE after 5 years. The student/faculty ratio will be 9.2 at launch and 10.3 after five year.

	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Total Student FTE	33	50	56	65	74
Total Faculty FTE	3.6	5.9	5.9	6.8	6.8
Ratio	9.2	8.5	9.5	9.6	10.9

d. Resources to be devoted to student recruitment.

The College has devoted 3.5 FTE to recruiting for its graduate programs. No additional resources will be needed to recruit for the MSB.

8. 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)