Master of Science in Business Analytics Proposal

Submitted by the Information Systems/Operations Management Department

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Description, overview, and summary

Business analytics focuses on developing new insights and understanding of business performance based on data and statistical methods. A variety of industries are in need of individuals who can take on positions of responsibility for collecting, analyzing and interpreting information in order to make sound strategic business decisions. Business analytics refers to the skills, technologies, applications and practices for continuous iterative exploration and investigation of past business performance to gain insight and drive business planning. “Increasingly, top thinkers in academia and business believe that analytics, especially analytics connected with big data, is going to be a driving force in our economy and society in the next 10 to 20 years.” To ensure continuing relevance for organizations in the future, a new MS program in business analytics should be designed with special emphasis on database management and business intelligence.

Need

According to McKinsey & Company in a 2011 report, the projected demand for deep business analytical positions could exceed the supply produced with the current trend by 140,000 to 190,000 positions. Overall, the McKinsey Global Institute estimated that by 2018 there will be 4 million big data related positions in the U.S. that require quantitative and analytical skills. However, there will be a potential shortfall of 1.5 million data-savvy managers and analysts to fill these positions. “As the demand for employees with quantitative and analytical skills increases you’re seeing more quants (data professionals) being placed in key decision-making roles,” said Linda Burtch, founder and managing director of Burtch Works, a U.S.-based executive recruitment agency for quantitative business professionals (CNBC, June 3, 2014).

The Master of Science in Business Analytics (MSBA) at Fairfield University’s Dolan School of Business (DSB) seeks to fill the talent gap in the area and to prepare graduates for this fast-growing field by developing students’ critical skills in data- and model-driven management decision-making in the context of a firm’s strategic vision. This degree meets the demand of corporations to make sense of the ever-burgeoning datasets available to them through social media and other sources. The Dolan School of Business Advisory Council, a group of business leaders, mostly alumni, who advise the dean on business trends, has unanimously supported the need for a business analytics degree. It also meets the demand of students, who have asked our faculty for more in-depth curriculum in this critical area. Current DSB faculty possess the expertise required for this degree, and the motivation to foster its development (see Appendix D). Our competition—regional business schools—has answered this demand with programs of their own (Appendix A provides details on regional programs/competitors). We need to respond to this existing demand and recent actions by our competitors.

Rationale

Central to the DSB mission statement is the Jesuit notion of educating the “whole” person to be a socially responsible professional who has career-ready competencies and is prepared to serve others. As indicated above, businesses are in need of individuals who can take on positions of responsibility for collecting, analyzing and interpreting information in order to make sound strategic decisions. Building on the strong reputation of our existing graduate programs, and faculty expertise in these areas, the Dolan School is poised to create an educational opportunity that will fill this void.

Further, the Dolan School’s mission guides us to develop “innovative curricula” that are “shaped by involvement with…business leaders.” The proposal for a MS in Business Analytics speaks to this aspect of our mission, as we attempt to meet the needs of the market, needs that are being emphasized in the finance, information systems, health care, and marketing fields.

In developing this proposal, the Dean and faculty have spoken to a range of business leaders, on the DSB Advisory Council and in other forums, to assess potential demand for an MSBA degree. The Advisory Council, in its March, 2014 meeting, was strongly supportive of moving forward with the degree, with high interest among executives from a variety of sectors, including finance, accounting, real estate, government agencies, and marketing. The Council responded unequivocally with their needs for individuals with “Big Data” management and analysis skillsets. Anecdotal evidence from faculty interactions with business leaders in information technology has been similarly supportive. Our market demand study (see Appendix F) provides further indication of market demand.

Beyond the apparent demand in the marketplace for individuals who are educated in analysis and management of big data, Fairfield’s location and connections with area corporations will enhance the attractiveness of an MSBA. Local corporations (e.g., GE, United Technologies, Bic/Energizer, Subway) provide excellent opportunities for well-educated individuals to analyze and interpret these firms’ consumer and financial databases.

Tangible outcomes. The MSBA can provide a number of tangible outcomes for students who are seeking a highly specialized graduate program focused on managing big data. These outcomes cover not only the development of critical academic and professional skills but also opportunities for employment in highly visible and needed sectors of the marketplace.

Business analytics makes extensive use of data, statistical and quantitative analysis, and explanatory and predictive modeling to help make actionable decisions and to improve business operations. We expect graduates from the MSBA program to be analytics competent and big data savvy so that they can not only analyze past performance but also identify opportunities to improve future performance. To that end, the students will be exposed to the following:

• Communication and quantitative reasoning skills;
• SQL and database management skills;
• Data mining and data warehousing;
• Statistics skills;
• Data visualization;
• Text mining;
• NoSQL skills;
• Emerging topics.

Companies across industries reap the benefit of using skills from business analytics to tackle complex business challenges. Career opportunities can be found in commerce, government, for-profit and non-for-profit organizations, and the services or manufacturing sectors. Examples of employment opportunities for MSBA graduates include:

• Business Analytics Analyst/Consultant;
• Big Data Analytics Specialist;
• Financial Analytics;
• Marketing Analytics;
• Operations Analytics;
• Logistics Analytics;
• Risk Management;
• Healthcare Analytics;
• Information Analytics.

A recent report by Hanover Research for Fairfield University exploring the fastest growing occupations in the regions surrounding the University indicated that “every CIP (Classification of Instructional Programs) code associated with “Statisticians” has reported increasing completions since 2009 which confirms that applied math/statistics represents a strong option for expansion.” Business analytics represents the fastest-growing area of applied statistics. As indicated above, the MSBA program fits in well with the mission of Fairfield University, because it enables us to provide an educational resource to a marketplace that is deeply in need of professionals with advanced skillsets who can manage an overabundance of both customer and industry data. In order for decision-making and strategic planning to be truly meaningful for the firm, while also being beneficial for all stakeholders in a particular organization—i.e., employees, customers, general public, etc.—management must be able to consider vast amounts of information in their deliberations of “next steps” for the company. A well-informed management team can hopefully make decisions that not only positively affect the bottom line but also account for how the business impacts all involved—either directly or indirectly—with the firm. The MSBA educates managers who are equipped to either provide the information or else make the decisions based on such information.

3 “Advanced Degree Market Scan” Prepared for Fairfield University, August, 2014. Hanover Research, p. 20.
Objectives

In the near-term, our objective will be to establish (and maintain) a level of demand of approximately 10-12 students who are able to move through the proposed sequence of courses as a cohort. As will be discussed below in the Program Detail section, and later in the Resources section, students will be able to complete the program in either a full-time (one year) or part-time (two years) format, though if necessary accepted students will have five years to complete the degree requirements. At the outset, we anticipate current MBA students bolstering enrollments in existing courses (OM 400, QA 400, IS 520, OM 525). Over the long-term, it is our intention to bring in cohorts of individuals who can move through the program together (ideally 15-20 individuals at a time) in a one-year timeframe.

In order to evaluate program effectiveness and quality, we will closely monitor application and admissions numbers each semester and academic year. We will be able to evaluate the quality of the applicants based on the applications received (e.g., applicant’s work and academic background, reasons for undertaking the program). The Director of DSB Graduate Programs will work closely with the IS/OM department to understand the characteristics of the current students (strengths/weaknesses), as well as the structure of the program (what is working, what needs to be changed or enhanced). The MS program will fall under the School of Business’ existing stringent assessment regimen, so that each of the School’s four over-arching learning goals (Critical thinking and expression, Leading, teambuilding and presenting, Acting ethically, responsibly and legally, and Acquiring discipline-specific knowledge and skills) will be assessed on a regular basis. Key benchmarks for program success will include:

- Graduation rate
- Academic performance in specific courses
- Attainment of program learning objectives via assessment process
- Job placement/advancement opportunities

Impact

Impact on current DSB programs. This new degree will draw on five existing courses and propose four new courses (see Program Details below). Such an approach helps to address the University’s need for higher graduate program enrollments and revenue, as articulated by the Fairfield 2020 strategic process, by maximizing existing resources while proposing new directions for growth. Internally, this program would help drive enrollments to courses already offered as part of the MBA program. Currently, the IS/OM department services graduate students via the MBA program. In addition to providing two of the MBA core courses (Operations and Supply Chain Management [OM 400] and Applied Business Statistics [QA 400], each running once a year) and one of the required breadth classes (IS 500, offered twice a year), the department attempts to offer at least one IS/OM advanced elective each academic year. Downward pressure on applications to the DSB part-time MBA program has meant declining enrollments for IS/OM graduate courses. As a result, it has been difficult for IS/OM faculty to
offer upper-level courses, including those that would feature individual faculty members’ professional backgrounds and research expertise.

As will be discussed below, five of the nine required courses that are being proposed for the MSBA program already exist and are offered in the MBA program. The department has recently reviewed a number of these courses and has renamed and/or updated the course description and content in order to keep the classes relevant with current trends in the industry. The four new courses being proposed speak to topics that are essential for an analytics or “Big Data” management professional. Further, existing IS/OM faculty members have the expertise to develop and offer these courses in a rigorous and high-quality manner that the market expects from a Fairfield graduate education. By adding these four new courses to the existing set of courses currently offered by the IS/OM department, the Dolan School will be able to not only offer a new and distinctly-packaged MS program but also increase the topical offerings in the existing IS/OM concentration within the MBA program.

**Impact on other Fairfield Programs.** This program is not intended to replace any existing programs at the University, but certainly represents an opportunity for interaction and cross-fertilization with existing programs, such as Mathematics in CAS and the School of Engineering. The DSB has initiated discussions with Mathematics, and proposes a graduate-level mathematics course as an elective in this program (see Details below).

**Program details**

The MS in Business Analytics is designed as a 30-credit program that can be completed either full-time over one calendar year or part-time over two academic years. This structure is identical to the DSB’s existing MS in Finance program, a long-standing degree that has proven attractive to both domestic and international students seeking to advance in their current finance fields. For the sake of flexibility, students may take up to five years to complete the degree. If this is the case, the student will be advised at the outset of the program with regard to the regularity of course offerings.

The MSBA will benefit from the Dolan School's flexible graduate course offering schedule. In addition to providing courses during the traditional fall and spring semester (typically one evening each week, over 14 weeks), the courses can also be offered in 7-week formats during the fall and spring. Further, the opportunity exists to provide either two- or four-week sessions during the winter break and over the summer months. Finally, the IS/OM department will actively pursue online and hybrid options for some of its courses. The intent is to enhance the flexibility of the program to foster student accessibility while preserving the academic rigor and high-interaction environment essential to a Fairfield program.

**Appendix B** provides an illustration of both a full- and part-time schedule.

The proposed curriculum includes:

9 required courses
1 elective course
Existing Courses (all required):

QA 400  Applied Business Statistics  
OM 400  Operations and Supply Chain Management  
IS 500  Information Systems and Database Management  
IS 520  Project Management  
OM 525  Process Improvement and Quality Management

New Courses (all required):

QA 500  Business Forecasting and Predictive Analytics  
OM 500  Introduction to Business Analytics  
IS 540  Data Mining and Business Intelligence  
IS 550  Business Analytics and Big Data Management

Graduate Elective (Choose 1 from the following existing courses. A second course may be chosen from this list and substituted for one of the above existing courses with permission of the Director of Graduate Programs. For example, someone with a strong professional background in project management may opt to take another course in lieu of IS 520):

MK 520  Marketing Research  
OM 535  Global Logistics and Supply Chain Management  
IS 585  Contemporary topics in Information Systems & Operations Management

Another Graduate-level Business course commensurate with one’s professional background/goals

A Graduate-level Mathematics course that complements required coursework*

*The MSBA provides an exciting opportunity to create an interdisciplinary connection with the Department of Mathematics. The expertise of various faculty members in mathematics has enabled the department to construct its own master-level program. A number of the graduate courses could be highly beneficial for analysts, including the following: MA 551- Applied Statistical Models, MA 553- Statistical Forecasting, MA 555- Statistical Consulting. Recent discussions among Dr. James He, Dr. Stephen Sawin (chair, Mathematics Department) and the Director of Graduate Programs raised the future possibility of considering additional mathematics courses in the MSBA curriculum beyond one elective.

The intention is to further diversify the MSBA program curriculum as enrollment grows via individuals with diverse academic and professional backgrounds. While the four new courses proposed above cover the various advanced topics essential for business analytics and as a result will always be required, one’s professional experience may serve as a viable proxy for the project management, operations and/or information systems classes. Those who come into the program specifically with professional backgrounds in areas such as statistics/modeling, marketing research, or financial services could substitute courses in other disciplines for these foundational courses. Ultimately, the hope is to develop different tracks within the MSBA, such that all students study the core concepts of data analytics but then have the opportunity to further enhance their graduate work by choosing topics within profession-specific disciplines. For example, while all students must complete (QA 400, OM 500, IS 540, IS 550), statisticians and actuaries could opt for advanced mathematics classes in forecasting and modeling, marketing
researchers and brand managers would take research, branding and communication courses, and those with financial services backgrounds could take in classes in mathematics and research methodology in finance. Further, the hope is that other professions, such as organizational psychology in GSEAP and healthcare management in the School of Nursing would find some synergies with the analytics courses. Given the proliferation of data in almost every industry, the need exists to have capable individuals who can make sense of this wealth of information about the marketplace.

Appendix C contains the syllabi of all relevant IS/OM courses, existing and new.

Target markets. Regarding student profile, it is possible that Fairfield business, arts and sciences (especially STEM), or engineering undergraduates may be interested in pursuing this program. The MSBA is a logical “next step” for those who have majored or minored in any of the undergraduate business disciplines because every division of the firm is faced with an increasing amount of data and relatively few (if any) resources to make sense of such information. However, the main focus will be to target business professionals who have some work experience and can use the degree to leverage and better focus that experience. Thus, the MSBA is designed expressly for:

- Graduates from analytic disciplines who want to develop advanced skills to solve complex business problems in light of Big Data challenges.
- Graduates with degrees in quantitative areas such as business, economics, computer science, engineering and statistics.
- Experienced professionals seeking career advancement through specialized training.

For such individuals, it may be possible to also align specific non-credit certifications with certain MS classes, including “six-sigma” and “project management.” In addition, we believe that the mix of both quantitative skills and managerial decision-making that come from these specific IS/OM classes will be extremely attractive to international students. This program could be particularly attractive for international students with engineering backgrounds, as the MSBA will provide a managerial perspective on business decisions.

With regard to growth potential and expanding on the initial market reach, this program is geared for anyone with a strong analytic background and/or professionals in a position that involves a good deal of data analysis and decision-making based on such analysis. As a result, individuals with diverse backgrounds (business, economics, mathematics, natural sciences, etc.) could be attracted to this program. Certainly, initial marketing/promotion efforts must focus on the business sector and those firms where Fairfield’s reputation is already established (via MBA, MS Accounting, and MS Finance alums/candidates). Ideally, as the number of students who enroll in the MSBA increases, more effort should be spent on reaching out to non-traditional sectors (e.g., natural and social sciences).
The Competition: Distinctiveness of a Fairfield program

As shown in Appendix A, there are six programs in the region that would compete against the proposed MSBA at Fairfield. While this is substantial competition, the proposed MSBA offers several distinctions:

- The content of the program represents a dynamic combination of quantitative skills learning and higher-level managerial training. The expertise of the IS&OM faculty includes abilities in analytical statistics along with project management, managerial decision-making, and quality management. This integration of quantitative analysis and people management skills is a differentiator in the marketplace.

- It is compact; while competitive programs have total credits ranging from 30 to 36, the MSBA would require 30-credits. The faculty believes that with focused content on critical topics, this program can offer students the skills and knowledge they need to be effective big data analysts. The flexible “packaging” of courses, as noted above, into 7-week, winter intersession, and summer courses, also increases flexibility in comparison to the competition.

- With graduate programs, commuting distance to the school is a critical variable. Our closest competitor, Quinnipiac University, offers only an online version of its MS in Business Analytics degree. Our program would offer primarily on-ground, high-interaction teaching with the flexibility for students to supplement with online and hybrid offerings. For highly quantitative coursework, interaction with expert faculty is essential and will be an attraction for students.

Market demand study

The School of Business worked with the Office of Institutional Research in spring 2014 on a market demand study for the MSBA. Because we foresee the potential target market for this degree to include international students, we cast a wider net than has been typical to try to get a sense of response to this proposed program. The following audiences received the demand survey:

- Current undergraduate juniors and seniors (N = 1,770).
- Undergraduate alums from the past 15 years (N = 10,585).
- Graduate level Fairfield University alumni, past 10 years (N = 2,866)
- GMAT and GRE test-takers who identified Fairfield as a recipient of score reports (domestic and international participants, N = 4,293).

Overall, 18,623 participants were invited (not including 868 e-mails that bounced back), and the final responses were N = 1,040.

Preliminary data from this market demand study look supportive for this program (see Appendix F). 19% of respondents (197) indicated that they are “definitely interested” in an MSBA, and of those who intend to go to graduate school in the next 2 to 4 years, 30% indicated that they were “very likely” to apply to a Fairfield MSBA. A caveat to these results is that this is a somewhat
different sampling strategy than in past Fairfield market research (i.e., including GMAT and GRE test takers), and the overall response rate is low. However, given the very broad nature of the sample (i.e., including all majors and schools for Fairfield alumni), combined with the very specific program being presented, it is not surprising that interest in this particular degree would represent a small portion of the sample. As it is, these results indicate that in order to obtain the 10-student initial enrollment we are seeking, we would only need 5% of the 197 who responded that they are “definitely interested.” We find these market survey results convincing that there is interest in Fairfield University offering this degree program. It is also worth noting that other Business Analytics programs have qualified as STEM programs for the purposes of extending F-1 visa allowances for international students working in the US. For STEM programs, Optional Practical Training (OPT) periods for internships and full-time work may be extended beyond the current 12-month period. This aspect could be very attractive to international students seeking US work experience.

Administrative structure and governance

As has been the case with other specialized master-level programs in the DSB, the faculty members who offer the curriculum are the primary “keepers” of the program. In this capacity, the School of Business will rely on the IS/OM department (currently chaired by Dr. James He) to ensure that the MSBA curriculum remains rigorous, relevant and competitive with other institutions’ graduate offerings in the topical areas. Thus, all decisions pertaining to curriculum begin at the department level.

The Dolan School has a Graduate Curriculum Committee (GCC), which has oversight for curricular issues in all the graduate business programs. The IS/OM representative (currently Dr. Vishnu Vinekar) is responsible for bringing any curriculum changes or proposals to the GCC, to be vetted by its members (each academic discipline is represented; the current chair is Dr. Carl Scheraga- Professor of Business Strategy and Technology Management). It is only after approval has been granted by the GCC that curricular issues can be brought before the DSB faculty for consideration.

The Associate Dean of the School of Business (Dr. Mark Ligas, Associate Professor of Marketing) is also the Director of Graduate Business Programs. In this capacity, his office oversees the entire admissions process for all graduate business programs. In addition, his office works with various other parties on campus (e.g., Graduate Admissions, Institutional Marketing/Communications, Office of International Students/Study Abroad) on tactics and strategies for communicating graduate programs to the larger marketplace. Further, the Director serves as the faculty advisor for each graduate student. In the case of each of the specialized master-level programs, a faculty member within the discipline also serves as an academic advisor. This model will be replicated for the MSBA.

The Dean of the School of Business (Dr. Don Gibson, Professor of Management) has the responsibility of not only communicating the graduate programs to the larger marketplace but also specifically to the alumni, recruiters, employers and friends of Fairfield University. In addition, the Dean is the primary liaison between each graduate program (and its accompanying faculty/department) and the DSB Advisory Council. Thus, the Dean is able to provide guidance and input from the council members on matters concerning industry needs and trends.
Resources

The Information Systems/Operations Management department in the Dolan School of Business has the expertise to create, maintain and regularly enhance the Master of Science in Business Analytics. The individual research expertise of each faculty member, in combination with their past experience teaching in existing graduate programs and courses, provide a strong set of skills that ensure the development and maintenance of a unique and rigorous program of study. Currently, the IS/OM department consists of five full-time, tenured faculty members:

J. He, Professor and Chair
C. Huntley, Associate Professor
P. Lee, Associate Professor
Y. Ozcelik, Associate Professor
V. Vinekar, Associate Professor

A sixth faculty member, Dr. Campbell, left the University June 30, 2014. The department is conducting a search for a new tenure-track faculty member in fall 2014, in anticipation of a hire for fall 2015. A new faculty member will be sought with expertise in areas to include quantitative analysis, Big Data, and business intelligence. Dr. He, and Dr. Lee have expertise mainly in quantitative analysis (QA) and operations management (OM) and are capable of teaching the following two new courses in the proposed curriculum:

QA 500 – Business Forecasting and Predictive Analytics
OM 500 – Introduction to Business Analytics

Dr. Huntley, Dr. Ozcelik, and Dr. Vinekar have expertise mainly in information systems (IS) and database management and are capable of teaching the other two new courses:

IS 540 – Data Mining and Business Intelligence
IS 550 – Business Analytics and Big Data Management

Given the vision for growth in the MSBA (particularly to the point of having a full-time cohort program), we anticipate the need for an additional faculty line in IS/OM as the program demonstrates growth in enrollments. Currently, the IS/OM department is at capacity with regard to teaching obligations. Although the existing faculty can construct and successfully offer the proposed new courses for the MSBA, with potential growth of the program this will only further tax the departmental resources. As noted above, although the IS/OM concentration is down in the MBA, the department still provides required MBA core and breadth classes. At the undergraduate level, where the Business School continues to realize strong growth, the department covers two required business core courses (IS 100 and OM 101) and has been asked to offer a large number of sections in a given semester of each of these classes. In addition, the IS major is beginning to grow at the undergraduate level, which necessitates offering more upper-level electives. Given the requirements of our accrediting agency (AACS B) that at least 75% of our course credit hours must be taught by full time participating faculty, we will need to address the potential future shortage in faculty resources with an additional faculty line.

Appendix D provides a summary of IS/OM faculty and their qualifications.
In addition to faculty resources, the greatest costs for the MSBA, especially at the outset, are those associated with effectively communicating Fairfield’s program to the outside market. Given the competitive alternatives that currently exist, as well as those that are being planned based on demand from industry, it will be imperative to educate the marketplace on Fairfield’s offering, with the hope that Fairfield’s reputation for high interaction-high quality and rigorous education will enhance demand for the MSBA. With a number of competitive threats in relatively close proximity, it is necessary to have a well-developed and separate communications/advertising plan for the MSBA.

Appendix E provides illustrative budgets for a: full-time (one calendar year), part-time (two academic years), and “mixed” program (part- and full-time students). The various costs and revenues contained within these budgets are based on current numbers, with a conservative estimation of increased communication costs in future years.

Program Evaluation

The Dean, Associate Dean, and members of the Information Systems/Operations Management Department will undertake a number of activities over the first three years, to obtain feedback on the growth of the new MSBA program. These initiatives will include closely tracking the following criteria:

- change in application and enrollment numbers from year to year;
- number of program inquiries within the school and through Graduate Admissions;
- professional placement opportunities as a result of graduating from the program;
- whether the variety of professional backgrounds of the students increase;
- whether/to what extent the international marketplace becomes interested in the program.

In addition, the Dolan School of Business learning goals will be applied to the MSBA curriculum. As a result, the MSBA will be held to the same rigorous curriculum standards as are the other degree-granting programs. This requires that student work pertaining to specific learning goals (e.g., thinking and expression; leading, teambuilding, and presenting; acting ethically, responsibly and legally) be assessed on a yearly basis. Further, goals specific to the MS program, especially with regard to quantitative reasoning and analysis (an objective of the thinking and expression learning goal) will be articulated and added into the curricular assessment process, as a means of maintaining the rigor and relevance of the MSBA.

Over the long term (5 years), the DSB will formally assess the need and relevance of the MSBA. To do this, a formal committee (Dean, Associate Dean, members of the DSB graduate curriculum committee, IS/OM faculty) will review all statistics related to demand, including: inquiry information, application and admission numbers, cohort sizes (if developed), student academic and professional background, placement and job opportunities, and financial results of the program. In addition, it will be of paramount importance to work with the DSB Advisory Council to determine the continued relevance of the MSBA program and demand for its specialized knowledge by firms/industry leaders. Given that the DSB Advisory Council has been a strong supporter of business analytics education, they should be able to provide candid and insightful commentary on where Fairfield's program stands in five years.
Projections for the future

As has been noted throughout, it is the intention of the business school to market the MSBA as a highly specialized, high-demand degree that can be completed in a relatively short period of time. The hope is that we can quickly get to a point of bringing in cohorts that will work through the program on a yearly basis. As indicated in the budget estimates, with moderate growth expected on a yearly basis and reasonable increases in advertising and communication costs, the MSBA has the potential to begin generating revenues in excess of costs for the institution in the first year for a fulltime cohort, and in the second year under a part-time model.
Appendix A
Regional Competitors

1. **UConn – MS in Business Analytics and Project Management**

   **Location**: School of Business Graduate Learning Center in downtown Hartford, CT

   **About the Program**: The mission of the Masters in Business Analytics and Project Management (MSBAPM) is to deliver a program of excellence in the study of advanced business analytics and project management. The program delivers a core set of advanced courses in both business analytics and project management. MSBAPM provides an integrated curriculum and a global perspective using evolving technology platforms to facilitate and support the learning process. MSBAPM is structured to provide businesses a pipeline of talented and energized professionals who will create immediate value for their organization and the communities they serve.

   The program requires **33 credit hours**, including four 3-credit courses in Business Analytics, four 3-credit courses in Project Management, and 9 credit hours in elective courses.

   **Course Descriptions**: Required courses are listed here. Detailed course descriptions can be found at: [http://msbapm.business.uconn.edu/academics/course/](http://msbapm.business.uconn.edu/academics/course/)

   **Business Analytics (12 credits)**
   1. Business Process and Modeling and Data Management
   2. Predictive Modeling
   3. Business Decision Modeling
   4. Data Mining and Business Intelligence

   **Project Management (12 credits)**
   5. Introduction to Project Management
   6. Project Leadership and Communications
   7. Project Risk and Cost Management
   8. Advanced Management

2. **Fordham – MS in Business Analytics**

   **About the Program**: Fordham's Master of Science in Business Analytics (MSBA) program integrates analytic techniques, data management, IT, modeling, and statistics to train students to become effective analysts and informed users of business data. MSBA Students develop the skills required to succeed in data-driven industries such as banking, consumer products, energy, government, health care, insurance, manufacturing and pharmaceuticals.

   This program consists of **30 credits over 3 semesters**, and can be completed in 1 year
of full-time study or in flexible part-time study. The program starts in August and runs 12 months, full-time, until the following August. It is completed over three trimesters: Fall, Spring, Summer.

**Course Descriptions:** Detailed program description can be found at: [http://www.bnet.fordham.edu/academics/ms_programs/ms_business_analytics/index.asp](http://www.bnet.fordham.edu/academics/ms_programs/ms_business_analytics/index.asp)

Fall Term (12 Credits)

1. Database Management
2. Data Warehousing
3. Data Mining for Business
4. 1 Elective

Spring Term (12 Credits)

5. Business Analytics for Managers
6. Text Analytics
7. Web Analytics
8. 1 Elective

Summer Term (6 Credits)

10. 1 Elective

3. Steven’s Institute of Technology – MS in Business Intelligence & Analytics

**About the Program:** The market has an increasing need for professionals with data management knowledge, analytical capability and problem-solving skills. Stevens is one of a select few universities worldwide to offer a master’s degree in this emerging field. Currently, Stevens is the only university in the NYC area to offer a BI&A master’s degree intended to train students to fill the growing demand for big data analysts.

The Business Intelligence & Analytics (BI&A) degree is a 36-credit graduate program for students who have already completed an undergraduate degree in science, mathematics, computer science, engineering or a related field. Stevens offers flexible study options for both full- and part-time students interested in advancing their careers within industry-specific analytical fields such as finance, information technology, telecommunications and engineering.

**Course Descriptions:** Detailed course descriptions can be found at: [https://www.stevens.edu/howe/academics/graduate/business-intelligence-analytics-bi-ms/msbi-overview](https://www.stevens.edu/howe/academics/graduate/business-intelligence-analytics-bi-ms/msbi-overview)

i. Organizational Context
• Financial Decision Making

ii. Data Management
   • Strategic Data Management
   • Data Warehousing and Business Intelligence

iii. Optimization & Risk Analysis
   • Process Analytics and Optimization
   • Financial Enterprise Risk Engineering

iv. Statistics
   • Multivariate Data Analytics
   • Experimental Design

v. Data Mining & Machine Learning
   • Knowledge Discovery in Databases
   • Statistical Learning & Analytics

vi. Social Network Analytics
   • Social Network Analytics
   • Web Analytics

vii. Industry Practicum (Select 1)
   • Applied Analytics in the Life Sciences
   • Algorithmic Trading Strategies

viii. Electives – Electives in additional departments are available for students who waive one or more of the required courses (Financial Decision Making or Strategic Data Management). To waive courses, students must have approval from a faculty advisor.
   1. Finance
      a. Investment and Capital Markets
      b. Many Financial Engineering electives are available
   2. Information Systems
      a. IT Strategy
      b. Integrating IT Architecture
      c. Marketing Online

4. New York University – MS in Business Analytics

   About the Program: The Master of Science in Business Analytics Program is designed with busy working professionals in mind. Participants live and work in their home countries and attend five concentrated, rigorous modules in New York and Shanghai. There is an optimization of classroom time, with usage of distance learning between modules. The modules are time intensive so that all teaching is done in-person only. Experienced managers who can benefit from unlocking the potential of big data. Participants come from a broad range of sectors: financial services, communications, consulting, health and pharmaceuticals, manufacturing, energy, nonprofit/NGO, education, IT, etc.

   This program is 1 year in length and starts in May of each year.

   Course Descriptions: Detailed module descriptions can be found at:
The MS in Business Analytics modules are spread out over a period of 12 months. Between modules, students complete approximately 20 hours of work per week on pre-and post-module tasks.

Module 1: New York

1. Digital Analytics and Strategy: An Introduction
2. Dealing with Big Data
3. Data Mining for Business Analytics
4. Decision Models
5. Probabilistic Models for Finance
6. Prediction

Module 2: New York

1. Data Driven Decision Making
2. Social Media and Digital Marketing Analytics
3. Managing for Quality

Module 3: Shanghai

1. Operations Analytics
2. Advanced Decision Models
3. Data Visualization

Module 4: Shanghai

1. Special Topics in Analytics: Revenue Management & Pricing
2. Strategy, Change, and Analytics
3. Market Modeling

Module 5: Closing – New York

1. Strategic Capstone

St. John’s University – MBA in Business Analytics

The Master of Business Administration with a concentration in Business Analytics develops professionals with training in the emerging field of integrated statistical analysis, data mining, predictive modeling, business intelligence and optimization methodologies with state-of-the-art information technology tools to automate or support decision-making activities in the ever-changing economy.

This program option provides students with a combination of technical and managerial
coursework needed for dealing with future challenges in the technology and data-driven global environment.

Potential career options for graduates from this program include data scientist, health care analyst, statistician, predictive modeler, quantitative analyst, project manager, market research analyst, computer systems analyst and technical team leader.

Detailed module descriptions can be found at:
http://www.stjohns.edu/academics/graduate/tobin/academics/departments/cis/mbacis/mbabusinessanalytics.stj

6. Quinnipiac University – MS in Business Analytics (online program)

   About the Program: The Master of Science in Business Analytics Program is 33 credits in length and provides a strong quantitative foundation that is inclusive of advanced statistics, data mining, text mining, tools for analysis and presentation and other relevant courses. The mission of the program is to develop in working professionals the skill sets needed to address the massive amount of data that has become universally available in order to leverage this toward successful business and decision-making applications. Numerous business functions and industries have noted the enormous need for individuals who possess the quantitative, analytical and presentation skills required to apply data to the solution of business problems, to create new business opportunities and to support innovative practices. These skills are also critical to decision-making in the nonprofit, governmental and educational industries as well as to entrepreneurship and small business management. More than 50% of the courses are offered online.

   Course Descriptions:

   Core Courses

1. BA 610 – Statistics and Probability*
2. BA 615 – Predictive Modeling*
3. CIS 620 Data Management
4. CIS 627 – Data Warehousing and Data Mining
5. CIS 628 – Business Intelligence and Data Mining
6. BA 620 – Text Mining*
7. BA 690 Business Analytics Capstone*

Four Electives

1. CIS 625 – ERP Design and Implementation
2. MG 603 – Project Management
3. CIS 690 - Managing Information Technology Projects
4. BA 680 - Statistical Quality Control*
5. BA 660 – Optimization*
6. BA 650 - Data Visualization*
### Appendix B
Full- v. Part-Time Program Schedule

#### Full-Time

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Winter Semester</th>
<th>Spring Semester</th>
<th>Summer Semester</th>
</tr>
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<tr>
<td>QA 400</td>
<td>IS 500</td>
<td>OM 400</td>
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</tr>
<tr>
<td>IS 520</td>
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<td>OM 525</td>
<td>New course</td>
</tr>
<tr>
<td>New course</td>
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<td>New course</td>
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</tr>
<tr>
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<td></td>
<td><strong>Elective in either Fall or Spring Semester</strong></td>
</tr>
</tbody>
</table>

#### Part-Time

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
<th>Summer Semester</th>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>QA 400</td>
<td>OM 400</td>
<td>IS 500</td>
<td>IS 520</td>
<td>OM 525</td>
</tr>
<tr>
<td>New course</td>
<td>New course</td>
<td>New course</td>
<td>New course</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Elective in either Fall or Spring Semester</strong></td>
<td></td>
</tr>
</tbody>
</table>
Appendix C  
Course Syllabi 

Information Systems  
CRN 10814  
Winter Session - 2014  
Course Syllabus 

Class Schedule: January 2 – January 14  
Meeting Days/Times: Weekdays / 6:00pm – 9:30pm & Saturdays / 9:00am – 4:00pm  
Class Location: Room TBA  
Online Discussions: TBD  
Instructor: Arthur C. McAdams, III, Ph.D.  
Department: ISOM  
Office: NA  
Phone: 203.259.4740  
E-Mail: amcadams@fairfield.edu  
Office Hours: By Appointment

Books & Technology

Required Books


Recommended Books


Required Technology

You will need access to a computer, printer, Fairfield University systems, and the Internet. For presentations, please copy an electronic version to a USB drive and send yourself a backup version via e-mail. You may also deliver the presentation from a laptop.
Course Description & Approach
In this course, we will examine the interrelationship between information technology, organizations, and knowledge workers, as well as the relationship of these dynamics with industry, corporations, governments, and society. We will review the history of human and technological advancement that has built the foundation for the current digital/information age as a way to explore the challenges and methods for improving organizational performance in the future.
Using a combination of required class material, books, scholarly journals, and industry publications, and contemporary sources, such as daily newspapers, students will perform research as a way to apply course lessons in their areas of interest. Through these exercises, students will gain an understanding of many management tenets, such as value, strategy, lifecycles, organization, information, innovation, quality management, change and project management, and technology.
The textbooks in this course, and for that matter any document, should not be considered the final source of “absolute truths,” but as thought-provoking instruments that both educate and challenge our understanding of organizations, talent, information, knowledge, technology, etc.

Learning Outcomes

1. Gain an appreciation for the cause and effect of technology in different eras
2. Distinguish data, information, knowledge, and wisdom
3. Analyze and improve information/knowledge-based organizational systems
4. Understand the basic attributes of IT
5. Empathize with the challenges associated with change management
6. Contemplate the attributes of leaders and managers in the new economy
7. Build a systematic mindset for solving problems
8. Understand the interrelated nature of talent, technique, and technology
9. Define the relationships between knowledge workers, organizations, and IT
10. Bridge the gap between theory and practice
11. Assess opportunities and emerging trends in the knowledge economy
12. Contemplate the ways IS may contribute to a better world

Course Story Line

1. Society, business, and technology are indistinguishable
2. Technology is neutral - people are the differentiator
3. Applying technology appropriately, a primary tenet of management, has been a competitive advantage in previous eras
4. The new economy is driven by information/knowledge and the technology is IT
5. IS, an evolved form of management, is misunderstood and subsequently undervalued
6. Progress in the new economy is dependent upon people who can ethically, effectively, and efficiently employ the tenets of IS
7. Society and business need enlightened knowledge workers and IT professionals
Course Outline

Module 1 - The Knowledge Economy
In this module, we will review the interaction of technology with business and society as presented by Peter Drucker in Managing the Next Society. In particular, we will focus on his description of knowledge work and the new economy. We will review the history of technological advancement with an emphasis on the somewhat recent evolution of our economy from a manufacturing model to an information-based model. We will explore the interaction between people and technology in various social and economic environments with an emphasis on the knowledge workforce. In this module, we will establish definitions for technology, IT, data, information, knowledge, quality, strategy, processes, operations, leadership, management science, knowledge workers, systems, lifecycles, projects, and value.

Module 2 – Information Technology & Systems
As the “technology-is-not-magic” module, we will review and discuss the impact of recent technological advancement as presented by Thomas Friedman. We will review the components of computers (hardware and software), and focus on the three attributes of information technology: electronic data, instructions, and connectivity. We will examine data management as well as the many forms of IT architecture (e.g. centralize versus decentralize). We will review the initial waves of data warehousing/mining and its more modern interpretations, such as organizational intelligence, analytics, and big data. We will also examine security and risk management.

Module 3 – Organizational Systems & Intelligence
In this module, we will integrate the lessons from the previous two books with the ideas proposed by Tom Peters. We will discuss strategic planning and explore the challenges associated with introducing technologically innovative (sustaining and disruptive) products, services, and processes. We will review formal methods that define, design, and deliver information systems and technology in today’s economy, which include traditional systems development life cycle (SDLC), joint/rapid application development (JAD/RAD), and agile. We will also study the science of project management and its primary tools, such as critical path analysis. We will evaluate the risks and rewards of radically redesigning systems and we will discuss change management and the “art” of successfully delivering innovative solutions.

Module 4 – Talent Dynamics in the New Economy
In this module, we will explore the dynamic relationship between technology and talent to better understand contemporary employment issues, as well as the factors identified by Cowen that may be influencing distribution of wealth, success, power, etc. Building from material in the other modules, we will review similar patterns in earlier eras as a way to better understand our current situation. In particular, we will explore the emerging opportunities and challenges that are enabled by IS in a real-world context. We will discuss value streams and the integrated nature of knowledge workers, management science, and information technology during this module. As an extension of this, we will explore the evolving role of managers and specialists in the new economy.
Module 5 – Review & Reflection
In this module, I will ask you to reflect on the ways IT may affect society, industry, companies, professions, hobbies, personal relationships, etc. In addition to the broad themes, students will be asked to evaluate the current state of, and to imagine the possibilities created by IT in their chosen industry and discipline. This industry environmental analysis should include factors, such as lifecycle, performance, and need or likelihood, of significant change.

Course Requirements & Guidelines

This course requires both oral and written assignments. Research is an important component of this class and it allows you the opportunity to integrate your interests with the course theories. You will be required to complete three informal oral reports on current events, three five-page papers, two 20-slide 10-minute formal presentations, and three 12-slide 10-minute team research round-table presentations. All printed work is due at the beginning of class. Collected assignments require at least seven sources.

An MBA degree is designed to prepare students for a career as a general manager (executive, CEO, entrepreneur, etc.). With this in mind, please try to think of all assignments as really important business opportunities. Imagine showing up for an important meeting without any preparation, or the proper paperwork, or delivering a presentation that is littered with spelling errors. For this class, please write e-mails with at least semi-professional form and refrain from using slang or any poor writing style.

Each written assignment should be typed and meet the minimum requirement for content and length. All assignments should be printed, stapled, paginated, and include a title, the student’s name and student number, the course name and section, and the type of assignment. All papers should use 12-point font, be double-spaced, and utilize a formal writing style.

Presentations should include a final slide with references and be printed in gray scale that contains six slides per page. Each slide should have a heading. Try to stay consistent (a.k.a. parallelism) within each slide. In other words, if your first statement is a proper sentence, then keep using sentences for the remainder of the slide and use proper punctuation. If you use bullets and start with verbs, then continue to use verbs for the remainder of the slide. Please use proper punctuation regardless of style.

Please keep in mind that communicating clearly and concisely is a valuable skill in today’s information-based and time-sensitive culture. These skills are also transferable to any discipline and vocation you choose to explore. Speaking proper English was the overriding theme in the 1964 musical My Fair Lady in which Professor Higgins sings; “this verbal class distinction by now should be antique.” This is not a communication class, and my English is far from perfect, but just as in most office settings, you will be required to write and present your thoughts to multiple audiences. I create these difficult course requirements because I want you to be prepared for post-academic life (I’m really not trying to punish you with random onerous demands!).

24
Mark Twain once quipped, “I apologize for the length of this letter, if I had had more time it would have been much shorter.” With this in mind, you may want to build a theoretical or conceptual framework for your paper. This is fairly easy and is just for you - so keep it simple. Write a few sentences for each of the major sections and try to build your paper around these markers. This may help you stay focused on the subject. Occasionally papers, much like projects, suffer from “scope creep” and take on too many divergent topics. You may want to save the other topics for future papers.

Most students enjoy hearing what other students have researched, which is one of the reasons I will often ask you to share your research with the class. Although public speaking still ranks as one of the most feared things in this world (along with death) it is a required in most vocations, and an academic setting is an ideal stage for building this important skill. When presenting, please do not read the slides verbatim.

Your introduction should be really clear and objective. This is your only chance to gain the audience’s attention. A confusing message or a biased attack will almost always disengage or alienate your audience. Try to paraphrase your points and give the audience some insight into the important points in each slide. Please try to end your presentation by restating the primary problem and then stating your position, which may include your conclusion, a recommendation, a request for approval/funding, etc.

Over the years I have noted a few “areas of opportunity” related to submitted work. First, don’t look past the really easy stuff. Please make sure you use the proper number of references and satisfy the required length in pages or slides. Don’t forget to run a “spell check” function on your work and check for homophones (e.g. to, too, two). Please follow the framework! I do not want a simple report that restates a collection of data. As future leaders you know there is an information hierarchy: data, information, knowledge, and wisdom. Critical thinking involves reflection and knowledge that reveals insight that builds on established theoretical ideals or offers new revelations. Knowing that the stock market crashed in 1987 is a pretty interesting fact; knowing how to think about the market and any of the possible cause-and-effect relationships that may materialize in the future is much more valuable.

Please be sure to cite all references properly and it is very important that you comply with the Fairfield University’s position on academic honesty that may be found on the website and in the Student Handbook.

**Deliverables**

1. **Class Participation:**
   Attendance at each class session is expected. A significant portion of your learning will accrue through the constructive and respectful exchange of ideas. Class lectures complement, but do not duplicate, textbook information. Students are expected to be on time and prepared for class. Please turn off and store all unnecessary technology before class.
   Please bring a relevant news article to class each week and to be prepared to lead a brief classroom conversation on your chosen topic. Students are also required to write a journal
about the class that highlights the student’s thoughts related to the key concepts. These assignments will not be collected.

2. Team Research Presentations:
All students will participate in three team presentations. Each team will be assigned an article to evaluate in each module and the team will be required to lead a twenty-minute roundtable discussion. You may use notes, such as the printed PowerPoint slides that I will collect, but you will not use electronic projection tools for this exercise. The presentations should include the following five sections:

1. Environmental Analysis – Explain the time, place, and historical context of the article
2. Biography – Describe the author’s background and any important factors that may have influenced/motivated his/her writing
3. Summary - Summarize the most important messages in the article
4. Lessons Learned - Identify and relate lessons to current events
5. Remaining Questions - Identify one question that you would like to have discussed in class

3 Individual Research Papers & Presentations:
As detailed in the Course Requirements section you will be required to complete three formal papers and two formal presentations (one for each module) to successfully complete this course. You may choose any topic included in my PowerPoint slides or anything from the representative readings in each module as your subject for research. I may ask all of you to meet with me individually during each module at which time you will briefly summarize your paper, and respond to any questions I may have related to your assignment or anything related to that content in the respective module.

Course Schedule

Each module will require about 20% of the total class time, although the first module usually requires additional time. Time may vary depending on interests, questions, etc. Please read through the required books before the first day of class and prepare an informal document for each that highlights one area in which you feel the author has identified an important phenomenon and one area that you feel the author’s view may need revision.

Grading

Inevitably, the question of grading criteria surfaces sometime during the semester. As you have probably noted, I do not administer easily quantifiable methods for evaluating your knowledge of the concepts in the course. I choose to use reports, presentations, and open-ended questions in classroom discussion as a way to measure your learning, which are more qualitative. This probably makes it a little harder for both of us, but I believe it is the best way to measure knowledge.
I will use the following rubric and matrix for your papers and presentations:

Argument
H: clear distinction between criteria and a concise persuasive conclusion

Compliance
H – all requirements fully met
L – more than two major deficiencies

Creativity
H: new or novel approach/concept to a subject
L: familiar set of ideas and contrasts

Grammar
H: no errors or very few minor errors
L: difficult to interpret content/message

Organization
H: clear outline, symmetrical, and aesthetically acceptable
L: unprofessional, poor construction of content with little use of proper formatting

Any paper that includes any form of plagiarism will be graded “50.” For the first offense, the student will have an opportunity to send me a three-paragraph email that describes the specific plagiarism offense, a comment on the seriousness of academic integrity, and a promise from the student that he/she has now read the full description of plagiarism and commits to a plagiarism-free academic experience. The initial “50” will then be revised favorably for the student; though not to exceed “80.” A second offense will result in an “F” for the course and a written comment in the student’s file.

Please keep in mind that your final grade is cumulative so you will not be able to “make up” for missed classes and poor performance during the last week of the semester.

If your attendance and punctuality are nearly perfect, your alertness and attention are proper, your participation is acceptable, and you comply with the guidelines for deliverables, you will probably earn a “B” for the course. I will happily award higher grades for engaged participation and work that exhibits exceptionally rigorous and insightful thinking as described in the rubric.

Grading Breakdown

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Class Participation</td>
<td>20%</td>
</tr>
<tr>
<td>Team Research Presentations</td>
<td>20%</td>
</tr>
<tr>
<td>Individual Papers</td>
<td>20%</td>
</tr>
<tr>
<td>Individual Presentations</td>
<td>20%</td>
</tr>
<tr>
<td>Individual Reflection Paper</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Recommended Reading/Sources for Research Papers and Presentations


Gladwell, M. (). *Tipping Point or Blink*.


Machiavelli, N (1532). *The Prince*.

Marx & Engels. (). *The Communist Manifesto*


Orwell, G. (). *Animal Farm* or 1984.


Plato (380BC). *The Republic.*


Swift, J. (). *A Modest Proposal.*


**Other Valuable Sources**

IS520 – Fall 2012 – Project Management

Instructor:
Gerard M. Campbell, Ph.D.  gcampbell@fairfield.edu
office: DSB 1121  phone: (203) 254-4000 x-3118
office hours:  Monday  2:00 – 3:30
                    Thursday  2:00 – 3:30 & 5:30 – 6:30

Classroom          Time
DSB 107            Thursday 6:30 – 9:30 p.m.

Overview:

This course explores the process and practice of project management. Topics to be covered include project life-cycle and organizations, teambuilding and productivity, task scheduling and resource allocation, and progress tracking and control. Cases are used to illustrate issues such as change management, managing stakeholders and considering risk. Student projects will enable the application of concepts learned in class, and software will be used to help formulate and communicate project plans.

Prerequisites:  IS500 or OM 400

       ISBN 978-0-538-47702-4

Cases:  Cases may be purchased online at Harvard Business Publishing
          Course-specific link:  http://cb.hbsp.harvard.edu/cb/access/15491016

Supplements:  PowerPoint slides and other materials will be made available through the Mentor course management system.

Project Management Software:
   Early in the semester, an online project management software system will be selected for use throughout the course.

Course Objectives:

1.  To teach the terminology, concepts and techniques associated with project management.
2.  To provide an understanding of practical applications of the concepts and techniques.
3.  To provide knowledge of and hands-on experience with project management software.
4.  To provide exposure to research related to project management.

Course Grading and Assignments:
<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Homework</td>
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</tr>
<tr>
<td>Student Project</td>
<td>25 %</td>
</tr>
<tr>
<td>In-class software work</td>
<td>15 %</td>
</tr>
<tr>
<td>Research Article Presentation</td>
<td>15 %</td>
</tr>
<tr>
<td>Case presentation</td>
<td>10 %</td>
</tr>
<tr>
<td>Class participation</td>
<td>10 %</td>
</tr>
</tbody>
</table>

**Homework:**

Homework will be assigned each week and collected at the beginning of the following class. Each student’s lowest homework grade will be dropped.

**Student Project:**

Each student will undertake planning for a project of their own choosing, which they will use to illustrate the application of key concepts from the course. Assignments related to student projects will be worked on in class as the semester progresses. Each student will present a summary of their project work to the class at the end of the semester.

**In-class software work:**

During the semester, assignments will be worked on in-class using online project management software.

**Research Article Presentation:**

In a 20 - 25 minute PowerPoint presentation, each student will present a research paper to the class. The student will also provide the class with a 1 – 2 page summary of the article’s findings. Articles will be provided by the instructor, with assignments and presentation dates established early in the semester. Criteria for evaluating the research article presentations are shown on the Evaluation Form attached to this syllabus.

**Case Presentation:**

Each case will be presented by a two-student team, who will lead class discussion of the case. After presenting a summary of the major aspects of the case, they will solicit inputs from other class members and then present their analysis of the case. Criteria for evaluating the case presentations are shown on the Evaluation Form attached to this syllabus.

**Class Participation:**

During discussion of cases and at other times, student participation is encouraged. Class participation grades will be based on quality of participation, not just attendance.
**Communication:** Email is probably the most effective way to communicate with the instructor. The instructor may occasionally communicate with students using the email distribution list on Mentor.

**Course Schedule**

<table>
<thead>
<tr>
<th>Class #</th>
<th>Week of</th>
<th>Topics</th>
<th>Textbook Reading</th>
<th>Article &amp; Case Presentations</th>
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<tbody>
<tr>
<td>1</td>
<td>Sept. 6</td>
<td>Introduction to Project Management</td>
<td>Ch. 1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sept. 13</td>
<td>Project Selection &amp; Prioritization</td>
<td>Ch. 2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sept. 20</td>
<td>Organization Capability</td>
<td>Ch. 3</td>
<td><em>Project Portfolio Management</em></td>
</tr>
<tr>
<td>4</td>
<td>Sept. 27</td>
<td>Chartering Projects</td>
<td>Ch. 4</td>
<td><em>Model of Project Knowledge Management</em></td>
</tr>
<tr>
<td>5</td>
<td>Oct. 4</td>
<td>Stakeholder Analysis &amp; Communication Planning</td>
<td>Ch. 5</td>
<td><em>Case: TrustWeb</em></td>
</tr>
<tr>
<td>6</td>
<td>Oct. 11</td>
<td>Scope Planning</td>
<td>Ch. 6</td>
<td><em>Project Knowledge Transfer</em></td>
</tr>
<tr>
<td>7</td>
<td>Oct. 18</td>
<td>Scheduling Projects</td>
<td>Ch. 7</td>
<td><em>Case: Novo Nordisk</em></td>
</tr>
<tr>
<td>8</td>
<td>Oct. 25</td>
<td>Resourcing Projects</td>
<td>Ch. 8</td>
<td><em>Risk Management Affecting Success</em></td>
</tr>
<tr>
<td>9</td>
<td>Nov. 1</td>
<td>Budgeting Projects</td>
<td>Ch. 9</td>
<td><em>Success Criteria in Malaysia</em></td>
</tr>
<tr>
<td>10</td>
<td>Nov. 8</td>
<td>Project Risk Planning</td>
<td>Ch.10</td>
<td><em>Case: Tetra Tech</em></td>
</tr>
<tr>
<td>11</td>
<td>Nov. 15</td>
<td>Project Quality Planning &amp; Project Kick-off</td>
<td>Ch. 11</td>
<td><em>eCollaboration</em></td>
</tr>
<tr>
<td></td>
<td>Nov. 22</td>
<td>THANKSGIVING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Nov. 29</td>
<td>Project Supply Chain Management</td>
<td>Ch. 12</td>
<td><em>Green Project Management</em></td>
</tr>
<tr>
<td>13</td>
<td>Dec. 6</td>
<td>Leading and Managing Project Teams</td>
<td>Ch. 13</td>
<td><em>Case: American Constructors</em></td>
</tr>
<tr>
<td>14</td>
<td>Dec. 13</td>
<td>Determining Progress; Finishing the Project</td>
<td>Ch.14 &amp; Ch. 15</td>
<td><em>Translation &amp; Convergence</em></td>
</tr>
<tr>
<td>15</td>
<td>Dec. 20</td>
<td>Student Presentations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
IS520 Presentation Evaluation Form

Presentation title: ______________________  Today's date: _________

Concerning the Material:

Should this material be used again for IS520?  (replace)  (keep)  
1  2  3  4  5

To what extent did the Presenter:

( not at all)  (a great deal)

-- Raise meaningful issues & stimulate the audience?  
1  2  3  4  5

( not at all)  (a great deal)

-- facilitate class participation?  
1  2  3  4  5

( not at all)  (a great deal)

-- articulate well and convey enthusiasm?  
1  2  3  4  5

( not at all)  (a great deal)

-- exhibit good preparation?  
1  2  3  4  5

(poor)

Overall, how would you rate the presenter's performance?  
1  2  3  4  5

Please provide written feedback in the space below.
Sample Course Syllabus

IS 540 – Data Mining & Business Intelligence

Course Description

This course will change the way you think about data and its role in business. Businesses, governments, and individuals create massive collections of data as a byproduct of their activity. Increasingly, decision-makers and systems rely on intelligent technology to analyze data systematically to improve decision-making. In many cases automating analytical and decision-making processes are necessary because of the volume of data and the speed with which new data are generated. We will examine how data analysis technologies can be used to improve decision making. We will study the fundamental principles and techniques of data mining, and we will examine real-world examples and cases to place data-mining techniques in context, to develop data-analytic thinking, and to illustrate that proper application is as much an art as it is a science. In addition, we will work “hands-on” with data mining software. Prerequisite: IS 500.

Learning Outcomes

1. Approach business problems data-analytically. Think carefully & systematically about whether & how data can improve business performance, to make better-informed decisions for management, marketing, investment, etc.

2. Be able to interact competently on the topic of data mining for business intelligence. Know the basics of data mining processes, algorithms, and systems well enough to interact with CTOs, expert data miners, consultants, etc. Envision opportunities.

3. Have had hands-on experience mining data. Be prepared to follow up on ideas or opportunities that present themselves, e.g., by performing pilot studies.

Text


Grading Policy

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation &amp; Class Contribution</td>
<td>10%</td>
</tr>
<tr>
<td>Homework</td>
<td>30%</td>
</tr>
<tr>
<td>Term Project</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Participation
Students are expected to attend and participate in each class session. Participation means being prepared, being punctual, being respectful, actively listening and responding to questions.

**Homework**

All homework assignments will be submitted through Blackboard.

**Term Project**

A term project report will be prepared by student teams. Student teams should comprise 3-4 students. *You should decide on your teams by the end of the third class, and submit them to me.* Teams are encouraged to interact with the instructor electronically or face-to-face in developing their project reports. You will submit a proposal for your project about half way through the course. Each team will present its project at the end of the semester. We will discuss the project requirements and presentations in class.

**Final Exam**

The final exam will be a take-home one to be completed during the week following the last class. The subject matter covered and the exact dates will be discussed in class.

**Outline of Course Content:**

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
<th>Reading</th>
<th>Case &amp; Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>What is Data Mining and Why Do It?</td>
<td>Ch 1</td>
</tr>
<tr>
<td>2</td>
<td>Data Mining Fundamentals: Predictive Modeling</td>
<td>Data Mining Applications Decision Trees</td>
<td>Ch 2 Ch 7</td>
</tr>
<tr>
<td>3</td>
<td>The Data Mining Process Descriptions and Predictions</td>
<td></td>
<td>Ch 3 Ch 5</td>
</tr>
<tr>
<td>4</td>
<td>Nearest Neighbor Approaches--Memory Based Reasoning and Collaborative Filtering</td>
<td></td>
<td>Ch 9</td>
</tr>
<tr>
<td>5</td>
<td>Data Mining Fundamentals: Descriptive Data Mining</td>
<td>What you should know about data Using Classic Statistic Techniques</td>
<td>Ch 4 Ch 6</td>
</tr>
<tr>
<td>6</td>
<td>Toward Analytical Engineering &amp; Possible Applications: Fraud Detection, Targeted Marketing, Customer Retention</td>
<td></td>
<td>Ch 8</td>
</tr>
<tr>
<td>7</td>
<td>Application: Online Advertising - Ethics of data mining and privacy</td>
<td></td>
<td>Ch 2</td>
</tr>
<tr>
<td>8</td>
<td>Knowing When to Worry: Using Survival Analysis to Understand Customers</td>
<td></td>
<td>Ch 10</td>
</tr>
<tr>
<td>9</td>
<td>Generic Algorithms and Swarm Intelligence</td>
<td></td>
<td>Ch 11</td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Chapter</td>
<td>Assignments</td>
</tr>
<tr>
<td>------</td>
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<td>----------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>Tell Me Something New: Pattern Discovery and Data Mining</td>
<td>Ch 12</td>
<td>HW#6 due</td>
</tr>
<tr>
<td>11</td>
<td>Wrap Up and Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Project Presentation</td>
<td></td>
<td>Project Report due</td>
</tr>
<tr>
<td>13</td>
<td>Final Exam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FAIRFIELD UNIVERSITY
IS 550
BUSINESS ANALYTICS AND BIG DATA MANAGEMENT
SAMPLE COURSE SYLLABUS


Note: The cases in the textbook will become part of the class assignments, and additional sources may be used and distributed in class. Students are encouraged to bring their own laptop computers to the class.

I. COURSE DESCRIPTION:

This course will survey state-of-the-art topics in Big Data, looking at data collection (smartphones, sensors, the Web), data storage and processing (scalable relational databases, Hadoop, Spark, etc.), extracting structured data from unstructured databases, systems issues (exploiting multicore, security), analytics (machine learning, data compression, efficient algorithms), visualization, and a range of applications. Each of the five modules will introduce broad concepts as well as provide the most recent developments in research. Prerequisite: QA 500 and OM 500.

II. COURSE OBJECTIVES:

Objectives of this course are:

• Distinguish what is Big Data (volume, velocity, variety), and will learn where it comes from, and what are the key challenges
• Determine how and where Big Data challenges arise in a number of domains, including social media, transportation, finance, and medicine
• Investigate multicore challenges and how to engineer around them
• Explore the relational model, SQL, and capabilities of new relational systems in terms of scalability and performance
• Understand the capabilities of NoSQL systems, their capabilities and pitfalls, and
how the NewSQL movement addresses these issues

- Learn why building secure Big Data systems is so hard and survey recent techniques that help, including learning direct processing on encrypted data, information flow control, auditing, and replay
- Discover user interfaces for Big Data and what makes building them difficult
- Understand the benefits and challenges of open-linked data
- Comprehend machine learning and algorithms for data analytics

### III. OUTLINE OF COURSE CONTENT:

<table>
<thead>
<tr>
<th>Modules</th>
<th>Reading</th>
<th>Case &amp; Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>[1] Ch 1, Ch 2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>[2] Ch 1, Ch 2</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>3</td>
<td>[2] Ch 3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>[2] Ch 4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>[2] Ch 5, Ch 6</td>
<td>Assignment 2</td>
</tr>
<tr>
<td>6</td>
<td>[2] Ch 8</td>
<td></td>
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<tr>
<td>7</td>
<td>[2] Ch 9</td>
<td></td>
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<tr>
<td>8</td>
<td>[2] Ch 10</td>
<td>Assignment 3</td>
</tr>
<tr>
<td>9</td>
<td>[2] Ch 11</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>[1] Ch 4, Ch 13</td>
<td>Assignment 4</td>
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<td>11</td>
<td>[1] Ch 8, Ch 10</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>[1] Ch 11, Ch 12</td>
<td>Assignment 5</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final Exam</td>
</tr>
</tbody>
</table>
IV. **GRADING POLICY:**

The final grade will be calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Analyses</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Term Project</td>
<td>20%</td>
</tr>
<tr>
<td>Homework Assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Case Analysis**

The class will be divided into two-student groups for case analysis. Each group is responsible for all cases, including data analysis, statistical tests, potential applications, and class discussion. While a formal written case report is not required, students are expected to show their work in writing and to participate in class discussion.

**Term Project**

The “Stats Application” project has two components: a presentation and a paper. Students will choose their own project topic, based on their own interests and preferences. Students should discuss their project topic with the instructor as soon as possible to ensure it is appropriate.

Presentations should last approximately 10 - 15 minutes. It would be helpful if presentations could involve the rest of the class somehow, e.g., by including a problem or problems that could serve as the basis for class participation.

Written reports are due on the last day of class. Reports should include references to current research related to the project topic. At least two current references should be cited in the report.

**Class Participation**

Class participation includes participating in case analysis and class discussion, in addition to class attendance.
Instructor: Patrick Lee, PhD  
Office Hrs.: M, R, 12:30-1:30 p.m., and R, 5:00-6:00 p.m. or by appointment  
Office: DSB 2120  
Phone: x2846  
Email: plee@fairfield.edu

Textbook  

Course Description  
Production and Operations Management has evolved into one of the most important business disciplines over the last several decades. Although the discipline started in the 1900s with the manufacturing industries, its focus has shifted to the service sector as well. With today’s highly competitive environment, the need for continuous improvement of operations has never been greater.

This course is intended to provide the basic concepts that led to the discipline based on process analysis that integrates goods and services from the perspective of the value chain that cuts across the broad scope of businesses. Our purpose is to investigate the important managerial issues and decisions of OM with technical tools and quantitative applications, emphasizing the relevance to the work environment and personal lives.

Integrative Learning Goals

Global Citizenship  
• International operations and global value chains  
• Information sharing and global co-operations  
• Coordinated operations are win-win propositions

Quantitative Reasoning  
• Being able to clearly define problems on hand  
• Identifying the proper measurements and models for analysis  
• Using Excel spreadsheets to:  
  perform numerical analysis, and/or  
  construct diagrams  
• Solving models and being able to interpret the picture behind the numbers

Rhetoric and Reflection  
• Compose and make an oral presentation on case study and project  
• Develop a reading/studying strategy to understand and to apply for the workplace  
• How to use reflective learning techniques to modify conclusions to meet the actual needs of business.

Course Objectives
This course examines the basic but current issues of Operations Management and Supply Chain processes. It is intended to provide students with the following objectives:

- Fundamentals of OM, and processes: productivity and quality
- Integrating and designing the supply chain operations
- Managing and controlling production and service operations

**Evaluations and Grading Policy**

Each student is evaluated based on the performance criteria described in the following:

- Case presentation: 35%
- Final project—report and presentation: 50%
- Participation: 15%

Owing to some of the difficult concepts in the discipline, it is strongly recommended that students should prepare the readings ahead of the class as listed in the schedule. Class time will be devoted to the major concepts and case presentations. Case studies are used to expand the concepts and techniques outlined in the text. It is an extremely useful for business students to see the hows and whys of the scenarios presented.

The final project is used as a tool to demonstrate the students' proficiency of the subject matters in POM and supply chain management. It is also intended as a community cooperative effort to enhance the learning experience. This project will conclude with a formal presentation and an executive summary report not exceeding 20 pages.

**Tentative Schedule (To be amended)**

<table>
<thead>
<tr>
<th>Week of</th>
<th>Topics covered</th>
<th>Chapters</th>
<th>Assignments/Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 16</td>
<td>Defining OSCM</td>
<td>1</td>
<td>Chad’s Creative Concepts (p. 29)</td>
</tr>
<tr>
<td>Jan. 23</td>
<td>Process Strategy, Process Analysis</td>
<td>Wyatt Earp Case 3, 4</td>
<td>Customer Molds, Inc. (p. 115), Jose’s Authentic Mexican Restaurant (p. 154), The Lawn Care Company*</td>
</tr>
<tr>
<td>Jan. 30</td>
<td>Manufacturing Designs, Service Designs</td>
<td>Supplement C, 7, Ritz Carlton Case</td>
<td></td>
</tr>
<tr>
<td>Feb. 6</td>
<td>Project Management</td>
<td>2</td>
<td>The Pert Mustang (p. 87)</td>
</tr>
<tr>
<td>Feb. 13</td>
<td>Quality Management</td>
<td>5, Quality Crusaders Case</td>
<td></td>
</tr>
<tr>
<td>Feb. 20</td>
<td>Supply Chain Design</td>
<td>10</td>
<td>Brunswick Distribution, Inc. (p. 381)</td>
</tr>
<tr>
<td>Feb. 27</td>
<td>Supply Chain Integration</td>
<td>12</td>
<td>Wolf Motors (p. 439)</td>
</tr>
<tr>
<td>Mar. 6</td>
<td>Capacity Planning, Case Presentations Start</td>
<td>6, Supplement A</td>
<td>Fitness Plus,A (p. 223), Recoding For the Blind*</td>
</tr>
<tr>
<td>Mar. 13</td>
<td>Forecasting</td>
<td>14</td>
<td>Yankee Fork and Hoe Company (p. 502)</td>
</tr>
<tr>
<td>Mar. 20, 27</td>
<td><strong>Mid-term, Spring Break</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
<td>Pages</td>
<td>Notes</td>
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</tr>
<tr>
<td>Apr. 3</td>
<td>Lean Production, Inventory Control, Enterprise Systems (SCM, CRM)</td>
<td>8, 9, 16</td>
<td>Copper Kettle Catering (p. 304), Parts Emporium (p. 343)</td>
</tr>
<tr>
<td>Apr. 10</td>
<td>Wrap-up</td>
<td></td>
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<tr>
<td>Apr. 17</td>
<td>Easter Break</td>
<td></td>
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<tr>
<td>Apr. 24</td>
<td>Final Project Presentations</td>
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<tr>
<td>May 1</td>
<td>Final Project Presentations</td>
<td></td>
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</tr>
<tr>
<td>May 8</td>
<td>Final Papers Due</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Cases to be distributed!
OM 500

INTRODUCTION TO BUSINESS ANALYTICS

SAMPLE COURSE SYLLABUS


Note: The cases in the textbook will become part of the class assignments, and additional sources may be used and distributed in class. Students are encouraged to bring their own laptop computers to the class.

I. COURSE DESCRIPTION:

This course introduces basic skills necessary for business analytics such as data analysis using basic statistics, data visualization and summarization, descriptive and inferential statistics, spreadsheet modeling for prediction, linear regression, risk analysis using Monte-Carlo simulation, linear and nonlinear optimization, and decision analysis. Microsoft Excel 2010 is used as the platform for conducting analyses and performing statistical calculations. Prerequisite: QA 400.

II. COURSE OBJECTIVES:

Objectives of this course are:

- Use Microsoft Excel to summarize, visualize, and analyze data in practical business situations
- Develop and analyze mathematical and spreadsheet-based models for practical business decisions
- Apply simple and multiple linear regression analysis
- Develop and analyze spreadsheet models for risk analysis using Monte Carlo simulation and Risk Solver Platform
- Formulate and solve models for linear, integer, and nonlinear optimization, and interpret the results provided by Excel Solver
- Use decision analysis concepts and techniques to model and analyze decision strategies

IV. OUTLINE OF COURSE CONTENT:
<table>
<thead>
<tr>
<th>Session Topics</th>
<th>Reading</th>
<th>Case &amp; Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction to Business Analytics</td>
<td>Ch 1</td>
<td></td>
</tr>
<tr>
<td>2. Predictive Modeling and Analysis</td>
<td>Ch 8</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>3. Regression Analysis</td>
<td>Ch 9</td>
<td></td>
</tr>
<tr>
<td>4. Forecasting Techniques</td>
<td>Ch 10</td>
<td>Assignment 2</td>
</tr>
<tr>
<td>5. Simulation and Risk Analysis</td>
<td>Ch 11</td>
<td></td>
</tr>
<tr>
<td>6. Introduction to Data Mining</td>
<td>Ch 12</td>
<td>Assignment 3</td>
</tr>
<tr>
<td>7. Linear Optimization</td>
<td>Ch 13</td>
<td></td>
</tr>
<tr>
<td>8. Applications of Linear Optimization</td>
<td>Ch 14</td>
<td>Assignment 5</td>
</tr>
<tr>
<td>9. Integer Optimization</td>
<td>Ch 15</td>
<td></td>
</tr>
<tr>
<td>10. Nonlinear and Non-Smooth Optimization</td>
<td>Ch 16</td>
<td>Assignment 6</td>
</tr>
<tr>
<td>11. Optimization Models with Uncertainty</td>
<td>Ch 17</td>
<td></td>
</tr>
<tr>
<td>12. Decision Analysis</td>
<td>Ch 18</td>
<td>Assignment 7</td>
</tr>
<tr>
<td>13. Final Exam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Project Presentation</td>
<td></td>
<td>Project Report Due</td>
</tr>
</tbody>
</table>

IV. GRADING POLICY:

The final grade will be calculated as follows:

Case Analyses 10%
Final Exam \hspace{1cm} 30%
Term Project \hspace{1cm} 20%
Homework Assignments \hspace{1cm} 28%
Class Participation \hspace{1cm} 12%
Total \hspace{1cm} 100%

Case Analysis

The class will be divided into two-student groups for case analysis. Each group is responsible for all cases, including data analysis, statistical tests, potential applications, and class discussion. While a formal written case report is not required, students are expected to show their work in writing and to participate in class discussion.

Term Project

The “Stats Application” project has two components: a presentation and a paper. Students will choose their own project topic, based on their own interests and preferences. Students should discuss their project topic with the instructor as soon as possible to ensure it is appropriate.

Presentations should last approximately 10 - 15 minutes. It would be helpful if presentations could involve the rest of the class somehow, e.g., by including a problem or problems that could serve as the basis for class participation.

Written reports are due on the last day of class. Reports should include references to current research related to the project topic. At least two current references should be cited in the report.

Class Participation

Class participation includes participating in Excel practice, case analysis and discussion, in addition to class attendance.

Communication

Email is probably the most effective way to communicate with the instructor. The instructor may occasionally communicate with students using class lists on StagWeb.
OM525 – Spring 2011 – Business Process Improvement

Instructor:
Gerard M. Campbell, Ph.D. gcampbell@fairfield.edu
office: DSB 1121 phone: (203) 254-4000 x-3118
office hours: Tuesday: 8:45 – 9:20 a.m. and 12:20 – 1:00 p.m.
      Friday: 8:45 – 9:20 a.m. and 12:20 – 1:00 p.m.
      Wednesday: 5:30 – 6:30 p.m.

Room  Time
DSB 107 Wednesday 6:30 – 9:30 p.m.

Overview:

This course addresses topics and methods related to the improvement of business processes along dimensions such as cost, quality, speed, and flexibility. Through the use of case studies, students learn to approach problems using methods that have proven effective for a variety of organizations. Topics include: financial justification of operational improvements; change management; six-sigma process improvement methods and tools; business process reengineering; and lean production concepts applied in both manufacturing and service organizations. This course will also reinforce skills involved in communicating recommendations effectively. Students are expected to complete a significant research paper as a requirement of this course.

Prerequisites:

OM 400 and QA 400

Textbooks:

ISBN-10: 0-324-30075-1


Order information: http://www.simio.com/publications/SASMAA/

Supplements:

PowerPoint slides and other materials will be made available through Eidos/Mentor.
Simulation Software:

“Simio is a unique multi-paradigm simulation software tool that provides a rapid and flexible modeling capability without requiring programming.” (Simio.com)

The Academic Version of Simio has been installed on classroom computers in DSB 107.

Student Software

Students can use the Academic Version above that is installed on university computers, however many students prefer to have software installed on their own computers to use at their convenience. The Student Version has all the same functionality (no feature or size limits) as the Academic Version, except that it is licensed to individual students for one year. The Student Version is only for students taking a class and is available for a nominal fee (US $25 for 1 year unlimited access to a $10,000 product).

Course Objectives:

1. To teach the principles of six sigma and their relevance to business process improvement.
2. To provide an understanding of the DMAIC methodology.
3. To teach design for six sigma as a means for product development and process improvement.
4. To provide knowledge of and hands-on experience with business process simulation.
5. To provide an opportunity for each student to perform a research project related to business process improvement.

Course Grading and Assignments:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>15 %</td>
</tr>
<tr>
<td>Exam 2</td>
<td>15 %</td>
</tr>
<tr>
<td>Homework</td>
<td>20 %</td>
</tr>
<tr>
<td>Case presentations</td>
<td>15 %</td>
</tr>
<tr>
<td>In-class Simio work</td>
<td>15 %</td>
</tr>
<tr>
<td>Research Project</td>
<td>20 %</td>
</tr>
</tbody>
</table>
**Exams:**

Exams will cover material from both the Six Sigma and Simulation texts. Exams will be open book / open notes.

**Homework:**

Homework will be assigned each week and collected at the beginning of the following class. Each student’s lowest homework grade will be dropped.

**Case Presentations:**

Each student will prepare and present two PowerPoint presentations lasting about 15 minutes each. These will be based on Case Studies included in the Six Sigma text (except for the last two, which are TBD). As part of the case presentation, the presenter should lead discussion of any end-of-chapter questions related to the case (e.g., for Xerox, questions 10-12 on p. 26 of the Six Sigma text). Students may also include related material from other sources in their presentations. Criteria for evaluating the presentations are shown on the Evaluation Form attached to this syllabus.

**In-class Simio work:**

During the semester, assignments and case studies will be worked on in-class using the Simio simulation software.

**Research Project:**

Each student will complete a research project related to Business Process Improvement. For their projects, students are encouraged to use Simio to model and investigate improvements for one or more processes. The project should include a literature review section that cites at least five references from the literature. Project proposals are due March 16th, and project papers and presentations are due May 4th.

**Communication:**

Email is probably the most effective way to communicate with the instructor. The instructor may occasionally communicate with students using class lists on StagWeb.
<table>
<thead>
<tr>
<th>Class #</th>
<th>Week of</th>
<th>Topics</th>
<th>Six Sigma Reading</th>
<th>Simulation Reading</th>
<th>Case Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan. 19</td>
<td>Principles of Quality Management. Intro to Simio</td>
<td>Ch. 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Jan. 26</td>
<td>Principles of Six Sigma. Intro to Simulation</td>
<td>Ch. 2</td>
<td>Ch. 1</td>
<td>Evolution of Quality at Xerox</td>
</tr>
<tr>
<td>3</td>
<td>Feb. 2</td>
<td>Project Definition. Basics of Queueing Theory</td>
<td>Ch. 3</td>
<td>Ch. 2</td>
<td>Ford's Drive to Six Sigma Quality</td>
</tr>
<tr>
<td>4</td>
<td>Feb. 9</td>
<td>Process Measurement. Approaches to Simulation</td>
<td>Ch. 4</td>
<td>Ch. 3</td>
<td>Fidelity Investments</td>
</tr>
<tr>
<td>5</td>
<td>Feb. 16</td>
<td>Process Analysis. Input Analysis</td>
<td>Ch. 5</td>
<td>Ch. 4</td>
<td>Middletown Regional Hospital</td>
</tr>
<tr>
<td>6</td>
<td>Feb. 23</td>
<td>Process Improvement. First Simio Models</td>
<td>Ch. 6</td>
<td>Ch. 5</td>
<td>GE Fanuc</td>
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<td>7</td>
<td>Mar. 2</td>
<td>Exam 1</td>
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<td>8</td>
<td>Mar. 9</td>
<td>Process Control. Intermediate Modeling with Simio</td>
<td>Ch. 7</td>
<td>Ch. 6</td>
<td>Reduce Medical Errors</td>
</tr>
<tr>
<td>9</td>
<td>Mar. 16</td>
<td>Design for Six Sigma 1. Working with Model Data</td>
<td>Ch. 8</td>
<td>Ch. 7</td>
<td>Control Chart in Receiving Process</td>
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<tr>
<td></td>
<td>Mar. 23</td>
<td><strong>No Class – Spring Break</strong></td>
<td></td>
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<tr>
<td>10</td>
<td>Mar. 30</td>
<td>Design for Six Sigma 2. Animation and Entity Movement.</td>
<td>Ch. 9</td>
<td>Ch. 8</td>
<td>Pivot Initiative at Midwest Bank</td>
</tr>
<tr>
<td>11</td>
<td>Apr. 6</td>
<td>Implementing Six Sigma. Advanced Modeling with Simio.</td>
<td>Ch.10</td>
<td>Ch. 9</td>
<td>DOE for Battery Life</td>
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<tr>
<td>12</td>
<td>Apr. 13</td>
<td>Customizing and Extending Simio.</td>
<td>Ch.10</td>
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<td>Six Sigma at Samsung</td>
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<tr>
<td>13</td>
<td>Apr. 20</td>
<td>Exam 2</td>
<td></td>
<td></td>
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<td>14</td>
<td>Apr. 27</td>
<td>Project Management. Six Sigma Certification.</td>
<td>Handouts</td>
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<td>Additional Case 1 Additional Case 2</td>
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<td>15</td>
<td>May 4</td>
<td>Research Project Presentations</td>
<td></td>
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</tbody>
</table>
OM525 Presentation Evaluation Form

Presentation title: ____________________________  Today’s date: __________

**Concerning the Material:**
Should this material be used again for OM525?

<table>
<thead>
<tr>
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</table>

**To what extent did the Presenter:**

- **Raise meaningful issues & stimulate the audience?**
  
<table>
<thead>
<tr>
<th>(not at all)</th>
<th>(a great deal)</th>
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- **facilitate class participation?**
  
<table>
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<th>(a great deal)</th>
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- **articulate well and convey enthusiasm?**
  
<table>
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- **exhibit good preparation?**
  
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<tr>
<th>(not at all)</th>
<th>(a great deal)</th>
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**Overall, how would you rate the presenter’s performance?**

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</table>

**Please provide written feedback in the space below.**
FAIRFIELD UNIVERSITY

Charles F. Dolan School of Business

QA 400

APPLIED BUSINESS STATISTICS

COURSE SYLLABUS – FALL 2013

INSTRUCTOR: Dr. James He
DEPARTMENT: Information Systems & Operations Management
OFFICE NUMBER: Room 2115, Charles F. Dolan School of Business
OFFICE HOURS: MR 11:00 a.m. – 12:30 p.m. or by appointment
OFFICE PHONE: 203-254-4000 Ext. 2835
E-MAIL: xhe@fairfield.edu
INTERNET: faculty.fairfield.edu/xhe

MEETING TIME: 6:30 – 9:30 p.m. Thursdays
Room 107 DSB


Note: The cases in the textbook will become part of the class assignments, and additional sources may be used and distributed in class. Students are encouraged to bring their own laptop computers to the class.

I. COURSE DESCRIPTION:

This course uses numerous case studies and examples from finance, marketing, operations management, accounting, information systems, and other areas of business to illustrate the important roles and applications of statistics in the business world. Topics include: data presentation and communication, probability distributions, sampling and sampling distributions, confidence intervals, hypothesis testing, regression analysis, and time series forecasting. Statistical software, such as Excel, will be introduced to facilitate the data analysis and decision making process.

II. COURSE OBJECTIVES:

Objectives of this course are:

1. To gain factual knowledge in terms of terminology, classifications, methods, and trends with respect to basic concept and applications
• Analyzing and converting statistical data into meaningful information by means of statistical software.

2. To learn to apply course material to improve critical thinking, problem solving, and decision-making
   • Introducing the tools of descriptive statistics and influential statistics for effective communication and decision-making.

3. To develop specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
   • Investigating potential applications of business statistics in various areas through real world case analysis.

V. OUTLINE OF COURSE CONTENT:
<table>
<thead>
<tr>
<th>Session Topics</th>
<th>Reading</th>
<th>Case &amp; Homework</th>
</tr>
</thead>
</table>
| 1 9/05  
• Introduction to Business Statistics | Ch 1 | Excel Practice: COUNTIF, FREQUENCY, BAR CHART, p.38 - 43 |
| 2 9/12  
• Descriptive Statistics: Graphical Presentations | Ch 2 | Excel Practice: FREQUENCY – Using PivotTable- pp.49-51 HISTOGRAM, PP.52-54 |
| 3 9/19  
• Descriptive Statistics: Numerical Measures  
• Introduction to Probability | Ch 3 Ch 4 | Excel Practice: PivotTable, pp.69-71 Scatter Diagram, pp.75-77  
Case 1: Pelican Stores (Ch2), p.90 |
| 4 9/26  
• Discrete Probability Distributions  
• Continuous Probability Distributions | Ch 5 Ch 6 | Excel Practice: Descriptive Statistics, p.116 Covariance, pp.140-142  
Case 2: Pelican Stores (Ch3), p.157  
Homework #1 |
| 5 10/03  
• Sampling and Sampling Distributions | Ch 7 | Excel Practice: Normal Distribution, 267 |
| 6 10/10  
• Confidence Interval Estimation | Ch 8 | Excel Practice: Confidence Interval, 339  
Case 3: Gulf Real Estate (Ch8), 361 |
| 7 10/17  
• “Stats Application” Project Proposal | | Draft Proposal Due |
| 8 10/24  
• Hypothesis Tests | Ch 9 | Excel Practice: Hypothesis Test, 383, 394  
Case 4: Quality Associates (Ch9), 410  
Homework #2 |
| 9 10/31  
• Comparisons Involving Means | Ch 10 | Excel Practice: Test of 2 Means, 423, 433 Analysis of Variance, 457  
Case 5: Par, Inc. (Ch10), 469 |
| 10 11/07  
• Comparison Involving Proportions | Ch 11 | Excel Practice: Test of 2 Proportions, 481  
Homework #3 |
| 11 11/14  
• Review for Mid-Term Exam  
• Mid-Term Exam (Take-Home) | | Draft Project Report Due |
| 12 11/21  
• Simple Linear Regression | Ch 12 | Excel Practice: Simple Reg., 518  
Case 6: Measuring Stock Market Risk (Ch12), 577 |
| 11/28  
No Class – Thanksgiving Recess | | |
| 13 12/05  
• Multiple Regression | Ch 13 | Excel Practice: Multiple Regression, 590  
Homework #4 |
| 14 12/12  
• Problem Solving Session  
• Prepare for Final Project Report/Presentation | | |

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IV. GRADING POLICY:

The final grade will be calculated as follows:

- Case Analyses and Presentations: 10%
- Mid-term Exam: 35%
- “Stats Application” Project: 25%
- Homework Assignments: 20%
- Class Participation: 10%
- Total: 100%

Case Analysis

The class will be divided into two-student groups for case analysis. Each group is responsible for all cases, including data analysis, statistical tests, potential applications, and class discussion. While a formal written case report is not required, students are expected to show their work in writing and to participate in class discussion.

Homework (Individual)

HW#1: Ch3 - Problem 59 (p.153), Ch4 - Problems 1-3 (p.173), Ch5 - Problem 16 & 18 (p.222), Ch6 - Problem 24 (p.272)

HW#2: Ch7 - Problems 9 (p.296), 19 (p.308), 23 (p.309), 41 (p.321); Ch8 – Problems 5 (p.333), 12 & 13 (p.342), 27 (p.346); Ch9 – Problems 1 & 4 (p.370), 15 & 17 (p.388), 23 & 24 (p.396)

HW#3: Ch10 – Problems 1 (p.424), 13 (p.436), 19 (p.443), 24 (p.444); Ch11 – Problem 1 (p.483), 6 (p.484)

HW#4: Ch12 – Problems 5 (p.521), 18 (p.532), 26 (p.544); Ch13 – Problems 2 (p.592), 24 (p.607)

“Stats Application” Project

The “Stats Application” project has two components: a presentation and a paper. Students will choose their own project topic, based on their own interests and preferences. Students should discuss their project topic with the instructor as soon as possible to ensure it is appropriate. The topic should relate somehow to the practice of Applied Business Statistics. The following are possible project types:

- Data analysis and descriptive statistics, or
• Data analysis and statistical tests.

Presentations should last approximately 10 - 15 minutes. It would be helpful if presentations could involve the rest of the class somehow, e.g., by including a problem or problems that could serve as the basis for class participation.

Written reports are due on the last day of class. Reports should include references to current research related to the project topic. At least two current references should be cited in the report.

**Class Participation**

Class participation includes participating in Excel practice, case analysis and discussion, in addition to class attendance.

**Communication**

Email is probably the most effective way to communicate with the instructor. The instructor may occasionally communicate with students using class lists on StagWeb.

**FAIRFIELD UNIVERSITY ACADEMIC HONESTY POLICY:**

In all academic work, students are expected to submit materials that are their own. Examples of dishonesty are listed in the link of my website: faculty.fairfield.edu/xhe

In the event of such dishonesty, professors are to award a grade of zero for the project, paper or examination in question, and may record an F for the course itself. When appropriate, expulsion may be recommended. A notation of the event is made in the student’s file in the academic dean’s office. The student will receive a copy.
Sample Course Syllabus

QA 500 – Business Forecasting & Predictive Analytics

Course Description

This course introduces analytical techniques used to assist in managing under uncertainty. Topics include time series and other forecasting techniques, as well as Monte Carlo simulation to assess the risk associated with managerial decisions. Specifically, we will cover decision support systems, collecting data, data sources, time dependent models and analysis, advanced solver, time series techniques, exponential smoothing, moving averages, and Box-Jenkins (ARIMA) models. Application examples include: Financial models - Stock prices, Risk management - Bond ratings, Behavior models - Customer attrition, Customer likes/dislikes, Buying patterns - Propensity to buy, Politics - Identify swing voters, and Sales. Prerequisite: QA 400.

Learning Outcomes

1. Identify the appropriate techniques to use to analyze time series data
2. Identify when Monte Carlo simulation is appropriate for assessing risk
3. Use computer software for implementing forecasting
4. Use computer simulation software to perform risk analyses

Text


Grading Policy

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tr>
<td>Participation</td>
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<tr>
<td>Homework</td>
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<td>Quizzes</td>
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<td>Mid-Term Exam</td>
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<td>Final Exam</td>
<td>30%</td>
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<td>Total</td>
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</table>

Participation

Students are expected to attend and participate in each class session. Participation means being prepared, being punctual, being respectful, actively listening and responding to questions.

Homework

All homework assignments will be submitted through Blackboard.
Quizzes

There will be a total of five (5) quizzes.

Exams

One mid-term exam and one final exam will be given. In case of an emergency, the student must contact the instructor to request an excused absence. All students must take the mid-term exam and the cumulative final exam. Exams will be a combination of multiple choice and computational questions that may require the use of software.

Outline of Course Content:

<table>
<thead>
<tr>
<th>Session</th>
<th>Topics</th>
<th>Reading</th>
<th>Case &amp; Homework</th>
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<tr>
<td>1</td>
<td>• Forecasting: Why and How</td>
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<td>• Basic Tools for Forecasting</td>
<td>Ch 2</td>
<td>Exercises 2.1 &amp; 2.4, Minicase 2.1</td>
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<td>3</td>
<td>• Forecasting Trends: Exponential Smoothing</td>
<td>Ch 3</td>
<td>Exercises 3.1, 3.3 &amp; 3.4</td>
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<td>4</td>
<td>• Seasonal Series: Forecasting &amp; Decomposition</td>
<td>Ch 4</td>
<td>Exercises 4.1, 4.2 &amp; 4.4</td>
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<td>5</td>
<td>• State-Space Models for Time Series</td>
<td>Ch 5</td>
<td>Minicase 5.2</td>
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<td>• ARIMA Models</td>
<td>Ch 6</td>
<td>Exercises 6.1</td>
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<td>7</td>
<td>• Simple Linear Regression for Forecasting</td>
<td>Ch 7</td>
<td>Exercises 7.5</td>
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<td>8</td>
<td>• Multiple Regression for Forecasting</td>
<td>Ch 8</td>
<td>Minicase 8.3</td>
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<td>Exercises 9.4</td>
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<td>• Advanced Methods of Forecasting</td>
<td>Ch 10</td>
<td>Exercises 10.4</td>
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### Appendix D
IS/OM Faculty and CVs

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Degree/Institution</th>
<th>Expertise</th>
<th>Teaching</th>
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<tbody>
<tr>
<td>James He</td>
<td>Ph.D. (1992) Penn State</td>
<td>Operations Management and Quantitative Analysis</td>
<td>OM 500* QA 400, 500*</td>
</tr>
<tr>
<td>Chris Huntley</td>
<td>Ph.D. (1996) University of Virginia</td>
<td>Information Systems</td>
<td>IS 500, 520, 550*</td>
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<tr>
<td>Yasin Ozcelik</td>
<td>Ph.D. (2005) Purdue University</td>
<td>Information Systems</td>
<td>IS 500, 540*, 550*</td>
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<tr>
<td>Vishnu Vinekar</td>
<td>Ph.D. (2007) University of Texas at Arlington</td>
<td>Information Systems</td>
<td>IS 500, 540*, 550*</td>
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<tr>
<td>Additional Line</td>
<td>Ph.D. TBD</td>
<td>Information Systems and Big Data Management</td>
<td>IS 540*, 550*</td>
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</table>

*new course in MSBA program
James He  
Professor

Department: Information Systems & Operations Management  
School: Dolan School of Business  
Date of Appointment: September 2000  
Date of Rank: September 2006  
Years of Service: 14

Employment  
2000 - Present  
Professor (2006), Information Systems & Operations Management, Fairfield University  
1991 - 2000  
Assistant Professor (1991-1997) and Associate Professor (1997-2000), School of Business, South Carolina State University, Orangeburg, SC.

Degrees  
Ph.D.  
Management Science and Information Systems, Pennsylvania State University, 1992  
MBA  
University of Shanghai for Science and Technology, 1987  
BS  
Zhejiang University, 1982  

Honors  
2012  
DSB Outstanding Research Paper Award  
2006  
Distinguished as a Fellow of the International Information Management Association (IIMA)  
2006  
Elected as President of the International Information Management Association (IIMA)

Publications  
Articles  


• Xiaobo Xu and Xin James He, Impact of Team Altitude and Behavior on IS Project Success, *Communications of the IIMA*, 8(4) 2008, 41-52.


• J.G. Kim, D. Sun, Xin James He and Jack C. Hayya, The (s, Q) Inventory Model with Erlang Lead Time and Deterministic Demand, *Naval Research Logistics*, 51(6) 2004, 906-923.


• Myron Sheu and Xin James He, Intelligent Web User Interfaces, *Communications of the IIMA*, 3(2) 2003, 1-15.


Conference Proceedings

• Xin James He, The Impact of Stochastic Lead Time: the Mean or the Variance in *2009 Proceedings of International Multi-Conference of Engineering and Computer Scientists*. (2009), 2076-2080.
• Xin James He, A Resource-Based View on ERP Implementation in *Proceedings of the 7th International Conference of the Decision Sciences Institute*. Shanghai, China: (2003), CD-ROM.

Presentations
Conferences

• Xin James He, “Stochastic Lead Time: Is it the mean or the variance that matters more.” Paper presented to the 19th Annual Conference of International Information Management Association, San Diego, CA on October 13, 2008.


• Xin James He, "Analysis of Switching Costs on Customer Loyalty in e-commerce." Paper presented to the , on.

Grants

• James He, The Impact of Global Supply Chain Strategy on Product Quality: The Case of Boeing 787, Dolan School of Business: $5,000 (June 1 – December 15, 2013).
• James He, The Effect of Global Supply Chain on U.S. Manufacturing: A Switching Cost View, Dolan School of Business: $5,000 (June 1 - December 15, 2012).
• James He, Strategic Supply Chain Measurement: A Switching Cost Perspective, Dolan School of Business: $5,000 (June 1 - December 15, 2011).
• James He, Critical Success Factors on IS Project Performance, Dolan School of Business: $5,000 (June 1 - December 15, 2010).
• James He, Stochastic Lead Time: Is it the mean or the variance that matters more, Dolan School of Business: $5,000 (June 1 - December 15, 2008).
• Xin James He, Enterprise Documentation: A Formal-Model Approach, Dolan School of Business: $5,000 (June 1 - December 15, 2007).
• Xin James He, Analysis of E-marketplace in the Textile Industry in China, Dolan School of Business: $4,000 (May 1 - September 1, 2006).
• Xin (James) He, Data Warehouse in Supply Chain Management, Fairfield University: $3,500 (June 1 - December 15, 2004).
• Xin (James) He, The (s, Q) Inventory Model with Stochastic Lead Time and Deterministic Demand, Dolan School of Business, Fairfield University: $4,000 (June 1, 2004 - February 10, 2005).

Service
Committee
Dolan School of Business

• Continuous Improvement & Assessment Committee September 2008 – June 30 2011
• DSB Undergraduate Curriculum Committee September 2005 - August 2008

General Faculty

• Academic Council September 2012 - June 2014
• Undergraduate Curriculum September 2009 - June 2012
• Academic Council September 2008 - December 2008
• Faculty Development & Evaluation September 2006 - August 2008
• Academic Council September 2004 - August 2006
  Undergraduate Curriculum September 2003 - August 2006

  Chair: September 2004 - August 2005

• University Advancement September 2001 - August 2004

  Chair: September 2003 - August 2004

University Administration

• Self-Study 5: Faculty August 2006 - August 2007
• Self-Study 6: Students August 2006 - August 2007

Institutional Service

• Continuous Improvement & Assessment Committee. July 1, 2011 - Present.

Professional Service

• Program Chair and Vice President of International Information Management Association. November 1, 2004 - November 1, 2005.

Community Service

• Coordinator of Fairfield Chinese Academy. January 7, 2002 - Present.
Christopher L. Huntley
Associate Professor

Department: Information Systems & Operations Management
School: Dolan School of Business
Date of Appointment: September 1997
Date of Rank: September 2004
Years of Service: 16

Employment
1997 - Present  **Associate Professor (2004)**, Information Systems & Operations Management, Fairfield University
1996 - 1997  **Visiting Assistant Professor**, Management Science and Information Systems, University of California at Riverside, Riverside, CA.

Degrees
Ph.D.  University of Virginia, 1996
M.S.  University of Virginia, 1989
B.S.  University of Virginia, 1987

Publications
Articles


Chapters


Conference Proceedings


• Suzanne H. Campbell and Christopher L. Huntley, Growing pains at a private breastfeeding practice in *World Association for Case Method Research & Case

Presentations
Conferences


Lectures & Seminars

• Winston M. Tellis, Christopher L. Huntley and Vishnu Vinekar, IS In Developing Countries: Employee Motivation for ERP In Microfinance, Paper presented to the Dolan School of Business, Fairfield University, Fairfield, CT, on February 21, 2009.

Service Committee
Center for Academic Excellence

• FLC - Diversity 2007-08 September 1997 - Present

General Faculty

• Academic Council September 2012 - June 2014
• Athletics September 2010 - June 2013
• Academic Council September 2006 - August 2008
• University College September 2003 - August 2006

Chair: September 2004 - August 2005

• Educational Technologies September 2000 - August 2003
• Library September 1999 - August 2002

Chair: September 2001 - August 2002

Institutional Service
• Co-Chair, Fairfield Business Plan Competition. Coordinate all operations and all web services for the initial offering of the competition. October 1, 2011 - Present.
• Stags Council. Work with administrators and staff from across campus on student-life issues for the varsity and club athletes. September 1, 2011 - Present.
• DSB Graduate Admissions Committee. Review graduate applications and make admission decisions for marginal candidates. September 1, 2011 - Present.
• University Web Advisory Committee. Monthly meetings to review and advise on Fairfield University’s web sites and services. September 1, 2011 - Present.
• NCAA Faculty Athletics Representative. Act as ombudsman on the behalf of student-athletes. In this capacity I administer annual surveys of all athletes and advise the athletics department on academic matters. July 1, 2011 - Present.

Professional Service

• Editorship. Editorship of the "In Development" column in Computer, the flagship publication of the IEEE Computer Society. May 1, 2011 - Present.
• Board member, IEEE Computer Society. In addition to my column editor duties, I also participate in annual board meetings to set the direction for the society. February 1, 2011 - Present.

Community Service

• Web Development Projects 2010-2012. Completed professional-quality interactive websites for the following organizations: * Beardsley Zoo * Operation Hope * CT CAHS/VITA Program * Bridgeport Schools * JustFaith Ministries January 1, 2011 - Present.

Development

• Teaching MIS, Prentice-Hall, Boston, MA (April 6, 2006 - April 6, 2006).
• Teaching MIS, Prentice-Hall, Boston, MA (April 5, 2006).

Research

• Christopher L. Huntley and Stephanie Lucca Small Worlds in OSS Communities: An Analysis of Project Dependency Data, April 1, 2005.
Patrick S Lee
Associate Professor

Department: Information Systems & Operations Management
School: Dolan School of Business
Date of Appointment: September 1995
Date of Rank: September 1999
Years of Service: 19

Employment
1995 - Present
Associate Professor (1999), Information Systems & Operations Management,
Fairfield University

Degrees
Ph.D. Industrial Administration, Carnegie-Mellon, 1984

Publications
Articles

- Patrick S. Lee, Coordinating pricing and inventory purchasing decisions of a supply chain for e-tailers in face of quantity discount, Academy of Information and Management Sciences Journal, 16(2,2) 2013.
- Gerard M. Campbell, Patrick S. Lee and Annemarie Van Parys, Cross-Training and Allocation of Highly-Skilled Workers at Surgental, Inc. -- a Spreadsheet-Based Teaching Case, International Journal of Case Method Research & Application, XXV(1) 2013, 41-47.
  [doi:10.1155/2008/483267]
• Prafulla joglekar and Patrick S. Lee, Responding to a one-time-only-sale (OTOS) of a product subject to obsolescence, *Academy of Information and Management Sciences Journal*, 2003.


Abstract


Conference Proceedings


Presentations

Conferences

- Patricia M. Poli and Patrick S. Lee, “Does Quality Pay?” Presentation to the INFORMS, Hong Kong on June 1, 2006.

Lectures & Seminars

• Patrick S. Lee, Barbara Porco and Joan L. Van Hise, *Jesuit Business Education: Are We Different?*, Paper presented to the Charles F. Dolan School of Business Faculty Seminar Series, on October 1, 2005.

Grants

• Patrick S. Lee, *Coordinating pricing and inventory purchasing decisions of a supply chain for an e-tailer in face of quantity discount*, DSB Summer Grant: $5000 (2012)
• Patrick S. Lee, The American Council of Education: $5,000 (2010).
• Patrick S. Lee, *dynamic pricing during a gradual replenishing inventory cycle: an optimal strategy for e-tailers*, DSB summer research grant: $4,000 (June 1, 2005 - March 1, 2006).

Service Committee
Dolan School of Business

• Research and Grant Committee 2013
• Graduate Programs Committee September 2009 - August 2011
• Undergraduate Programs Committee September 2006 – August 2009
• Continuous Improvement & Assessment Committee September 2003 - August 2006

General Faculty

• Rank & Tenure October 2002 - August 2003
• Faculty Development Committee (1995-1998), Chair, 1998

Professional Service

• Opponent--Doctoral Disssertation:*Policy Variants for Coordinating Supply Chain Inventory Replenishments by Kaij E. Karrus, Aalto University, Helsinki, Finland, 2012.*
Yasin Ozcelik

**Office Address**
Dolan School of Business, Dept. of IS & OM  
Fairfield University, Fairfield, CT 06824
Phone: (203) 254-4000 ext. 2821

**Home Address**
44 Strawberry Hill Ave #7B  
Stamford, CT 06902  
Phone: (203) 554-4748

E-mail: yozcelik@fairfield.edu  
Website: www.misworld.org

**EDUCATION**

**Ph.D. Degree**
Purdue University, West Lafayette, IN  
Krannert School of Management  
Department of Management Information Systems  
Major Field: Management Information Systems  
Degree Conferred: **August 2005**  
Dissertation Title: “Essays on the Effects of Information Technology and the Internet on Business Environments”

**M.S. Degree**
Purdue University, West Lafayette, IN  
Krannert School of Management  
Department of Economics  
Major Field: Economics  
Degree Conferred: **May 2001**

**B.S. Degree**
Bilkent University, Ankara, Turkey  
Faculty of Science  
Department of Mathematics  
Major Field: Mathematics  
Degree Conferred: **May 1999**

**WORK EXPERIENCE**

2011-Present  
Associate Professor, Department of Information Systems & Operations Management, Dolan School of Business, Fairfield University

2005-2011  
Assistant Professor, Department of Information Systems & Operations Management, Dolan School of Business, Fairfield University

2001-2005  
Graduate Instructor & Research Assistant, Department of Management Information Systems, Krannert School of Management, Purdue University

1999-2001  
Teaching Assistant & Research Assistant, Department of Economics, Krannert School of Management, Purdue University
1998-1999 Website developer and sales representative, MOS Computer, Turkey

PROFESSIONAL AFFILIATIONS
1. Registered Member, Association for Information Systems (AIS)
2. Registered Member, Institute for Operations Research and Management Sciences (INFORMS)
3. Registered Member, Information Systems Society
4. Registered Member, American Association of University Professors (AAUP)

RESEARCH INTERESTS
• Economics of Information Systems
• Business Models in Electronic Commerce
• Business Value of Information Technology

TEACHING INTERESTS
• Information Systems
• Electronic Commerce
• Database Management Systems

TEACHING EXPERIENCE
Fairfield University
1. IS 100 – Introduction to Information Systems
   • Spring 2013 (3 sections), Fall 2013 (2 sections)
   • Spring 2012 (3 sections), Fall 2012 (3 sections)
   • Spring 2011 (3 sections), Fall 2011 (2 sections)
   • Spring 2010 (3 sections), Fall 2010 (2 sections)
   • Spring 2009 (3 sections), Fall 2009 (2 sections)
   • Spring 2008 (2 sections), Fall 2008 (2 sections)
   • Spring 2007 (2 sections)
   • Spring 2006 (2 sections), Fall 2006 (2 sections)
   • Fall 2005 (3 sections)
2. OM 101 – Operations Management
   • Spring 2013 (1 section)
3. IS 310 – Information Systems in Organizations
   • Fall 2013 (1 section)
   • Fall 2011 (1 section)
   • Fall 2010 (1 section)
   • Fall 2009 (1 section)
   • Spring 2008 (1 section), Fall 2008 (1 section)
   • Fall 2006 (1 section)
4. IS 395 – Systems Capstone Project
   • Spring 2006 (1 section)
5. IS 500 – Information Systems - MBA Level
   • Spring 2007 (1 section)

Purdue University
1. MGMT 547 – Computer Communications Systems (Fall 2003, 2 sections)
   • Purdue University Graduate Student Award for Outstanding Teaching, Fall 2003
   • Krannert School of Management Outstanding Graduate Instructor Award, Fall 2003
2. MGMT 547 – Computer Communications Systems (Fall 2002, 2 sections)
   • The Krannert Dean’s Certificate of Recognition for Teaching Excellence, Fall 2002
3. ECON 210 – Principles of Economics (Fall 1999, 1 section)

PUBLICATIONS
Journal Articles


**Book Chapters**


**Refereed Articles in Conference Proceedings**


PROFESSIONAL PRESENTATIONS

Research Consortia and Workshops


Invited Presentations


6. “Incentive Compatible Electronic Loyalty,” Faculty Candidate Seminar, Sabancı University, School of Management, Turkey, December 20, 2004.


8. “Incentive Compatible Electronic Loyalty,” Faculty Candidate Seminar, University of Tulsa, Department of Management Information Systems, College of Business Administration, October 13, 2004.

REVIEWER SERVICES FOR JOURNALS, CONFERENCES, AND BOOKS

2013
1. Management Information Systems for the Information Age (textbook review)

2012
1. Journal of Management Information Systems

2011
1. International Journal of E-commerce

2010
1. Communications of the Association for Information Systems
2. International Conference on Mobile Business
3. International Journal of Project Management (three different papers reviewed)
4. Journal of Management Information Systems (two different papers reviewed)

2009
1. Decision Sciences Institute (DSI) Annual Meeting
2. Electronic Commerce Research and Applications

2008
1. Communications of the Association for Information Systems
2. Decision Support Systems
3. Information Systems and E-Business Management
4. Journal of International Technology and Information Management
5. The Handbook of Technology Management (Wiley)

2007
1. Decision Support Systems
2. Information Systems and E-Business Management
3. International Conference on Information Systems (ICIS)
4. Journal of E-commerce Research

2005
1. European Journal of Operational Research

UNIVERSITY AND ACADEMIC SERVICES

University Services
1. Member, Dolan School of Business Strategic Task Force, Fairfield University, Spring 2013.
2. Member, Library Committee, Fairfield University, Spring 2011.
3. Member, Undergraduate Curriculum Committee, Fairfield University, Spring 2010.
5. Member, Dolan School of Business Undergraduate Curriculum Committee, Fairfield University, September 2009 – August 2012.
6. Member, Dolan School of Business Committee on Graduate Admissions, Fairfield University, 2008 – 2011.
7. Member, Dolan School of Business Graduate Programs Committee, Fairfield University, 2006 – 2009.
9. Member, Faculty Search Committee for Department of Information Systems & Operations Management, Dolan School of Business, Fairfield University, Fall 2006.
10. Member, Undergraduate Curriculum Development Subcommittee for Department of Information Systems & Operations Management, Dolan School of Business, Fairfield University, Spring 2006.

11. Faculty advisor for business undergraduate students, Fairfield University, 2005 – Present.

Academic Services

4. United Way Captain, Krannert School of Management Division, Purdue University, Fall 2003.

COMPETITIVE RESEARCH GRANTS

1. Dolan School of Business Summer Research Support Award (Summer 2011)
   • “Does Outsourcing Information Technology Projects Improve Performance of the U.S. companies?”, awarded $5,000.
2. Fairfield University Summer Research Stipends Program Award (Spring 2009)
3. Fairfield University Faculty Research Committee Grant (Spring 2008)
   • “Impacts of Information Technology Outsourcing on Company Performance: A Firm Level Empirical Analysis”, awarded $1,000.
4. Fairfield University Pre-tenure Research Leave Grant (Fall 2007)
   • “Open Source Software Development Networks: An Empirical Analysis of Social Structure and Success Factors”.
5. Dolan School of Business Summer Research Support Award (Summer 2007)

SPECIAL AWARDS AND HONORS

1. Purdue University Graduate Student Award for Outstanding Teaching (Fall 2003)
2. Krannert School of Management Outstanding Graduate Instructor Award (Fall 2003)
3. The Krannert Dean’s Certificate of Recognition for Teaching Excellence (Fall 2002)
4. Full assistantship by Purdue University, Krannert School of Management (1999-2005)
5. Full scholarship by Bilkent University, Department of Mathematics, Turkey (1994-1999)
6. Graduated with Honor Degree from Bilkent University, Turkey

PROFESSIONAL TRAINING
1. Jesuit Mission and Identity Gathering, Fairfield University, April 29, 2010
2. Service Learning Roundtable, organized by the Center for Faith and Public Life, Fairfield University, February 17, 2010
3. Jesuit Mission and Identity Gathering, Fairfield University, April 7, 2009
4. Harvard Business School Case-based Teaching Workshop, Bryant University, Smithfield, Rhode Island, March 24, 2009
5. The 6th Pedagogy, Technology & Course Redesign Conference, Fairfield University, Fairfield, Connecticut, June 7-9, 2006

COMPUTER KNOWLEDGE

• Programming Languages: Visual Basic, C++, Turbo Pascal, ASP, PHP, HTML, LaTeX.
• Scientific Computing Software: Maple, Matlab, Mathematica.
• Statistical Software: SAS, Gauss, STATA, LimDep.
• Database Management Systems Software: Microsoft Access, SQL, MySQL.
• Other Software: MikTeX, Microsoft Frontpage, Flash, Adobe Photoshop, Paint Shop Pro.

REFERENCES

• Prof. Kemal Altinkemer
  Associate Professor
  Department of Management Information Systems
  Krannert Graduate School of Management, Purdue University
  403 W. State Street, West Lafayette, IN 47907
  Phone: (765) 494-9009
  E-mail: kemal@purdue.edu

• Prof. Prabuddha De
  Accenture Professor of Information Technology and Professor of Management
  Department of Management Information Systems
  Krannert Graduate School of Management, Purdue University
  403 W. State Street, West Lafayette, IN 47907
  Phone: (765) 494-0699
  E-mail: pde@purdue.edu

• Prof. Jackie Rees
  Associate Professor
  Department of Management Information Systems
  Krannert Graduate School of Management, Purdue University
  403 W. State Street, West Lafayette, IN 47907
  Phone: (765) 494-0320
  E-mail: jrees@purdue.edu
• **Prof. Christopher Huntley**
  Associate Professor
  Chair, Department of Information Systems & Operations Management
  Dolan School of Business, Fairfield University
  1073 North Benson Road, Fairfield, CT 06824
  Phone: (203) 254-4000 X 2874
  E-mail: chuntley@mail.fairfield.edu

  • Additional references are available upon request.
Vishnu Vinekar
Associate Professor of Information Systems & Operations Management
Charles F. Dolan School of Business, Fairfield University, 1073 N Benson Rd Fairfield CT 06824
http://faculty.fairfield.edu/vvinekar  Email: vvinekar@fairfield.edu
Ph: 203-254-4000 x 2831  Fax: 203-254-4105

EDUCATION
Ph.D. in Business Administration
University of Texas at Arlington, 2007
Dissertation: “A Two-Order Effect Model of IT Business Value: Theoretical Development and

Master of Science in Information Systems, G.P.A.: 3.909/4.0
Texas A&M International University, 2002

Bachelor of Architecture
Manipal Institute of Technology, India, 1999

ACADEMIC EXPERIENCE
Associate Professor, Information Systems & Operations Management,
Fairfield University  September 1st 2014 – Present
Assistant Professor, Information Systems & Operations Management,
Fairfield University  September 1st 2007 – 2014
Graduate Assistant, Information Systems & Operations Management,
University of Texas at Arlington  2003 – 2007

RESEARCH
REFEREED JOURNAL PUBLICATIONS
At Assistant Professor rank:


Prior to Assistant Professor rank:

**REFEREEED CONFERENCE PROCEEDINGS**

At Assistant Professor rank:


Prior to Assistant Professor rank:


AWARDS
• Best Paper Award, Americas Conference on Information Systems 2006
• Lawrence Schkade Award for Excellence in Research, University of Texas at Arlington, 2007

TEACHING

FAIRFIELD UNIVERSITY

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<td>Fall 07</td>
<td>Spring 14</td>
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<td>IS 500: Information Systems (Graduate)</td>
<td>Summer 08</td>
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<td>IS 240: Systems Analysis</td>
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<td>IS 350: International Information Systems</td>
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<td>IS 220: Technology &amp; Society</td>
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<td>IS 300: Special Topics: Web Development</td>
<td>Spring 13</td>
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UNIVERSITY OF TEXAS AT ARLINGTON

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<td>BUSA 2303: Introduction to Information Systems</td>
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SERVICE

UNIVERSITY COMMITTEE MEMBERSHIPS

Handbook Committees:
• Educational Technologies Committee, Fall 2012 - Present
• Academic Council, Fairfield University, Fall 2011-Spring 2012
• Faculty Development And Evaluation Committee, Fairfield University, Fall 2008 – Spring 2011
• Student Life committee, Fairfield University, Spring 2008

DSB Committees:
• DSB Undergraduate Curriculum Committee, Fall 2012 - present
• DSB Graduate Programs Committee, Fall 2012 - present

Other Committees:
• International Studies Coordination Committee, Fairfield University, Fall 2008 – Fall 2011
• Service learning Advisory Committee. Fairfield University, Fall 2012 - Present

SESSION CHAIR
• Thirty-seventh Annual Meeting of the Decision Sciences Institute, Nov. 18-21 2006, San Antonio, Texas
  Track: Business Value Generating Innovative Technologies - Session: Decision Sciences
• Thirty-seventh Annual Meeting of the Decision Sciences Institute, Nov. 18-21 2006, San Antonio, Texas
  Track: Organizational Behavior/Organizational Theory – Session: Decision Making
REVIEWER

• Journal of Systems & Software
• European Journal of Information Systems
• Information Systems Management
• Journal of International Technology and Information Management
• International Conference on Information Systems
• Americas Conference on Information Systems
• Decision Science Institute Conference
• International Information Management Association Conference
• Southern Association of Information Systems Conference