

Proposal Template for a New Concentration (Track, Option, or Minor) for  
an existing degree program  
with the same Classification of Instruction Programs (CIP) Code

Full Name of Current Program: B.S. in Business Studies

Stockton Program Acronym: MGMT

Degree/level of Current Program (BA, BS, MA, MS, MBA, DPT, etc.): BS

CIP Code: 52.02

Name(s) and signatures of Faculty Proposing New Option:

Ellen M. Kraft  
Sitki Gulden  
Jinchang Wang  
Shaoping Zhao

Date of Program Faculty Vote to Approve the Proposed New Option: October 6, 2017

Text Description of Proposed New Option:

## **Business Analytics Concentration**

### **I. Background**

In 2016, the School of Business received accreditation from AACSB. The accreditation process was a lengthy undertaking that lasted nine years and required the input and effort of every faculty and staff member of the business department. A small subset of all business schools in the nation has achieved AACSB accreditation and it a source of legitimacy for the school for both prospective students and employers. It is also a source of tremendous pride for the business faculty and the University. However, in meetings with the accreditation officers from AACSB, the accreditors made it clear that the current Management curriculum appears dated. Stockton's business advisory board suggested we update the curriculum to include a track in business analytics.

### **II. Purpose**

The purpose of the revised curriculum is to provide an undergraduate track in business analytics. The new curriculum will also support and enhance the School of Business Critical Thinking and Problem-Solving Learning Goal as well as the Computer Literacy Learning Goal. The new Curriculum will require 32 credit hours.

Staffing will require one full-time faculty line. This position involves teaching Business Analytics and core business courses at the undergraduate and graduate levels, such as Business Data Management, Data Mining, Data Modeling, Business Applications Programming, and Quantitative Business Methods.

### **III. Need**

The McKinsey Report suggests that by 2018 in the USA the data science industry “...faces a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts to analyze big data and make decisions based on their findings.” According to the US Bureau of Labor Statistics, between 4 and 6 million people are employed as data analysts. Salaries for data analysts start at about \$75,000 (Matthew, 2016). Furthermore, companies are viewing data as a strategic asset that they must use to introduce initiatives to benefit their business (Marr, 2015). Hence, there is more of a focus on how to use data as a business strategy making it necessary for managers to know how to use data to implement business strategies.

Business analytics is an interdisciplinary field with applications in health, education, social sciences, and humanities. We have many business minors from different majors in the university making business analytics course offerings beneficial for business minors as well. Students from other majors in the university can take these courses to fulfill the electives in the business minor. Data analytics is an important part of the curriculum for any student because they need to be able to apply critical thinking skills to data analysis as students will be using data in every field.

Business Analytics is a growing field. The table below lists data about business analytics jobs from the Bureau of Labor Statistics. According to the US Department of Labor, the job outlook growth shows that these jobs are growing at a faster than average and much faster than average pace. The advances in technology and market forces are driving the demand for these business analytics related jobs (Morgan, 2016). To stay competitive with other universities that are expanding their curriculums to fill this need Stockton needs to develop a competitive curriculum in business analytics to prepare students for the growing job market.

**Table 1: Median Pay and Growth for Business Analytics Jobs**

<b>Job Title</b>	<b>Median Pay</b>	<b>Job Outlook Growth</b>
Management/Business Analyst	\$81,330	14% (faster than average)
Supply Chain Analyst	\$74,170	2% (slower than average)
Applied Statistician	\$80,500	34% (much faster than average)
Operations Research Analyst	\$79,200	30% (much faster than average)
Financial Analyst/Risk Analyst	\$81,760	12% (faster than average)
Market Research Analyst	\$62,560	19% (much faster than average)

Source: Bureau of Labor Statistics, U.S. Department of Labor

The Business Analytics concentration would help prepare students for the Master of Science in Data Science and Strategic Analytics (MS-DSSA) program. The graduate program will prepare students for more senior positions with higher salaries.

#### **IV. The Process**

The task force consisted of Ellen Kraft, Sitki Gulten, Jinchang Wang and Shaoping Zhao. We first consulted INFORMS to determine the structure of the curriculum.

The paper, Business Analytics Curriculum for Undergraduate Majors (INFORMS Transactions on Education 15(2):180-187. <http://dx.doi.org/10.1287/ited.2014.0134>), suggests undergraduate business analytics programs should have six required 3-credit courses and an Analytics practicum capstone course in the following fields:

- 1) Data Management course without any prerequisite (Topics such as Data Architecture, Metadata, Databases, SQL)
- 2) Descriptive Analytics course without any prerequisite (Basic stats course explaining descriptive statistics topics)
- 3) Data Visualization course without any prerequisite (Topics such as Key performance indicators, dashboards, news reports, charts, graphs, etc.)
- 4) Predictive Analytics course with a prerequisite of the Descriptive Analytics course (Advanced stats course explaining ANOVA, regression, time series, correlation, etc.)
- 5) Prescriptive Analytics course with a prerequisite of the Descriptive Analytics course (Topics such as Optimization, simulation, etc.)

- 6) Data Mining with a prerequisite of the Descriptive Analytics course (Topics such as classification, clustering, networks, decision trees).
- 7) Analytics Practicum Capstone course with a requirement of students finish their coursework before taking this course.

The paper also suggests that a business analytics curriculum should have some Analytics elective courses that should vary based on school requirements. We should also mention that the authors suggest a computer literacy requirement (mainly basic level Microsoft Office proficiency) before students start taking their major courses. Computer literacy is usually a core requirement for all business students in most of the business schools. Even though, there is not a specific computer literacy core course at School of Business, some of the core courses partially focus on teaching computer literacy.

After reviewing the INFORMS model, we reviewed curriculum from Montclair State University, Villanova University, LaSalle University, St. John's University, Manhattan College, University of Connecticut, and Rutgers University. We also reviewed business analytics job descriptions and the skills needed for those Hence; we developed our curriculum adapted from the INFORMS model, course descriptions from other universities and skills needed for business analytics jobs. However, we made some changes to the INFORMS model in terms of the number of required courses since we have 4-credits undergraduate course structure at Stockton.

The proposed curriculum will have 4-credits required courses in Data Management, Data Visualization (proposed Foundations of Business Analytics course will mainly focus on data visualization), Predictive Analytics, and Data Mining instead of 3-credits as the paper suggested. We believe that this will make our curriculum more rigorous in terms of these subjects. The core course CSIS 1206 – Statistics in Business Studies curriculum will be used to satisfy the descriptive analytics requirement. We will work with colleagues in CSIS to make sure that CSIS 1206 will meet this requirement.

We think the prescriptive analytics course should not be a requirement as the paper suggested but it should be an elective course. We discuss the rationale behind this argument in Section VI.

Finally, even though the curriculum will not have an individual dedicated capstone course, our proposed 4000-level proposed Data Mining for Managers course will have a capstone project to follow the suggestion done by the paper.

**Table 2: Proposed New Worksheet**

<b>B.S. BUSINESS STUDIES</b>		<b>BUSINESS ANALYTICS CONCENTRATION</b>	
Fall 2018-Spring 2019			
BSNS REQUIREMENTS: All BSNS program courses must be completed with a grade of "C" or better.			<b>80 credits</b>
CSIS 1206 Statistics	(4)	BUSA 3XXX Foundations of Business Analytics	(4)
ECON 1200 Macroeconomics	(4)	BUSA 3XXX Introduction to Business Data Management	(4)
ECON 1400 Microeconomics	(4)	BUSA 3XXX Predictive Data Analytics	(4)
ACCT 2110 Financial ACCT	(4)	BUSA 4XXX Data Mining for Managers	(4)
ACCT 2120 Managerial ACCT	(4)	Electives: Pick 3 from: BUSA 3121 Management Information Systems BUSA 3XXX Optimization in Business BUSA 3XXX Technology Ethics BUSA/MGMT 3XXX Supply Chain Management	(12)
BSNS 2120 Quantitative BSNS Methods	(4)		
MGMT 2110 Intro to Management	(4)	Internship or Elective: Choose from ACCT, ECON, FINA, HTMS, INTL, MKTG, MGMT, PLAW at the 3000 level or above. CSIS courses as approved by preceptor can be used as electives.	(4)
MKTG 2110 Marketing Principles	(4)		
PLAW 2120 Business Law I <b>OR</b>	(4)		
PLAW 3110 Legal, Social, Ethical ...			
FINA 3110 Intro to Financial Mgmt*	(4)		
MGMT 3120 Operations Management	(4)		
BSNS 4112 Business Policy & Strategies (seniors only)	(4)		
		Transfer students may use transferred courses (including Introduction to Business) as "Other Business Courses", to satisfy the minimum number of credits (80) for this area.	

**Table 3: Tentative Master Schedule for the Curriculum**

<b>Tentative Master Schedule for the Curriculum</b>					
<b>Required Courses</b>		<b>Fall</b>	<b>Spring</b>	<b>Summer</b>	<b>Comments</b>
BUSA 3XXX	Foundations of Business Analytics	1	1		in Management curriculum revision proposal
BUSA 3XXX	Intro to Business Data Management	1	1		
BUSA 3XXX	Predictive Data Analytics	1			
BUSA 4XXX	Data Mining for Managers		1		
<b>Electives</b>		<b>Fall</b>	<b>Spring</b>	<b>Summer</b>	<b>Comments</b>
BUSA 3121	Management Information Systems	1			
BUSA 3XXX	Optimization in Business	1			
BUSA/MGMT 3XXX	Supply Chain Management		1		in Management curriculum revision proposal
BUSA 3XXX	Technology Ethics		1		
Total		5	5		

## V. Course Descriptions

### Business Analytics Concentration Courses

#### 1. Foundations of Business Analytics BUSA 3XXX (No Prerequisite) 4 credits

**Description:** This is the first course with a comprehensive overview of the fundamental concepts and tools of business analytics for improving business decision making and performance. The major topics discussed are: (i) the process of business intelligence and business analytics, (ii) the core concepts of "big data" management, (iii) the principles of data visualization and dashboard design. Spreadsheet or commercial software such as Tableau is integrated into all topics.

#### 2. Introduction to Business Data Management BUSA 3XXX (No Prerequisite) 4 credits

**Description:** This course introduces the principles and core concepts of data and information management. Topics include identifying organizational information requirements, developing conceptual data models from gathered information, creating relational data models from conceptual data models, and implementing the models. Students will get extensive hands-on experience using current database technologies including SQL.

#### 3. Predictive Data Analytics BUSA 3XXX (Prerequisite: CSIS 1206) 4 credits

**Description:** This course introduces the principles of hypothesis testing, chi-square tests, one-way and two-way ANOVA, simple and multiple regression analysis, correlation analysis, nonparametric methods, indices, time series, forecasting, and applications to business. It emphasizes applications to the analysis of business data and makes extensive use of computer statistical packages such as R.

#### 4. Data Mining for Managers BUSA 4XXX (Prerequisite: CSIS 1206 and Intro to Business Data Management) 4 credits

**Description:** This course explores the fundamental concepts of data mining and provides extensive hands-on experience in applying the concepts to real-world business applications. Topics include classification, clustering, association analysis, and anomaly/novelty detection. Data mining techniques to applications such as fraud detection, web usage analysis, customer churn analysis, customer segmentation, blog mining, text mining, and other business data analysis will be discussed. This course will include a comprehensive project.

**5, 6, and 7. Choose three electives from**

- **Optimization in Business BUSA 3XXX** (Prerequisite: CSIS 1206 and BSNS 2120) 4 credits

**Description:** This course introduces optimization modeling beyond the confines of a two-dimensional spreadsheet. Students learn appropriate mathematical notation for formulating realistic, complex optimization models, and how to translate this notation into a modern modeling language. Students learn to represent given problem data symbolically and separate it from the fundamental model structure. All topics are illustrated on real-world data sets obtained from various disciplines to include accounting, finance, management, sales and marketing, operations, and risk management.

- **Supply Chain Management MGMT/BUSA 3XXX** 4 credits

**Description:** Supply Chain Management (SCM) is concerned with the efficient integration of suppliers, factories, warehouses and stores so that products and services are distributed to customers in the right quantity, at the right time, with lowest costs. This course explores the key issues associated with the design and management of industrial Supply Chains (SC). Important concepts, principles, and strategies of SCM as well as tools and techniques to solve real SC problems will be included. The course will focus on practice-oriented learning process and enhance analytical and problem-solving skills through discussing and analyzing innovations and cutting-edge research as well as real business cases.

- **Technology Ethics BUSA 3XXX** 4 credits

**Description:** This course looks at issues of data confidentiality, privacy, transparency, identity theft, security, and protecting organizations data from breaches. Solutions such as laws, Organizational policies, institutional statements of ethics, self-policing, and other forms of ethical guidance are examined.

- **BUSA 3121 Management Information Systems-currently MGMT 3121**

**Description:** The course is intended to provide students in business related disciplines an understanding of the role of MIS in business organizations. The goal is to introduce basic information system concepts that can be useful to the students as a user of information systems and as a decision maker concerned with the acquisition, application, and control of MIS. The course contents consist of an overview of topics and issues in MIS; organizational foundations of MIS; information system technology; organization control and support systems; and managing information systems.

8. **Elective or Internship**-Choose one course (4 credits) at 3000 level or greater from ACCT, ECON, FINA, HTMS, INTL, MGMT, MKTG, or PLAW or Internship BUSA 4900). CSIS courses as approved by preceptor can be used as electives.

## Curriculum Mapping

Business Studies program has the following learning goals:

### 1) Communication Skills Learning

- a. Oral communication: graduates will be able to deliver information in a persuasive, logical, and organized manner with a professional demeanor using appropriate supportive visual aids.
- b. Written communication: graduates will know how to create informational, analytical, and technical documents which are organized, precise, and relevant.
- c. Information literacy: graduates will be able to assess the nature, quality, extent, and appropriateness of various sources of information used in preparing oral and written projects.

### 2) Ethics Learning

Graduates will be able to demonstrate ethical reasoning when faced with moral dilemmas in business situations.

- a. Recognizing moral dilemmas: Graduates will be able to recognize ethical issues in business situations.
- b. Identify appropriate stakeholders: Graduates will be able to identify the parties affected by the moral dilemma.
- c. Identify alternative responses: Graduates will be able to identify and briefly describe at least two recognized theories of ethical decision making.
- d. Apply ethics theory in a business setting: Graduates will be able to apply, with analysis, a selected recognized ethics theory to a life-like ethics dilemma found in a business setting.

### 3) Critical Thinking and Problem-Solving Learning

Graduates will be able to logically interpret, analyze, and summarize the results of information examined, and will be able to apply appropriate analytic, problem-solving, and decision making skills in business situations.

### 4) Management-Specific Learning

- a. Graduates will successfully apply basic business principles and theories in a variety of organizational settings.
- b. Graduates will acquire knowledge of current management and administrative practices and theory and be conversant in the language of business.
- c. Graduates will embrace the importance of maintaining a professional attitude and understand appropriate standards of conduct in their chosen field.
- d. Graduates will understand business transactions and how they are organized, recorded, and reported.
- e. Graduates will understand the interrelationships among customers, products, and companies.

- f. Graduates will understand how to manage the flow of funds within organizations.
- g. Graduates will develop an international perspective in order to contribute to a global society and work in a culturally diverse business environment.
- h. Graduates will be able to facilitate interaction with team members and contribute their expertise toward the creation and development of group projects.
- i. Graduates will be able to apply theories and skills of statistical data analysis and management science to support decision-making processes throughout an organization.

5) Computer Literacy Learning

Graduates will be able to demonstrate a multi-faceted skill set in computer literacy through oral and written communication.

The summary of mapping required and elective courses of the proposed Business Analytics concentrations to Business Studies program learning goals will be as follows:

		<b>Business Studies Learning Goals</b>														
		<b>1a</b>	<b>1b</b>	<b>1c</b>	<b>2</b>	<b>3</b>	<b>4a</b>	<b>4b</b>	<b>4c</b>	<b>4d</b>	<b>4e</b>	<b>4f</b>	<b>4g</b>	<b>4h</b>	<b>4i</b>	<b>5</b>
<b>Required Courses</b>	BUSA 3XXX Foundations of Business Analytics					✓										✓
	BUSA 3XXX Intro. to Business Data Management					✓									✓	
	BUSA 3XXX Predictive Data Analytics					✓									✓	
	BUSA 4XXX Data Mining for Managers					✓									✓	✓
<b>Elective courses</b>	BUSA 3121 Management Information Systems					✓										
	BUSA 3XXX Optimization in Business					✓									✓	
	BUSA 3XXX Technology Ethics				✓	✓										✓
	BUSA/MGMT 3XXX Supply Chain Management				✓	✓									✓	

Stockton University has the following ELOs:

- 1) Adapting to Change
- 2) Communication Skills
- 3) Creativity and Innovation
- 4) Critical Thinking
- 5) Ethical Reasoning
- 6) Global Awareness
- 7) Information Literacy and Research Skills
- 8) Program Competence
- 9) Quantitative Reasoning
- 10) Teamwork and Collaboration

The summary of mapping required and elective courses of the proposed Business Analytics concentrations to ELOs will be as follows

		<b>ELOs</b>									
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Required Courses</b>	BUSA 3XXX Foundations of Business Analytics		✓		✓				✓	✓	
	BUSA 3XXX Intro. to Business Data Management				✓				✓	✓	
	BUSA 3XXX Predictive Data Analytics				✓				✓	✓	
	BUSA 4XXX Data Mining		✓		✓				✓	✓	
<b>Elective Courses</b>	BUSA 3121 Management Information Systems				✓				✓		
	BUSA 3XXX Optimization in Business				✓				✓	✓	
	BUSA 3XXX Technology Ethics and Cybersecurity				✓						
	BUSA/MGMT 3XXX Supply Chain Management				✓	✓		✓	✓		

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## **VI. Optimization/Simulation as a must course in Business Analytics concentration?**

### **1. Peer Schools' Business Analytics Curriculum**

While some research universities have Optimization course as required in their Business Analytics curriculum, most of the Stockton's peer schools have optimization/simulation/decision-making types of courses in their electives.

#### **List of Schools with Optimizations/Simulation/Decision Making course as Required Courses**

- Drexel University
- Rutgers University

#### **List of Schools with Optimizations/Simulation/Decision Making course as Elective Courses**

- Montclair State University
- LaSalle University
- Manhattan College
- Villanova University
- Rider University

### **2. Business Analytics Jobs' Requirements**

Graduates of Business Analytics major can expect to work as in the following occupations:

- [Management/Business Analyst](#)
- [Data Analyst](#)
- [Supply Chain Analyst](#)
- [Applied Statistician](#)
- [Operations Research Analyst](#)
- [Financial Analyst / Risk Analyst](#)
- [Market Research Analyst](#)

We researched to find the job descriptions of Business Analyst, Data Analyst, and Supply Chain Analysts jobs by looking at a job recruiting websites such as LinkedIn, DataJobs, Indeed.com.

**Most common skills required for Business Analyst jobs:**

- Basic Database Skills (SQL, MS Access, Data Modeling)
- Advanced Excel Skills (PivotTables, complex formulas)
- Data Visualization Skills (Tableau, MS Excel)
- Strong Analytical and Statistical skills
- Python and R are plus skills

**Most common skills required for Data Analyst jobs:**

- Advanced Database Skills (SQL, MS Access, Data Modeling)
- Advanced Excel Skills (PivotTables, complex formulas)
- Data Visualization Skills (Tableau, MS Excel)
- Strong Analytical and Statistical skills
- VBA, Python, and R are plus skills

**Most common skills required for Supply Chain Analyst jobs:**

- Strong Supply Chain knowledge
- Strong Analytical and Statistical skills
- Advanced Excel Skills (PivotTables, complex formulas)
- SAP, SAS, R, Python, and Optimization skills are plus for some advanced level jobs
- Database Skills are plus

**Conclusion: Optimization is not a common skill for entry level jobs.**

## **VII. Role of Management Information Systems Course**

The existing MGMT 3121 Management Information Systems course is still being kept in the curriculum as an elective. The course will be BUSA 3121. The course serves to provide students with a course to introduce basic information system concepts. There are other schools that offer degrees in Management Information Systems such as Rochester Institute of Technology, Santa Clara University, and Worcester Polytechnic Institute so management information systems is still being taught in universities.

## **VIII. Resources**

We will need at least one faculty line to start the program. This position involves teaching Business Analytics and core business courses at the undergraduate and graduate levels, such as Business Data

Management, Data Mining, Data Modeling, Business Applications Programming, Quantitative Business Methods. The faculty member will have Business/Data Analytics or Data Science, or a related discipline (such as Management Science, Operations Research, Decision Science, Computer Science, Information Systems, Engineering) is required. Candidates should have knowledge of several of the following: Excel, Access, Tableau, R, SQL, Python, JAVA, and Hadoop. The University must use AACSB Guidelines for making decisions regarding student-faculty loads.

## **IX. Synergy with other Business Programs**

The business program currently has concentrations in management, marketing, finance, and accounting. Business analytics would be the fifth concentration in the business program.

Business analytics is important for all areas of the business program. The courses Foundations of Data Analytics and Introduction to Data Management do not have any pre-requisites. These courses can be taken as program electives by any student in the business program, thus creating a synergy for electives within the business program. We will also create synergy within the business program by using datasets for our courses from a variety of business disciplines including management, marketing, finance, and accounting.

Business minors could take these courses as well students who would like to take them as ASD (at some distance) electives. The courses work in synergy with other programs in the university such as health sciences, natural science, physical sciences, social sciences, and mathematics in which students need to know how to analyze and model data.

The B.S. in Business Analytics would be a perfect fit for a double major with the B.A. in computer science. Students choosing this option would be very competitive in the marketplace as they would be combining strong programming skills with business analytics skills. The business analytics concentration has a free elective in which students may take a 2000 level or higher computer science course. The courses in the business analytics program could be used as electives for the computer sciences program as well. The computer science program students would gain a competitive edge by taking our courses as electives.

The management concentration will be sharing courses with the business analytics concentration. Supply Chain Management will be available for students in both concentrations as an elective.

The business analytics concentration will also work in synergy with the DSSA and MBA graduate programs. The business analytics program will serve as direct preparation for students to enter the DSSA Master's program. Business analytics is a crucial skill for MBA students. Whether students take business analytics courses or are business analytics majors, these students will be better prepared to enter the MBA program.

## **X. Conclusion**

The task force received the full support of the Business faculty at the September 1, 2017 Business faculty meeting of this proposal that we create a new concentration in business analytics (with the curricula as outlined above) and that business analytics be a separate track. We are moving this proposal forward to APP and the faculty senate for approval.

## XI. References

- Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2016-17 Edition*, Management Analysts. Retrieved from: <https://www.bls.gov/ooh/business-and-financial/management-analysts.htm>
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- O\*Net OnLine, Summary Report for Management Analysts. Retrieved from: <https://www.onetonline.org/link/summary/13-1111.00>

*The Committee meets every fourth Thursday of each month during fall and spring terms to consider all pre-proposals and/or proposals sent to the Chair (due by the second Thursday of each month). The Chair sends feedback by the following Thursday (one week after each meeting).*

Date of Faculty Senate Committee on Academic Programs and Planning Approval:

Date of the Provosts' Council Approval:

Date of the Faculty Senate Approval:

Attach a copy of the list of courses in the “base program” courses, along with a list of courses in the new option **HIGHLIGHTED** to show which are in the new option. The Provost’s Office will send this document, along with those attachments, to the Academic Issues Committee (AIC) of the New Jersey President’s Council as an Information Item.

**Base Program**

<b>B.S. BUSINESS STUDIES</b>				<b>MANAGEMENT CONCENTRATION</b>			
Fall 2016 – Spring 2017							
<b>BSNS REQUIREMENTS: All BSNS program courses must be completed with a grade of “C” or better.</b>							<b>80 credits</b>
CSIS 1206 Statistics	(4)			FINA 3562 Budgeting	(4)		
ECON 1200 Macroeconomics	(4)			MGMT 3111 Human Resource Mgmt.	(4)		
ECON 1400 Microeconomics	(4)			MGMT 3121 Mgmt. Info. Systems	(4)		
ACCT 2110 Financial ACCT	(4)			MGMT 3123 Mgmt. Skills Development	(4)		
ACCT 2120 Managerial ACCT	(4)			MGMT 3124 Organizational Behavior	(4)		
BSNS 2120 Quantitative BSNS Methods	(4)			MGMT Elective	(4)		
MGMT 2110 Intro to Management	(4)			MGMT 4610 Senior Seminar <b>OR</b>	(4)		
MKTG 2110 Marketing Principles	(4)			MGMT Elective			
PLAW 2120 Business Law I <b>OR</b>	(4)			<b>Internship or BSNS Elective:</b> Choose from ACCT, ECON, FINA, HTMS, INTL, MKTG, MGMT, PLAW at the 3000 level or above	(4)		
PLAW 3110 Legal, Social, Ethical ...							
FINA 3110 Intro to Financial Mgmt*	(4)						
MGMT 3120 Operations Management	(4)						
BSNS 4112 Business Policy & Strategies (seniors only)	(4)			Transfer students may use transferred courses (including Introduction to Business) as “Other Business Courses”, to satisfy the minimum number of credits (80) for this area.			
<b>GENERAL STUDIES REQUIREMENTS:</b>							<b>48 credits</b>
<b>G COURSES:</b> (32 total credits) No more than 12 credits in any "G" category may be applied towards the BS degree.							
GEN General Interdisciplinary	(4)			GNM General Natural Science & Math	(4)		
GIS-General Integration & Synthesis (Jr. yr.)	(4)			GNM General Natural Science & Math	(4)		
GAH General Arts & Humanities	(4)			GSS General Social Science	(4)		
GAH General Arts & Humanities	(4)			GSS General Social Science	(4)		
<b>AT SOME DISTANCE Electives:</b> (16 total credits) Courses unrelated to your major (may include CSIS courses)							
	(4)				(4)		
	(4)				(4)		
<b>GENERAL STUDIES OUTCOME REQUIREMENTS:</b> These course attributes should be completed within the 128 credits needed to graduate.							
(A) Arts				(V) Values/Ethics			
(H) Historical Consciousness				(I) International/Multicultural			
<b>GENERAL STUDIES WRITING REQUIREMENT: (4 courses)</b>							
Two W1 courses may be in transfer. W2 courses must be taken at Stockton.							
W1		W1/W2		W1/W2		W1/W2 at 3000 Level	
<b>GENERAL STUDIES QUANTITATIVE REASONING REQUIREMENT: (3 courses)</b>							
Two Q1 courses may be in transfer. Q2 courses must be taken at Stockton.							
Q1		Q2		Q1 or Q2			

**New Program**

<b>B. S. BUSINESS STUDIES</b>		<b>BUSINESS ANALYTICS CONCENTRATION</b>	
Fall 2018-Spring 2019			
<b>BSNS REQUIREMENTS: All BSNS program courses must be completed with a grade of "C" or better.</b>			<b>80 credits</b>
CSIS 1206 Statistics	(4)	<b>BUSA 3XXX Foundations of Business Analytics</b>	(4)
ECON 1200 Macroeconomics	(4)	<b>BUSA 3XXX Introduction to Business Data Management</b>	(4)
ECON 1400 Microeconomics	(4)	<b>BUSA 3XXX Predictive Data Analytics</b>	(4)
ACCT 2110 Financial ACCT	(4)	<b>BUSA 4XXX Data Mining for Managers</b>	(4)
ACCT 2120 Managerial ACCT	(4)	Electives: Pick 3 from:	
BSNS 2120 Quantitative BSNS Methods	(4)	BUSA 3121 Management Information Systems	
		<b>BUSA 3XXX Optimization in Business</b>	
		<b>BUSA 3XXX Technology Ethics</b>	
		<b>BUSA/MGMT 3XXX Supply Chain Management</b>	(12)
MGMT 2110 Intro to Management	(4)		
MKTG 2110 Marketing Principles	(4)	Internship or Elective: Choose from ACCT, ECON, FINA, HTMS, INTL, MKTG, MGMT, PLAW at the 3000 level or above. <b>CSIS courses as approved by preceptor can be used as electives.</b>	(4)
PLAW 2120 Business Law I <b>OR</b>	(4)		
PLAW 3110 Legal, Social, Ethical ...	(4)		
FINA 3110 Intro to Financial Mgmt*	(4)		
MGMT 3120 Operations Management	(4)		
BSNS 4112 Business Policy & Strategies (seniors only)	(4)		
		Transfer students may use transferred courses (including Introduction to Business) as "Other Business Courses", to satisfy the minimum number of credits (80) for this area.	

**New content in red text**