Date Submitted: 03/03/21 4:48 pm

## **Viewing: DTSCBS-BUDA: Data Science: Business**

## **Data Analytics Concentration**

Last approved: 05/08/20 12:46 pm

Last edit: 03/10/21 3:06 pm Changes proposed by: schubert

**Catalog Pages Using** 

this Program

<u>Data Science B.S. with Business Data Analytics</u>

Data Science (DTSC)

Submitter: User ID: **schubert kboston** Phone:

5-2264 <del>5-4622</del>

Program Status Active

Academic Level Undergraduate

Type of proposal Concentration

Select a reason for this modification

Making Minor Changes to an Existing Degree (e.g. changing 15 or fewer hours, changing admission/graduation requirements, adding/changing Focused Study or

Track)

Effective Catalog Year Fall 2021

College/School Code

College of Engineering (ENGR)

Department Code

Department of Engineering Dean (ENGD)

Program Code DTSCBS-BUDA

Degree Bachelor of Science

CIP Code

#### In Workflow

- 1. ENGR Dean Initial
- 2. Director of Program
  Assessment and
  Review
- 3. Registrar Initial
- 4. Institutional Research
- 5. ENGD Chair
- 6. ENGR Curriculum Committee
- 7. ENGR Faculty
- 8. ENGR Dean
- 9. ARSC Dean
- 10. WCOB Dean
- 11. Global Campus
- 12. Provost Review
- 13. University Course and Program
  Committee
- 14. Faculty Senate
- 15. Provost Final
- 16. Provost's Office--Notification of Approval
- 17. Registrar Final
- 18. Catalog Editor Final

### **Approval Path**

1. 03/04/21 12:29 pm Norman Dennis

(ndennis): Approved

for ENGR Dean

Initial

2. 03/09/21 10:05 am

Alice Griffin

(agriffin): Approved

for Director of Program Assessment and Review

- 3. 03/10/21 3:07 pm Lisa Kulczak (Ikulcza): Approved for Registrar Initial
- 4. 03/10/21 3:39 pm
  Gary Gunderman
  (ggunderm):
  Approved for
  Institutional
  Research
- 5. 03/10/21 3:58 pm Norman Dennis (ndennis): Approved for ENGD Chair
- 6. 03/10/21 5:06 pm

  Manuel Rossetti

  (rossetti): Approved

  for ENGR

  Curriculum

  Committee
- 7. 03/10/21 5:54 pm Norman Dennis (ndennis): Approved for ENGR Faculty
- 8. 03/10/21 5:56 pm

  Norman Dennis

  (ndennis): Approved
  for ENGR Dean
- 9. 03/10/21 9:15 pm Jeannie Hulen (jhulen): Approved for ARSC Dean
- 10. 03/16/21 2:42 pm Karen Boston (kboston):

Approved for WCOB
Dean

- 11. 03/16/21 2:42 pm Suzanne Kenner (skenner): Approved for Global Campus
- 12. 03/29/21 11:14 am
  Terry Martin
  (tmartin): Approved
  for Provost Review

### History

- 1. May 7, 2020 by Lisa Kulczak (lkulcza)
- 2. May 8, 2020 by Charlie Alison (calison)

30.3001 - Computational Science.

Program Title

Data Science: Business Data Analytics Concentration

**Program Delivery** 

Method

On Campus

Is this program interdisciplinary?

Yes

### College(s)/School(s)

#### **College/School Name**

College of Engineering (ENGR)

Fulbright College of Arts and Sciences (ARSC)

Walton College of Business (WCOB)

Does this proposal impact any courses from another College/School?

No

What are the total

21

hours needed to

complete the program?

## **Program Requirements and Description**

Requirements

## **Required Business Data Concentration Courses**

ACCT 2013	Accounting Principles	3
ACCT 2023	Accounting Principles II	3
WCOB 1033	Data Analysis and Interpretation	3
<u>ISYS 4193</u>	Business Analytics and Visualization	3
<u>ISYS 4293</u>	Business Intelligence	3
Elective Business Data Analyti	cs Concentration Courses (Select 6 hours)	6
<u>FINN 3043</u>	Principles of Finance	
<u>FINN 3013</u>	Financial Analysis	
ECON 4743	Introduction to Econometrics	
ECON 4753	Forecasting	
MKTG 3433	Introduction to Marketing	
MKTG 3633	Marketing Research	
Total Hours		21

8-Semester Plan

# Data Science B.S. with Business Data Concentration Eight-Semester Program

First Year	Units	
	FallSprir	ng
$\underline{MATH~2554}$ Calculus I (ACTS Equivalency = MATH 2405) (Satisfies General Education Outcome 2.1)1	4	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome	3	
1.1)		
State Minimum Core Natural Science Elective with Lab (Satisfies General Education Outcome 3.4)	4	
DASC 1001 Introduction to Data Science	1	
DASC 1104 Programming Languages for Data Science	4	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505)	4	
DASC 1204 Introduction to Object Oriented Programming for Data Science	4	
DASC 1222 Role of Data Science in Today's World	2	
ACCT 2013 Accounting Principles	3	

Choose one of the following (recommend ENGL-1033)  ENGL 1033 Technical Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education outcome 1.2)  ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023)  Year Total:  Second Year  Units  FallSpring  DASC 2594 Multivariable Math for Data Scientists  ACT 2013 Principles and Techniques of Data Science  ASS 2113 Principles and Techniques of Data Science  ACCT 2023 Accounting Principles II  ACCT 2023 Accounting Principles II  ASC 2213 Data Visualization and Communication  ACCT 2023 Accounting Principles II  ASC 2213 Data Structures & Algorithms  INEG 2313 Applied Probability and Statistics for Engineers I4  or STAT 3013 Introduction to Probability  MGMT 2053 Business Foundations  State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2)  3 DASC 2203 Data Management and Data Base  DASC 2213 Data Visualization and Communication  Year Total:  16 15  Third Year  Units  Third Year  Units  FallSpring  PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1)  3 DASC 3103 Cloud Computing and Big Data  Sys 4193 Business Analytics and Visualization  1 MEG 2333 Applied Probability and Statistics for Engineers II4  or STAT 3003 Statistical Methods  University Core Social Science Elective  Sate Minimum Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3)  SYS 4193 Business Intelligence  DASC 3203 Optimization Methods in Data Science  DASC 3203 Optimization Methods in Data Science  DASC 3213 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcomes 3.4)  4 Year Total:  Fourth Year	300000		
Outcome 1.2)  FNGL 1023 Composition II (ACTS Equivalency = ENGL 1023)  Year Total:  16 16  Second Year  Units FallSpring DASC 2594 Multivariable Math for Data Scientists  ADASC 2193 Data Structures & Algorithms DASC 2113 Principles and Techniques of Data Science  WCOB 1033 Data Analysis and Interpretation 3 ACCT 2023 Accounting Principles II 3 DASC 2213 Data Visualization and Communication 3 DASC 2103 Data Structures & Algorithms INEG 2313 Applied Probability and Statistics for Engineers I4 or STAT 3013 Introduction to Probability  MGMT 2053 Business Foundations State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3 DASC 2203 Data Wanagement and Data Base DASC 2203 Data Wanagement and Data Science Elective (Satisfies General Education Outcome 3.1)  Satistic Minimum Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3)  Sata Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.3)  Sata Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4)  4 Year Total:  15 16	Choose one of the following (recommend ENGL 1033)	-	3
Pendicular Total: 16 16 16 16 16 16 16 16 16 16 16 16 16	ENGL 1033 Technical Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education		3
Year Total:     Units       Second Year     Units       DASC 2594 Multivariable Math for Data Scientists     4       DASC 2103 Data Structures & Algorithms     3       DASC 2113 Principles and Techniques of Data Science     3       WCOB 1033 Data Analysis and Interpretation     3       CCCT 2023 Accounting Principles II     3       DASC 2113 Data Visualization and Communication     3       DASC 2103 Data Structures & Algorithms     3       INEG 2313 Applied Probability and Statistics for Engineers I4     3       or STAI 3013 Introduction to Probability     3       MGMT 2053 Business Foundations     3       State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2)     3       DASC 2203 Data Management and Data Base     3       DASC 2213 Data Visualization and Communication     6       Year Total:     16       Third Year     16       PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1)     3       DASC 3103 Cloud Computing and Big Data     3       SYS 4193 Business Analytics and Visualization     3       INEG 2333 Applied Probability and Statistics for Engineers II4     3       or STAT 3003 Statistical Methods     3       University Core Social Science Elective     3       State Minimum Core Social Sciences Elective (Satisfies Genera	Outcome 1.2)		
Second Year Units FallSpring DASC 2594 Multivariable Math for Data Scientists 4  DASC 2594 Multivariable Math for Data Scientists 4  DASC 2103 Data Structures & Algorithms 3  DASC 2113 Principles and Techniques of Data Science 3  WCOB 1033 Data Analysis and Interpretation 3  ACCT 2023 Accounting Principles II 3  DASC 21213 Data Visualization and Communication 3  DASC 2103 Data Structures & Algorithms 3  INEG 2313 Applied Probability and Statistics for Engineers I4 5  or STAT 3013 Introduction to Probability  MGMT 2053 Business Foundations 5  State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3  DASC 2203 Data Management and Data Base 3  DASC 2203 Data Management and Data Base 4  PASC 2213 Data Visualization and Communication 4  PASC 2130 Data Visualization and Communication 5  Third Year Total: 16 15  Third Year 5  PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3  DASC 3103 Cloud Computing and Big Data 3  SYS 4193 Business Analytics and Visualization 3  INEG 2333 Applied Probability and Statistics for Engineers II4 3  or SIAT 3003 Statistical Methods 1  University Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.312 5  SYS 4293 Business Intelligence 3  DASC 3203 Optimization Methods in Data Science 9  DASC 3203 Optimization Methods in Data Science Science Elective (Satisfies General Education Outcomes 3.3) 4  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcomes 3.4) 5  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcomes 3.4) 5  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcomes 3.4) 5  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcomes 3.4) 5  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcomes 3.4) 5  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcomes 3.4) 5  State Minimum Core N	ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023)		
DASC 2594 Multivariable Math for Data Scientists 4  DASC 2103 Data Structures & Algorithms 3  DASC 2113 Principles and Techniques of Data Science 3  WCOB 1033 Data Analysis and Interpretation 3  DASC 2113 Data Visualization and Communication 3  DASC 2103 Data Structures & Algorithms 3  DASC 2103 Data Structures & Algorithms 3  INEG 2313 Applied Probability and Statistics for Engineers I4 3  or SIAT 3013 Introduction to Probability MGMT 2053 Business Foundations 3  DASC 2203 Data Management and Data Base 3  DASC 2203 Data Management and Data Base 3  DASC 2203 Data Wisualization and Communication 4.2   3  DASC 2203 Data Wisualization and Communication 5  Third Year Total: 16 15  Third Year 19 Data Visualization and Communication 5  PellIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3  DASC 3103 Cloud Computing and Big Data 3  DASC 3103 Cloud Computing and Big Data 3  DASC 3103 Statistical Methods 4  Units or STAT 3003 Statistical Methods 5  University Core Social Science Elective  State Minimum Core Oscial Science Elective (Satisfies General Education Outcomes 3.2 and 3.3) 2  DASC 3203 Optimization Methods in Data Science 5  DASC 3203 Optimization Methods in Data Science 9  DASC 3213 Statistical Learning 6  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) 3  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4  Year Total: Units 6  Fourth Year	Year Total:	16	16
DASC 2594 Multivariable Math for Data Scientists 4  DASC 2103 Data Structures & Algorithms 3  DASC 2113 Principles and Techniques of Data Science 3  WCOB 1033 Data Analysis and Interpretation 3  DASC 2113 Data Visualization and Communication 3  DASC 2103 Data Structures & Algorithms 3  DASC 2103 Data Structures & Algorithms 3  INEG 2313 Applied Probability and Statistics for Engineers I4 3  or SIAT 3013 Introduction to Probability MGMT 2053 Business Foundations 3  DASC 2203 Data Management and Data Base 3  DASC 2203 Data Management and Data Base 3  DASC 2203 Data Wisualization and Communication 4.2   3  DASC 2203 Data Wisualization and Communication 5  Third Year Total: 16 15  Third Year 19 Data Visualization and Communication 5  PellIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3  DASC 3103 Cloud Computing and Big Data 3  DASC 3103 Cloud Computing and Big Data 3  DASC 3103 Statistical Methods 4  Units or STAT 3003 Statistical Methods 5  University Core Social Science Elective  State Minimum Core Oscial Science Elective (Satisfies General Education Outcomes 3.2 and 3.3) 2  DASC 3203 Optimization Methods in Data Science 5  DASC 3203 Optimization Methods in Data Science 9  DASC 3213 Statistical Learning 6  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) 3  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4  Year Total: Units 6  Fourth Year			
DASC 2103 Data Structures & Algorithms DASC 2113 Principles and Techniques of Data Science 3 CXCT 2023 Accounting Principles III DASC 2113 Data Analysis and Interpretation 3 CXCT 2023 Accounting Principles III DASC 2113 Data Visualization and Communication 3 INEG 2313 Data Structures & Algorithms DASC 2103 Data Structures & Algorithms INEG 2313 Applied Probability and Statistics for Engineers I4 or STAT 3013 Introduction to Probability MGMT 2053 Business Foundations State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) DASC 2213 Data Visualization and Communication 3 DASC 2203 Data Management and Data Base DASC 2203 Data Management and Data Base DASC 2203 Data Wisualization and Communication 4 DASC 2203 Data Wisualization and Communication 5 DASC 2203 Data Wisualization and Education Outcome 5.1) DASC 3103 Cloud Computing and Big Data SYS 4193 Business Analytics and Visualization INEG 2333 Applied Probability and Statistics for Engineers II4 or STAT 3003 Statistical Methods University Core Social Science Elective State Minimum Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3) SYS 4293 Business Intelligence DASC 3203 Optimization Methods in Data Science DASC 3213 Statistical Learning ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) FUNCTOR 15 Interval Total:  Fourth Year	Second Year	Ur	nits
DASC 2103 Data Structures & Algorithms DASC 2113 Principles and Techniques of Data Science  WCOB 1033 Data Analysis and Interpretation 3 ACCT 2023 Accounting Principles II 3 ACCT 2023 Accounting Principles II 3 BASC 213 Data Visualization and Communication 3 DASC 213 Data Structures & Algorithms INEG 2313 Applied Probability and Statistics for Engineers I4 or STAT 3013 Introduction to Probability MGMT 2053 Business Foundations State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3 DASC 2203 Data Management and Data Base DASC 2213 Data Visualization and Communication 5 Intrid Year Units PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3 FallSpring PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3 SYSS 4193 Business Analytics and Visualization 3 INEG 2333 Applied Probability and Statistics for Engineers II4 or STAT 3003 Statistical Methods University Core Social Science Elective State Minimum Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3) 1 SYS 4293 Business Intelligence 3 ACS 2303 Optimization Methods in Data Science DASC 3203 Optimization Methods in Data Science State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.3) 3 Statistical Learning 1 State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4 Year Total: Units  Fourth Year		Fa	llSpring
DASC 2113 Principles and Techniques of Data Science 3 WCOB 1033 Data Analysis and Interpretation 3 ACCT 2023 Accounting Principles II 3 DASC 2113 Data Visualization and Communication 3 INEG 2313 Applied Probability and Statistics for Engineers I4 5 OF STAT 3013 Introduction to Probability 9 MGMT 2053 Business Foundations 3 State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3 DASC 2203 Data Management and Data Base 3 DASC 2203 Data Management and Data Base 4 DASC 2213 Data Visualization and Communication 4 Fall Spring 18 PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3 DASC 3103 Cloud Computing and Big Data 5 SYS 4193 Business Analytics and Visualization 3 INEG 2333 Applied Probability and Statistics for Engineers II4 5 or STAT 3003 Statistical Methods 4 University Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3) 4 SYS 4193 Business Intelligence 3 DASC 3203 Optimization Methods in Data Science 9 DASC 3203 Optimization Methods in Data Science 9 DASC 3213 Statistical Learning 3 SCON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) 5 State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 7 Fourth Year 5 Fou	DASC 2594 Multivariable Math for Data Scientists	4	
WCOB 1033 Data Analysis and Interpretation 3 ACCT 2023 Accounting Principles II 3 ASC 2123 Data Visualization and Communication 3 INEG 2313 Applied Probability and Statistics for Engineers I4 5 or STAT 3013 Introduction to Probability  MGMT 2053 Business Foundations 5 State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3 DASC 2203 Data Management and Data Base 3 DASC 2203 Data Visualization and Communication 4.2 3 DASC 2203 Data Management and Data Base 4 DASC 2213 Data Visualization and Communication 5 Fall Spring 18 PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3 DASC 3103 Cloud Computing and Big Data 5 INFG 2333 Applied Probability and Statistics for Engineers II4 5 or STAT 3003 Statistical Methods 5 University Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3) 3 INFG 2333 Applied Probability and Statistics for Engineers II4 6 or STAT 3003 Statistical Methods 5 University Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3) 2 INFG 2333 Applied Probability and Statistics for Engineers II4 6 or STAT 3003 Statistical Methods 5 University Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3) 2 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II4 6 INFG 2333 Applied Probability and Statistics for Engineers II	DASC 2103 Data Structures & Algorithms	3	_
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DASC 2213 Data Visualization and Communication  DASC 2103 Data Structures & Algorithms  INEG 2313 Applied Probability and Statistics for Engineers I4 or STAT 3013 Introduction to Probability  MGMT 2053 Business Foundations Sate Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3 DASC 2203 Data Management and Data Base DASC 2213 Data Visualization and Communication 10 15 15  Third Year  Units PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 10 2 2 3 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	WCOB 1033 Data Analysis and Interpretation	3	
DASC 2103 Data Structures & Algorithms  INEG 2313 Applied Probability and Statistics for Engineers I4 or STAT 3013 Introduction to Probability  MGMT 2053 Business Foundations State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3 DASC 2203 Data Management and Data Base DASC 2213 Data Visualization and Communication Year Total:  16 15  Third Year  PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3 DASC 3103 Cloud Computing and Big Data ISYS 4193 Business Analytics and Visualization INEG 2333 Applied Probability and Statistics for Engineers II4 or STAT 3003 Statistical Methods University Core Social Science Elective State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3) ISYS 4293 Business Intelligence State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3) ISYS 4293 Business Intelligence SASC 3203 Optimization Methods in Data Science DASC 3213 Statistical Learning ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.4) Year Total:  Units  Fourth Year  Units  15 16	ACCT 2023 Accounting Principles II	3	
INEG 2313 Applied Probability and Statistics for Engineers I4 or STAT 3013 Introduction to Probability  MGMT 2053 Business Foundations State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3 DASC 2203 Data Management and Data Base DASC 2213 Data Visualization and Communication Year Total:  Third Year  PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) DASC 3103 Cloud Computing and Big Data SYS 4193 Business Analytics and Visualization INEG 2333 Applied Probability and Statistics for Engineers II4 3 Or STAT 3003 Statistical Methods University Core Social Science Elective State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3) INEG 2303 Optimization Methods in Data Science DASC 3203 Optimization Methods in Data Science DASC 3213 Statistical Learning ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) Fourth Year  Units  Vinits  Rall Spring  Rall Spring Rall	DASC 2213 Data Visualization and Communication	3	
or STAT 3013 introduction to Probability MGMT 2053 Business Foundations State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2) 3 DASC 2203 Data Management and Data Base DASC 2213 Data Visualization and Communication Year Total: 16 15  Third Year Units FallSpring PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1) 3 DASC 3103 Cloud Computing and Big Data SYS 4193 Business Analytics and Visualization INEG 2333 Applied Probability and Statistics for Engineers II4 or STAT 3003 Statistical Methods University Core Social Science Elective State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2 ISYS 4293 Business Intelligence 3 DASC 3203 Optimization Methods in Data Science DASC 3213 Statistical Learning ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.4) Year Total: Units Fourth Year Units	DASC 2103 Data Structures & Algorithms		3
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DASC 2203 Data Management and Data Base  DASC 2213 Data Visualization and Communication  Year Total:  16 15  Third Year  PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1)  DASC 3103 Cloud Computing and Big Data  INSC 3103 Ethics and Visualization  INEG 2333 Applied Probability and Statistics for Engineers II4  or STAT 3003 Statistical Methods  University Core Social Science Elective  State Minimum Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  ISYS 4193 Business Intelligence  DASC 3203 Optimization Methods in Data Science  DASC 3203 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.4)  Year Total:  Units  Units	MGMT 2053 Business Foundations		3
DASC 2203 Data Management and Data Base  DASC 2213 Data Visualization and Communication  Year Total:  16 15  Third Year  PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1)  DASC 3103 Cloud Computing and Big Data  INSC 3103 Ethics and Visualization  INEG 2333 Applied Probability and Statistics for Engineers II4  or STAT 3003 Statistical Methods  University Core Social Science Elective  State Minimum Core Social Science Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  ISYS 4193 Business Intelligence  DASC 3203 Optimization Methods in Data Science  DASC 3203 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.4)  Year Total:  Units  Units	State Minimum Core U.S. History or Government Elective (Satisfies General Education Outcome 4.2	<u>'</u> )	3
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PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1)  DASC 3103 Cloud Computing and Big Data  SYS 4193 Business Analytics and Visualization  INEG 2333 Applied Probability and Statistics for Engineers II4 or STATT 3003 Statistical Methods  University Core Social Science Elective State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  SYS 4293 Business Intelligence  DASC 3203 Optimization Methods in Data Science  DASC 3213 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3)  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4)  Year Total:  Touth Year  Units	Third Year	Ur	nits
PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1)  DASC 3103 Cloud Computing and Big Data  SYS 4193 Business Analytics and Visualization  INEG 2333 Applied Probability and Statistics for Engineers II4 or STATT 3003 Statistical Methods  University Core Social Science Elective State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  SYS 4293 Business Intelligence  DASC 3203 Optimization Methods in Data Science  DASC 3213 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3)  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4)  Year Total:  Touth Year  Units		Fa	llSpring
DASC 3103 Cloud Computing and Big Data  SYS 4193 Business Analytics and Visualization  INEG 2333 Applied Probability and Statistics for Engineers II4 or STAT 3003 Statistical Methods  University Core Social Science Elective State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  ISYS 4293 Business Intelligence DASC 3203 Optimization Methods in Data Science DASC 3213 Statistical Learning ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) Year Total:  Fourth Year  Units	PHIL 3103 Ethics and the Professions (Satisfies General Education Outcome 5.1)		
INEG 2333 Applied Probability and Statistics for Engineers III4 or STAT 3003 Statistical Methods University Core Social Science Elective State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  ISYS 4293 Business Intelligence  DASC 3203 Optimization Methods in Data Science DASC 3213 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3)  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4)  Year Total:  Units		3	
INEG 2333 Applied Probability and Statistics for Engineers III4 or STAT 3003 Statistical Methods University Core Social Science Elective State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  ISYS 4293 Business Intelligence  DASC 3203 Optimization Methods in Data Science DASC 3213 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3)  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4)  Year Total:  Units	ISYS 4193 Business Analytics and Visualization	3	
or <u>STAT 3003</u> Statistical Methods  University Core Social Science Elective  State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  ISYS 4293 Business Intelligence  DASC 3203 Optimization Methods in Data Science  DASC 3213 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3)  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4)  Year Total:  Units	· ·	3	
State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2  ISYS 4293 Business Intelligence 3  DASC 3203 Optimization Methods in Data Science 3  DASC 3213 Statistical Learning 3  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) 3  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4  Year Total: 15 16	or <u>STAT 3003</u> Statistical Methods		
ISYS 4293 Business Intelligence 3  DASC 3203 Optimization Methods in Data Science 3  DASC 3213 Statistical Learning 3  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) 3  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4  Year Total: 15 16  Fourth Year Units	•	3	_
DASC 3203 Optimization Methods in Data Science  DASC 3213 Statistical Learning  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3)  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4)  Year Total:  15 16  Fourth Year	State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.2 and 3.3)2	3	
DASC 3213 Statistical Learning 3  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) 3  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4  Year Total: 15 16  Fourth Year Units	ISYS 4293 Business Intelligence		3
DASC 3213 Statistical Learning 3  ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) 3  State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4  Year Total: 15 16  Fourth Year Units	-		3
ECON 2143 Basic Economics: Theory and Practice (Satisfies General Education Outcome 3.3) 3 State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4 Year Total: 15 16 Fourth Year Units	·		3
State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4) 4 Year Total: 15 16  Fourth Year Units	1		3
Year Total: 15 16  Fourth Year Units	State Minimum Core Natural Science with Lab Elective (Satisfies General Education Outcome 3.4)		4
		15	16
FallSpring	Fourth Year	Ur	nits
		Fa	llSpring

DASC 4892 Data Science Practicum I	2	
DASC 4113 Machine Learning	3	
DASC 4123 Social Problems in Data Science and Analytics	3	
Business Data Analytics Elective	3	
University Core Fine Arts Elective	<del>3</del> -	
State Minimum Core Fine Arts Elective (Satisfies General Education Outcome 3.1)3	3	
DASC 4993 Data Science Practicum II (Satisfies General Education Outcome 6.1)	3	3
Business Data Analytics Elective	3	3
University Core Social Science Elective	- 3	}
State Minimum Core Social Sciences Elective (Satisfies General Education Outcomes 3.3 and 4.1)4	3	}
General Education Elective5	3	3
Year Total:	14 1	L2
Total Units in Sequence:	1	L20
1Students have demonstrated successful completion of the learning indicators identified for learn	ing	

- 1Students have demonstrated successful completion of the learning indicators identified for learning outcome 2.1, by meeting the prerequisites for <u>MATH 2554</u>.
- 2The Social Science Elective courses which satisfy General Education Outcomes 3.2 and 3.3 include: <u>HIST 1113</u>, <u>HIST 1113H</u>, <u>HIST 1123</u>, <u>HIST 1123H</u>, <u>HIST 2003</u>, or <u>HIST 2013</u>. Note, courses cannot be counted twice in degree requirements.
- 3The Fine Arts Elective courses which satisfy General Education Outcome 3.1 include: <u>ARCH 1003</u>, <u>ARHS 1003</u>, <u>COMM 1003</u>, <u>DANC 1003</u>, <u>LARC 1003</u>, <u>MLIT 1003</u>, <u>MLIT 1003H</u>, <u>MLIT 1013H</u>, <u>MLIT 1333</u>, THTR 1003, THTR 1013, or THTR 1013H.
- 4The Social Sciences Elective courses which satisfy General Education Outcomes 3.3 and 4.1 include:

  <u>ANTH 1023</u>, <u>COMM 1023</u>, <u>HDFS 1403</u>, <u>HDFS 2413</u>, <u>HIST 1113</u>, <u>HIST 1113H</u>, <u>HIST 1123</u>,

  <u>HIST 1123H</u>, <u>HIST 2093</u>, <u>HUMN 1114H</u>, <u>HUMN 2114H</u>, <u>INST 2013</u>, <u>INST 2813</u>, <u>INST 2813H</u>, <u>PLSC 2013</u>,

  PLSC 2813, PLSC 2813H, RESM 2853, SOCI 2013, SOCI 2013H, or SOCI 2033.
- 5Students are required to complete 40 hours of upper division courses (3000-4000 level). It is recommended that students consult with their adviser when making course selections.

Are Similar Programs available in the area?

No

Estimated Student See DTSCBS PLAN

Demand for Program

Scheduled Program See DTSCBS PLAN

Review Date

Program Goals and
Objectives

Program Goals and Objectives

Program Goals and Objectives		
See DTSCBS PLAN		
Learning Outcomes		
	Learning Outcomes	
See DTSCBS PLAN		

### Description and justification of the request

Description of specific change	Justification for this change
Revised formatting of the eight semester degree plan.	To provide consistency with the General
Inserted the General Education language.	Education curriculum language.
Also added footnotes and hyper-linked courses for access	Footnotes provides list of courses that
to course details.	specifically meets each General Education
	Outcome on behalf of the college.
	Changes to the English requirement needs campus approval.AG
Exchanged Fall <> Spring for DASC 2103 and DASC 2213.	Moved to provide training on visualization and communication earlier in the sequence.

Upload attachments

**Reviewer Comments** 

Key: 745