

Bachelor of Science Program (Data Science) Version 2 [Plan A : Research Project]

		First Year		Second Year		Third Year		Fourth Year	
		1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester
General Education	Compulsory Course	SU201 English in the Digital Era [3 units] (L) SU101 Silpakorn Arts [3 Units] (L) SU301 Active Citizen [3 Units] (M)	SU202 English for International Communication [3 Units] (M) SU102 Creative Silpakorn [3 Units] (M) SU203 Creative Communication Skills [3 Units] (M)		SU401 Innovation-Driven Entrepreneurship [3 Units] (L)	SU402 Innovation and Design [3 Units] (M)			
	Elective Courses	SUXXX Elective Course 1 [3 Units] (L)		SUXXX Elective Course 2 [3 Units] (L)					
Specific Subjects	Core Courses	517 111 Computer Programming for Data Science [3 Units](L) 511 110 Calculus for Data Analytics I [3 Units] (L) 515 104 Statistics for Computing [3 Units] (M)	522 151 Foundation of Data Science [3 Units] (L) 511 111 Calculus for Data Analytics II [3 Units] (L)	514 231 Physics Data for Scientists [3 Units] (M) 517 214 Fundamentals of Data Structure for Data Science [3 Units] (L)	522 201 Technical English for Data Science [3 Units] (M)				
	Specific Courses		515 271 Probability for Data Science [3 Units] (M)	522 251 Relational Database for Data Science [3 Units] (M) 511 244 Linear Algebra for Data Science [3 Units] (L)	522 211 Computational Methods for Data Science [3 Units] (M) 522 351 Exploratory Data Analysis [3 Units] (M) 522 253 Getting and Cleaning Data [3 Units] (M)	522 242 Introduction to Digital Business and Marketing [3 Units] (L) 522 301 Ethics and Information Security [3 Units] (L) 522 356 Data Analytics and Data Mining [3 Units] (M)	522 254 Introduction to Big Data Processing [3 Units] (M) 522 322 Forecasting Techniques for Data Science [3 Units] (M) 522 365 Artificial Intelligence and Deep Learning [3 Units] (H)	522 362 Data Processing [3 Units] (M) 522 361 Supervised Machine Learning [3 Units] (M)	522 363 Unsupervised Machine Learning [3 Units] (M) 522 391 Research Methods [3 Units] (M) 522 491 Seminar [1 Unit] (M)
	Elective Courses						5xx xxx Elective Course 1 [3 units] (L/M)	5xx xxx Elective Course 2 [3 units] (L/M)	5xx xxx Elective Course 3 [3 units] (L/M) 5xx xxx Elective Course 4 [3 units] (L/M)
Free Elective Courses				Free Elective Course 1 [3 Units] (L/M)					Free Elective Course 2 [3 Units] (L/M)
		21	18	21	18	18	19	6	5

Module 1 : 21st Century Skills

Module 5 : Business Data Analytics

Module 2 : Basic Knowledge for Data Scientists

Module 6 : Research and Professional Skills

Module 3 : Advanced Knowledge for Data Scientists

Module 7 : Integrated and Related Knowledge

Module 4 : Data Processing and Data Analysis

Bachelor of Science Program (Data Science) Version 2 [Plan A : Research Project]

First Year

Second Year

Third Year

Fourth Year

1st Semester

2nd Semester

1st Semester

2nd Semester

1st Semester

2nd Semester

1st Semester

2nd Semester

General Education

Compulsory Course

Elective Courses

Core Courses

Specific Subjects

Specific Courses

Compulsory Courses

Elective Courses

Free Elective Courses

SU201
English in the Digital Era
[3 units] (L)

SU101
Silpakorn Arts
[3 Units] (L)

SU301 Active Citizen
[3 Units] (M)

SU202
English for International Communication
[3 Units] (M)

SU102
Creative Silpakorn
[3 Units] (M)

SU203 Creative Communication Skills
[3 Units] (M)

SU401
Innovation-Driven Entrepreneurship
[3 Units] (L)

SU402
Innovation and Design
[3 Units] (M)

SUXXX
Elective Course 1
[3 Unite] (L)

SUXXX
Elective Course 2
[3 Unite] (L)

517 111
Computer Programming for Data Science
[3 Units](L)

511 110
Calculus for Data Analytics I
[3 Units] (L)

515 104
Statistics for Computing
[3 Units] (M)

511 111
Calculus for Data Analytics II
[3 Units] (L)

515 271
Probability for Data Science
[3 Units] (M)

517 214
Fundamentals of Data Structure for Data Science
[3 Units] (L)

522 251
Relational Database for Data Science
[3 Units] (M)

511 244
Linear Algebra for Data Science
[3 Units] (L)

Free Elective Course 1
[3 Units] (L/M)

514 231
Physics Data for Scientists
[3 Units] (M)

522 201
Technical English for Data Science
[3 Units] (M)

522 211
Computational Methods for Data Science
[3 Units] (M)

522 351
Exploratory Data Analysis
[3 Units] (M)

522 253
Getting and Cleaning Data
[3 Units] (M)

522 242
Introduction to Digital Business and Marketing
[3 Units] (L)

522 301
Ethics and Information Security
[3 Units] (L)

522 356
Data Analytics and Data Mining
[3 Units] (M)

522 361
Supervised Machine Learning
[3 Units] (M)

522 301
Ethics and Information Security
[3 Units] (L)

5xx xxx
Elective Course 1
[3 units] (L/M)

522 362
Data Processing
[3 Units] (M)

522 361
Supervised Machine Learning
[3 Units] (M)

522 356
Data Analytics and Data Mining
[3 Units] (M)

522 254
Introduction to Big Data Processing
[3 Units] (M)

522 365
Artificial Intelligence and Deep Learning
[3 Units] (H)

522 322
Forecasting Techniques for Data Science
[3 Units] (M)

522 322
Forecasting Techniques for Data Science
[3 Units] (M)

5xx xxx
Elective Course 2
[3 units] (L/M)

522 363
Unsupervised Machine Learning
[3 Units] (M)

522 391
Research Methods
[3 Units] (M)

522 491
Seminar
[1 Unit] (M)

522 391
Research Methods
[3 Units] (M)

5xx xxx
Elective Course 3
[3 units] (L/M)

5xx xxx
Elective Course 4
[3 units] (L/M)

522 493
Research Project
[2 Units] (H)

5xx xxx
Elective Course 3
[3 units] (L/M)

5xx xxx
Elective Course 4
[3 units] (L/M)

Free Elective Course 2
[3 Units] (L/M)

21

18

21

18

18

19

6

5

Bachelor of Science Program (Data Science) Version 2 [Plan B : Cooperative Education]

		First Year		Second Year		Third Year		Fourth Year			
		1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester		
General Education	Compulsory Course	<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"> SU201 English in the Digital Era [3 units] (L) </div> <div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"> SU101 Silpakorn Arts [3 Units] (L) </div> <div style="background-color: #008080; color: white; padding: 5px;"> SU301 Active Citizen [3 Units] (M) </div>	<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"> SU202 English for International Communication [3 Units] (M) </div> <div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"> SU102 Creative Silpakorn [3 Units] (M) </div> <div style="background-color: #008080; color: white; padding: 5px;"> SU203 Creative Communication Skills [3 Units] (M) </div>			<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"> SU401 Innovation-Driven Entrepreneurship [3 Units] (L) </div>	<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"> SU402 Innovation and Design [3 Units] (M) </div>				
	Elective Courses	<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"> SUXXX Elective Course 1 [3 Units] (L) </div>			<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"> SUXXX Elective Course 2 [3 Units] (L) </div>						
Specific Subjects	Core Courses		<div style="background-color: #FFA500; padding: 5px; margin-bottom: 5px;"> 517 111 Computer Programming for Data Science [3 Units](L) </div> <div style="background-color: #FFA500; padding: 5px; margin-bottom: 5px;"> 511 110 Calculus for Data Analytics I [3 Units] (L) </div> <div style="background-color: #FFA500; padding: 5px;"> 515 104 Statistics for Computing [3 Units] (M) </div>	<div style="background-color: #FFA500; padding: 5px; margin-bottom: 5px;"> 522 151 Foundation of Data Science [3 Units] (L) </div> <div style="background-color: #FFA500; padding: 5px; margin-bottom: 5px;"> 511 111 Calculus for Data Analytics II [3 Units] (L) </div>	<div style="background-color: #FFA500; padding: 5px; margin-bottom: 5px;"> 514 231 Physics Data for Scientists [3 Units] (M) </div> <div style="background-color: #FFA500; padding: 5px; margin-bottom: 5px;"> 517 214 Fundamentals of Data Structure for Data Science [3 Units] (L) </div>	<div style="background-color: #FFA500; padding: 5px; margin-bottom: 5px;"> 522 201 Technical English for Data Science [3 Units] (M) </div>					
	Specific Courses	Compulsory Courses		<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 515 271 Probability for Data Science [3 Units] (M) </div>	<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 251 Relational Database for Data Science [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 511 244 Linear Algebra for Data Science [3 Units] (L) </div>	<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 515 273 Statistics for Data Science [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 351 Exploratory Data Analysis [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 253 Getting and Cleaning Data [3 Units] (M) </div>	<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 211 Computational Methods for Data Science [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 242 Introduction to Digital Business and Marketing [3 Units] (L) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 301 Ethics and Information Security [3 Units] (L) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 356 Data Analytics and Data Mining [3 Units] (M) </div>	<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 362 Data Processing [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 361 Supervised Machine Learning [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 322 Forecasting Techniques for Data Science [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 391 Research Methods [3 Units] (M) </div>	<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 254 Introduction to Big Data Processing [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 363 Unsupervised Machine Learning [3 Units] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 365 Artificial Intelligence and Deep Learning [3 Units] (H) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 491 Seminar [1 Unit] (M) </div> <div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 392 Preparation for Cooperative Education [1 Units] (M) </div>	<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 496 Cooperative Education [6 Units] (H) </div>	<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 522 497 Cooperative Education Seminar [1 Units] (M) </div>
	Elective Courses						<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 5xx xxx Elective Course 1 [3 units] (L/M) </div>			<div style="background-color: #FFD700; padding: 5px; margin-bottom: 5px;"> 5xx xxx Elective Course 2 [3 units] (L/M) </div>	
Free Elective Courses				<div style="background-color: #ADD8E6; padding: 5px; margin-bottom: 5px;"> Free Elective Course 1 [3 Units] (L/M) </div>					<div style="background-color: #ADD8E6; padding: 5px; margin-bottom: 5px;"> Free Elective Course 2 [3 Units] (L/M) </div>		
		21	18	21	18	18	17	6	7		

Bachelor of Science Program (Data Science) Version 2 [Plan B : Cooperative Education]

Module 1 : 21st Century Skills	Module 5 : Business Data Analytics
Module 2 : Basic Knowledge for Data Scientists	Module 6 : Research and Professional Skills
Module 3 : Advanced Knowledge for Data Scientists	Module 7 : Integrated and Related Knowledge
Module 4 : Data Processing and Data Analysis	

		First Year		Second Year		Third Year		Fourth Year				
		1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester			
General Education	Compulsory Course	<div style="background-color: #00FF00; padding: 2px; margin-bottom: 5px;">SU201 English in the Digital Era [3 units] (L)</div> <div style="background-color: #00FF00; padding: 2px; margin-bottom: 5px;">SU101 Silpakorn Arts [3 Units] (L)</div> <div style="background-color: #00FF00; padding: 2px;">SU301 Active Citizen [3 Units] (M)</div>	<div style="background-color: #00FF00; padding: 2px; margin-bottom: 5px;">SU202 English for International Communication [3 Units] (M)</div> <div style="background-color: #00FF00; padding: 2px; margin-bottom: 5px;">SU102 Creative Silpakorn [3 Units] (M)</div> <div style="background-color: #00FF00; padding: 2px;">SU203 Creative Communication Skills [3 Units] (M)</div>		<div style="background-color: #00FF00; padding: 2px;">SU401 Innovation-Driven Entrepreneurship [3 Units] (L)</div>	<div style="background-color: #00FF00; padding: 2px;">SU402 Innovation and Design [3 Units] (M)</div>						
	Elective Courses	<div style="background-color: #00FF00; padding: 2px;">SUXXX Elective Course 1 [3 Unite] (L)</div>		<div style="background-color: #00FF00; padding: 2px;">SUXXX Elective Course 2 [3 Unite] (L)</div>								
Specific Subjects	Core Courses	<div style="background-color: #FFD700; padding: 2px; margin-bottom: 5px;">517 111 Computer Programming for Data Science [3 Units](L)</div> <div style="background-color: #FFD700; padding: 2px; margin-bottom: 5px;">511 110 Calculus for Data Analytics I [3 Units] (L)</div> <div style="background-color: #FFD700; padding: 2px;">515 104 Statistics for Computing [3 Units] (M)</div>	<div style="background-color: #FFD700; padding: 2px; margin-bottom: 5px;">522 151 Foundation of Data Science [3 Units] (L)</div> <div style="background-color: #FFD700; padding: 2px;">511 111 Calculus for Data Analytics II [3 Units] (L)</div>	<div style="background-color: #FFD700; padding: 2px; margin-bottom: 5px;">514 231 Physics Data for Scientists [3 Units] (M)</div> <div style="background-color: #FFD700; padding: 2px;">517 214 Fundamentals of Data Structure for Data Science [3 Units] (L)</div>	<div style="background-color: #FFD700; padding: 2px; margin-bottom: 5px;">522 201 Technical English for Data Science [3 Units] (M)</div>							
	Specific Courses		<div style="background-color: #FF69B4; padding: 2px; margin-bottom: 5px;">515 271 Probability for Data Science [3 Units] (M)</div>	<div style="background-color: #FF69B4; padding: 2px; margin-bottom: 5px;">522 251 Relational Database for Data Science [3 Units] (M)</div> <div style="background-color: #FF69B4; padding: 2px; margin-bottom: 5px;">515 273 Statistics for Data Science [3 Units] (M)</div> <div style="background-color: #FF69B4; padding: 2px;">511 244 Linear Algebra for Data Science [3 Units] (L)</div>	<div style="background-color: #FF69B4; padding: 2px; margin-bottom: 5px;">522 211 Computational Methods for Data Science [3 Units] (M)</div> <div style="background-color: #FF69B4; padding: 2px; margin-bottom: 5px;">522 351 Exploratory Data Analysis [3 Units] (M)</div> <div style="background-color: #FF69B4; padding: 2px;">522 253 Getting and Cleaning Data [3 Units] (M)</div>	<div style="background-color: #FF69B4; padding: 2px; margin-bottom: 5px;">522 242 Introduction to Digital Business and Marketing [3 Units] (L)</div> <div style="background-color: #FF69B4; padding: 2px;">522 301 Ethics and Information Security [3 Units] (L)</div>	<div style="background-color: #8A2BE2; padding: 2px; margin-bottom: 5px;">522 362 Data Processing [3 Units] (M)</div> <div style="background-color: #8A2BE2; padding: 2px;">522 361 Supervised Machine Learning [3 Units] (M)</div>	<div style="background-color: #8A2BE2; padding: 2px; margin-bottom: 5px;">522 254 Introduction to Big Data Processing [3 Units] (M)</div> <div style="background-color: #8A2BE2; padding: 2px; margin-bottom: 5px;">522 322 Forecasting Techniques for Data Science [3 Units] (M)</div> <div style="background-color: #8A2BE2; padding: 2px; margin-bottom: 5px;">522 391 Research Methods [3 Units] (M)</div>	<div style="background-color: #FFD700; padding: 2px; margin-bottom: 5px;">522 363 Unsupervised Machine Learning [3 Units] (M)</div> <div style="background-color: #FFD700; padding: 2px; margin-bottom: 5px;">522 365 Artificial Intelligence and Deep Learning [3 Units] (H)</div> <div style="background-color: #FFD700; padding: 2px;">522 356 Data Analytics and Data Mining [3 Units] (M)</div>	<div style="background-color: #90EE90; padding: 2px; margin-bottom: 5px;">522 392 Preparation for Cooperative Education [1 Units] (M)</div> <div style="background-color: #90EE90; padding: 2px; margin-bottom: 5px;">522 491 Seminar [1 Unit] (M)</div>	<div style="background-color: #90EE90; padding: 2px; margin-bottom: 5px;">522 496 Cooperative Education [6 Units] (H)</div>	<div style="background-color: #90EE90; padding: 2px;">522 497 Cooperative Education Seminar [1 Units] (M)</div>
	Elective Courses						<div style="background-color: #FFB6C1; padding: 2px;">5xx xxx Elective Course 1 [3 units] (L/M)</div>			<div style="background-color: #FFB6C1; padding: 2px;">5xx xxx Elective Course 2 [3 units] (L/M)</div>		
Free Elective Courses				<div style="background-color: #FFB6C1; padding: 2px;">Free Elective Course 1 [3 Units] (L/M)</div>					<div style="background-color: #FFB6C1; padding: 2px;">Free Elective Course 2 [3 Units] (L/M)</div>			
		21	18	21	18	18	17	6	7			