



# Proposal for a Revised Degree Program: Departmental Approvals

Degree Program Revision (include name): MS BIS College: YWCC Dept: Informatics

Date Proposed: 11/9/2017

Departmental Approval (include name) and Date: *Greg Wu* 11/2/2017

Dean's Approval and Date: *RC* 11/2/17

Date to be presented to the Committee on Graduate Education: \_\_\_\_\_

Additional Approvals and Dates (if any): (see below) \_\_\_\_\_

Department Chair	Signature and Date
<i>Y. P. BROOK WU</i>	<i>Greg Wu 11/02/2017</i>

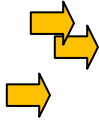
When will the revision be offered?

Spring 2018

Summer 20\_\_

Fall 20\_\_





**[CHANGES IN BOLD AND UNDERLINED]**

M.S. in Business and Information Systems




Course List		
Code	Title	Credits
<b>Business Core (2 courses)</b>		
<u>IS 677</u> or <u>MIS 645</u>	Information System Principles Information Systems Principles	3
Select one of the following:		3
<u>ACCT 615</u>	Management Accounting <sup>2</sup>	
<u>FIN 600</u>	Corporate Finance I <sup>1</sup>	
<u>HRM 601</u>	Organizational Behavior <sup>1</sup>	
<b>Information Systems Core (6 courses)</b>		
IS 601	Web Systems Development	3
<u>IS 631</u>	Enterprise Database Management	3
<u>IS 663</u>	System Analysis and Design	3
<u>IS 665</u>	Data Analytics for Info System <sup>3</sup>	3
<u>IS 684</u>	Business Process Innovation	3
Select one of the following:		3
<u>IS 685</u>	Enterprise Architecture and Integration	
<u>IS 678</u>	IT Service Management	
<b>Total Credits</b>		<b>24</b>
Course List		

Electives and Specialization Areas

We strongly encourage students to design and conduct a Masters Project Thesis with an Information Systems professor. If you are considering a Project or Thesis, please consult the professor early to determine the best electives to support your work. IS 700 Master's Project can substitute for one elective and IS 701 Master's Thesis for two electives, and be considered part of a specialization with the MS Advisor's permission.

Code	Title	Credits
Select two of the following electives or <sup>2</sup>		6
Select <u>IS 700B</u> and one of the following electives or		



## GRADUATE PROGRAM CHANGE

Code	Title	Credits
Select <a href="#">IS 701</a> to substitute for both of your electives:		
Course List		
Code	Title	Credits
<b>Data Analytics</b>		
Recommended Electives:		
<a href="#">IS 634</a>	Information Retrieval	3
<a href="#">IS 687</a>	Transaction Mining and Fraud Detection	3
<a href="#">IS 688</a>	Web Mining	3
Additional Electives:		
<a href="#">CS 602</a>	Java Programming	3
<a href="#">CS 632</a>	Advanced Database System Design	3
<a href="#">CS 634</a>	Data Mining	3
 <a href="#">CS 636</a>	<a href="#">Data Analytics with R Program</a>	
<a href="#">CS 644</a>	<a href="#">Introduction to Big Data</a>	
<a href="#">CS 675</a>	Machine Learning	3
<a href="#">CS 731</a>	Applications of Database Systems	3
<a href="#">CS 732</a>	Advanced Machine Learning	3
<a href="#">CE 602</a>	Geographic Information System	3
 <a href="#">MATH 644</a>	<a href="#">Regression Analysis Methods</a>	
<a href="#">MATH 660</a>	<a href="#">Introduction to statistical Computing with SAS and R</a>	
<a href="#">MATH 678</a>	<a href="#">Intro to Stat Methods in Data</a>	
<a href="#">MGMT 635</a>	Data Mining and Analysis	3
 <a href="#">MGMT 682</a>	<a href="#">Business Research Methods I</a>	
<a href="#">MGMT 683</a>	<a href="#">Business Research Methods II</a>	
<a href="#">PTC 628</a>	Analyzing Social Networks	3
<b>Business Decision Making</b>		
<a href="#">IS 678</a>	IT Service Management	3
<a href="#">ACCT 615</a>	Management Accounting	3
<a href="#">FIN 600</a>	Corporate Finance I	3
<a href="#">HRM 601</a>	Organizational Behavior	3
<a href="#">MIS 648</a>	Decision Support Systems for Managers	3
<a href="#">MIS 680</a>	Management Science	3

## GRADUATE PROGRAM CHANGE

Code	Title	Credits
<a href="#">MGMT 620</a>	Management of Technology	3
<a href="#">MGMT 630</a>	Decision Analysis	3
<a href="#">MGMT 650</a>	Knowledge Management	3
<a href="#">MGMT 685</a>	Operations Research and Decision Making	3
<a href="#">MGMT 688</a>	Information Technology, Business and the Law	3
<a href="#">MRKT 620</a>	Competing in Global Markets	3
<a href="#">MRKT 645</a>	Internet Marketing Strategy	3
<b>Healthcare Informatics</b>		
<a href="#">CS 639</a>	Elec. Medical Records: Med Terminologies and Comp. Imp.	3
<a href="#">IE 686</a>	Intro to Healthcare Systems	3
<a href="#">IE 687</a>	Healthcare Enterprise Systems	3
<a href="#">IE 688</a>	Healthcare Sys Perfor Modeling	3
 <a href="#">PTC 640</a>	<a href="#">Health Communications.</a>	
<a href="#">R834 581</a>	Health Systems and Policy	3
<a href="#">R834 582</a>	Health Care Management	3
<a href="#">R834 659</a>	Healthcare Finance	3
<b>User Experience Design</b>		
	Recommended Elective <del>S</del> :	
<a href="#">IS 661</a>	User Experience Design <sup>4</sup>	3
	<del>Additional Electives:</del>	
<a href="#">IS 664</a>	Customer Discovery <sup>4</sup>	3
	<del>Additional Electives:</del>	
<a href="#">IS 686</a>	Pervasive Computing: An HCI Perspective	3
<a href="#">IS 735</a>	Social Media	3
<a href="#">IE 661</a>	Man-Machine Systems	3
<a href="#">IE 662</a>	Cognitive Engineering	3
<a href="#">IE 664</a>	Advanced Ergonomics	3
<a href="#">PTC 605</a>	Elements of Visual Design	3
<a href="#">PTC 606</a>	Advanced Information Design	3
<a href="#">PTC 629</a>	Theory and Practice of Social Media	3
<a href="#">PTC 650</a>	ELearning Design for Mobile	3
<b>Security and Network Management</b>		

## GRADUATE PROGRAM CHANGE

Code	Title	Credits
<a href="#">IS 680</a>	Information Systems Auditing	3
<a href="#">IS 681</a>	Computer Security Auditing	3
<a href="#">IS 682</a>	Forensic Auditing for Computing Security	3
<a href="#">CS 608</a>	Cryptography and Security	3
<a href="#">CS 645</a>	Security and Privacy in Computer Systems	3
<a href="#">CS 646</a>	Network Protocols Security	3
<a href="#">CS 647</a>	Counter Hacking Techniques	3
<a href="#">CS 652</a>	Computer Networks-Architectures, Protocols and Standards	3
<a href="#">CS 656</a>	Internet and Higher-Layer Protocols	3
<a href="#">CS 696</a>	Network Management and Security	3
 <a href="#">CS 708</a>	<a href="#">Advanced Data Security and Privacy</a>	
<a href="#">CS 755</a>	<a href="#">Security and Privacy in Wireless Networks</a>	
<a href="#">CS 756</a>	<a href="#">Mobile Computing and Sensor Networks</a>	
<a href="#">IT 620</a>	Wireless Networks Security and Administration	3
<a href="#">IT 640</a>	Network Services Administration	3
<b>Systems Analysis and Design</b>		
<a href="#">IS 676</a>	Requirements Engineering	3
<a href="#">IS 683</a>	Web Systems Development	3
<a href="#">IS 685</a>	Enterprise Architecture and Integration	3
<a href="#">IS 661</a>	User Experience Design	3
<a href="#">IS 664</a>	Customer Discovery	3
<a href="#">CS 673</a>	Software Design and Production Methodology	3
<a href="#">CS 683</a>	Software Project Management	3
<a href="#">CS 684</a>	Software Testing and Quality Assurance	3
<a href="#">CS 685</a>	Software Architecture	3
<a href="#">EM 636</a>	Project Management	3
<a href="#">EM 637</a>	Project Control	3
 <a href="#">MRKT 636</a>	<a href="#">Design and Development of High Technology Products</a>	
<b>Web Systems</b>		
<a href="#">IS 634</a>	Information Retrieval	3
<a href="#">IS 661</a>	User Experience Design	3
<a href="#">IS 664</a>	Customer Discovery	3

## GRADUATE PROGRAM CHANGE

Code	Title	Credits
<a href="#">IS 688</a>	Web Mining	3
<a href="#">IS 690</a>	Web Services and Middleware	3
<a href="#">PTC 605</a>	Elements of Visual Design	3
<a href="#">PTC 628</a>	Analyzing Social Networks	3
<a href="#">PTC 632</a>	Content Management and Information Architecture	3

### Build Your Own Specialization

Students may propose a coherent set of courses that have a common thread related to an area that you are interested in. The MS BIS advisor approves the proposed specialization.

#### Course List

- <sup>1</sup> Students who have taken an undergraduate equivalent of one of these courses may substitute up to one business core course with an additional elective.
- <sup>2</sup> Students may optionally choose 2 or more courses from a single area, which will constitute a specialization.
- <sup>3</sup> Students considering a Master's Project or Thesis with this specialization are encouraged to take [IS 665](#) Data Analytics for Info System as an elective.
- <sup>4</sup> Students considering a Master's Project or Thesis with the User Experience specialization are encouraged to take both [IS 661](#) User Experience Design and [IS 664](#) Customer Discovery as electives.

## Updated Program after Updating

### M.S. in Business and Information Systems

Course List		
Code	Title	Credits
<b>Business Core (2 courses)</b>		
<a href="#">IS 677</a> or <a href="#">MIS 645</a>	Information System Principles Information Systems Principles	3
Select one of the following:		3
<a href="#">ACCT 615</a>	Management Accounting <sup>2</sup>	
<a href="#">FIN 600</a>	Corporate Finance I <sup>1</sup>	
<a href="#">HRM 601</a>	Organizational Behavior <sup>1</sup>	
<b>Information Systems Core (6 courses)</b>		
IS 601	Web Systems Development	3
<a href="#">IS 631</a>	Enterprise Database Management	3
<a href="#">IS 663</a>	System Analysis and Design	3
<a href="#">IS 665</a>	Data Analytics for Info System <sup>3</sup>	3
<a href="#">IS 684</a>	Business Process Innovation	3
Select one of the following:		3
<a href="#">IS 685</a>	Enterprise Architecture and Integration	
<a href="#">IS 678</a>	IT Service Management	
<b>Total Credits</b>		<b>24</b>

Course List

#### Electives and Specialization Areas

We strongly encourage students to design and conduct a Masters Project Thesis with an Information Systems professor. If you are considering a Project or Thesis, please consult the professor early to determine the best electives to support your work. [IS 700](#) Master's Project can substitute for one elective and [IS 701](#) Master's Thesis for two electives, and be considered part of a specialization with the MS Advisor's permission.

Code	Title	Credits
Select two of the following electives or <sup>2</sup>		6
Select <a href="#">IS 700B</a> and one of the following electives or		

Select [IS 701](#) to substitute for both of your electives:



## GRADUATE PROGRAM CHANGE

Course List		
Code	Title	Credits
<b>Data Analytics</b>		
Recommended Electives:		
<a href="#"><u>IS 634</u></a>	Information Retrieval	3
<a href="#"><u>IS 687</u></a>	Transaction Mining and Fraud Detection	3
<a href="#"><u>IS 688</u></a>	Web Mining	3
Additional Electives:		
<a href="#"><u>CS 602</u></a>	Java Programming	3
<a href="#"><u>CS 632</u></a>	Advanced Database System Design	3
<a href="#"><u>CS 634</u></a>	Data Mining	3
CS 636	Data Analytics with R Program	
CS 644	Introduction to Big Data	
<a href="#"><u>CS 675</u></a>	Machine Learning	3
<a href="#"><u>CS 731</u></a>	Applications of Database Systems	3
<a href="#"><u>CS 732</u></a>	Advanced Machine Learning	3
<a href="#"><u>CE 602</u></a>	Geographic Information System	3
MATH 644	Regression Analysis Methods	
MATH 660	Introduction to statistical Computing with SAS and R	
MATH 678	Intro to Stat Methods in Data	
<a href="#"><u>MGMT 635</u></a>	Data Mining and Analysis	3
MGMT 682	Business Research Methods I	
MGMT 683	Business Research Methods II	
<a href="#"><u>PTC 628</u></a>	Analyzing Social Networks	3
<b>Business Decision Making</b>		
<a href="#"><u>IS 678</u></a>	IT Service Management	3
<a href="#"><u>ACCT 615</u></a>	Management Accounting	3
<a href="#"><u>FIN 600</u></a>	Corporate Finance I	3
<a href="#"><u>HRM 601</u></a>	Organizational Behavior	3
<a href="#"><u>MIS 648</u></a>	Decision Support Systems for Managers	3
<a href="#"><u>MIS 680</u></a>	Management Science	3
<a href="#"><u>MGMT 620</u></a>	Management of Technology	3
<a href="#"><u>MGMT 630</u></a>	Decision Analysis	3

## GRADUATE PROGRAM CHANGE

Code	Title	Credits
<a href="#"><u>MGMT 650</u></a>	Knowledge Management	3
<a href="#"><u>MGMT 685</u></a>	Operations Research and Decision Making	3
<a href="#"><u>MGMT 688</u></a>	Information Technology, Business and the Law	3
<a href="#"><u>MRKT 620</u></a>	Competing in Global Markets	3
<a href="#"><u>MRKT 645</u></a>	Internet Marketing Strategy	3
<b>Healthcare Informatics</b>		
<a href="#"><u>CS 639</u></a>	Elec. Medical Records: Med Terminologies and Comp. Imp.	3
<a href="#"><u>IE 686</u></a>	Intro to Healthcare Systems	3
<a href="#"><u>IE 687</u></a>	Healthcare Enterprise Systems	3
<a href="#"><u>IE 688</u></a>	Healthcare Sys Perfor Modeling	3
PTC 640	Health Communications.	
<a href="#"><u>R834 581</u></a>	Health Systems and Policy	3
<a href="#"><u>R834 582</u></a>	Health Care Management	3
<a href="#"><u>R834 659</u></a>	Healthcare Finance	3
<b>User Experience Design</b>		
Recommended Elective:		
<a href="#"><u>IS 661</u></a>	User Experience Design <sup>4</sup>	3
<a href="#"><u>IS 664</u></a>	Customer Discovery <sup>4</sup>	3
Additional Electives:		
<a href="#"><u>IS 686</u></a>	Pervasive Computing: An HCI Perspective	3
<a href="#"><u>IS 735</u></a>	Social Media	3
<a href="#"><u>IE 661</u></a>	Man-Machine Systems	3
<a href="#"><u>IE 662</u></a>	Cognitive Engineering	3
<a href="#"><u>IE 664</u></a>	Advanced Ergonomics	3
<a href="#"><u>PTC 605</u></a>	Elements of Visual Design	3
<a href="#"><u>PTC 606</u></a>	Advanced Information Design	3
<a href="#"><u>PTC 629</u></a>	Theory and Practice of Social Media	3
<a href="#"><u>PTC 650</u></a>	ELearning Design for Mobile	3
<b>Security and Network Management</b>		
<a href="#"><u>IS 680</u></a>	Information Systems Auditing	3
<a href="#"><u>IS 681</u></a>	Computer Security Auditing	3
<a href="#"><u>IS 682</u></a>	Forensic Auditing for Computing Security	3

## GRADUATE PROGRAM CHANGE

Code	Title	Credits
<a href="#">CS 608</a>	Cryptography and Security	3
<a href="#">CS 645</a>	Security and Privacy in Computer Systems	3
<a href="#">CS 646</a>	Network Protocols Security	3
<a href="#">CS 647</a>	Counter Hacking Techniques	3
<a href="#">CS 652</a>	Computer Networks-Architectures, Protocols and Standards	3
<a href="#">CS 656</a>	Internet and Higher-Layer Protocols	3
<a href="#">CS 696</a>	Network Management and Security	3
CS 708	Advanced Data Security and Privacy	
CS 755	Security and Privacy in Wireless Networks	
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<a href="#">IS 683</a>	Web Systems Development	3
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<a href="#">IS 664</a>	Customer Discovery	3
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<a href="#">CS 683</a>	Software Project Management	3
<a href="#">CS 684</a>	Software Testing and Quality Assurance	3
<a href="#">CS 685</a>	Software Architecture	3
<a href="#">EM 636</a>	Project Management	3
<a href="#">EM 637</a>	Project Control	3
MRKT 636	Design and Development of High Technology Products	
<b>Web Systems</b>		
<a href="#">IS 634</a>	Information Retrieval	3
<a href="#">IS 661</a>	User Experience Design	3
<a href="#">IS 664</a>	Customer Discovery	3
<a href="#">IS 688</a>	Web Mining	3
<a href="#">IS 690</a>	Web Services and Middleware	3
<a href="#">PTC 605</a>	Elements of Visual Design	3

## GRADUATE PROGRAM CHANGE

Code	Title	Credits
<a href="#">PTC 628</a>	Analyzing Social Networks	3
<a href="#">PTC 632</a>	Content Management and Information Architecture	3

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