Data Science and Analysis, BS, Computer Science Emphasis

CMP SCI 2250	Programming and Data Structures	3
CMP SCI 2261	Object-Oriented Programming	3
CMP SCI 3130	Design and Analysis of Algorithms	3
CMP SCI 3411	Introduction to Data Visualization	3
CMP SCI 4151	Introduction to Statistical Methods for Data Science	3
CMP SCI 4340	Introduction to Machine Learning	3
MATH 1900	Analytic Geometry and Calculus II	5
~~MATH 2000~~	~~Analytic Geometry and Calculus III~~	~~5~~
~~MATH 4200~~	~~Mathematical Statistics I~~	~~3~~
MATH 3000	Discrete Structures	3
Choose three of the following:		9
CMP SCI 3010	Web Full Stack Development	
CMP SCI 3702	Introduction to Cyber Threats and Defense	
CMP SCI 4030	Introduction to Intelligent Web	
CMP SCI 4300	Introduction to Artificial Intelligence	
CMP SCI 4320	Introduction to Evolutionary Computation	
~~CMP SCI 4340~~	~~Introduction to Machine Learning~~	
CMP SCI 4370	Introduction to Biological Data Science	
CMP SCI 4390	Introduction to Deep Learning	
CMP SCI 4610	Database Management Systems	
MATH 2450	Elementary Linear Algebra	
Total Hours		~~31~~ **35**

Other Data Science courses may be included as electives with prior approval of the program coordinator.

If other departments are affected by this proposal, please secure "sign-offs" and indicate for each department the following:

Department	Contact Person	Phone #	Objections
	Cezary Janikow		No
	Erika Gibb		No
	Jim Craig		No

Justification for request:
New courses added to core and electives. Replaced 8 Math credits with new 3 credit CS course with more cs course more relevant to the program. Adding Math 2450 as relevant, adding Cmp Sci 4610 as relevant.
Updating delivery