Program Guide
Minor in Data Science

The minor in Data Science is designed to give students a strong foundation in programming, data structures, statistics, and data mining. The program will allow students to be able to use data science skills in **any area** of specialization, and it prepares them to work as Big Data analysts or to take advantage of large amounts of data in their own disciplines. In addition, the program will allow students to be able to understand issues related to ethics and privacy concerns posed by data mining.

The minor consists of 25-26 credits apportioned as follows:

- 19-20 required credit;
- 6 elective credits

Knowledge Area	Required Courses	Credits
Programming	CS 04103 Computer Science and Programming **or** CS 04113 Introduction to Object Oriented Programming	4
Data Structures	CS 04225 Principles of Data Structures (3s.h.) **or** CS 04222 Data Structures and Algorithms (4s.h.)	3-4
Probability/ Statistics	STAT 02284 Statistics for Biomedical Science **or** STAT 02320 Concepts in Statistical Data Analysis **or** STAT 02290 Probability & Statistical Inference for Computing Systems **or** STAT 02280 Biometry **or** STAT 02360 Probability/Random Variables	3
Databases	CS 04430 Database Systems: Theory And Programming	3
Data Mining	CS 07480 Introduction to Data Mining **or** STAT 02340 Elements of Statistical Learning	3
Data Visualization	CS 07370 Introduction to Information Visualization	3
	Total	**19-20**

Two Elective Courses from this list	Credits
CS 02421 Big Data Tools and Techniques	3
CS 04440 Data Warehousing	3
CS 07455 Machine Learning	3
CS 07485 Web and Text Mining	3
MATH 03411 Deterministic Models In Operations Research **or** MATH 03412 Stochastic Models In Operations Research	3
STAT 02371 Design of Experiments: ANOVA	3
STAT 02361 Mathematical Statistic III	3
Total	**6**