

## BS in Data Analytics at WSU, A Story in 4 Parts: Building, Implementation, Challenges, Fixes

### Phase 1: Building the Program

#### Why:

- Washington is a Tech heavy state: home to Amazon, Microsoft and Boeing.
- Lack of Tech educated employees to meet the demands of the State.
- Legislature asked WSU to develop a new degree at BS in Data Analytics.



#### Who:

- Committee was co-chaired by CS Chair and Stat Faculty
- Daryll Dewald: Dean of A&S Provost liaison

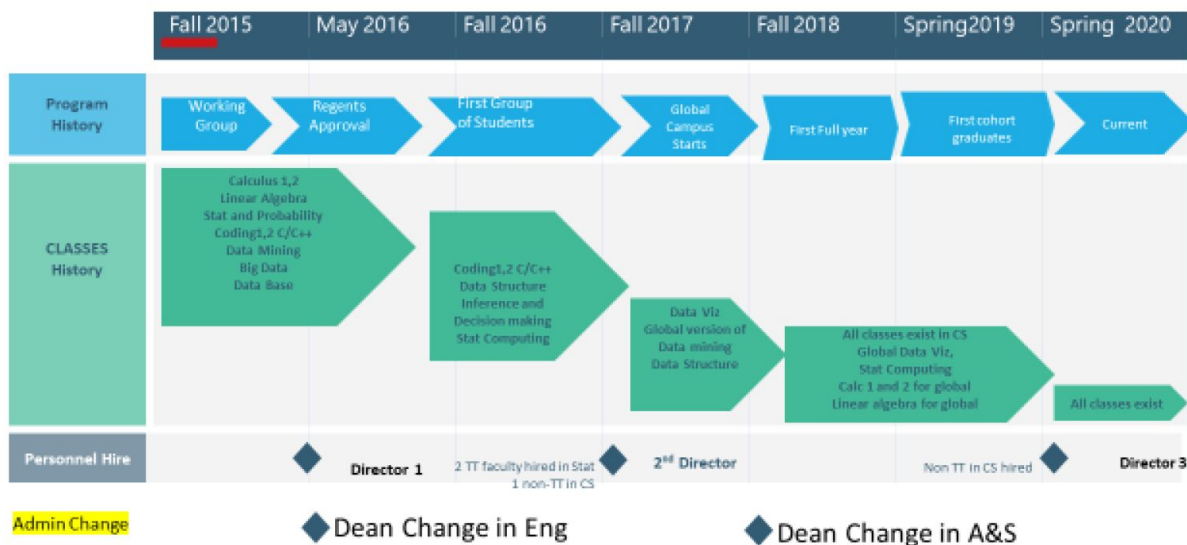
#### How:

- Each College represented was asked to come up with their vision of what the degree should look like and there were several ideas that were proposed.
- The degree was to be done with as much as possible with existing resources.
- There was initial funding of about \$1.5M, with about \$500K yearly after that that.

#### When:

Working Group: All Colleges represented, 3 campuses represented  
 Director 1: Ag School, Director 2: CS, Director 3: Statistics  
 Program in the College of Arts and Sciences

(N.B. Classes only in CS and Math/Stat. The domain classes not included)



## What:

- 3 classes from Math (calc1, calc 2 and linear algebra)
- 6 from CS (Coding1, Coding 2, Data Structures, Big Data, Data Mining, Data Base • 5 from Stats (Probability, Inference, Multivariate Stats, Data Viz, stat computing)
- 2 classes were cross-listed Stat/CS (The Introduction to Data Analytics and the Capstone) • 1 class on Ethics taught by Philosophy
- 9 areas were identified (**Actuarial, Agricultural, Business, Data Viz, Econ Science, Life Science, Physical Science, Social Science**) each between 18 to 42 credits.

## Phase 2: Implementation

### Success: Things that worked:

1. Far-reaching interest in among the WA Industries and a strong industry board
2. From day one students came and stayed in the program. Started with about 30 students in 2016 to 170 in 2020
3. Faculty: all 4 (2 from Stat, 1 math, 1 CS) faculty hired for the program
4. The classes that were developed were good classes
5. The DATA prefix was approved, and the cross listed classes were moved to the DATA prefix
6. Data Analytics was given a Program status and resided in the College of Arts and Sciences.
7. Interest from Career Connect Washington for experiential learning.

### Challenges: Things that did not work:

1. Administration changed and without written agreements some of the original plans were not implemented.
2. The students were neither CS nor Math/Stat so they didn't have priorities for getting into classes.
3. The program was between 72-96 semester credits (total required was 120). With their Required Undergraduate classes on top of this, it made the degree very scripted and hard to finish on time
4. The classes are CS and Math and Stat classes meant for CS or Math/Stat students. Hence, students have to take multiple classes for a few relevant topics. No room for classes where there are gaps.
5. Lack of a cohort feel among students.
6. No faculty in Data Analytics, so no loyalty to these students
7. Question of who owns what
8. ONLY BS program now, so no focus on graduate research yet.
9. Money! (lack of it...)

### Potential Fixes: (*italics indicate already implementing*)

1. Have classes tailor made for the Data Analytics students.
2. Develop classes from the 300 level under the DATA prefix
3. *Require Internships*
4. Have a mini capstone at Junior level
5. Hire faculty for DATA rather than in Math, Stat or CS
6. *Make sure each student in the program has an Industry mentor*
7. *Focus on communication and storytelling*

