



Data Science at the University of Calgary

A Brief Talk about the Brief History of DS at the University of Calgary

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I would like to take this opportunity to acknowledge the traditional territories of the people of the Treaty 7 region in Southern Alberta, which includes the Blackfoot Confederacy (comprising the Siksika, Piikani, and Kainai First Nations), as well as the Tsuut'ina First Nation, and the Stoney Nakoda (including the Chiniki, Bearspaw, and Wesley First Nations). The City of Calgary is also home to Métis Nation of Alberta, Region 3.

Data Science Programs at the University of Calgary

1. Undergraduate Minor in Data Science
2. Professional Master's in Data Science and Analytics

Both programs are the result of the joint collaboration between the Department of Mathematics and Statistics, and the Department of Computer Science.

What is Data Science and Analytics?

An amalgamation of applied branches of computer science and statistics

Emergence of Data Science and Analytics due to

- Computability
- Scalability of data
- “ML”

November 2016 – Five Minute Meeting with the Provost

- Presented an undergraduate Major in DS
- Provost: “start with the minor”... provided \$400k
- The result.... Undergraduate Minor program in Data Science (Approved February 2017; Commence Fall 2018)

Fall 2018: Data Science Minor Commences

Aspects of the Data Science Minor:

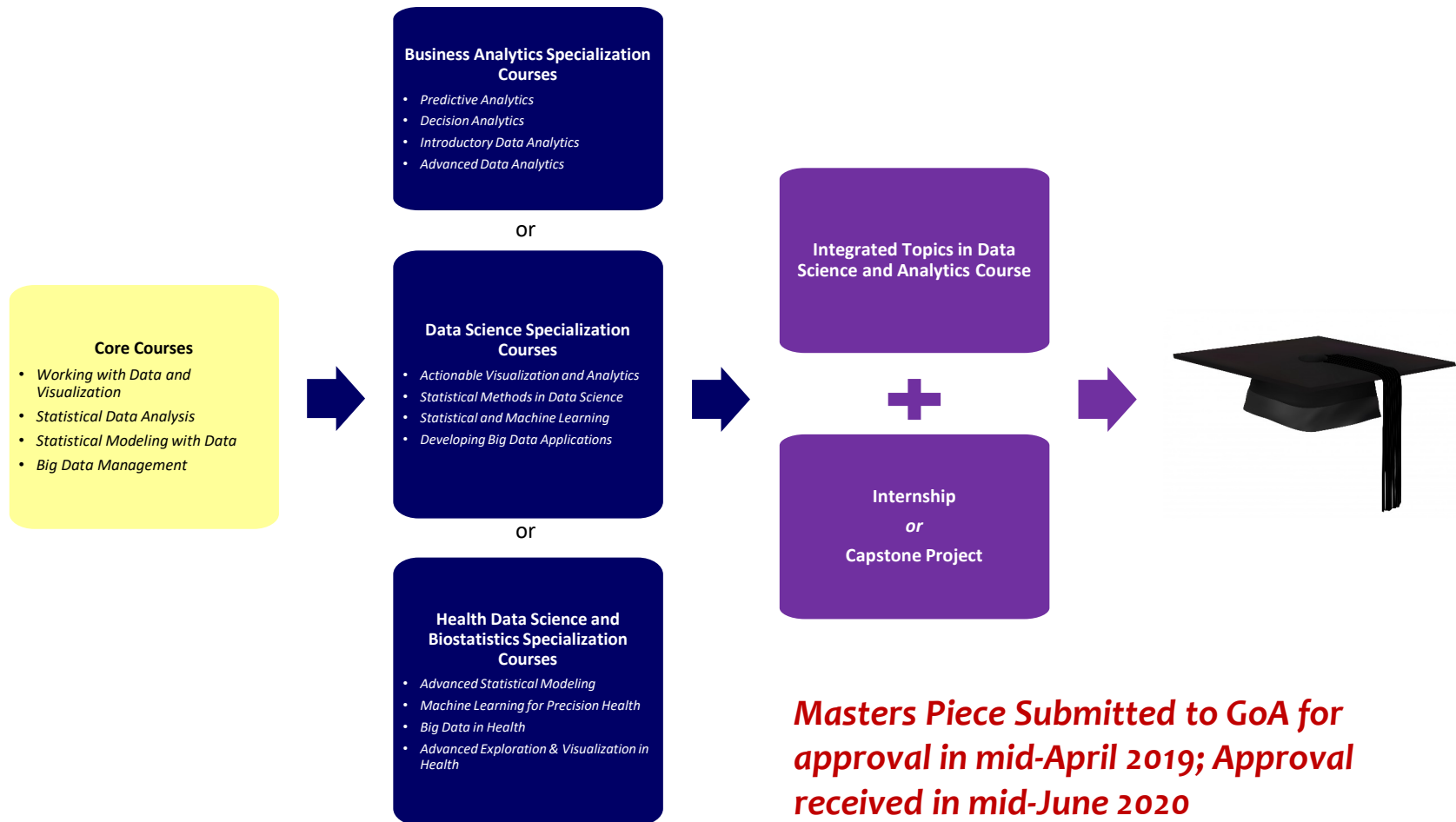
- Entrance: Minimum GPA of 3.00 over 4 GCE (four courses, or 12 units)
- Capacity: 100 spots per year
- Admission is competitive

Data Science Minor (Requirements)

- DATA 201
- One of Data Science 211, Computer Science 217, 231, 235, Engineering 233 or Digital Engineering 233 (a course in programming)
- Two “STAT” courses: STAT 205 and DATA 305
- One of either DATA 311 or CPSC 471 (data structures, SQL)
- DATA 501 (capstone course)

<https://www.ucalgary.ca/pubs/calendar/current/sc-4-6-1-1.html>

Fall 2018: Professional Master's in Data Science and Analytics



Professional Graduate Program in Data Science

Admission Requirements

- Four-year bachelor's degree
- $\text{GPA} \geq 3.00$ (last 20 courses in bachelor's)
- Demonstrated competencies (one course or professional) in
 - programming language
 - calculus or linear algebra
 - introductory statistics
- English Language Proficiency: $\text{TOEFL} \geq 86$ or $\text{IELTS} \geq 6.5$

Enrollments

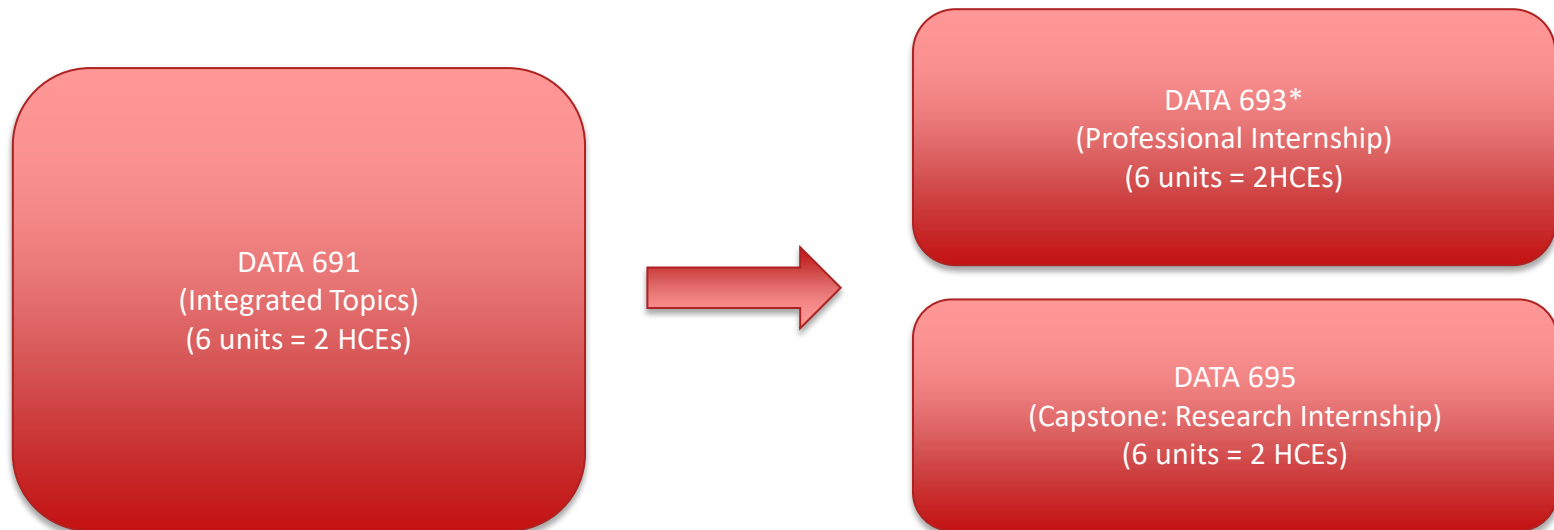
Fall 2018	Fall 2019	Fall 2020
33 (11 Part-time)	74 (19 PT)	78 (10 PT) + 26 (W21)
- 16 to DS Spec	- 25 to DS Spec	- 38 to DS Spec
- 6 to BA Spec	- 17 to BA Spec	- 34 to BA Spec
HDS and Bio not offered in Winter 19	- 13 to HDS and Biostat	- 10 to HDS and Biostat

Applications:

Fall 18: ≈ 85 ; Fall 19: ≈ 130 ; Fall 20: ≈ 210 ; Fall 21: ≈ 1230

Received approval of Master's Program in Data Science and Analytics in late-June 2021!

Accelerated: 12-month program



Structure of Data 691 (two-week residency course)

Technical Topics

1. Advanced Time Series
2. Deep Learning
3. Unix + Cloud Computing

Professional Topics

1. Entrepreneurship and Innovation (0.5 day)
2. Strategic Management (0.5 day)
3. International Business (0.5 day)
4. Platforms and two-sided markets (0.5 day)
5. Leadership (0.5 day)
6. Workplace Justice, Diversity + Inclusion (0.5 day)
7. Project Management + Systems Analysis
8. Project Management
9. Digital Marketing (0.5 day)
10. Teamwork
11. Negotiation and Conflict Management (0.5 day)

Where does the intake \$\$\$ Go?

Revenue Split is 60/20/20

- 60% goes to the “teaching department”
- 20% goes to the Faculty
- 20% goes to Central



Tuition: \$3060 for Data 6xx course (\$4080 for international)

Master's Tuition: \$6120 Data 691 (\$8160 for international)

: \$3080 for Data 693/695 (\$4080 for international)

?S

<https://science.ucalgary.ca/data-science/programs/professional-programs/mdsa>

Further inquiries can be made to
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