**COST AND REVENUE PROJECTIONS NARRATIVE**

**Introduction**

The proposed B.S. in Data Science major will be jointly offered by the Department of Mathematical Sciences at the College of Letters and Sciences, and the Department of Computer Science and Electrical Engineering at the College of Engineering and Applied Sciences (CEAS). Cost and revenue projections assume standard UW-Milwaukee tuition rates and a CEAS tuition differential charge of $20.83 per credit for the respective computer science courses. There are no other non-standard program characteristics that may impact budget projections.

**Section I – Enrollment**

The following table breaks down the projected cohort of students for the first five years of the program. Projections are based on similar programs at the College of Letters and Sciences and the College of Engineering and Applied Sciences. A conservative retention rate of 75% is used thereafter to estimate the number of continuing students. New students transferring from two-year or four-year colleges in the UW system or in the region are expected, but hard to estimate, so they are not included in our projections. In our projections, only incoming freshmen are counted as new students (defined as not enrolled in UW-Milwaukee in the previous semester). Part-time students are also expected but their numbers are hard to estimate, so we assume all students in the following table are full time students.

| | **2020** | **2021** | **2022** | **2023** | **2024** |
|---|---|---|---|---|---|
| **Freshmen** | 5 | 10 | 15 | 20 | 20 |
| **Sophomores** | 0 | 4 | 8 | 11 | 15 |
| **Juniors** | 0 | 0 | 3 | 6 | 8 |
| **Seniors** | 0 | 0 | 0 | 2 | 5 |

**Section II – Credit Hours**

The coursework for this program consists entirely of existing courses; no new courses will be created during the first five years. To calculate credit hours, we first show a possible four-year plan of study in the following table (electives are in parenthesis). Computer Science credits are in parenthesis in the last column.

| | **Semester 1** | **Semester 2** | **Credits (CS cr)** |
|---|---|---|---|
| **Freshman** | | Math 231<br>MthStat 215/216<br>CompSci 250<br>English 310 | 12 (3) |
| **Sophomore** | Math 232<br>CompSci 251<br>CompSci 315<br>(CompSci 317) | Math 233<br>Math 234/240<br>CompSci 351<br>(CompSci 459) | 26 (15) |
| **Junior** | MthStat 361<br>CompSci 422<br>CompSci 557<br>(CompSci 423) | MthStat 362<br>CompSci 425<br>CompSci 395/Philos 237<br>(CompSci 444) | 30 (18) |

| | | | |
|---|---|---|---|
| | (Math 341) | (Math 315) | |
| **Senior** | MthStat 563<br>MthStat 566<br>(Math 571)<br>(CompSci 469) | MthStat 568<br>Math 489/599<br>(MthStat 564)<br>(CompSci 535) | 24 (6) |

The following table shows the total number of credits corresponding to the above four-year plan, estimated from the cohort table given in Section I.

| | **2020** | **2021** | **2022** | **2023** | **2024** |
|---|---|---|---|---|---|
| **Freshmen (12 cr)** | 60 | 120 | 160 | 240 | 240 |
| **Sophomores (26 cr)** | 0 | 104 | 208 | 286 | 390 |
| **Juniors (30 cr)** | 0 | 0 | 90 | 180 | 240 |
| **Seniors (24 cr)** | 0 | 0 | 0 | 48 | 120 |
| **Total** | 60 | 224 | 458 | 754 | 990 |

The following table shows the total number of Computer Science credits (which have a differential tuition) corresponding to the above four-year plan, estimated from the cohort table given in Section I.

| | **2020** | **2021** | **2022** | **2023** | **2024** |
|---|---|---|---|---|---|
| **Freshmen (3 cr)** | 15 | 30 | 45 | 60 | 60 |
| **Sophomores (15 cr)** | 0 | 60 | 120 | 165 | 225 |
| **Juniors (18 cr)** | 0 | 0 | 54 | 108 | 144 |
| **Seniors (6 cr)** | 0 | 0 | 0 | 12 | 30 |
| **Total CS credits** | 15 | 90 | 219 | 345 | 459 |

**Section III – Faculty and Staff Appointments**

Since the coursework consists entirely of existing courses, initially no new faculty appointments are necessary to sustain the program. During the second, third and fourth years we expect a continuing faculty to take charge of the capstone course and/or coordinate internships as part of his/her regular teaching load, equivalent to 12.5% FTE. For the fourth year we expect to hire a new full-time faculty, whose duties will include developing new courses for the program (for example, statistical consulting). This faculty line may be offset by expected retirements.

No new staff appointments or redirection of existing staff will be necessary to administer this program.

**Section IV – Program Revenues**

Tuition Revenues: They are based on student FTE/headcount enrollments multiplied by the resident full-time tuition rate reported in the program authorization document (excluding segregated fees), which amounts to $8,091.12 per full-time student per year. This gives a conservative estimate, since non-residents will pay a higher tuition rate. A CEAS tuition

differential charge of $20.83 per credit for computer science courses was applied, assuming students follow the four-year coursework described in Section II.

**Section V – Program Expenses**

Expenses – Salary and Fringe: Faculty salary was estimated at the current market rate of $90,000 for a full-time faculty position, and fringe benefits at the prevailing rate of 40%.

**Section VI – Net Revenue**

The expected positive net revenue will be administered by the respective colleges and the UW-Milwaukee administration according to standard practices.