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# BISOCI Pre-Requisite Analysis for Common Course Numbering Planning RB#247

## **College of the Canyons**

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District

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Institutional Research, Planning, and  
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## Introduction & Background

At the request of the chair of the Biological Sciences department, an analysis of the rate of students enrolled in Biological Science 100 level courses who go on to enroll in 200s levels within 2 years was conducted. The California Community College Chancellors' Office recently passed AB 1111. This bill recommended a plan for a student-facing common course numbering system in California that ensures that all students can identify courses across the system as being comparable and therefore transferable and degree-applicable across the California Community Colleges and also to the CSU, the UC. Common Course Numbering (CCN) project will have an impact on courses at College of the Canyons that have different prerequisites than comparable courses at other California Community Colleges. Results will assist in informing which of the pre-requisites most students take prior to the 200s levels as well as inform course section offerings of BIOSCI-200s Level courses in Fall of 2025.

- What is the number of students Fall 2021 and Fall 2022 enrolled in BIOSCI-100s levels pre-requisite courses (BIOSCI-100/H, BIOSCI-107)? What is the size of each of these pre-requisite enrollments?
- Of the key pre-requisite courses (BIOSCI-100/H, BIOSCI-107) what proportion go on to attempt 200s levels within 2 years from the pre-requisite?
- What is the first 200s levels course students enroll into and at what point in their 2-year academic journey do they enroll and attempt the 200-level course?
- Knowing the above counts of students who would take the 100s levels under the changes from AB1111 these students would go directly into 200s. Thus, what is the size to anticipate and what 200s levels courses would need accommodations with increased section openings?

## Method

**Course Enrollment/attempt:** This is defined as students with an enrollment record and active status past census in the BIOSCI-100s and 200s Levels.

**Pre-Requisites:** These are defined by the program curriculum and requirements as enrollment in BIOSCI-100 or BIOSCI-100H or BIOSCI-107.

**Time Frame:** Students enrolled in the BIOSCI pre-requisites in the Fall of 2021 and the Fall of 2022 were selected. The Fall 2021 cohort was followed for course taking patterns in the BIOSCI 200s levels through academic years 2021/22 – 2022/23. The Fall 2022 cohort for course taking patterns in the BIOSCI 200s levels from academic years 2022/23 – 2023/24. Fall 2023 cohort for course taking patterns in the BIOSCI 200s levels from academic years 2023/24-2024/25(spring). Fall 2024 cohort from fall to spring 2025.

**Section Offerings:** To estimate section sizing, the enrollments and section counts for each 200s levels courses in the same Fall 2021 and Fall 2022 were used.

The above fields were derived from informer reports "Grades by Subject Reports" for the corresponding terms.

## Results

### Students Enrolled in Pre-Requisites Fall 2021 and Fall 2022

Results from the table below illustrate that the most popularly enrolled pre-requisite course is BIOSCI-100 comprising 84%-89% of pre-requisite enrollments each fall semesters (2021 and 2022), *see Table 1*.

*Table 1. Enrollments of Students in BIOSCI Pre-Requisite Course for Fall Terms 2021 through 2024*

| Course Names | Fall 2021 |      | Fall 2022 |      | Fall 2023 |      | Fall 2024 |      |
|--------------|-----------|------|-----------|------|-----------|------|-----------|------|
|              | N         | %    | N         | %    | N         | %    | N         | %    |
| BIOSCI-100   | 771       | 89%  | 453       | 84%  | 495       | 89%  | 542       | 77%  |
| BIOSCI-100H  | 14        | 2%   | 20        | 4%   | 10        | 2%   | 10        | 1%   |
| BIOSCI-101   | N/A       | N/A  | N/A       | N/A  | N/A       | N/A  | 89        | 13%  |
| BIOSCI-107   | 81        | 9%   | 66        | 12%  | 51        | 9%   | 66        | 9%   |
| Total        | 866       | 100% | 539       | 100% | 556       | 100% | 707       | 100% |

Of those students enrolled in any of the above pre-requisites the rate at which these students go on to enroll in a 200s Level course within 2 years is 29%-36%. The size of this is between 247-193 students (fall 2021 and fall 2022, respectively). *See Table 2*.

*Table 2. Proportion of Students from Pre-Requisite Courses who Attempt 200s Level BIOSCI Within 2 Years*

| TERM                   | Attempt ANY Pre-requisite 100s | Attempted ANY 200s Level within subsequent 2 years of Pre-requisite |
|------------------------|--------------------------------|---|
| Fall 2021              | 866                            | 247 (29%)   |
| Fall 2022              | 539                            | 193 (36%)   |
| Fall 2023              | 556                            | 226 (41%)   |
| Fall 2024 <sup>^</sup> | 707                            | 229 (32%) <i>spring '25 incomplete</i>                              |

\*Any Pre-Requisites 100s = 100, 100H, 107

\*Any 200s = 201, 202, 204, 221

<sup>^</sup>Fall 2024 was the first Fall term to offer BIOSCI-101 (N = 89) and that is included with the above list of pre-requisites.

### Proportion of Students Enrolled in BIOSCI-100 who Attempt 200s Levels

The majority of students who attempted a 200s Level BIOSCI do so within one year from when they enrolled in BIOSCI-100 (64% of Fall 2021 BIOSCI-100 enrolled and 61% of Fall 2022). The size of this is anywhere between 147-103 students, *see Table 3*.

*Table 3. Speed at Enrolling in 200s Level from Pre-Requisite Course in Fall 2021 and Fall 2022*

| BIOSCI-100 Enrollment | Attempted ANY 200s Level (subsequent 2 yrs out) | Attempted ANY 200s W/in 1 Yr | Attempted ANY 200s W/in 2 Yr |
|-----------------------|---|------------------------------|------------------------------|
| Fall 2021 (N = 771)   | 229 (30%)                                       | 147 (64%)                    | 82 (36%)                     |
| Fall 2022 (N = 453)   | 169 (37%)                                       | 103 (61%)                    | 66 (29%)                     |

Of the BIOSCI-100 students from Fall 2021 the first 200s Level that they enroll into is BIOSCI-201 (43%, 63 students) followed by BIOSCI-204 (35%, 52 students), see Table 4.

Table 4. First 200s Level BIOSCI Enrollment after Fall 2021 Pre-Requisite

| Fall 2021<br>Pre-Req Students | BIOSCI-<br>201 | BIOSCI-<br>202 | BIOSCI-<br>204 | BIOSCI-<br>205 | BIOSCI-<br>221 | Total |
|-------------------------------|----------------|----------------|----------------|----------------|----------------|-------|
| Attempted Within 1YR          | 63             | 28             | 52             | 0              | 4              | 147   |
|                               | 43%            | 19%            | 35%            | 0%             | 3%             | 100%  |
| Attempted Within 2YR          | 19             | 17             | 39             | 0              | 7              | 82    |
|                               | 23%            | 21%            | 48%            | 0%             | 9%             | 100%  |

Of the BIOSCI-100 students from Fall 2022 the first 200s Level that they enroll into followed the same pattern from the Fall 2021 students; is BIOSCI-201 (46%, 47 students) followed by BIOSCI-204 (36%, 37 students), see Table 5.

Table 5. First 200s Level BIOSCI Enrollment after Fall 2022 Pre-Requisite

| Fall 2022<br>Pre-Req Students | BIOSCI-<br>201 | BIOSCI-<br>202 | BIOSCI-<br>204 | BIOSCI-<br>205 | BIOSCI-<br>221 | Total |
|-------------------------------|----------------|----------------|----------------|----------------|----------------|-------|
| Attempted Within 1YR          | 47             | 13             | 37             | 0              | 6              | 103   |
|                               | 46%            | 13%            | 36%            | 0%             | 6%             | 100%  |
| Attempted Within 2YR          | 24             | 13             | 18             | 1              | 10             | 66    |
|                               | 36%            | 20%            | 27%            | 2%             | 15%            | 100%  |

## Section Counts and Enrollments for Estimating Section Offerings

The table below illustrates the usual number of sections and students enrolled in the 200s Level courses. BIOSCI-201 had between 101-148 students enrolled each fall term 2021 and 2022. If students who normally take BIOSCI-100 and then take a 201 within 1 year for this population is around (47-63 students) that is the size of additional students to expect to enter directly into BIOSCI-201 this coming Fall 2025. This would equate to around 2-3 new sections of BIOSCI-201. BIOSCI-204 was the next most popularly enrolled course after BIOSCI-100. This ranged from 37-52 additional students who may enter directly into 204.

Table 6. Section Counts and Estimated Additional Students Entering Directly after BIOSCI-100 Discontinued

| Term      | Course     | Section Counts | Total Enrolled | Est. Additional in<br>Fall 2025 |
|-----------|------------|----------------|----------------|---------------------------------|
| Fall 2021 | BIOSCI-201 | 6              | 148            | 47-63 Students                  |
| Fall 2022 | BIOSCI-201 | 4              | 101            |                                 |
| Fall 2021 | BIOSCI-202 | 5              | 143            | 13-28 Students                  |
| Fall 2022 | BIOSCI-202 | 6              | 136            |                                 |
| Fall 2021 | BIOSCI-204 | 8              | 189            | 37-52 Students                  |
| Fall 2022 | BIOSCI-204 | 6              | 140            |                                 |
| Fall 2021 | BIOSCI-205 | 6              | 133            | N/A Requires 204<br>Pre-Req     |
| Fall 2022 | BIOSCI-205 | 6              | 75             |                                 |
| Fall 2021 | BIOSCI-221 | 8              | 174            | 4-6 Students from<br>BIOSCI-100 |
| Fall 2022 | BIOSCI-221 | 10             | 212            |                                 |

\*Of students who were enrolled in BIOSCI-107 each of the corresponding Fall terms, around 5 enroll in 201, 12 enroll in 202 and around 3 enroll in 221 directly after BIOSCI-107.

## More Recent Fall 2023 and Fall 2024 Data

Among the fall 2023 students who enrolled in a BIOSCI- 100s pre-requisite courses (41%, 226 students) enroll in any 200s level course within 2 years. The majority of those (67% ,151 students) enroll into a 200s level within one year.

Of those who do enroll in ANY 200s level, the majority of those were coming from BIOSCI-100 and enrolling in a 200s Level within 1 yr of that fall 2023. *See table below.*

Table 7. Speed at Enrolling in 200s Level from Pre-Requisite Course in Fall 2023

| BIOSCI Pre-Requisite Enrollment Fall 2023 | Attempted ANY 200s Level (subsequent 2 yrs out) | Attempted 200s Level w/in 1YR | Attempted 200s Level w/in 2YR |
|---|---|-------------------------------|-------------------------------|
| BIOSCI-100 (N =495)                       | 211   | 141                           | 70                            |
|   | 43%   | 67%                           | 33%                           |
| BIOSCI-100H (N = 10)                      | 2   | 2                             | 0                             |
|   | 20%   | 100%                          | 0%                            |
| BIOSCI-107 (N = 51)                       | 13  | 8                             | 5                             |
|   | 25%   | 62%                           | 38%                           |
| Total (N = 556)                           | 226   | 151                           | 75                            |
|   | 41%   | 67%                           | 33%                           |

The fall 2023 cohort of pre-requisite students again illustrates that the majority of students who enter into 200s Levels have taken the BIOSCI-100 pre-requisite. Additionally, the first 200s level course they are enrolling in is 201 or 202 or a combination of enrolling in 201/202 within the same first term subsequent to the pre-requisite, *see Table below.*

Table 8. First 200s Level BIOSCI Enrollment after Fall 2023 Pre-Requisite

| Fall 2023 Pre-Requisite Students | 200s Level Attempt Time | Attempt 201 | Attempt 202 | Attempt 201/202 (same term) | Attempt 204 | Attempt 221 | Attempt 204/221 (same term) | Total |
|----------------------------------|-------------------------|-------------|-------------|-----------------------------|-------------|-------------|-----------------------------|-------|
| BIOSCI-100                       | In 1YR                  | 61          | 12          | 14                          | 41          | 9           | 4                           | 141   |
|                                  |                         | 43%         | 9%          | 10%                         | 29%         | 6%          | 3%                          | 100%  |
|                                  | In 2Yrs                 | 16          | 8           | 30                          | 13          | 3           | 0                           | 70    |
|                                  |                         | 23%         | 11%         | 43%                         | 19%         | 4%          | 0%                          | 100%  |
| BIOSCI-107                       | In 1YR                  | 0           | 6           | 0                           | 1           | 1           | 0                           | 8     |
|                                  |                         | 0%          | 75%         | 0%                          | 13%         | 13%         | 0%                          | 100%  |
|                                  | In 2Yrs                 | 1           | 1           | 2                           | 0           | 1           | 0                           | 5     |
|                                  |                         | 20%         | 20%         | 40%                         | 0%          | 20%         | 0%                          | 100%  |
| Total                            | In 1YR                  | 63          | 18          | 14                          | 42          | 10          | 4                           | 151   |
|                                  |                         | 42%         | 12%         | 9%                          | 28%         | 7%          | 3%                          | 100%  |
|                                  | In 2Yrs                 | 17          | 9           | 32                          | 13          | 4           | 0                           | 75    |
|                                  |                         | 23%         | 12%         | 43%                         | 17%         | 5%          | 0%                          | 100%  |

\*BIOSCI-101H had 10 students enroll in Fall 2023 and 2 of these students enrolled into 201 within the first year.

For assessing Fall 2024 pre-requisite students course taking patterns, currently only partially available is Spring 2025 data. Similar patterns as the prior Fall pre-requisites populations with BIOSCI-201 and BIOSCI-202 being

the most popular. The BIOSCI-101 pre-requisite population had the highest rate to attempt a 200s Level course (39%, 35 students). The majority of these had a first attempt in BIOSCI-201 (40%, 14 students), *see Table below*.

Table 9. First 200s Level Enrollment in Spring 2025 after the Fall 2024 Pre-requisite

| Fall 2024 Pre-Requisite Students | Attempted ANY 200s | Attempt 201 | Attempt 202 | Attempt 204 | Attempt 221 | Attempt 201/202 (same term) | Attempt 201/221 (same term) | Attempt 202/221 (same term) | Attempt 204/221 (same term) |
|----------------------------------|--------------------|-------------|-------------|-------------|-------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| BIOSCI-100 (N = 542)             | 174                | 73          | 32          | 31          | 7           | 18                          | 6                           | 4                           | 3                           |
|                                  | 32%                | 42%         | 18%         | 18%         | 4%          | 10%                         | 3%                          | 2%                          | 2%                          |
| BIOSCI-101 (N = 89)              | 35                 | 14          | 7           | 8           | 1           | 5                           | 0                           | 0                           | 0                           |
|                                  | 39%                | 40%         | 20%         | 23%         | 3%          | 14%                         | 0%                          | 0%                          | 0%                          |
| BIOSCI-107 (N = 66)              | 17                 | 1           | 11          | 0           | 3           | 0                           | 0                           | 1                           | 1                           |
|                                  | 26%                | 6%          | 65%         | 0%          | 18%         | 0%                          | 0%                          | 6%                          | 6%                          |
| Total (N = 707)                  | 229                | 88          | 51          | 39          | 11          | 23                          | 6                           | 5                           | 6                           |
|                                  | 32%                | 38%         | 22%         | 17%         | 5%          | 10%                         | 3%                          | 2%                          | 3%                          |

\*BIOSCI-100H had 10 students enroll Fall 2024; of these 3 students who attempt 200s the majority attempted 204/221.

## Summary Findings

- BIOSCI-100 has the largest enrollment out of the (Pre-requisite) 100s Level Courses regardless of term explored.
- The majority of students who take BIOSCI-100 enroll in BIOSCI-201 as their first 200s Level.
- When exploring more recent terms Fall 2023 and Fall 2024, BIOSCI-201 has the largest direct entry after the pre-requisites however, there was a pattern of students taking multiple 200s levels within the same first subsequent term. Most popularly, 201/202 in the same term.
- With the addition of BIOSCI-101 there are about 35 students who directly entered 200s Levels.
- The majority of BIOSCI-101 students who subsequently enroll into a 200s enroll in 201.

## Implications

The Institutional Research, Planning and Institutional Effectiveness office collects information on how data and research conducted assist the campus community in making evidence-based decisions. In light of this, we ask that requestors, and/ or members of any department/area that utilize the data, provide action implications for each report. Using the following [Action Implication Form](#), please report actions and/or decisions that emerge from the data and findings presented in this report.

Once completed, action implications will be made available upon request.

## Recommendations

Upon review of the results in sizes of student attempts between Fall 2021 through Fall 2024 the following recommendations can be explored:

- The department can expect to accommodate an estimated 85 additional students who normally take any pre-requisites but would need to enter directly into BIOSCI- 201 if no pre-requisites were available.
- The department can expect to accommodate an estimated 50 additional students who normally take any pre-requisites but would need to enter directly into BIOSCI- 202 if no pre-requisites were available.
- The department can expect to accommodate an estimated 45 additional students who normally take pre-requisites but would need to enter directly into BIOSCI- 204 if no pre-requisites were available.
- The department can expect to accommodate an estimated 28 additional students who normally take pre-requisites but would need to enter directly into BIOSCI- 221 if no pre-requisites were available.



For questions, or more detailed information on this research brief, contact Vida M. Manzo, Ph.D., Senior Research Analyst at [vida.manzo@canyons.edu](mailto:vida.manzo@canyons.edu)  
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