Instructional Annual Program Review and Planning Update Form Fall 2024

## BACKGROUND:

**Program review is an integral part of the campus planning process. As programs and areas monitor their progress on the current comprehensive four-year program review, changes in need and scope can be expected. This Annual PR Update form is designed to outline and request modifications to the current program review that occur between comprehensive four-year review cycles, as needed.**

**Examples of a requested change include new information such as action plans, outcomes modifications, personnel changes, technology needs, and capital expenditures requirements. As programs and areas monitor their progress on the previous comprehensive four-year program review, the form provides the basis to suggest a change in plans and processes to improve student success and institutional effectiveness.**

## SUBMISSION:

**Program:**

Manufacturing

**Principal Author(s):**

Dan O'Brien

**Dean:**

Kenneth Starkman

**Submission Date:**

11/04/2024 4:40:14 PM

**Author Signature:**

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| Electronically signed by George Bonnand on 11/04/2024 2:30:00 PM |

**Manager Signature:**

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| Electronically signed by Ken Starkman on 11/04/2024 4:40:14 PM |

# Part 1: Review of Data

## Use the data provided by the Office of Institutional Effectiveness (OIE)--[available in August 2024](https://fullcolledu-my.sharepoint.com/:f:/g/personal/dberumen_fullcoll_edu/Ejn54PAVVhJLqimOjiLWBBYBPkPdoZEFZxZtScvvyibo6A)--to review your program completion and success rates and compare them to the Institution Set Standards for course completion and success rates. Then, answer these questions:

1. **Where your program meets or exceeds the college-wide standard for completion and success, to what do you attribute your success?**

The manufacturing program consists of five different departments (Technology, Machining, Welding, Drafting, and Metallurgy) in the Technology and Engineering Division. Hence the overall average numbers and disaggregated data numbers are given as a combined number. The Retention/Completion Rate Set Standard of 74% is given for the college overall. The Retention/Completion Rate Aspirational Goal of 86.7% is given for the college overall. The Success Rate Set Standard of 62% is given for the college overall. The Success Rate Aspirational Goal of 78.3% is given for college overall. All five of the manufacturing departments (Technology, Metallurgy, Drafting, Machining, and Welding) under the "Manufacturing" umbrella achieved average scores above the Retention/Completion Rate Set Standard (74%) and above the Success Rate Set Standard (62%). The average Success rate by Race Ethnicity for the Manufacturing departments was 78.9%. The average Retention rate by Race Ethnicity for the Manufacturing departments was 90.8%. The average "Manufacturing department" scores exceeded the Aspirational Goal rate for Retention/Completion of 86.7% and Aspirational Goal rate for Success of 78.3%. We attribute the success of our programs to many things. First our full time and adjunct faculty in the manufacturing program have hands on experience working in the areas where they are teaching classes. In the Machine Technology program our manufacturing full time professors have completed training programs in baccalaureate and post graduate studies that focused on how to deliver instructional materials. These training program have served as a guide to help develop instructional materials, projects, assignments, exams, and capstone projects. Students in our programs benefit from these skills that are possessed by our faculty. Instructional objectives and student learning outcomes are clearly defined for each individual course. Student learning outcomes are measured, assessed and recorded at the completion of every semester for all courses taught in the program. Rubrics are established for each student learning outcome assessment that help guide the evaluation process. The student learning outcomes and instruction objectives reflect and demonstrate the successful completion of tasks that in many cases are actual job skill requirements students will need to master for employment. This data is used to reflect on each semester and course completed to determine student success and identify areas where improvement may be needed. Second our manufacturing department has a strong vocational advisory committee consisting of employers form our local machining, drafting and welding industries. The advisory committee approves new curriculum for courses along with important details to help deliver current programs that reflect the needs of industry. Guidance for new training areas and topics for new courses are suggested and implemented into our programs, courses, and certificates as necessary. The advisory committee is crucial in helping our department faculty maintain and add new equipment, tools and software that is currently in use or may be in demand in the near future.

1. **Where your program does not meet this standard, please examine the possible reasons and note any actions that should be taken, if appropriate.**

At this time, all departments meet or exceed the set standard for retention/completion and success. The average Success rate by Race Ethnicity for the Manufacturing departments was 78.9%. The average Retention rate by Race Ethnicity for the Manufacturing departments was 90.8%. The average "Manufacturing department" scores exceeded the Aspirational Goal rate for Retention/Completion of 86.7% and Aspirational Goal rate for Success of 78.3%. Upon further review of the disaggregated data the Black/African American race ethnicity group appeared to obtain a Success Rate of only 56% with 39 enrollments. The low number of 39 enrollments when viewed against the overall number of enrollments may not represent or be viewed as a number large enough (statistically) to make any decisions at this time. With that said we are committed to student Success and Retention/Completion. Student success retention/completion of courses and programs is affected by several contributing factors. Currently there is a high demand for manufacturing workers, the current manufacturing workforce is nearing retirement age and there has not been enough younger recruits entering the field. This has caused local companies to work the existing workforce beyond a normal forty-hour work week, in many cases local manufacturing workers are at work in excess of seventy hours a week. This causes many of students to wait until work slows down to take course and adversely affect our enrollment. In many cases students who sign up and start attending courses have their work hours dramatically increase during the semester due to company deadlines and projects. This practice causes our students to drop or consider dropping courses. Some manufacturing jobs have start times that are very early in the morning, many of our students start work at six AM or earlier and may work ten hour or longer shifts leaving little time for classes. In response to our students work hours and early start times some of the manufacturing professors have made laboratory activities available before the start of our evening classes to help student with early work start times. Our faculty try to identify students that start work early at the start of each course to try and help them complete projects and assignments on time. For students struggling with a lack of time to study for courses tutoring groups can be encouraged to be formed so that student can share knowledge of the subject matter. In many cases students from study groups on their own as they go through the courses and programs.

1. **Compare your data analysis in questions 1 and 2 to the review of data in your 2023 Annual Program Review update (available on the** [**Program Review and Planning Committee**](https://committees.fullcoll.edu/program-review/) **website). Are there significant changes? Do you notice any patterns from year to year?**

Data was compared between the 2023 Annual Program Review and 2024 Annual Program Review cycles. Upon review of the data it appears there is positive changes that shows improvement. The 2022-2023 Program review data shows that our average Success Rate was 77.0% and our Completion/Retention rate was 88.6%. Our 2023-2024 Program review data shows that our average Success rate was 78.9% and our Completion/Retention rate was 90.8%. The information given shows a slight increase in the Success rate and Completion/Retention rate from the 2022-23 academic year (AY) to the 2023-24 academic year (AY). Upon further review of the data, it appears that our Success rate and Completion/Retention rate (for all five departments) for the past 3 years (2021-2024 AY) has increased in incremental steps which demonstrates improvement overall in each program. All data for each of the programs is trending into a positive direction which indicates that the steps that we have taken in the past have paid off. The steps that we have taken include (but are not limited to) for recruitment of students (such as career fairs at high schools and shop tours during Manufacturing Day), recruitment of experienced personnel to teach courses, sponsorship of technical conferences/events (such as the HAAS technical conference), investment in up-to-date technology (Romer arms, software, CNC Swiss Lathe, etc.), and curriculum revisions/updating is having a positive effect as well. Reaching out to industry personnel and welcoming them into our shop during on-site visits at their companies seems to have paid some dividends. Given all this information our intention as a manufacturing group is to continue with the steps that we have taken in the last 3 years to improvement our instruction and enrollment.

# Part 2: Additional Resource Request Reasoning and Support

**We have reviewed our most recent self-study and have not identified any significant changes that necessitate resource requests for the upcoming academic year.**

**We have reviewed our most recent self-study and have identified significant changes that necessitate additional resource requests.**

**For programs that have identified significant changes that necessitate additional resource requests, answer the following questions for each separate resource request:**

1. **Briefly describe your resource request.**

At this time there is no resource necessary to meet an immediate safety need. However, if we want this program to continue to grow, we will need additional resources and facility space so that safety is not impacted. In order to do this, we will need one additional full time head count either to the Machine Technology or Drafting Technology department.

1. **Is this request related to an essential safety need?**

No

**Why must this resource request be processed now rather than during the Fall 2025 comprehensive self-study?**

This resource request does not need to be processed now but rather can wait until the Fall 2025 comprehensive self study.

**How will this additional resource allocation specifically enhance your program’s services, activities, processes, etc. to continue or improve student learning and achievement?**

Technology is advancing in the Metrology, Machine and Drafting area. Another head count in the Machine Technology or Drafting Technology area will allow students to continue and improve their student learning and achievement.

**Is the resource request personnel-related? If so, please provide evidence to justify the requested positions such as retirements, program growth or curricular demands, full-time/adjunct ratios, etc.**

Yes-Although there were no retirements in our manufacturing department areas (Machine, Drafting, Welding) it is intuitively obvious to the casual observer that 4 of the 6 full time faculty members are capable of retiring at any time. The current full time to adjunct ratios are as follows:

Machine Technology (includes Technology and Metallurgy)

Full time Adjunct

2 7

Drafting Technology

Full time Adjunct

1 2

Welding Technology

Full time Adjunct

3 1

**How will this additional resource allocation help you serve the college mission or strategic initiatives, and your program’s goals for improvement, as stated in your last self-study?**

Since our last program review in 2023 we have noticed increased student enrollment in manufacturing. This trend seems to be statewide. Not servicing this need could be detrimental to our department, the goals of our department and the college. We do not want our counselor advising students to seeks CTE courses at other community colleges if we do not have the staff to fill vacancies.

For each separate resource request, complete this chart with details of the request:

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| --- | --- |
| **Type of Resource** |  |
| Personnel | Faculty |
| Facilities | Additional floor space is needed to support our Metrology and other programs to increase enrollment. Approximately 900 square feet could be used immediately to support lab and classroom activities. |
| Supplies | A repair/maintenance budget of $30,000 is needed to perform immediate maintenance and/or repair on Romer Arms and other equipment currently in use. |
| Computer Hardware | N/A at this time. |
| Computer Software | N/A at this time. |
| Training | Some software training may be necessary as updated software programs are installed. |
| Other | Ancillary equipment and tools may be needed to support the program. Approximate cost would be $10,000. |
| **Total Requested Amount:** | $40,000 |

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| **Is the funding requested ongoing or one-time funding?**    One-time funds |
| **Is the funding requested for**[**enrollment and reengagement activities?**](https://ie.fullcoll.edu/wp-content/uploads/sites/27/2024/05/ER-2.0-Program-Review-Guide.pdf) |

Yes