CARROLL COMMUNITY COLLEGE

COMPREHENSIVE ACADEMIC AFFAIRS PROGRAM REVIEW
EXECUTIVE SUMMARY
2023-2024

Program Title Engineering AS	
Program Director/Coordinator Tricia Crossett	
Division Mathematics & Engineering	**Division Chair** Brianna McGinnis

Type of Program

Transfer Degree:

☐ Associate of Arts (A.A.)
☐ Associate of Arts in Teaching (A.A.T.)
☐ Associate of Fine Arts (A.F.A.)
✓ Associate of Science (A.S.)
☐ Associate of Science in Engineering (A.S.E.)

Terminal Degree:

☐ Associate of Applied Science (A.A.S.)

Certificate:

☐ Directed Technology Certificate
☐ New Certificate Program within an Existing Degree Area
☐ New Stand-Alone Certificate

Please provide the following information about the program based on the results of the Program Review. Use a bulleted format and do not exceed one page (front and back).

1. **Synopses of the significant findings from the program review. Include the results from the annual assessments of student learning goals.**

   - Received MHEC approval in Spring 2019, the program began in Fall 2019.
   - The program has grown, matured, and become successful.
   - Notable achievements include campus-wide events, alumni engagement, transfer agreements, and industry partnerships.
   - The program continues to align with the College's Goals and Strategic Plan, providing a pathway for students to earn an associate degree and transfer to baccalaureate engineering programs.
   - Benchmarks were met for Program Goals 3, 4, 5, 5a, and 5b. Changes were made to address the shortfall when Goals 1 and 2 were first assessed. These made significant improvements in both, resulting in meeting the Goal 2 benchmark. Continued work is planned to meet the Goal 1 benchmark.

2. **Strengths of the program.**
   - Increase in enrollment over the last three years (167% increase in Engineering overall from Fall 2018 to Fall 2019 when the program began).
   - Larger percentage of full-time students compared to the college overall.
   - Successful transfer to four-year institutions (90% transfer, 85% bachelor's degree within three years).
   - Involvement of local employers with opportunities for students; service on our advisory

board.
- Most program courses have ABC% rates over 80%.

3. Weaknesses of the program.

- Retention of students, particularly those in underrepresented populations, who begin below the Calculus I level (MATH 130 Precalculus, the prerequisite for MATH 135 Calculus I).

4. Plans for Improvement including timeline.

- Targeted mentoring through the Women to Women organization, currently underway.
- Focus on retention of students in MATH 130 Precalculus.
    - Jane Jones will be the new MATH 130 Course Coordinator and hopes to improve the bridge into Calculus I in Fall 2024.
    - Utilize local employers to help motivate students in Spring 2025.
    - Possible NSF grant to target this population, Summer 2025.
- Increased targeted marketing of dually enrolled students to show the benefits of continuing at Carroll instead of transferring prior to earning their AS in Spring 2025.

5. Identification of weaknesses or deficiencies from the previous review and the status of improvements implemented or accomplished.

Not applicable; this is the first five-year program review.

6. Budget/position requests (list the items and the costs).

Course scheduling software such as CourseLeaf is needed. Multiple programs at Carroll share the same course requirements. A Technology Access Group (TAG) request will be submitted in the near future and will include further rationale and cost details. Drs. Mince and Crumley, and other involved faculty and staff are aware of the need.

A maker space is needed to enhance the student experience and community engagement. The Program Directors for Engineering, Digital Fabrication, and Theater are willing to collaborate on and share such a space, which will be requested as part of the Master Facilities Plan.

The ongoing costs of supporting this program are estimated at $3,200 annually. The cost of upgrading ENGR 100 lab equipment within the next five years is estimated at $1,500.

A new engineering faculty position is not needed at this time; however, a new math faculty position is still needed to support the growth in general education mathematics enrollment.

Signatures

Tricia A. Crossett	05/15/24
Program Director/Coordinator	Date
Brianna L. McGinnis	05/15/24
Division Chair	Date
Sharon Brunner	7/18/2024
Dean, Curriculum and Assessment	Date