CARROLL COMMUNITY COLLEGE	**COMPREHENSIVE ACADEMIC AFFAIRS PROGRAM REVIEW** **EXECUTIVE SUMMARY**

Complete Program Title Physical Science – Concentrations in Chemistry, Geology and Physics	
Program Coordinator Program Director: Sithy Maharoof, Ph.D.	
Division Sciences Division	**Division Chair** Raza Khan, Ph.D.

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**
   a. Strong support of leadership and advisory board members despite the small number of students in the program.
   b. The job market for chemists, geologists and physicists is on a 5% upward trend for the next 7 – 8 years.
   c. The concentrations in physics and chemistry have been recognized by four-year colleges in the State of Maryland through articulation agreements with public and private colleges.
   d. The geology concentration has been recognized with an articulation agreement with Towson University. There are just two four-year colleges with geology programs and only one other community college in the State that offers geology programs.
   e. COVID-19 pandemic has affected the program negatively regarding student enrollment and completion, which is in line with the student enrollment decline at community colleges across the country.
   f. The age population of students in the program is similar to national trends.

2. **Strengths of the program**
   a. Articulation agreements in all concentrations.
   b. Courses offered for the first two years of a bachelor's degree.
   c. Strong academic qualifications of faculty members.
   d. A significant majority of the students met the set benchmark of the four program goals.

3. **Weaknesses of the program**
    a. Lack of formalized internship or co-op opportunities for the program students.
    b. Lack of merit-based financial scholarships for students who do not have financial need.
    c. Some students in the program struggle in their mathematics courses. All three of the concentrations require success in mathematics courses. To address this, the Science faculty work closely with the Mathematics faculty and strongly encourage students to take advantage of the services in the Academic Center.
    d. The current schedule of courses does not work well for many dually enrolled students, a growing population at the College, because labs require a 3- or 4-hour block of time. Two introductory science courses will be offered during popular dual enrollment time slots beginning in fall 2023.
    e. There is a large part-time student population in the program that led to lower retention from one semester to the next semester.

4. **Plans for Improvement including timeline.**
    a. Support College Foundation with any initiatives to support students who are pursuing associate degree in physical science. (Start 2024-2025 academic year).
    b. Offer schedules that work with dually enrolled high school students. (Start 2023-2024 academic year).
    c. Additional supplies that were identified as part of the Program Review to meet the needs of the growing Engineering student population have been purchased.
    d. A stronger emphasis to the students in the program to seek out help from faculty and from tutors in academic services for their mathematics courses. The very low percentage of chemistry graduates passing the mathematics courses is concerning enough that this implementation required immediate attention starting with 2023/Summer.
    e. Formalized internship opportunities for students. (Start 2024 – 2025 academic year).

5. **Identification of weaknesses or deficiencies from the previous review and the status of improvements implemented or accomplished.**
    None. This is the first Five-Year Review of the Physical Science program.

6. **Budget/position requests**
    The Sciences Division team will work with Foundation and Student Engagement for opportunities for merit-based scholarships and internship opportunities, respectively. The faculty would like to thank the colleagues in marketing for arriving at dedicated websites and marketing materials to promote the program. The faculty of the program and the Chairperson of the Sciences Division would like to thank the College leadership for their strongest support of the program.

Signatures

Program Coordinator: Sithy Maharoof, Ph.D.	Date: May 12th, 2023
Division Chairperson: Raza Khan, Ph.D.	Date: May 12th, 2023
Melody L. Moore Associate Vice President for Program Development and Partnerships	May 22, 2023 Date