# Particular Topics in Engineering Course No. 21015 Credit: 1.0

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| **Student name:**  |  | **Graduation Date:** |  |

Pathways and CIP Codes: **Engineering & Applied Mathematics (14.0101)**; Biomedical (14.0501)

Course Description: **Application level** coursework should represent specific objectives and topics not covered in other pathway courses,
or build upon essential skills learned in previous pathway courses through research and/or projects.

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1: Research and Project planning

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Research Proposal: Developing a detailed proposal plan outlining the goals, the research question, design criteria, methodology, objectives, and expected outcomes and or proposed solutions. |  |
| 1.2 | Literature Review: Thoroughly reviewing existing literature and research related to the chosen topic. |  |

## Benchmark 2: Data analysis and Experimentation

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1 | Research Execution: Conducting experiments, collecting data, or performing theoretical analysis based on the proposed methodology. |  |
| 2.2 | Data Analysis: Processing and analyzing collected data using appropriate tools or methodologies. |  |

## Benchmark 3: Documentation and Reporting

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 3.1 | Documentation: Maintaining detailed records of the research process, results, and any modifications made along the way. |  |
| 3.2 | Documentation and Reporting: Creating technical documentation, reports, models and/or presentations summarizing the processes, results, and conclusions to industry professionals/real world audiences. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

CTE Pathways Help Desk

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