**FORM B**

|  |  |  |  |
| --- | --- | --- | --- |
| **TARGET COURSE** | **MFGT 92** |  | **Motor Control 2** |
|  | Number |  | Title |

**CONTENT REVIEW FOR ALL COURSES IN ADDITION TO BASIC SKILLS COURSES**

List in Column 1 at least **three specific major concepts, skills, or kinds of knowledge that a student will learn in the pre- or corequisite or advisory course that are essential to the successful completion in the target course.** In Column 2, state why the skill in Column 1 is essential in relation to the content listed in the course outline of the target course.

|  |  |
| --- | --- |
| **COLUMN 1**: Concepts, Skills, Kinds of Knowledge | **COLUMN 2**: Specifically how this is necessary in the target course |
| (List each prerequisite or advisory separately here. If you need more space, attach a second page B. Be sure to explain each course in Column 2.)  **Name of prerequisite or advisory course:**  MFGT 91 Motor Control 1  Concepts, skills, etc. (List these.) |  |
| MFGT 91 covers approximately the first half of the textbook "Electrical Motor Controls for Integrated Systems", MFGT 92 covers the second half.  1. Symbols and diagrams. In essence this is the language used to communicate how motor control circuits are designed, wired, and how components are integrated and relate to one another. Students must learn specific symbols used to describe motors, switches, inputs, outputs and then be able to draw them and connect them in a logical manner thus describing how an electrical circuit works.  2. Control Logic. Students learn how connecting electrical components together in a particular order accomplishes operational goals. Switches connect to solenoids, which start motors for example.  3. AC and DC Motors. Students learn basic concepts of how different types of motors work, how motor construction affects performance, and how motors are controlled.  4. Control devices. Students learn about the multitude of types of switches which are used to control how motors operate. On/Off, limit, pressure, temperature, foot operated, light activated, gas sensing are examples of just a few. | 1. Symbols and Diagrams are necessary throughout the course and apply to sections 2, 3, 4, and 5 of the course outline (AC and DC Motor Drives, Integrating Solid State Devices, Relays and solid state starters, Sensing devices) because each component of these sections is represented by a symbol that the student must learn in order to properly diagram and communicate. Symbols form the foundation of communicating electrical circuits (like words in a spoken language), diagrams are methods of putting the "words", or symbols in this case, on paper in a manner that is universally accepted. Electrical symbols and the ability to diagram them are essential to success in course worksheets and labs as well.  2. Understanding control logic is essential to integrating electrical components together in a way that accomplishes an operational goal. This applies to sections 2, 3, 4, and 5 of the course outline (AC and DC Motor Drives, Integrating Solid State Devices, Relays and solid state starters, Sensing devices). Power is wired to a switch which is wired to a load such as a motor starter which is wired to the motor. When the switch is turn on, the motor turns on. This is simple control logic. In order to understand how components in sections 2, 3, 4, and 5 relate to each other and control a motor, the student must understand how to wire them together in a logical manner. This will also be necessary in class worksheets and labs.  3. AC and DC motors must be understood in order to understand sections 2 and 4 of the course outline (AC and DC Motor Drives, Relays and solid state starters). Sections 2 and 4 refer to components that directly control motors and therefore motors must be taught and understood first.  4. Control devices are essential to understanding sections 3 and 4 of the course outline (Integrating Solid State Devices, Relays and solid state starters). Control devices include a multitude of differing switches and are integrated into control circuits along with solid state devices, relays, and starters. Control devices are the most common type of component in a motor control circuit. Understanding will also be essential for class worksheets and labs. |
|  |

ESTABLISHING PREREQUISITES OR COREQUISITES

Every prerequisite or corequisite requires content review plus justification of ***at least one*** of the **seven** kinds below. Prerequisite courses in communication and math outside of their disciplines require justification through statistical evidence. **Kinds of justification that may establish a prerequisite are listed below.**

|  |  |  |  |
| --- | --- | --- | --- |
| The target course | **MFGT 92** |  | **Motor Control 2** |
|  | Number |  | Title |

|  |  |  |  |
| --- | --- | --- | --- |
| The ***proposed*** requisite course | **MFGT 91** |  | **Motor Control 1** |
|  | Number |  | Title |

Check one of the following that apply. Documentation may be attached.

1. The prerequisite/corequisite is required by law or government regulations.

*Explain or cite regulation numbers*:

2. The health or safety of the students in this course requires the prerequisite.

*Justification: Indicate how this is so*.

3. The safety or equipment operation skills learned in the prerequisite course are required for the successful or safe completion of this course.

*Justification: Indicate how this is so.*

4. The prerequisite is required in order for the course to be accepted for transfer to the UC or CSU systems.

*Justification: Indicate how this is so.*

5. Significant statistical evidence indicates that the absence of the prerequisite course is related to unsatisfactory performance in the target course.

*Justification: Cite the statistical evidence from the research.*

6. X The prerequisite course is part of a sequence of courses within or across a discipline.

7. Three CSU/UC campuses require an equivalent prerequisite or corequisite for a course equivalent to the target course:

|  |  |  |
| --- | --- | --- |
| CSU/UC CAMPUS | COURSE DEPT/NO. | PRE/COREQUISITE NO. |
|  |  |  |
|  |  |  |
|  |  |  |