**FORM A**

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| **TARGET COURSE** | **Mfgt 93** |  | **Programmable Logic Controllers (PLC's)** |
|  | Number |  | Title |

BASIC SKILLS ADVISORIES PAGE The skills listed are those needed for eligibility for English 125, 126, and Math 101. These skills are listed as the outcomes from English 252, 262, and Math 250. In the right hand column, list at least three major basic skills needed at the beginning of the target course and check off the corresponding basic skills listed at the left.

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| Math Skills (eligibility for Math 101)  (as outcomes for Math 250)  Performing the four arithmetic operations on whole numbers, arithmetic fractions, and decimal fractions.  Making the conversions from arithmetic fractions to decimal fractions, from decimal fractions to percents, and then reversing the process.  Applying the concepts listed above to proportions, percents, simple interest, markup and discount.  Applying the operations of integers in solving simple equations.  Converting between the metric and English measurement systems |  |
| Reading Skills (eligibility for English 126)  (as outcomes for English 262)  Using phonetic, structural, contextual, and dictionary skills to attack and understand words.  Applying word analysis skills to reading in context.  Using adequate basic functional vocabulary skills.  Using textbook study skills and outlining skills.  Using a full range of literal comprehension skills and basic analytical skills such as predicting, inferring, concluding, and evaluating. |  |
| Writing Skills (eligibility for English 125)  (as outcomes for English 252)  Writing complete English sentences and avoiding errors most of the time.  Using the conventions of English writing: capitalization, punctuation, spelling, etc.  Using verbs correctly in present, past, future, and present perfect tenses, and using the correct forms of common irregular verbs.  Expanding and developing basic sentence structure with appropriate modification.  ­ Combining sentences using coordination, subordination, and phrases.  Expressing the writer's ideas in short personal papers utilizing the writing process in their development. |  |

Check the appropriate spaces.

Eligibility for Math 101 is **advisory** for the target course.

Eligibility for English 126 is **advisory** for the target course.

Eligibility for English 125 is **advisory** for the target course.

*If the reviewers determine that an advisory or advisories in Basic Skills are all that are necessary for success in the target course, stop here, provide the required signatures, and forward this form to the department chair, the appropriate associate dean, and the curriculum committee.*

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| Content review completed by |  | Date |  |

**FORM B**

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| **TARGET COURSE** | **MFGT 93** |  | **Programmable Logic Controllers (PLC's)** |
|  | 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.

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| **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 92 Motor Control 2  Concepts, skills, etc. (List these.) |  |
| 1. Solid State Devices and System Integration. It is common in industry to be required to connect, or integrate, various components from different manufacturers. Switches and relays for example, must often be wired to the input of another component such as an AC or DC Drive. These other components often have solid state circuitry which must be understood by the student in order to properly make connections and not damage components.  2. Timers and Counters. Timers and counters are widely used to cause time delays between electrical components and count events such as starts or stops. Whether these are discrete components or built in software in a PLC, they are essential to proper control logic.  3. Sensing Devices and Control. Sensing devices are process specific devices that measure things such as temperature, pressure, level, gas content, and magnetic field just to name a few. These are widely used in industry to control processes where these process parameters are critical. | 1. PLC's have to connect to the outside world and do so by way of inputs and outputs. These inputs and outputs (I/O) are often solid state devices. Course outline 1.c and 1.d (PLC anatomy, PLC components) require a prior understanding of solid state devices in order to understand these PLC components.  2. Timers and counters relate to course outline points 2.b and 3 (Programming ladder logic, Ladder logic control). Timers and counters have historically been discrete components hard wired into electrical circuits. PLC's allow them to be written into software eliminating the need for hardware and wiring. Students must first understand them at a hardware level and then transfer that knowledge into software programming.  3. Sensing devices relate to outline point 3 (Ladder logic control). Sensing devices (sensors) are widely used and connected (wired) to PLC's which act as critical inputs to ladder logic control. Students must first know about and understand the basics of sensing devices prior to learning how they integrate with PLC control. |
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**FORM C**

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.**

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| The target course | **Mfgt 93** |  | **Programmable Logic Controllers (PLC's)** |
|  | Number |  | Title |

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| --- | --- | --- | --- |
| The ***proposed*** requisite course | **Mfgt 92** |  | **Motor Control 2** |
|  | 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:

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