



STARK STATE COLLEGE

GENERAL SYLLABUS

Course Information

Course Name: PLCS and Industrial Controls I
Course Number: EET227

Required Materials

Textbook(s):

Learning RSLogix 5000 Programming, Second Edition

Build robust PLC solutions with ControlLogix, CompactLogix, and Studio 5000/RSLogix 5000 by Austin Scott ISBN 978-1-78953-246-3

Can be downloaded in electronic format (pdf, epub & mobi) or print version available from the following site:

<https://www.packtpub.com/product/learning-rslogix-5000-programming-second-edition/9781789532463>

Also available from Amazon in Paperback or Kindle format:

https://www.amazon.com/Learning-RSLogix-5000-Programming-ControlLogix/dp/1789532469/ref=asc_df_1789532469/?tag=hyprod-20&linkCode=df0&hvadid=459440273404&hvpos=&hvnetw=g&hvrnd=2564023274641834761&hvpone=&hvptwo=&hvgmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9015551&hvtargetid=pla-929426630774&psc=1

Or from the Bookstore in VitalSource eBook format.

Required Readings:

Additional Materials:

Ugly's Electrical References, 2023 Edition 7th Edition

ISBN-13: 978-1284275919

Available from the bookstore or direct from amazon using the following link:

https://www.amazon.com/Uglys-Electrical-References-Charles-Miller-dp-1284275914/dp/1284275914/ref=dp_ob_title_bk

Slides, handouts & additional information available on Internet

Online Ladder Logic Simulator <https://www.plcfiddle.com/>

Course Outline/Calendar

The date of coverage and order of coverage may be modified based on the faculty member and events beyond the control of faculty members that interfere with class times and teaching.

Week	Chapter/Topic/Lab
1	Course Introduction, Lecture 1: Relays, Lab 1: Electromagnetic Relays
2	Lecture 2: Ladder Diagrams, PLC Fiddle, Lab 2: 2&3 Wire Control-Hold-in-Circuit (Low Voltage on Bench)
3	Lecture 3: Manually Operated Switches, AC Power & Wire Colors, Hardwiring Industrial Cabinet Lab 3: 3 Wire Control-Hold in Circuit (High Voltage in Industrial Cabinet, Oush to Test Lights
4	Lecture 4: PLC Introduction, Numbering System, Tag Names, Data Types Lab 4: PLC Introduction, PC-PLC Connection, Tag Names, PLC Hold-IN Circuit
5	Lecture 5: PLC Basic Instructions & Programming, Internal Control Relays, PLC I/O Interfacing Lab 5: PLC Programming-Jeopardy Game
6	Lecture 6: Mechanical Industrial Switches, Output Devices, Motor Starters, Overloads
7	EXAM 1, Lab 6: 3 Phase AC Motor System, Lab 6: Phase ACE Motor System
8	Lecture 7: Proximity Sensors, Photo Electric Sensors, PLC I/O Wiring, Lab 7: PLC I/O & Proximity Sensors
9	Lecture 8: Industrial Timers, Lab 8: Industrial Timers
10	Lecture 9: PLC Timers, Lab 9: PLC Timers
11	EXAM 2:, Lecture 10: PLC Counters, Math Functions, Comparisons, Lab 10:PLC Counters, Math Functions, Comparisions
12	Lab 11: Automatic Level Control with Sensors, Lecture 12: Shift Registers
13	Lab 12: Shift Registers, Exam 3, Lab 13: Covert Hardwire Logic to PLC Program
14	Lecture 14: Variable Speed Motor Control, PLC Subroutines, PLC Scan, Synchronous / Asynchronous Lab 14: Variable Speed Motor Controller
15	Float, Review for Final
16	Final