

EE 518 Automated Industrial Systems (2)

COURSE INFORMATION

| Prerequisites | Academic Year & Level | | Teaching Methods | | | Credit Hrs. |
|---------------|-----------------------|----------|------------------|----------|------|-------------|
| | Year | Semester | Lecture | Tutorial | Lab. | |
| EE512 | 5 | 9,10 | 2 | 2 | - | 3 |

COURSE AIM

Design and implementation of automated system applications making use of SIMATIC S5-100U PLC available

COURSE WEEKLY CONTENTS

- 1 Review automation system components.
- 2 Advanced Programming Of PLC
- 3 Structure Programming and programming Blocks
- 4 Analog Signal Processing
- 5 Analog Signal Processing
- 6 Data Block and Data Storage
- 7 Trouble Shooting using PLC + Midterm Exam
- 8 Case study
- 9 Data Interchange and serial communications.
- 10 Communication networks protocol and topology
- 11 Industrial protocol
- 12 Industrial protocol
- 13 Human Machine interface (HMI) and SCADA
- 14 Introduction to distributed control system (DCS)
- 15 Case study and application

STUDENT GRADING & ASSESSMENT

| Weeks | Exams | Assign. | Quizzes | Reports | Present. | Lab. | Total |
|-----------------------------------------------------|------------|---------|---------|---------|----------|------|-------|
| 1 to 7 | 20 Midterm | ← | 10 | MARKS | | → | 30 |
| To be freely distributed among possible assessments | | | | | | | |
| 8 to 12 | ← | | 20 | MARKS | | → | 20 |
| 13 to 15 | ← | | 10 | MARKS | | → | 10 |
| 16 or 17 | 40 Final | | | | | | 40 |
| Total | Exams | Assign. | Quizzes | Reports | Present. | Lab. | 100 |

REFERENCES

| | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Textbook | W. Bolton, "Programmable Logic Controllers", Elsevier |
| Other | C. R. Asfahl, "Robot and Manufacturing Automation", J. Wiley. Telemechnique Basic Course on PLC's, Vol. I & II, latest edition CITEF-Publication No. ISBN-2-907314, "Programmable Automation Systems". |