Course Outline:*

Date	No.	Lecture Topic	Reading	Lab
Aug 27	1	Course overview	1	
Aug 29	2	Introduction to automated production	4	0. American Computer Museum
Sep 3		*No class – Labor Day*		**Sep 6**
Sep 5	3	Continuous vs. discrete control	5	1. CNC Demonstration
Sep 10	4	Components of process control systems	6	**Sep 13**
Sep 12	5	Review of machining parameters		2. Intro to CAD-CAM, part 1
Sep 17	6	Numerical control	7.1-7.3	**Sep 20**
Sep 19	7	Open-loop positioning systems	7.4	3. Intro to CAD-CAM, part 2
Sep 24	8	Closed-loop positioning systems	7.4	**Sep 27**
Sep 26	9	Cycle time and cost estimation		4. Intro to CAD-CAM, part 3
Oct 1	10	Additive manufacturing		**Oct 4**
Oct 3	11	Optional exam review*		5. Cost Estimation: CNC vs 3D print
Oct 8	12	Industrial robot architectures and apps	8.1-8.5	**Oct 11**
Oct 10	13	Robot programming and control	8.6	6. Intro to Robotics
Oct 15	14	Robot task analysis		**Oct 18**
Oct 17	15	Programming with registers and I/O		7. Pick and Place Operations
Oct 22	16	Robot repeatability and safety	8.7	**Oct 25**
Oct 24	17	Inspection technologies: CMM	22.1-22.3	8. Robot Programming with Loops
Oct 29	18	Inspection technologies: Machine Vision	22.5	**Nov 1**
Oct 31	19	Boolean logic and ladder programs	9.1-9.2	9. Machine Vision
Nov 5	20	Introduction to PLC's	9.3-9.4	**Nov 8**
Nov 7	21	PLC timers		10. Intro to Ladder Programs
Nov 12	22	*No class – Veteran's Day*		**Nov 15**
Nov 14	23	Optional exam review*		11. PLC Straight-line Conveyor
Nov 19	24	Ladder programming example		**Nov 22**
Nov 21		*No class – Thanksgiving*		*No lab – Thanksgiving*
Nov 26	25	PLC counters		**Nov 29**
Nov 28	26	PLC programming example		12. PLC Conveyor Loop
Dec 3	27	Flexible Manufacturing Systems	19	**Dec 6**
Dec 5	28	Course wrap-up		13. Systems Integration
Dec 14		Final Exam, 8:00-9:50 a.m.		

* Exact dates, times and locations for the midterm examinations are to be determined.