

ADDIS ABABA INSTITUTE OF TECHNOLOGY አዲስ አበባ ቴክኖሎጂ ኢንስቲትዱት ADDIS ABABA UNIVERSITY አዲስ አበባ ዩኒቨርሲቲ

Name         Dr. Lemma Dendena Tufa (Associate Professor)           Emmil         Lemma.dendena@aait.edu.et/ lemmatufa@gmail.com           Block D, No. 34         0913852022           Consultation Hours         Tuesday 10am-12 noon           Course Information         Cedit Hours           Credit Hours         3           Prerequisite         Advanced Computational Methods           Semester         II, March 2020           Course Learning         At the end of the course, students should be able to:           Outcomes(CLO)         1. Design and Analyze feedback control systems           2. Design and Analyze feedback control systems         3.           3. Analyze open-loop and closed-loop characteristics of multivariable systems           4. Design multi-loop controllers with decouplers for multivariable systems           5. Supposis         The course starts with introduction of the strengths and weaknesses of the classical feedback control systems, gradually setting up the scenario for the need of advanced control systems. The performance of specific design of control systems will be assessed using simulation software, like Matlab and/or Hysis.           Assessment         The course strats with introduction of strengths and final exam: Course work           6 Final Exam         20%           7 Feet         .20%           8 Signments         .50%           1.1         Process	Lecturer's Information	
Room         Block D, No. 34           Phone         0913852022           Consultation Hours         Tuesday 10am-12 noon           Course Information         Cede and Name           Credit Hours         3           Prerequisite         Advanced Computational Methods           Semester         II, March 2020           Course Learning         At the end of the course, students should be able to:           Outcomes(CLO)         1. Design and Analyze feedback control systems           3. Analyze open-loop and closed-loop characteristics of multivariable systems           4. Design multi-loop controllers with decouplers for multivariable systems           4. Design nulti-loop control systems, gradually setting up the scenario for the classical feedback control systems, gradually setting up the scenario for the classical feedback control systems. The performance of specific design of control systems will be assessed using simulation software, like Matlab and/or Hysis.           Assessment         The course marks are divided equally between coursework and final exam: Course work           Class Topics         1. Revision of Feedback Control Systems           1.1         Project	Name	Dr. Lemma Dendena Tufa (Associate Professor)
Phone         0913852022           Consultation Hours         Tuesday 10am-12 noon           Course Information         Cells 6 142 Advanced Process Control           Code and Name         CBEg 6142 Advanced Process Control           Credit Hours         3           Prerequisite         Advanced Computational Methods           Semester         [], March 2020           At the end of the course, students should be able to:         1.           Outcomes(CLO)         1. Design and Analyze feedback control systems           2. Design and analyze open-loop and closed-loop characteristics of multivariable systems           3. Analyze open-loop and closed-loop characteristics of rultivariable systems           4. Design multi-loop controllers with decouplers for multivariable systems           5ynopsis         The course starts with introduction of the strengths and weaknesses of the classical feedback control systems, gradually setting up the scenario for the need of advanced control systems. The performance of specific design of control systems will be assessed using simulation software, like Matlab and/or Hysis.           Assessment         The course marks are divided equally between coursework and final exam: Course work           • Assignments	Email	Lemma.dendena@aait.edu.et/ lemmatufa@gmail.com
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Prerequisite       Advanced Computational Methods         Semester       II, March 2020         Course Learning       At the end of the course, students should be able to:         Outcomes(CLO)       1. Design and Analyze feedback control systems         2. Design and Analyze open-loop and closed-loop characteristics of multivariable systems         3. Analyze open-loop controllers with decouplers for multivariable systems         4. Design multi-loop controllers with decouplers for multivariable systems         7. Design and control system, gradually setting up the scenario for the need of advanced control systems, like cascade control, feedforward control, multi-loop control systems etc. The course covers design and analysis of advanced control systems. The performance of specific design of control systems will be assessed using simulation software, like Matlab and/or Hysis.         Assessment       The course marks are divided equally between coursework and final exam: Course work         • Assignments	Code and Name	CBEg 6142 Advanced Process Control
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<ul> <li>Analyze open-loop and closed-loop characteristics of multivariable systems</li> <li>Design multi-loop controllers with decouplers for multivariable systems</li> <li>The course starts with introduction of the strengths and weaknesses of the classical feedback control system, gradually setting up the scenario for the need of advanced control systems, like cascade control, feedforward control, multi-loop control systems etc. The course covers design and analysis of advanced control systems. The performance of specific design of control systems will be assessed using simulation software, like Matlab and/or Hysis.</li> <li>Assessment</li> <li>The course marks are divided equally between coursework and final exam: Course work         <ul> <li>Assignments10%</li> <li>Project</li></ul></li></ul>	Outcomes(CLO)	
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<ol> <li>Direct Synthesis Control</li> <li>Internal Model Control</li> </ol>		
7. Internal Model Control		
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o. This being compensation (Smith Fredetor)		
9. Multi-loop Control Systems		
<ul> <li>Pairing Controlled and Manipulated Variables</li> </ul>		
<ul> <li>Interaction</li> </ul>		
<ul> <li>Decoupling and Decoupler Design</li> </ul>		



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	& Sons, Inc., New York
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