

Module	Textbook	Essential or optional?
Numerical Methods 876	<i>Scientific Computing: An Introductory Survey</i> , by MT Heath (Second Edition), SIAM, ISBN: 978-1-61197-557-4, 2018	<i>Relevant material made available to registered students via online learning platform – no purchase necessary</i>
Advanced Topic in Eng. Management 873	None, published literature only	<i>Relevant material made available to registered students via Stellenbosch Library</i>
Data Science (Eng) 774 & 874	<i>The Data Science Design Manual</i> by Steven S Skiena	Essential
Applied Machine Learning 774 & 874	<i>Fundamentals of Machine Learning for Predictive Data Analytics, Algorithms, Worked Examples, and Case Studies</i> by John D Kelleher, Brian Mac Namee, Aoife D’Arcy (Second Edition), MIT Press, 2021;	Essential
	<i>Computational Intelligence: An Introduction</i> by AP Engelbrecht (Second Edition), Wiley & Sons, 2007 (supplementary book)	<i>Optional</i>
Optimisation (Eng) 774 & 874	<i>Metaheuristics – From design to implementation</i> by El-Ghazali Talbi, Wiley & Sons, 2009;	<i>Made available to registered students via online learning platform – no purchase necessary</i>
	<i>Operations Research: Applications and Algorithms</i> by WL Winston (Fourth Edition), Brooks/Cole, ISBN: 978-0-534-42362-9, 2003	<i>Made available to registered students via online learning platform – no purchase necessary</i>
Plantwide dynamics and control 872	<i>Principles and Case Studies of Simultaneous Design</i> , by WL Luyben, John Wiley & Sons, Inc, ISBN: 978-1-118-00165-3, 2011	<i>Made available to registered students via online learning platform – no purchase necessary</i>

Data Analysis for Dynamic Processes 872	<i>Elements of Statistical Learning</i> , by T Hastie, R Tibshirani, J Friedman, (Second edition) Springer, https://hastie.su.domains/ElemStatLearn/ , 2009	<i>Freely available online</i>
	<i>Regularized System Identification</i> , by G Pillonetto, T Chen, A Chiuso, G de Nicolao, L Ljung, Springer, https://doi.org/10.1007/978-3-030-95860-2 , 2022	
	<i>Data Reconciliation and Gross Error Detection</i> , S Narasimhan, C Jordache, Elsevier, ISBN: 978-0-88415-255-2, 1999.	<i>Optional</i>
Integrated Data Analysis	Provided case studies	N/A