

<b>DEREE COLLEGE SYLLABUS FOR:</b>									
<b>ITC 3319 NETWORK ADMINISTRATION</b>	<b>3/1.5/3</b>								
(Updated Fall 2020)	<b>UK LEVEL: 5 UK CREDITS: 15</b>								
<b>PREREQUISITES:</b>	ITC 1070 Introduction to Information Technology ITC 2193 Operating Systems Concepts ITC 2024 Computer Networks & Cybersecurity Fundamentals <u>or</u> ITC 3175 Introduction to Computer Networks								
<b>CATALOG DESCRIPTION:</b>	Installation and administration concepts. Management, monitoring, and optimization of system performance, reliability, and availability. Design issues and support in a corporate environment. Troubleshooting and end user support.								
<b>RATIONALE:</b>	The course provides students with the knowledge and the skills necessary to install, configure and administer a network on server machines that are part of a domain. The course approaches network administration on operating system level, and provides the foundations for related certifications.								
<b>LEARNING OUTCOMES:</b>	As a result of taking this course, the student should be able to: <ol style="list-style-type: none"> <li>1. Install and upgrade a network operating system and explain the relevant procedures.</li> <li>2. Identify network security and disaster recover policy requirements.</li> <li>3. Design and simulate solutions on LANs, web servers and terminal services.</li> </ol>								
<b>METHOD OF TEACHING AND LEARNING:</b>	In congruence with the teaching and learning strategy of the college, the following tools are used: <ul style="list-style-type: none"> <li>• Lectures, lab sessions, class discussions, problem-solving sessions, and review of real-world cases</li> <li>• Office hours held by the instructor to provide further assistance to students.</li> <li>• Use of the Blackboard Learning platform to support communication, posting lecture notes, assignment instruction, timely announcements, and online submission of assignments.</li> </ul>								
<b>ASSESSMENT:</b>	<p><b>Summative:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1<sup>st</sup> assessment: Midterm exam short essay questions and case problems</td> <td style="width: 20%; text-align: center;"><b>30%</b></td> </tr> <tr> <td>2<sup>nd</sup> assessment: Portfolio of student work and oral assessment (not eligible for 2<sup>nd</sup> marking)</td> <td style="text-align: center;"><b>10%</b></td> </tr> <tr> <td>Final assessment: Individual project Design a network solution for a given set of requirements</td> <td style="text-align: center;"><b>60%</b></td> </tr> </table> <p><b>Formative:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">In-class, 1-hour, "diagnostic" test: short essay questions</td> <td style="width: 20%; text-align: center;"><b>0</b></td> </tr> </table>	1 <sup>st</sup> assessment: Midterm exam short essay questions and case problems	<b>30%</b>	2 <sup>nd</sup> assessment: Portfolio of student work and oral assessment (not eligible for 2 <sup>nd</sup> marking)	<b>10%</b>	Final assessment: Individual project Design a network solution for a given set of requirements	<b>60%</b>	In-class, 1-hour, "diagnostic" test: short essay questions	<b>0</b>
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	<table border="1" data-bbox="581 107 1393 163"> <tr> <td data-bbox="581 107 1323 163">Homework: case problems</td> <td data-bbox="1323 107 1393 163">0</td> </tr> </table> <p>The formative assessments aim to prepare students for the project and the examination.</p> <p>The 1<sup>st</sup> summative assessment tests LOs 1 and 2.</p> <p>The 2<sup>nd</sup> summative assessment tests LOs 1, 2 and 3.</p> <p>The final summative assessment tests LOs 1, 2 and 3.</p> <p>The final assessment tests all learning outcomes of this module, therefore students pass the module if the average module grade is 40% or higher.</p>	Homework: case problems	0
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<b>INDICATIVE READING:</b>	<p><b>REQUIRED READING:</b></p> <p>Thomas A. Limoncelli, Christina J. Hogan, Strata R. Chalup (2017). <i>The Practice of System and Network Administration</i>. Volume 1. 3<sup>rd</sup> Ed. Addison-Wesley.</p> <p><b>RECOMMENDED READING:</b></p> <p>Minasi, M. et all (2017). <i>Mastering Windows Server 2016</i>. Indianapolis: Sybex.</p> <p>Harry Foxwell, Glynn Foster (2015). <i>Oracle Solaris 11.2 System Administration Handbook (Oracle Press)</i>. McGraw-Hill Osborne.</p> <p>Michael W Lucas, (2011). <i>Networking for Systems Administrators (IT Mastery Book 5)</i>. Tilted Windmill Press.</p> <p>Minasi, M. et all (2013). <i>Mastering Windows Server 2012 R2</i>. Indianapolis: Sybex.</p> <p>Wale Soyinka, (2012). <i>Linux Administration: A Beginners Guide, Sixth Edition</i>. McGraw-Hill Osborne.</p> <p>Journals/Magazines</p> <ul style="list-style-type: none"> <li>• Ritlibraries - Networking and Systems Administration: Journals and Magazines</li> <li>• IEEE Xplore Digital Library - Network, IEEE</li> <li>• Microsoft Technet Magazine</li> <li>• Linux Journal</li> <li>• Linux Magazine</li> </ul>		
<b>INDICATIVE MATERIAL:</b> (e.g. audiovisual, digital material, etc.)	<p><b>REQUIRED MATERIAL:</b> N/A</p> <p><b>RECOMMENDED MATERIAL:</b> Microsoft TechNet Knowledge Base – CD-ROM latest version</p>		
<b>COMMUNICATION REQUIREMENTS:</b>	Daily access to the course’s site on the College’s Blackboard CMS. Communication using proper written and oral English.		
<b>SOFTWARE REQUIREMENTS:</b>	VMWare (Workstation PRO) Network Operating System		
<b>WWW RESOURCES:</b>	<ul style="list-style-type: none"> <li>• Microsoft Certification Program <a href="https://www.microsoft.com/en-us/learning/certification-">https://www.microsoft.com/en-us/learning/certification-</a></li> </ul>		

	<p><a href="#">overview.aspx</a></p> <ul style="list-style-type: none"> <li>• Cisco training and events: <a href="https://www.cisco.com/c/en/us/training-events.html">https://www.cisco.com/c/en/us/training-events.html</a></li> <li>• Network Security Certification <a href="https://www.eccouncil.org/programs/certified-network-defender-cnd/">https://www.eccouncil.org/programs/certified-network-defender-cnd/</a> <a href="https://www.eccouncil.org/programs/certified-network-defense-architect-cnda/">https://www.eccouncil.org/programs/certified-network-defense-architect-cnda/</a></li> <li>• Windows Server 2019: <a href="https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2019?filetype=ISO">https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2019?filetype=ISO</a></li> <li>• Network Administration and security tutorials <a href="http://www.omnisecu.com/">http://www.omnisecu.com/</a></li> <li>• Windows Server Administration Fundamentals (Microsoft Virtual Learn Academy): <a href="https://docs.microsoft.com/en-us/learn/?l=LaRRbeXz_5004984382">https://docs.microsoft.com/en-us/learn/?l=LaRRbeXz_5004984382</a></li> <li>• Windows MSDN Resources: <a href="https://channel9.msdn.com/">https://channel9.msdn.com/</a></li> <li>• Linux System Administration Basics <a href="https://www.linode.com/docs/tools-reference/linux-system-administration-basics">https://www.linode.com/docs/tools-reference/linux-system-administration-basics</a></li> <li>• TradePub.com <a href="http://www.tradepub.com/category/information-technology-networking-and-communications-network-administration/753/">http://www.tradepub.com/category/information-technology-networking-and-communications-network-administration/753/</a></li> </ul>
<p><b>INDICATIVE CONTENT:</b></p>	<ol style="list-style-type: none"> <li>1. Workstation Architecture</li> <li>2. Workstation Hardware Strategies</li> <li>3. Workstation Software Life Cycle</li> <li>4. Server Hardware Strategies</li> <li>5. Server Hardware Features</li> <li>6. Server Hardware Specifications</li> <li>7. Service Requirements</li> <li>8. Service Planning and Engineering</li> <li>9. Service Resiliency and Performance Patterns</li> <li>10. Disaster Recovery and Data Integrity</li> <li>11. Network Architecture</li> <li>12. Network Operations</li> <li>13. Datacenters Overview</li> <li>14. Running a Datacenter</li> <li>15. Customer Support</li> <li>16. Maintenance Windows</li> <li>17. Service Monitoring</li> <li>18. Data Storage</li> <li>19. Backup and Restore</li> <li>20. Web Services</li> </ol>