

DEREE COLLEGE SYLLABUS FOR:									
ITC 4162 DIGITAL TRANSFORMATION (Fall 2021)									
3/0/3 UK LEVEL: 6 UK CREDITS: 15									
PREREQUISITES:	ITC 3051 User Experience and Interaction Design								
COREQUISITES:	None.								
CATALOG DESCRIPTION:	Digital ecosystems and industry transformation; types and approaches. User interface evolution; Lean UX methodology; distribution platforms; business ecosystems; learning ecosystems; intelligent assistants; platform design; UX in IoT.								
RATIONALE:	The course introduces students to approaches, tools, and techniques that shape the experience and assist the industry transformation. Students have the opportunity to investigate the needs of focused digital ecosystems, the operational and technical feasibility of such endeavours, propose designs and develop prototypes.								
LEARNING OUTCOMES:	As a result of taking this course, the student should be able to: <ol style="list-style-type: none"> 1. Demonstrate understanding of digital ecosystems self-organization, scalability, and sustainability socio-technical attributes. 2. Assess the complexity of interdependent platform infrastructures. 3. Design platform ecosystems and develop prototypes. 								
METHOD OF TEACHING AND LEARNING:	In congruence with the teaching and learning strategy of the college, the following tools are used: <ul style="list-style-type: none"> • Lectures, class discussions, laboratory practical sessions and problem solving. • Office hours: Students are encouraged to make full use of the office hours of their instructor, where they can ask questions and go over lecture material. • Use of the Blackboard Learning platform, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources. 								
ASSESSMENT:	<p>Summative:</p> <table border="1"> <tr> <td>1st assessment: Coursework Case problems</td> <td style="text-align: center;">20%</td> </tr> <tr> <td>1st assessment: Portfolio of student work and oral assessment</td> <td style="text-align: center;">10%</td> </tr> <tr> <td>Final assessment: Group research project Case proposal and review; prototype design</td> <td style="text-align: center;">70%</td> </tr> </table> <p>Formative:</p> <table border="1"> <tr> <td>programming problems</td> <td style="text-align: center;">0%</td> </tr> </table> <p>The formative assessments aim to prepare students for the summative assessments.</p> <p>The 1st summative assessment tests LO 1,2. The 2nd summative assessment tests LO 1,3. The final summative assessment tests LOs 1-3.</p>	1 st assessment: Coursework Case problems	20%	1 st assessment: Portfolio of student work and oral assessment	10%	Final assessment: Group research project Case proposal and review; prototype design	70%	programming problems	0%
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programming problems	0%								

	<p>The final grade for this module will be determined by averaging all summative assessment grades, based on predetermined weights for each assessment. If students pass the final summative assessment, which tests all Learning Outcomes for this module, and the average grade for the module is 40 or above, students are not required to resit any failed assessments.</p>
<p>INDICATIVE READING:</p>	<p>REQUIRED READING:</p> <ol style="list-style-type: none"> 1. Gothejf, J., Seidan, J. (2016). <i>Lean UX</i>, 2nd ed. O’Reilly Media Inc. 2. Zimmermann, A., Schmidt, R., Sandkuhl, K. (2020). <i>Strategic Challenges for platform-based Intelligent Assistants</i>. Procedia Computer Science: Elsevier 3. Instructor’s notes. <p>RECOMMENDED READING:</p> <ol style="list-style-type: none"> 1. Frischmann, B., Selinger E. (2018). <i>Re-Engineering Humanity</i>. Cambridge University Press 2. Rowland, C. (2015). <i>User Experience Design for the Internet of Things</i>. O’Reilly Media Inc. (free eBook). 3. Lazzazara, A., Ricciardi, F., Za, S. (eds.) (2020). <i>Exploring Digital Ecosystems</i>. Springer. 4. Grochow, J.M (2020). <i>A Taxonomy of Automated Assistants</i>. Communications of the ACM, vol. 63, no. 4, pp. 39-41 5. European commission (eds.) (2007). <i>Digital Business Ecosystems</i>. EU Publications Office (free e-book https://op.europa.eu/en/publication-detail/-/publication/53e45e55-4bd2-42a4-ad25-27b339b051e0/language-en) 6. Gilbert R. (2019). <i>Inclusive Design for a Digital World: Designing with Accessibility in Mind</i>, Apress
<p>INDICATIVE MATERIAL: (e.g. audiovisual, digital material, etc.)</p>	<p>REQUIRED MATERIAL:</p> <p>The Future of Ecosystemic Design https://stories.platformdesign toolkit.com/the-future-of-ecosystemic-design-ae02129a4d53</p> <p>UX Design for IoT – 5 important UX Design Decisions https://www.iotforall.com/ux-design-iot</p> <p>Alexa vs Google https://www.youtube.com/watch?v= tXSOFcpbvl</p> <p>Battle of the Assistants https://www.youtube.com/watch?v=PBNsfNhhJg</p> <p>Exploring Ecosystems: The patterns of Platformization https://stories.platformdesign toolkit.com/exploring-ecosystems-the-patterns-of-platformization-6dd0eb6f95f3</p> <p>The Learning Ecosystem: The OLD Model vs The New Model https://ethinkeducation.com/blog/what-is-the-learning-ecosystem/</p> <p>RECOMMENDED MATERIAL:</p> <p>Design for Interconnectedness https://stories.platformdesign toolkit.com/design-for-interconnectedness-be9bee0735a4</p> <p>Implementing a Digital Learning Ecosystem in the New Workplace https://cbook360.com/2020/08/06/implementing-digital-ecosystem-in-the-new-workplace/</p> <p>Siri vs Google Assistant vs Google https://www.youtube.com/watch?v=mDLAafNHtCM</p>

	<p>Launching Platforms: Growth Hacking & Network Effects https://stories.platformdesign toolkit.com/launching-platforms-growth-hacking-network-effects-a38f8ad0458b</p>
COMMUNICATION REQUIREMENTS:	Daily access to the course’s site on the College’s Blackboard CMS. Effective presentation skills using proper written and oral English. Communicate and coordinate during team activities.
SOFTWARE REQUIREMENTS:	Balsamiq, Figma, Adobe XD
WWW RESOURCES:	<ul style="list-style-type: none"> • http://iacm.acm.org/ • http://figma.com • http://balsamiq.com • https://www.adobe.com/products/xd.html# • https://www.g2.com/categories/digital-learning-platforms#
INDICATIVE CONTENT:	<ol style="list-style-type: none"> 1. Introduction to digital transformation <ol style="list-style-type: none"> a. The changing face of interface b. The path to techno-social environments and automation c. Lean and Agile UX d. Gamification concepts e. Overview of enabling technologies 2. Types of digital ecosystems <ol style="list-style-type: none"> a. Distribution platforms – MS Teams, Discord, Steam b. Social networks, social media c. Business ecosystems d. Learning ecosystems e. Cultural ecosystems f. Other knowledge-based ecosystems – Healthcare, Manufacturing, Research sourcing, Open Textbooks 3. Tools & Services <ol style="list-style-type: none"> a. Chatbots b. Virtual assistants c. Cloud services 4. The IoT perspective <ol style="list-style-type: none"> a. Cross-device experience. b. Interdependent infrastructures and device ecosystems. c. Flexible tool design. d. Smart homes, smart cities 5. Platform Ecosystem <ol style="list-style-type: none"> a. The ‘super’ assistant b. Platform architecture c. Task coordination d. Successful and unsuccessful platforms e. Dominant designs f. Dealing with disruption g. Competitive imperatives