

DEREE COLLEGE SYLLABUS FOR:									
ITC 1070 INFORMATION TECHNOLOGY FUNDAMENTALS									
(Updated Fall 2021)									
PREREQUISITES:	None.								
COREQUISITES:	None.								
CATALOG DESCRIPTION:	Concepts in computer hardware and software. Essential programming, web development and data management; networks and cybersecurity; logic; algorithmic thinking; operating systems; digital media. Digital ethics. Trends in AI and enabling technologies.								
RATIONALE:	The course introduces students to information technology and the art of programming. Topics include computer architecture, operating systems and file management, software and applications, digital media, web development, networks and cybersecurity, data representation and management, digital ethics, as well as contemporary and future trends in the ICT sector. Students are also exposed to algorithmic thinking and effective problem solving, through the use of programming languages and tools, such as Python, JavaScript, HTML and CSS. Designed for IT and non-IT majors alike, with or without prior programming experience.								
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 software and hardware infrastructures. 2. Demonstrate understanding of basic concepts in networking and cybersecurity. 3. Demonstrate understanding of basic programming concepts. 4. Demonstrate understanding of the analysis and design of small-scale information systems and the ability to write brief informative reports. 								
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"> • Classroom lectures, discussions, and review of real-world cases based on specific theoretical concepts. Laboratory practical sessions. • 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: Midterm Project</td> <td>40%</td> </tr> <tr> <td>2nd assessment: Portfolio of student engagement</td> <td>10%</td> </tr> <tr> <td>Final assessment: Final Project</td> <td>50%</td> </tr> </table> <p>Formative:</p> <table border="1"> <tr> <td>In-class and take home exercises</td> <td>0%</td> </tr> </table> <p>The formative assessments aim to prepare students for the summative assessments.</p>	1 st assessment: Midterm Project	40%	2 nd assessment: Portfolio of student engagement	10%	Final assessment: Final Project	50%	In-class and take home exercises	0%
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2 nd assessment: Portfolio of student engagement	10%								
Final assessment: Final Project	50%								
In-class and take home exercises	0%								

	<p>The 1st summative assessment tests the LOs 1, 2. The 2nd summative assessment tests the LOs 1-4. The final summative assessment tests the LOs 1-4.</p> <p>The final grade for this module will be determined by averaging all summative (major) assessment grades, based on predetermined weights for each assessment. If the average grade is 40 and above, students pass the module. No resits for non-validated modules.</p>
INDICATIVE READING:	<p>REQUIRED READING:</p> <ol style="list-style-type: none"> 1. Campbell J.T., Ciampa M., Clemens B., Freund S.M. (2020). <i>Technology for Success: Computer Concepts</i>, 1st edition, Cengage. 2. Severance, C. (n.d.). <i>Python for informatics: Exploring information</i>. (free book) 3. Instructor's notes. <p>RECOMMENDED READING:</p> <ol style="list-style-type: none"> 1. Downs, R. (2014). <i>How Computers Work The Evolution of Technology, Tenth Edition</i>. (Que Publishing).
INDICATIVE MATERIAL: (e.g. audiovisual, digital material, etc.)	<p>REQUIRED MATERIAL: LinkedIn Learn video tutorials</p> <p>RECOMMENDED MATERIAL: N/A</p>
COMMUNICATION REQUIREMENTS:	<p>Daily access to the course's site on the College's Blackboard CMS. Communication using proper written and oral English. Use of word processing and/or presentation graphics software for documentation of assignments.</p>
SOFTWARE REQUIREMENTS:	<p>MS-Office Mozilla Firefox, Google Chrome, Microsoft Edge, Opera Adobe CC Suite PyCharm</p>
WWW RESOURCES:	<p>https://www.adobeTV.com https://www.jetbrains.com/pycharm/</p>
INDICATIVE CONTENT:	<ol style="list-style-type: none"> 1. Technology and the Digital World <ol style="list-style-type: none"> 1.1. Computer Hardware <ol style="list-style-type: none"> 1.1.1. Architecture essentials 1.1.2. Binary & logic operations 1.1.3. ASCII 1.2. Computer Software <ol style="list-style-type: none"> 1.2.1. System Software <ol style="list-style-type: none"> 1.2.1.1. Operating Systems 1.2.1.2. Device Drivers, Utilities 1.2.2. Application Software 1.3. Networks <ol style="list-style-type: none"> 1.3.1. Wireless, wired 1.3.2. Protocols, addressing and domain names 1.4. Data Management / Data Analysis <ol style="list-style-type: none"> 1.4.1. What is a DBMS 1.4.2. Types of DBMS 2. Creating Solutions and the Art of Programming

	<ul style="list-style-type: none">2.1. Digital Media<ul style="list-style-type: none">2.1.1. 2D, 3D graphics2.1.2. Time-based tools and techniques2.2. Programming Languages2.3. Algorithms<ul style="list-style-type: none">2.3.1. Algorithm Building Blocks2.3.2. Pseudocode2.4. Python Programming<ul style="list-style-type: none">2.4.1. Datatypes and variables2.4.2. Conditions and iterations2.4.3. Functions2.4.4. Input and Output2.5. SQL examples2.6. Web Development<ul style="list-style-type: none">2.6.1. HTML2.6.2. CSS2.6.3. JavaScript3. Connecting People, Places and Things<ul style="list-style-type: none">3.1. Internet and the Web3.2. Digital Communication3.3. Cybersecurity3.4. Enabling technologies3.5. Digital Ethics4. Contemporary and future trends
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