Subject Description Form

<table>
<tr><td>Subject Code</td><td>COMP 5525</td></tr>
<tr><td>Subject Title</td><td>Information Security: Technologies and Systems</td></tr>
<tr><td>Credit Value</td><td>3</td></tr>
<tr><td>Level</td><td>5</td></tr>
<tr><td>Pre-requisite/ Exclusion</td><td>Nil</td></tr>
<tr><td>Objectives</td><td>The objectives of this subject are to enable students:
1. to understand the problems with current security technologies and systems; and
2. to learn biometric computing knowledge and methods.</td></tr>
<tr><td>Intended Learning Outcomes</td><td>After completing this subject, students should be able to:
a) apply both classical and conventional encryption algorithms for information coding;
b) understand the differences between secret key and public-key approaches for information security and their applications;
c) use watermarking techniques for information hiding and authentication; and
d) apply pattern recognition techniques for biometric classification with various applications.</td></tr>
<tr><td>Subject Synopsis/ Indicative Syllabus</td><td>• Introduction to Information Security
• Applied Cryptography
• Best Privacy Tool: Biometrics
• Privacy Biometrics Techniques
• Typical Physical & Behavial Biometrics
• Security Applications</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>class activities including - lecture, tutorial, lab, workshop seminar where applicable</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific Assessment Methods/Tasks</td><td rowspan="2">% weighting</td><td colspan="4">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>Assignments, Tests & Projects</td><td>55</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Final Examination</td><td>45</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Total</td><td>100</td><td colspan="4"></td></tr>
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</td></tr>
<tr><td rowspan="5">Student study effort expected</td><td colspan="2">Class Contact:</td></tr>
<tr><td>Class activities (lecture, tutorial, lab)</td><td>39 hours</td></tr>
<tr><td colspan="2">Other student study effort:</td></tr>
<tr><td>Assignments, Quizzes, Projects, Exams</td><td>65 hours</td></tr>
<tr><td>Total student study effort</td><td>104 hours</td></tr>
<tr><td>Reading list and references</td><td>(1) Stallings, W., 2013, Cryptography and Network Security, Principles and Practices, (6th Edition), Prentice Hall.</td></tr>
</table>

	(2) Stallings, W., 2013, Network Security Essentials: Applications and Standard, (5th Edition) Prentice Hall. (3) Jain, et al., (eds), 1998, Biometrics: Personal Identification in Networked Society, Kluwer Academic Publisher. (4) Sid-Ahmed, M.A., 1995, Image Processing, Theory, Algorithms, & Architectures, McGraw-Hill. (5) Zhang, D., 2000, Automated Biometrics: Technologies & Systems, Kluwer Academic Publishers.