SUBJECT DESCRIPTION FORM

SUBJECT CODE: HTI3123

SUBJECT TITLE: Principles of Human Movement Analysis

CREDITS: 2

PRE-REQUISITES: HTI2121 Introduction to Biomechanics
Or Equivalent

RESPONSIBLE DEPARTMENT: Department of Health Technology & Informatics

RESPONSIBLE MEMBER OF THE ACADEMIC STAFF: Prof. Daniel H.K. CHOW

CONTACT HOURS:

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<tbody>
<tr>
<td>Lecture</td>
<td>22 hours</td>
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<tr>
<td>Tutorial</td>
<td>4 hours</td>
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<tr>
<td>Laboratory</td>
<td>4 hours</td>
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<td>Total Contact</td>
<td>30 hours</td>
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RATIONALE:

Human Movement Analysis is one of the most important applied biomedical engineering subjects for quantitative evaluation of human movements.

LEARNING OUTCOMES:

On successfully completing the subject, students should be able to:

- Understand the functions of instrumentation commonly use for human movement analysis
- Apply kinematics to investigate three-dimensional angular and linear motion of body segments
- Apply free body diagram and inverse dynamics to determine three-dimensional body kinetics
- Explain muscular activities by kinetics and electromyography
- Develop biomechanical model for indeterminate system
SYLLABUS:

Instrumentation for movement analysis; anthropometry; three-dimensional kinematic and kinetic analysis; electromyography; biomechanical models for indeterminate systems; posture and balance; examples of clinical applications of human movement analysis.

TEACHING-LEARNING METHODS:

There will be lectures and tutorial sessions as well as laboratory demonstrations. Group project will be utilized to facilitate students to apply what they learned in the class to solve clinical questions.

ASSESSMENT:

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<tbody>
<tr>
<td>Continuous Assessment</td>
<td>60%</td>
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<tr>
<td>Final Examination</td>
<td>40%</td>
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Note: To pass this subject, students must obtain grade D or above in BOTH the continuous assessment and the examination.

REFERENCE MATERIALS: