

Our Course Faculty

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(Course Lecturer and Tutor)**

*Professor & Chair, Dept of Medical Informatics
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*CEO, Gateway Consulting, Singapore
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**Assoc Prof Low Cheng Ooi
(Course Tutor)**

Chief Medical Informatics Officer, MOH

**Dr Colin Quek
(Course Tutor)**

*Vice President for Engineering –
Medical Informatics, Napier Healthcare.*

Our Track Record

- 10 runs since 2009
- Certificate awarded by the American Medical Informatics Association
- Endorsed by IDA (for TSP and HSP)
- Over 200 local and foreign healthcare and IT professionals trained

Course Details

**www.gatewaypl.com
/g2hi**



Enquiries

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**Gateway Consulting
presents**

Gateway to Health Informatics

an American Medical Informatics Association
(AMIA) i10x10 Course



Gateway to Health Informatics (G2HI) provides certified training in health informatics using a teaching model that delivers lectures and course work by **distance learning**, augmented with **classroom-based, face-to-face tutorials conducted in Singapore**. Participants are also required to undertake a Course Project and also encouraged to contribute to the Course online forum discussions. The Course objective is to provide rigorous, broad-based training in health informatics to interested participants, especially individuals working in the healthcare and healthcare-related industries, in Singapore and countries in the region. The Course is similar to the on-line BMI 510 - Introduction to Biomedical Informatics class currently taught at the Biomedical Informatics Graduate program of Oregon Health and Science University (OHSU), USA. **G2HI** is also similar to the American Medical Informatics Association (AMIA) 10x10 Program offered by OHSU which was originally developed as a partnership between AMIA & OHSU.

Course Syllabus

Unit 1. Overview of Field & Problems Motivating It

- 1.1 What is Biomedical and Health Informatics?
- 1.2 A discipline whose time has come
- 1.3 Problems in healthcare motivating biomedical and health informatics
- 1.4 Who does biomedical and health informatics?
- 1.5 Seminal documents and reports
- 1.6 Resources for field - organizations, information, education

Unit 2. Biomedical Computing

- 2.1 Types of Computers
- 2.2 Data Storage in Computers
- 2.3 Computer Hardware and Software
- 2.4 Computer Networks
- 2.5 Software Engineering
- 2.6 Social aspects of Computing

Unit 3. Electronic and Personal Health Records (EHR and PHR)

- 3.1 Clinical Data
- 3.2 History and Perspective of the Health (Medical) Record
- 3.3 Definitions and Key Attributes of the Electronic Health Record (EHR)
- 3.4 EHR Examples
- 3.5 Benefits and Challenges of the EHR
- 3.6 The Personal Health Record (PHR)
- 3.7 Nursing Informatics

Unit 4. Standards and Interoperability; Privacy, Confidentiality, and Security

- 4.1 Standards: Basic Concepts
- 4.2 Identifier and Transaction Standards
- 4.3 Message Exchange Standards
- 4.4 Terminology Standards
- 4.5 Privacy, Confidentiality, and Security: Basic Concepts
- 4.6 HIPAA and Other Countries' Privacy and Security Regulations

Unit 5. Meaningful Use of the EHR

- 5.1 Patient Safety and Medical Errors
- 5.2 Healthcare Quality
- 5.3 Clinical Decision Support: Approaches and Historical Perspectives
- 5.4 Reminders and Alerts
- 5.5 Computerized Provider Order Entry (CPOE)
- 5.6 Health Information Exchange
- 5.7 HITECH, ARRA and Achieving Meaningful Use

Unit 6. EHR Implementation & Evaluation

- 6.1 Clinical Workflow Analysis and Redesign
- 6.2 Certification of the EHR
- 6.3 System Selection and Implementation
- 6.4 Use and Outcomes of the EHR
- 6.5 Cost-Benefit of the HER

Course Project

All participants are required to undertake a Course Project which accounts for 30% of the final passing mark for the Course.

Learning Objectives

- Learn health IT project methodology including literature review related to the project;
- Apply the knowledge gained from the Course to an existing or planned health IT project;
- Identify the challenges and problems of the Project and discuss how they can be dealt with based on knowledge gained from the Course;
- Use the Course Project as a means to share experience with and learn from fellow Course

Unit 7. Evidence-Based Medicine and Medical Decision Making

- 7.1 Definitions and Application of EBM
- 7.2 Interventions
- 7.3 Diagnosis
- 7.4 Harm and Prognosis
- 7.5 Summarizing Evidence

Unit 8. Information Retrieval and Digital Libraries

- 8.1 Information Retrieval
- 8.2 Knowledge-based Information
- 8.3 Content
- 8.4 Indexing
- 8.5 Retrieval

Unit 9. Imaging Informatics and Telemedicine

- 9.1 Imaging in Health Care
- 9.2 Modalities of Imaging
- 9.3 Digital Imaging
- 9.4 Telemedicine: Definitions, Uses and Barriers
- 9.5 Efficacy of Telemedicine
- 9.6 Patient-Clinician Communications

Unit 10. Translational Bioinformatics & Personalized Medicine (Opt)

- 10.1 Bioinformatics - The Big Picture
- 10.2 Overview of Basic Molecular Biology
- 10.3 From Clinical Genetics and Genomics to Personalized Medicine
- 10.4 Translational Bioinformatics