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力求上进

新加坡工程专家协会 Singapore Institute of Engineering Technologists (SIET)

Website : www.siet.org.sg

- SIET – a National Professional Body for **Engineering Technologists** (\approx **Incorporated Engineer in UK**) & **Engineering Technicians** in Singapore.
- SIET is a Founder Member of **World Federation of Engineering Organizations** (WFEO). [[website : www.wfto.org]
- SIET is a Full Member of **Singapore Professional Centre** (SPC). [website : www.spc.org.sg]

SIET – Special Certification Exams for SIET Members

1. Certified Cost Engineer (CCE)
2. Certified Engineering Manager (CEM)

Exam Fee : S\$80 per sitting (2013)

Examination will be conducted on a quarterly basis (January; April; July; October); 3 – hour written test.

Intensive revision classes or Tutorials before Exam can be arranged if there is sufficient demand.

Awards:

Certificate of Competency (COC) : A COC will be issued to candidates who have sat and passed the ‘Test of Competency’.

SIET – Lifelong Learning Centre

96 Waterloo Street, #02-02, Singapore 187967.

[Opening Hours: **Wednesday** (2pm – 5pm; 7pm- 9pm)]

For further details, please contact:

1. For CPD Program :
Dr Joshua Wong – Centre Director
(HP: 90014607; Email: joshualhwong@gmail.com)
2. For **General Enquiries/Professional Certifications** :
Dr Sam MK- Honorary Secretary of SIET
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Outlines of SIET Special Certification Exams

(A) Certified Cost Engineer (CCE) Exam

Section A - Fundamentals of Engineering Cost Estimation

1 – Cost Concepts and Design Economics

- Cost Terminology
- The General Economic Environment
- Cost – Driven Design Optimization
- Present Economic Studies

2 – Cost – Estimation Techniques

- Introduction
- An Integrated Approach
- Selected Estimating Techniques (Models)
- Parametric Cost Estimating
- Cost Estimation in the Design Process

Section B - Fundamentals of Engineering Economics

1 – Interest Types and Money Values

- History of Interest and its Significance
- Definitions and Terms Related to Interest Calculations
- Interest Rate Fundamentals and Basic Calculations
- Types of Money Value and Interest Rates
- Exchange Rate Impact
- Mathematical Relationships for Engineering Economic Calculations

2 – Expressions used in Engineering Economics – Basic Expressions

- Introduction
- Single Cash Flow Expressions
- Uniform Payment Expressions
- Continuous Expressions and Summary Table

3 – Gradient Expressions

- Introduction
- Uniform Gradient
- Geometric Gradient
- Escalation Gradient
- Relationships between Factor Expressions

Section 3 - Project Evaluation Techniques

1 – Project Evaluation Techniques

- Introduction
- Internal Rate of Return
- Modified Internal Rate of Return (MIRR)
- Benefit/Cost Ratio
- Positive and Negative Project Balances

(B) Certified Engineering Manager (CEM) Exam

Section A – The Functions of Engineering Management

- 1 – Planning
- 2 – Organizing
- 3 – Leading
- 4 – Controlling

Section B – The Business Fundamentals of Engineering Managers

- 1 – Cost Accounting for Engineering Managers
- 2 – Financial Accounting and Analysis for Engineering Managers
- 3 – Managerial Finance for Engineering Managers
- 4 – Marketing Management for Engineering Managers

Section C – Engineering Leadership

- 1 – Engineers as Managers and Leaders
- 2 – Ethics in Engineering Management and Business Management
- 3 - Globalization

SME-USA : Certified Manufacturing Engineer (CMfgE) Exam [Website : www.sme.org]

Exam topics include the following:

- Math
- Applied science
- Design
- Materials
- Manufacturing processes
- Manufacturing management
- Manufacturing economics
- Quality control
- Computer applications
- Automation

Test :

The Manufacturing Engineer Exam is a four-hour exam containing 180 multiple-choice questions. [Online testing is available.](#)

Book :

Fundamentals of Manufacturing by Philip D Rufe, 3rd Edition. Published by SME.

Recognition by SIET

SIET members who sat and passed the **SME-CMfgE Exam** is recognized by SIET as satisfying its academic requirement for the membership grade of **Fellow (FSIET)**.

Essential Reading Materials for SIET - Special Certification Exams

No	Certification Exam	Recommended Textbooks
1	Certified Cost Engineer (CCE)	1. AACE International – CCC/CCE Certification Study Guide , 3 rd Edition. 2. Strategic Cost Analysis By Robert C Creese and M Adithan (2012). Published by New Academic Science Ltd. 3. Contemporary Engineering Economics by Chan S. Park. 5 th Edition (2011). Published by Pearson. 4. Engineering Economics by William G. Sullivan, Elin M. Wicks & C. Patrick Koelling. 15 th Edition (2012). Published by Pearson.
2	Certified Engineering Manager (CEM)	1. Engineering Management : Challenges in the New Millennium by C.M. Chang (2005). Published by Pearson/Prentice-Hall.

Additional Sources of information

1. **AACE International**, USA. (Founded : 1956)
Website: www.accei.org
2. **Institute of Industrial Engineers (IIE)**, USA. (Founded : 1948)
Website: www.iienet2.org
3. **Society of Manufacturing Engineers (SME)**, USA. (Founded : 1932)
Website: www.sme.org
4. **American Society for Engineering Management (ASEM)**, USA. (Founded : 1979)
Website: www.asem.org
5. **American Society for Quality (ASQ)**, USA. (Founded : 1946)
Website: www.asq.org
6. **Association of Cost Engineers (ACostE)**, UK (Founded : ????)
Website : www.acoste.org.uk
7. **Chartered Quality Institute (CQI)**, UK. (Founded : 1919)
Website: www.thecqi.org
8. **Singapore Quality Institute (SQI)**. (Founded : 1971)
Website : www.sqi.org.sg