



The course has been included in the list of reimbursable courses for Continuing Education Fund purposes. The Office of the Continuing Education Fund does not have record of registration of this course under the Qualifications Framework.

Institution Code: 616

Course Code: 21C03931-4

# Six Sigma Black Belt Certification Programme

~ Training for Servicing and Manufacturing Industries ~

## Lead Your Team To Success



Organizer

SSI 六式碼學會  
SIXSIGMA INSTITUTE  
Your Partner for Growth

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## Six Sigma Institute (SSI)

The Six Sigma Institute (SSI) is a non-profit making professional body. Its primary objective is to accredit Six Sigma professionals with recognized knowledge and skills in this application science. The SSI aims to work closely with professionals, training organizations, universities and other professional bodies in promoting the application of Six Sigma methodologies. Also, the SSI offers other Quality Management related trainings to lift the competitiveness of servicing and manufacturing practitioners.

## Six Sigma Programme

The term Six Sigma comes from a statistical modeling of manufacturing processes and sets defect levels for all processes to below 3.4 defects per million opportunities (DPMO). Introduced by Motorola in 1980s, Six Sigma was **widely adopted by top international companies in both manufacturing and service industries** (e.g. General Electric, Nokia, Honda, Samsung and LG Electronics). Six Sigma is well-recognized by the world as an effective quality management methodology, aiming at **lowering the defects stemmed from manufacturing or servicing processes, improving customer satisfaction and increasing company's revenue**.



## Course Overview

**Lean Six Sigma Black Belts** are the core of Lean Six Sigma Scheme in Six Sigma organizations. These individuals will continually work towards institutionalising the effective use of these tools throughout the corporation, its customers, and its suppliers. They also bear the responsibility of leading and driving projects with high business impact. This course will enable the participant to grasp the essential skills to **lead Lean Six Sigma projects** in their organisations. Through the coaching and in-class exercises, the participant receives **practical experience** from Six Sigma practitioners who hold the participants hand-in-hand to **identify and implement the projects in the participants' organizations**.

## Who should attend?

1. Quality, R&D, Process engineers or supervisors.
2. Graduates of Six Sigma Green Belt programme
3. Company executives who intend to be directly involve in Six Sigma projects.

## Why should join SSI programme?

- Practical** The programme contains of lectures, workshops and project works. Real study cases will be shared.
- Flexible Schedule** Provide weekday and weekend courses to let students budget their time between work and family life.
- Quality** Our lecturers have rich related teaching experience, they are Registered Six Sigma Master Black Belt / Black Belt and experienced in implementing six sigma projects and quality management.
- Professional Network** SSI students can join our Six Sigma Community which aims to develop a strong social network for Six Sigma professionals.
- Further Study Path** Certificate holders are eligible to apply for SSI Six Sigma Master Black Belt Programmes.

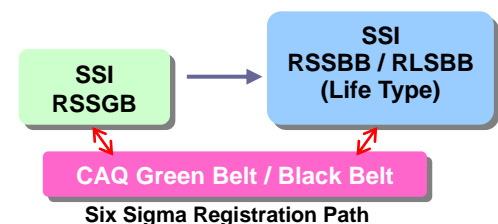


**Six Sigma Programme Study Path**

## Recognition

Certificate holders who complete at least one project with verified saving of HK\$500,000 or an individual simulated project in SSI's Six Sigma Project Course are eligible to be registered with the SSI as a **Registered Six Sigma Black Belt** or **Registered Lean Sigma Black Belt** and use the title of **RSSBB** or **RLSBB** after their names.

Green Belt and Black Belt qualifications of SSI have been mutually recognized by China Association for Quality (CAQ). **RSSBB** and **RLSBB (Life Type)** who also meets the registration requirements of China Association for Quality (CAQ) for Certified Black Belt, is eligible to apply for such qualification under a mutually recognition scheme of the two organizations.



# Six Sigma Black Belt Course Outline

## DEFINE

### Introduction and Project Definition

- 0.0 Course Introduction
- 1.1 Overview of Lean, Six Sigma and Lean Six Sigma
- 1.1 A Case Example of Six Sigma Projects
- 1.2 Identification of Six Sigma Projects

## MEASURE

### Process Measurement

- 1.3 Project Charter & SIPOC
- 1.4 Define Phase – Catapult Project
- 2.0 Measure Phase Overview
- 2.1 Measure Phase – Process Map
- 2.2 C&E Matrix
- 2.3 Measuring and Collecting Data
- 2.4 Introduction to Minitab
- 2.5 Measurement System Analysis
- 2.6 Attribute GR&R
- 2.7 Process Stability Analysis
- 2.8 Process Capability Analysis
- 2.9 Rolled Throughput Yield
- 2.10 Use Yield to Find Sigma Level
- 2.11 Measure phase - Catapult Project

## ANALYZE

### Process Analysis

- 3.1 Analyze Phase Overview
- 3.2 Hypothesis Testing of Means
- 3.3 Testing Of Variation
- 3.4 Testing Of Proportion
- 3.5 Normality and Non-normal Data Transformation
- 3.6 Determine Sample Size for Tests
- 3.7 Two-way ANOVA
- 3.8 Multi-Vari Analysis
- 3.9 Nonparametric Tests
- 3.10 Chi Square Test
- 3.11 Linear Regression
- 3.12 Multiple Regression Analysis
- 3.13 Catapult Project - Analyze Phase

## IMPROVE

### Process Improvement

- 4.1 Improve Phase – Overview
- 4.2 Overview of Design of Experiment
- 4.3 DOE – Full Factorial Design
- 4.4 DOE Example
- 4.5 Fractional Factorial Experiment
- 4.6 Fractional Factorial Experiment Exercises
- 4.7 Sample Size, Centerpoint and Blocking
- 4.8 Response surface methodology
- 4.9 RSM Exercise - Maximize the Yield
- 4.10 Lack of Fit
- 4.11 Brightness in the Paper Bleaching Process
- 4.12 Value Stream Map
- 4.13 Major Lean Tools
- 4.14 Case Example of Lean
- 4.15 Improve Phase – Catapult Project

## CONTROL

### Process Control

- 5.1 Control Phase – Overview
- 5.2 SPC II
- 5.3 SPC - Attribute Control Charts
- 5.4 Cusum Chart
- 5.5 Change Management
- 5.6 Six Sigma Finance Guidelines
- 5.12 Control Phase – Catapult Project
- 5.7 Mistake Proofing
- 5.8 Standardized Work
- 5.9 Visual Management
- 5.10 Total Productive Maintenance (TPM)
- 5.11 Project Review

### Project Exam

### Mock Exam

### Wrap up – survey

## Certificate

**Certificate of Black Belt in Six Sigma** will be awarded to participants who have 70% or above attendance, complete all assignments, one group project and pass the examination.

**Recommended Course Schedules** (Please visit our website/backward pages for details of other schedules)

\*A Black Belt course could be enrolled with a Green Belt course as a Combined Course and the examination of Green Belt will be exempted.

**Course Fee** Please contact us about course fee and DISCOUNT details.



The course has been included in the list of reimbursable courses for Continuing Education Fund (CEF) purposes. The Office of the Continuing Education Fund does not have record of registration of this course under the Qualifications Framework. Please visit the CEF website: <https://www.wfsfaa.gov.hk/cef/> or call (852) 3142 2277 for enquiry. [Institution Code: 616 / Course Code: 21C03931-4]

## Enquiry

Tel: (852) 2581 2771

Email: [info@ssi.org.hk](mailto:info@ssi.org.hk)

Website: [www.ssi.org.hk](http://www.ssi.org.hk)

## Application Form 申請表格

**Course code 課程編號** (Please refer to the course pamphlet 請參照課程單張填寫): \_\_\_\_\_

### Personal Information 個人資料

Chinese Name 中文姓名 (先生/小姐/太太/女士): \_\_\_\_\_

English Name 英文姓名 (Mr./Miss/Mrs./Ms.): [Surname 姓氏] \_\_\_\_\_ [First Name 名字] \_\_\_\_\_

HKID Card/Passport No. 香港身份證/護照號碼: \_\_\_\_\_ Issuing Country (if any) 簽發國家(如有): \_\_\_\_\_

Company Name 公司名稱: \_\_\_\_\_

Business Nature of the Company 公司業務性質: \_\_\_\_\_ Department 部門: \_\_\_\_\_

Position 職位: \_\_\_\_\_ Job Nature 工作性質: \_\_\_\_\_

Mobile No. 手提電話: \_\_\_\_\_ Office Tel. 辦事處電話: \_\_\_\_\_ Home Tel. 住宅電話: \_\_\_\_\_

E-mail Address 電子郵箱: \_\_\_\_\_ Fax 傳真: \_\_\_\_\_

Correspondence Address 通訊地址: \_\_\_\_\_

Company Address 公司地址: \_\_\_\_\_

Age 年齡:  18-25  26-35  36-45  45-55  55+

Highest Achieved Education Level 最高教育程度:

Secondary 中學  Post-Secondary 專上  University 大學  Postgraduate or above 研究院或以上  Others 其他 \_\_\_\_\_

How do you know about SSI course information? 您如何得悉本學會課程資料?

Facebook  Yahoo 雅虎  Google 谷歌  JobsDB  E-mail 電子郵件  Friend Recommendation 朋友介紹

Seminar 講座  Others 其他 \_\_\_\_\_

I object to the proposed use of my personal data including, without limitation, name, age, gender, phone number, fax number, job title, academic and professional qualification, correspondence address and email address ("Personal Data") for the purpose of sending me information relating to SSI's latest developments, job matching support services, training courses and related events, and other marketing activities as may be organized by SSI. 本人反對六式碼學會使用本人的個人資料包括但不限於姓名、年齡、性別、電話號碼、傳真號碼、職位、學術及專業資格、通訊地址及電郵地址("個人資料")於推介本會最新發展、就業支援服務、培訓課程及相關的活動及其他由本會的推廣活動的用途。

### Course Fee Payment(for specific programmes) 繳付學費 (特定課程)

For those who would like to get **10% off early bird rate**, course fees should be **settled 4 weeks before the course commencement date**.

如欲享用 **9 折提早報名優惠**，所有費用須於開課前 **4 個星期**繳付。

General students (for those who do not claim CEF) are required to **settle course fees 2 weeks before the course commencement date**.

一般學員(不需申請持續進修基金者) 必須於開課前 **2 個星期**繳付所有費用。

**15% off discount for group enrollment of 3 or above from the same company.** 3 位或以上來自同一所機構之團體報名可享有 **85 折**優惠。

For those who claim CEF, course fees should be settled according to the payment details in confirmation email

申請持續進修基金的學員，需根據確認電郵內的付款詳情支付費用。

For those who need to claim CEF, please tick the following box: 需要申請持續進修基金的學員，請別選以下空格:

Have you opened a valid CEF account before? 閣下是否已開立有效之持續進修基金戶口?

Yes 是  No 否

**Fail to settle payment before deadline results in cancellation of application or suspension from taking subsequent courses.**

未能如期付款的申請將不獲保留或導致申請者被取消上課資格。

### Declaration 聲明

- I declare that all information provided in this application and the attached documents are, to the best of my knowledge, accurate and complete. 本人聲明在此申請表格及隨附文件所載的資料，依本人所知均屬完整真確。
- I consent that if admitted, I will comply with all the Rules and Regulations stipulated by the Six Sigma Institute 本人同意如所報讀課程獲取錄，本人定當遵守六式碼學會所定的規則及章程。
- I have read the IMPORTANT NOTE in this application form and understood that the details of enrolment are subject to revisions in the course pamphlets and the latest changes in SSI website. 本人已細閱申請表格內的重要通知，並明白所有報名詳情均以本會課程單張及網頁的最新修訂為依歸。
- I understand that Personal Data collected will be used for processing application for admission, registration, academic, administrative, research and statistical purposes and will also be used for marketing purposes, specifically for the purpose of sending you information relating to SSI's latest developments, job matching support services, events and training courses. Personal Data will be treated in strict confidence. Unless otherwise agreed by me, Personal Data will not be transferred to any third parties. 本人明白所收集的個人資料將會作入學申請、登記、學術、行政、研究、統計及市場分析及用於推介本會最新發展、就業支援服務、活動和培訓課程的用途。個人資料會嚴格保密處理。除非獲得本人的同意，個人資料不會轉移予第三者。

Signature 簽名: \_\_\_\_\_

Date 日期: \_\_\_\_\_

**Please continue on the other side 請翻背頁繼續填寫**



## Method of payment 繳費方法

- ATM 自動櫃員機** (Please use Bill Payment service at HSBC / Hang Seng Bank ATMs to settle the bill and keep the original of the ATM advice for record. 請使用滙豐或恒生銀行自動櫃員機的繳賬服務繳費，並保存自動櫃員機通知書正本以作紀錄。HSBC Account Name and No.: Six Sigma Institute Limited 004-126-848001-001. 滙豐銀行帳戶名稱及帳號: 六式碼學會有限公司 004-126-848001-001。)
- E-Banking 網上銀行** (For e-banking registered user of HSBC / Hang Seng Bank, you may make payment in HKD currency at the bank website without additional charges. 如閣下已登記滙豐或恒生銀行的網上理財服務，可透過銀行網站以港元繳費而不會被收取額外服務費。)
- Credit Card Online Payment 信用卡網上繳費** (Please settle the payment by using merchant code '9983' and fill in Your 8-digit contact phone no. in the blank of "Bill Account No." 請以商戶編號「9983」繳費並於帳單號碼欄填寫閣下 8 位數字的電話號碼。)
- PPS By Internet 網上繳費** (Login your PPS account through website: [www.ppskh.com](http://www.ppskh.com) and enter '9983' at 'Search by Merchant Code' in 'Add Bill' page and settle the payment by following the instructions. Please keep the payment details for record. 請於繳費網頁 [www.ppskh.com](http://www.ppskh.com) 登入，在「登記賬單」頁的「以商戶編號搜尋」一欄輸入「9983」，然後按指示完成付款程序。請保存繳費資料以作紀錄。)
- PPS By Phone 電話繳費** (Please open a PPS account and register the bill by calling 18011 if you have not. Dial 18031 to pay the bill and enter '9983' as merchant code. Please keep the payment reference number for record. 請先開立繳費戶口及致電 18013 登記此賬單，致電 18033 繳付賬單並輸入商戶編號「9983」，請保存付款編號以作紀錄。)
- Cheque No. 支票號碼:** \_\_\_\_\_ (Please send a crossed cheque which is made payable to 'Six Sigma Institute Limited' to Unit 1627, 16/F, Star House, No.3 Salisbury Road, Tsim Sha Tsui Kowloon, Hong Kong. Please write the applicant's name and course code on the back of the cheque. Post-dated cheque will not be accepted. 請把抬頭人為「六式碼學會有限公司」的劃線支票寄往香港九龍尖沙咀梳士巴利道 3 號星光行 16 樓 1627 室，恕不接受期票，請於支票背面註明申請人姓名及課程編號。)

## Enrolment Procedures 報名程序

Please send or fax the completed application form at fax no. (852) 2581 2776 or e-mail to [info@ssi.org.hk](mailto:info@ssi.org.hk). Students should submit full payment and/or documentation for settlement before the applicable payment deadline. For enquiries, please call us at (852) 2581 2771. 請將填妥的申請表電郵至 [info@ssi.org.hk](mailto:info@ssi.org.hk) 或傳真至(852) 2581 2776，課程的所有費用及/或所需文件必須於相應的期限前提交，如有查詢，可致電(852) 2581 2771 聯絡我們。



### Note for Continuing Education Fund (CEF) Course 持續進修基金課程需知

Our CEF Institution Code: 本會持續進修基金院校編號: 616 ;

Our CEF registered courses and course codes 本會持續進修基金課程及編號:

Six Sigma Green Belt (21C07632-5) ; Six Sigma Black Belt Certification Programme (21C03931-4)

Installment payment of our CEF courses 本會持續進修基金課程分期付款方式:

(For study 2 months 修讀為期 2 個月課程) Payment of 50% of the total tuition 按課程總費用 50% 作分期

(For study 3 months 修讀為期 3 個月課程) Payment of 33.3% of the total tuition 按課程總費用 33.3% 作分期

Please be advised that the co-payment ratios by learners (i.e. the percentage of fees to be borne by learners) for the first HK\$10,000 subsidy is 20% of the course fee and that for the second HK\$10,000 subsidy is 40% of the course fee. 請注意首 10,000 港元資助的學員共付比率 (即學員本身需負擔的費用的百分比) 為課程費用的 20%，而次 10,000 港元資助的學員共付比率則為課程費用的 40%。

Enquire about our CEF courses, please refer to course pamphlets or contact us. 有關本會持續進修基金課程的資料，請參閱課程單張或向我們查詢。

Details of CEF can be check in the following link: 持續進修基金詳情可瀏覽以下網址: <http://www.sixsigmainstitute.org/others/continuing-education-fund/>

## Registration Service 註冊服務

The SSI provides registration service for those who have successfully completed relevant training programs. For more details, please refer to related program pamphlets or contact us. 本會為成功完成相關培訓課程的學員提供專業資格註冊服務，請參閱相關課程單張或向我們查詢詳情。

## IMPORTANT NOTE 重要通知

1. Receipt of this application form by SSI constitutes an official booking. SSI reserves the right to reject any application in any circumstances and for whatever reasons. Payment of fees should only be construed as conditional acceptance of application. 本會收到已填妥的申請表後會為申請人保留學位。本會保留在任何情況下及以任何原因拒絕任何入學申請的權利。申請者繳付學費後，仍須符合所有入學條件，其申請方可獲得接納。

2. Refund Policy for course fees paid 已繳費用的退還情況:

> Notice of more than 1-week prior course starts - Refund 80% 於開課前 1 個星期或以上通知退學 - 可退還 80%

> Notice of less than 1 week before course starts - Refund 70% 少於開課前 1 個星期通知退學 - 可退還 70%

> Once course has begun - NO REFUND 開課後通知退學 - 不獲退還

3. All SSI students enjoy the special privileges of buddies of Six Sigma Community. 所有本會學員可享有與六式碼社區之友同等優待。

4. The course fees for specific programmes include two examination opportunities, fees will be charged for joining extra examinations. Please contact us for the details. 本會特定課程之費用已包括兩次考試機會，額外考試機會需另行收費。請向本會查詢有關詳情。

5. Six Sigma Institute reserves the right to revise the subject without prior notice. Please see our website for the latest changes. 本會保留在無需事前通知的情況下對課程作出任何變動的權利。請留意本會網頁的最新情況。

6. If No. 8 Typhoon / Black Rainstorm warning signal is lowered 當八號颱風或黑雨警告在以下時段除下:

at or before 07:00 早上七時前 all morning sessions will be conducted as scheduled. 所有早上課堂會如常進行。

between 07:00 and 11:00 早上七時至十一時期間 all morning sessions will be cancelled, but all afternoon sessions will be conducted as scheduled. 所有早上課堂將會取消，但所有下午課堂會如常進行。

between 11:00 and 16:00 早上十一時至下午四時期間 all afternoon sessions will be cancelled, but all evening sessions will be conducted as scheduled. 所有下午課堂將會取消，但所有夜間課堂會如常進行。

after 16:00 下午四時後 all evening sessions commencing from 18:00 onwards will be cancelled automatically. 所有下午六時後進行的夜間課堂將會取消。

Participants will be notified when the class will be made up as soon as possible. 本會將盡早通知學員補課的日期及時間。

7. Personal Data Collection Statement 個人資料收集聲明

The personal data provided on this application form is used by SSI for purposes related to the processing of enrolment and course administration. Under the provisions of the Personal Data (Privacy) Ordinance, applicants have rights to request access to and make correction of their personal data. 申請人於此表格提供的個人資料，本會只會用作處理報名及課程行政的有關事宜。根據個人資料(私隱)條例，申請人有權查詢及更改其個人資料。