CERTIFICATE IN SIX SIGMA – BLACK BELT

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The Six Sigma – Black Belt certificate requires extensive knowledge of Six Sigma philosophies and principles, including supporting systems and tools. A Black Belt holder should:

- demonstrate team leadership
- assign team member roles and responsibilities
- demonstrate knowledge of how to measure a process
- analyze results using statistics
- demonstrate an ability to process improvements
- quantify the resulting savings
- apply advanced analysis techniques such as simulation, data analytics and operations research for process improvement

Many employers seek out personnel who have Six Sigma Black Belt training and certification. This certificate program, offered through the School of Computing and Engineering, is designed to acknowledge the effort students have made to learn and apply the DMAIC (i.e., Define-Measure-Analyze-Improve-Control) phases of Six Sigma through a real-life project that lasts two semesters. Students in any undergraduate program who are interested and who can successfully complete the coursework and the project are eligible to receive the certificate. This certificate reflects the commitment participants have made to process improvement by working with an organization and applying the DMAIC phases of Six Sigma in a project that lasts two semesters.

Six Sigma – Black Belt Program of Study

There are two tracks to receive the certificate. Track 1 is for industrial engineering students and Track 2 is for all others.

Selective topics related to the Six Sigma Black Belt from Track 1 courses are covered in IER 492 and IER 497 in Track 2. IER 492 and IER 497 in Track 2 and IER 491 and IER 498 in Track 1 should all be completed with a grade of B- or better in their respective tracks. In addition, the remaining below-mentioned track courses should be completed with a grade of D or better to be qualified for receiving the Six Sigma Black Belt certificate.

The two ways to receive the Six Sigma Black Belt:

Track 1. Completion of the below-mentioned eight courses (21 credits) (for BS in Industrial Engineering students) are required.

Track 2. Completion of the below-mentioned two courses (6 credits) that can be applied in any field of study.

Code	Title	Credits
Track 1 Coursework Requirements		
IER 230	Lean Systems Engineering (MER 235)	3
IER 240	Physical Human Factors and the Workplace (MER 245)	1
IER 265	Cognitive Human Factors and the Workplace (MER 265)	2
IER 280	Data Analytics I	3
IER 310	Operations Research I (MER 315)	3
IER 375	Statistical Process Control	3
IER 491	Capstone Project I	3
IER 498	Capstone Project II	3
Total Credits		**21**

Code	Title	Credits
Track 2 Coursework Requirements		
IER 492	Six Sigma - Black Belt Project Exp I (*)	3
IER 497	Six Sigma - Black Belt Project Experience II (Track 2 coursework requirements)	3
Total Credits		**6**

*
IER students cannot take IER 492 because of the duplication of the content from Track 1 courses.