

Course Title:	Reverse Code Engineering
Course Code:	COSEINC-RCE
Course Instructor:	Edgar Barbosa
Course Duration:	5 days
Course Fee:	S\$3000 per student
Class Size:	10 students (minimum)
Target Students:	Security Researchers, Security Professionals, Software Developers
Student Prerequisite:	Basic knowledge of assembly language and C ANSI
Software Requirement:	Windbg, OllyDbg, Python
Hardware Requirement:	Laptop computer
Course Brief:	This training will provide students with an overview of Reverse Code Engineering (RCE). Students will learn how debuggers and disassemblers work, how to build them and how to automate these tools with script languages like Python. Also, they will see the real application of reverse engineering to understand how real code really works in the system.
Course Outline:	<p>History of RCE</p> <p>Importance of RCE</p> <p>Executable file formats</p> <ul style="list-style-type: none"> ELF executable format PE/COFF executable format <p>Disassembling code</p> <ul style="list-style-type: none"> ISA – Instruction Set Architecture RISC x CISC Methods and algorithms <p>Disassembler tools</p> <ul style="list-style-type: none"> OllyDbg Windbg distorm64 IDA <p>Debuggers:</p> <ul style="list-style-type: none"> OllyDbg Windbg SoftICE PyDBG <p>OS API and reverse engineering</p> <p>Reverse engineering applications:</p> <ul style="list-style-type: none"> File format reverse engineering Vulnerability research Breaking protections Reversing undocumented functions Malware analysis <p>Automating reverse engineering</p> <ul style="list-style-type: none"> IDAPython PyDbg Immunity Debugger <p>Decompilation</p>

About the Instructor:	Edgar Barbosa is a security researcher in the Advanced Malware Lab (AML) of COSEINC. He was a member of the team within AML to develop "Blue Pill", a virtual machine rootkit, and has published several papers. Edgar is an expert in kernel and rootkit research.
About COSEINC:	<p>Computer Security Initiative Consultancy Pte. Ltd. (COSEINC) is a Singapore based and privately funded company dedicated to providing highly specialized information security services to our clients. We are a young and dynamic company whose constitution are computer security experts, from diverse backgrounds and geographies, with distinguished credentials and experience.</p> <p>It is our aim to provide our clients with the most professional and competent expertise and services at the most reasonable rates so that they can achieve the highest returns on their information technology investment.</p> <p>For more information, please visit www.coseinc.com.</p>