

## Program Description Document

<b>Course Name</b>	<b>Career Back 2 Women (CB2Women)</b>
<b>Course Name as on Certificate</b>	<b>Certified Professional in Advanced course in Cyber Security and Digital Forensics</b>
<b>Certificate Type</b>	Certificate of Completion by IIT-MADRAS
<b>Certificate Issued by</b>	IIT MADRAS
<b>Course Objectives</b>	It is comprehensive course to learn the most effective steps to prevent attacks and detect adversaries with actionable techniques that one can directly apply when they get back to work. As Certified Cyber professionals, the participant will learn tips and tricks from the best of the experts from a mix of industry & academia, so that they can win the battle against the wide range of cyber adversaries that want to harm the enterprises' IT environment
<b>Eligibility</b>	<ul style="list-style-type: none"> <li>• For Indian Participants - Graduates or Diploma Holders (10+2+3) from a recognized university (UGC/AICTE/DEC/AIU/State Government) in any discipline.</li> <li>• For International Participants - Graduation or equivalent degree from any recognized University or Institution in their respective country.</li> </ul>
<b>Pre Requisites</b>	Basic understanding of technology, networks and security, while not mandatory, will be an added advantage.
<b>Target Segment</b>	This programme is aimed at the women professionals who had a job in IT industry, but had to leave the same for some reason including pregnancy or taking care of aged parents / in-laws / sick people etc. to return to IT career with a bang. FISST has database with over 4 lac women, in various domain and expressed willingness to get trained into new areas to return to work & earn.
<b>Course Content</b>	<b>See Enclosed Programme details – as Annexure 1</b>
<b>Pedagogy</b>	The primary method of instruction will be through LIVE lectures that will be delivered online via internet to participant desktops/laptops or classrooms. The lectures will be delivered by eminent academicians and practicing industry experts. The programme will be primarily taught through a combination of lectures, discussions, exercises and labs. All enrolled students will be provided access to our FISST Whizard Cloud Campus through which students may access other learning aids, reference materials, assessments and assignments as appropriate. Throughout the duration of the course, students will have the flexibility to reach out to the Professors, real time during the class or offline via the FISST Whizard Cloud Campus to raise questions and clear their doubts.
<b>Assessment</b>	There are periodic evaluation components built in as a part of the program. These maybe in the form of a quiz, assignment or other objective/subjective assessments as relevant and applicable to the program. A minimum of 70% attendance to the LIVE lectures, is a prerequisite for the successful completion of this program. Participants who satisfy the attendance criteria and successfully clear the evaluation components will be awarded a certificate of completion.
<b>Programme Faculty</b>	<p><b>Programme Director CB2Women:</b> Mr. Mohan Ram C from FISST</p> <p>Mohan has nearly 33 years of professional experience after an M.Tech from IIT-Roorkee, as IT leader specializing in Cyber Security and related physical surveillance for critical infrastructure including refinery, nuclear power plants and mission critical IT infrastructure etc. Mohan is currently pioneering Cyber Education space in India to create awareness and fill the gap in skills to tackle potential damages due to cybercrimes in partnership with leading academic institutions across India.</p> <p><b>Lead Academic Faculty Members:</b>          Professor Noor Mahammad SK – IIIT D&amp;M - Kanchipuram          Professor Harish Ramani – Visiting Faculty – IIIT-B          Professor Mohan Ram – Adjunct Faculty – IIIT-B</p> <p>And other industry experts from a pool of consultants / experts with FISST &amp; IIIT D&amp;M.</p>

<b>Duration</b>	Live delivery (Virtual) by instructors with Assignments  Advanced course – 90 hours (20 weeks x 2 hrs per day on Sat & Sun) + 10 hours of Bootcamp (one day) @ IIT-M campus Total = 90 hours		
<b>Class Schedule</b>	Twice a week on on Saturdays & Sundays for 20 weeks (5 months)		
<b>Programme Highlights/USPs</b>	<p><b>Course Benefits to Participants</b></p> <p>On successful completion of the programme, you will be able to Build a lucrative and futuristic career in the field of Cyber Security. According to NASSCOM, the estimated demand for security workforce to rise globally to six million by 2019, up from 4 million in 2015, with projected shortfall of 1.5 million (<a href="https://www.gadgetsnow.com/tech-news/Cybersecurity-to-create-1million-jobs-Nasscom/articleshow/51884133.cms">https://www.gadgetsnow.com/tech-news/Cybersecurity-to-create-1million-jobs-Nasscom/articleshow/51884133.cms</a>)</p> <p>Other benefits to participants include</p> <ul style="list-style-type: none"> <li>• Opportunity to earn a Certificate from IIT Madras.</li> <li>• Lectures imparted by eminent academicians and practicing industry experts.</li> <li>• Get complete exposure to contemporary and most sought after skills related to Information Security and Digital Forensics &amp; Incident Management</li> <li>• Fully Online Course with LIVE online interactive lectures that provides a “real” classroom experience in a “virtual” environment. No isolated learning experience.</li> <li>• Seamless technology that can transmit lecture videos effectively at home broadband connection of 512 kbps.</li> <li>• User friendly and easy to use technology interface. No expensive and time consuming software/hardware installations required at your end.</li> <li>• Virtual classrooms that allow for active interactions with other fellow students and faculty.</li> <li>• Convenient weekend schedules</li> <li>• In the event that students miss attending the LIVE lecture on the Virtual Classroom for some reason, students will be granted access to the recorded sessions for a specified number of days/times.</li> <li>• FISST Whizard Cloud Campus – Students on our virtual social learning platform are provided access to course presentations, projects, case studies, assignments and other reference materials as applicable for specified courses. Students can raise questions and doubts either real time during the live class or offline through the Cloud Campus.</li> <li>• Learn from Anywhere – No need to travel to an institute or training center. Learning continues even if you are traveling or not available at any specific location. You may also learn from the comfort of your home.</li> </ul>		
<b>Total Fees</b>		<b>Total Fees (Rs.)</b>	
	Total Programme Fee	Rs. 50,000/- + GST	

## ANNEXURE 1

Proposed Course outline / programme / plan

### ADVANCED – 90 hours

#### **Module 1 - Digital Forensics and Incident Response (DFIR) – 30 hrs**

Introduction to Digital Forensics

- Forensics: file system analysis
- Forensics: registry forensics
- Forensics: memory forensics
- Forensics: browser forensics
- Forensics: Windows log file analysis
- Forensics: Introduction to network forensics

#### **Module 2 – Network Detection and Packet Analysis – 30 hrs**

- Network Security Monitoring
- IP, TCP, and UDP Refresher
- Advanced Packet Analysis
- Introduction to Network Forensics with Security Onion
- Identifying Malicious Content and Streams
- Extracting and Repairing Content from PCAP files
- Traffic Visualization Tools
- Intrusion Detection and Intrusion Prevention
  - Snort In-Depth
  - Writing Snort Signatures
- Handling Encrypted Network Traffic

Exercises

- Analyzing PCAPs with TCPdump
- Attack Analysis with Wireshark
- Crafting Packets to Test Network Monitoring
- Network Forensics with Security Onion: Detecting Malicious Activity
- Extracting PCAP Content for Forensics
- Snort Basics
- Wireshark Network Compromise Analysis

### **Module 3 – Malware Analysis – 30 hrs.**

- Introduction to Malware Analysis
- The Many Types of Malware
- ATM/Cash Machine Malware
- Building a Lab Environment for Malware Analysis
- Malware Locations and Footprints
- Fully Automated Malware
- Cuckoo Sandbox
- Static Properties Analysis
- Interactive Behavior Analysis
- Manual Code Reversing
- Tools such as IDA, PeStudio, ILSpy, Process Hacker, Process Monitor, NoFuserEx, etc.

Tools and Exercises will be part of Bootcamp for Two days @ Chennai