

| Week | Module Title | Outcome | Assessments Due |
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| 1 | Operating System Vulnerabilities and Exploits | Review OS components, identify vulnerabilities and outline general purposes and uses of exploiting computer operating systems. | |
| 2 | Shellcode | Create Shell code | Lab 1 |
| 3 | Buffer Overflow Exploit | Implement buffer overflow to exploit operating systems | Lab 2 |
| 4 | Windows Exploits and Buffer Overflow | Implement buffer overflow – NOP and ROP techniques to exploit operating system | Lab 3 |
| 5 | Advanced Windows Exploits | Implement Structured Exception Handling (SEH) and UAC to exploit Windows operating systems | Lab 4 |
| 6 | Loadable Kernel Modules | Create Loadable Kernel Modules | Theory Quiz 1 Lab Quiz 1 (It covers Labs 1, 2, 3 and 4) |
| 7 | Linux rootkits | Hooking system calls and kernel objects | Lab 5 |
| 8 | | | Lab 6 |
| 9 | Windows rootkits and post-exploitation | Hooking system calls and kernel objects | Lab 7 |
| 10 | | | Theory Quiz 2 Lab Quiz 2 (it covers Labs 5, 6 and 7) |
| 11 | Bootkits Firmware Exploits | Exploit firmware | Lab 8 |
| 12 | Detection | Monitor and detect operating systems events | Lab 9 |
| 13 | Detection | Monitor and detect operating systems events | Lab 10 |
| 14 | Pen Testing tools | Pen Test tools to exploit, and perform post-exploits of operating systems | Theory Quiz 3 Lab Quiz 3 (It covers Labs 8, 9 and 10) |

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| 15 | Final Project | | Final Project |

Note: Schedule may be subject to change.