FAKULTI TEKNOLOGI DAN KEJURUTERAAN

PROGRAM	**Diploma In Information Technology (System Support)**
COURSE NAME	**Web Security**
COURSE CODE	**DTS 4043**
CREDIT HOUR	**3**
SYNOPSIS	Study and practice fundamental techniques in developing secure web based applications, including vulnerability of web based applications and how to protect those applications from attacks. In addition, advanced topics related to Web, such as E-commerce security, Web 2.0, collaborative Web-based applications, etc., will also be studied. Students are encouraged to complete a publishable research paper on one of the related topics.
COURSE STRUCTURE	
TOPIC	**TITLE**
1	Topic 1: Introduction 1.1 The Internet. 1.2 The World Wide Web. Vulnerabilities, 1.3 Threats and Countermeasures. 1.4 Generic Security Model.
2	Topic 2: HTTP User Authentication and Authorization 2.1 Basic Authentication. 2.2 Digest Authentication. 2.3 Certificate-Based Authentication. 2.4 Authorization and Access Control.
3	Topic 3: Proxy Servers and Firewalls 3.1 Packet Filtering and Stateful Inspection. 3.2 Circuit-Level Gateways. 3.3 Firewall Configurations.
4	Topic 4: Cryptographic Techniques 4.1 One-Way Hash Configurations. 4.2 Secret Key Cryptography.
5	Topic 4: Cryptographic Techniques 4.3 Public Key Cryptography. 4.4 Legal Considerations. 4.5 Notation.

6	Topic 5: Internet Security Protocols 5.1 Network Access Layer Security Protocols. 5.2 Internet Layer Security Protocols.
7	Topic 5: Internet Security Protocols 5.3 Transport Layer Security Protocols. 5.4 Application Layer Security Protocols
8	Topic 6: The SSL and TLS Protocols 6.1 The SSL Protocol. 6.2 The TLS Protocol. 6.3 Firewall Tunneling.
9	Topic 7: Electronic Payment Schemes 7.1 SSL Server Certificates 7.2 Online Payment Services
10	Topic 8: Managing Certificates 8.1 A Distributed Certificate Management System
11	Topic 8: Managing Certificates 8.2 Attribute Certificates. 8.3 Certificate Revocation.
12	Topic 9: Privacy protection and Anonymous Browsing 9.1 Cookies. 9.2 The Anonymizer. 9.3 Onion Routing.
13	Topic 9: Privacy protection and Anonymous Browsing 9.4 Lucent Personalized Web Assistant. 9.5 Crowds.
14	Topic 9: Privacy protection and Anonymous Browsing 9.6 Janus. 9.7 Taz Servers and the Rewebber Network.
References	1. Peter Kim. The Hacker Playbook 3: Practical Guide to Penetration Testing. Artech House Publishers. 2018. 2. Charles P. Pfleeger, Shari Lawrence. Security in Computing. 5th Edition. Prentice-HallInternational, 2018. 3. Wu Hanqing, Liz Zhao.Web Security: A Whitehat Perspective. Auerbach Publications. 2015. 4. SarwarSayeed, Web Security: How to secure a web environment, Kindle Edition, 2015.