ELECTRICAL AND COMPUTER ENGINEERING

Advanced Topics Course

TRUSTWORTHY WIRELESS NETWORKS
ECE 6504

Syllabus

	Percent of Course

Security and trust concepts and issues in wireless networks
• Network traffic characterization
  ○ Traffic in a wireless LAN
  ○ Traffic in a mobile network
  ○ Traffic in a vehicular network
  ○ Traffic In a sensor network
• Vulnerabilities in the IP stack
• Taxonomy and impact of attacks at the different network layers
	15%

Trustworthy wireless network design • Key management • Authentication • Trust management • MobileIP and routing security • 802.x Security • Secure localization	10% 10% 10% 10% 10% 5%
Trustworthy wireless network analysis and optimization • Network and attack modeling • Network security, trust and performance metrics and tradeoffs • Network monitoring and attack detection • Cross-layer optimization of security protocols	20%
Deployment, operation and recovery issues • Bootstrapping and configuration of trustworthy wireless networks • Network survivability and self-healing • Trust and security issues in converged wireless and wireline network	10%