

CS 591: Introduction to Computer Security

Midterm Grading Comments

James Hook

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Grading Guide:

- Q1: Availability, Integrity, Confidentiality
 - 2 points each definition
 - 1 point each illustration of violation
 - 1 point for attempting problem
- Q2: Policy and Mechanism
 - 3 points each definition
 - 2 points each example

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Grading Guide:

- Q3: Chinese Wall
 - 3 points for motivating scenario
 - 3 points for mechanisms (COI, simple security rule, *-rule)
 - 2 points how to model with Bell LaPadula
 - 2 points shortcomings of using Bell LaPadula
- Q4: Digital signature
 - 3 points: agreement adjudicated by trusted third party
 - 2 points: property: non-repudiation
 - 2 points: property compromised by bogus (non-repudiation)
 - 3 points: justification of forgery attack

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Grading Guide:

- Q5: Access controls
 - 2 points each AC control mode
 - 3 points which plays with which (1 per pair)
 - 1 point for attempting problem
- Q6: DG/UX confidentiality & integrity
 - 4 points: range of levels (MAC tuples)
 - 3 points: why confidentiality; what protected
 - 3 points: why integrity; what protected

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Grading Guide:

- Q7: Denning Information Flow
 - 5 points: a flow exploiting exceptions
 - 5 points: discussion of how to control
 - Looked for evidence of how to control within the model of Denning and Denning, e.g. assigning labels and constraints to exception handlers
- Q8: Nonces
 - 5 points: Nonces prevent replay
 - 5 points: Give a replay attack of simplified protocol

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Grading Guide:

- Q9: Block/Stream
 - 2 points each definition (block/stream)
 - 2 points each classification
- Q10: Crypto facts
 - 2 points each
 - Diffie-Hellman allowed either DH algorithm for key negotiation (intended answer) or general contribution of public key encryption framework [consulted text; this was stressed DH contribution]

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Distribution:

- 100
- 94 92 92
- 87 87 85 84 84 83 83 83 83 81 81 80
- 78 75 74 71
- 65 64 64 64 63 60 60
- 59 59 57 56 54 50
- 48

Average = 70.4

- 28 28

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