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**FIT3105 Security and identity management - Semester 1, 2011**

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FIT3105 Security and identity management - Semester 1, 2011

Introduces students to current theory and practice of authentication and identity management. This includes authentication and identity management of system components (software, hardware, data and users); Biometric based Identification systems; Smart card based Identification systems; Crypto-based Identification systems; Kerberos authentication systems; Large population ID management and security; Privacy, security, and efficiency of identification systems.

Mode of Delivery
Caulfield (Day)

Contact Hours
2 hrs lectures/wk, 2 hrs laboratories/wk

Workload
Students will be expected to spend a total of 12 hours per week during semester on this unit.

This will include:
Lectures: 2 hours per week
Tutorials/Lab Sessions: 2 hours per week

and an additional 8 hours for completing lab and project work, private study and revision.

Unit Relationships

Prerequisites
FIT1019 or equivalent

Chief Examiner
Phu Dung Le

Campus Lecturer
Caulfield
Phu Dung Le

Tutors
Learning Objectives

At the completion of this unit students will:

- understand the importance of authentication of system components: data, software, hardware, users and subsystems;
- understand the implementation of different techniques for authentication and identification;
- understand the significance of authentication and identity management in IT security;
- understand different authentication and identity management systems;
- understand the role of biometric, smartcards, crypto-based techniques and their issues when applied to authentication process;
- understand existing networked authentication models and protocols for distributed systems, such as kerberos;
- appreciate the role of distributed authentication models and protocols in securing electronic transactions;
- practically gain the experience of system applications identification and authentication;
- practically gain the experience of users identification and authentication;
- practically gain the experience of crypto-based authentication and identification techniques for users, system software and applications;
- practically gain the experience of identifying and authenticating network and system components.

Graduate Attributes

Monash prepares its graduates to be:

1. responsible and effective global citizens who:
   a. engage in an internationalised world
   b. exhibit cross-cultural competence
   c. demonstrate ethical values

critical and creative scholars who:

   a. produce innovative solutions to problems
   b. apply research skills to a range of challenges
   c. communicate perceptively and effectively

Assessment Summary

Examination (3 hours): 50%; In-semester assessment: 50%

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment 1 - Identifying computer system components and evaluating</td>
<td>20%</td>
<td>Week 8, Monday, 4pm</td>
</tr>
</tbody>
</table>
authentication methods

Assignment 2 - Design a digital ID system 20% Week 12, Friday, 4pm

Laboratory work 10% You are expected to complete your work each lab session however it depends on the condition of the lab (e.g. computers or devices may not work).

Examination 1 50% To be advised

Teaching Approach

Lecture and tutorials or problem classes

This teaching and learning approach provides facilitated learning, practical exploration and peer learning.

Feedback

Our feedback to You

Types of feedback you can expect to receive in this unit are:

- Graded assignments with comments
- Interviews

Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through SETU, Student Evaluation of Teacher and Unit. The University’s student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, and on student evaluations, see:
http://www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

Previous Student Evaluations of this unit

If you wish to view how previous students rated this unit, please go to https://emuapps.monash.edu.au/unitevaluations/index.jsp

Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date*</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21/02/11</td>
<td>No formal assessment or activities are undertaken in week 0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>28/02/11</td>
<td>Introduction to authentication and identity management</td>
<td></td>
</tr>
</tbody>
</table>
**Assessment Policy**

To pass a unit which includes an examination as part of the assessment a student must obtain:

- 40% or more in the unit's examination, and
- 40% or more in the unit's total non-examination assessment, and
- an overall unit mark of 50% or more.

If a student does not achieve 40% or more in the unit examination or the unit non-examination total assessment, and the total mark for the unit is greater than 50% then a mark of no greater than 49-N will be recorded for the unit.

**Assessment Tasks**

**Participation**

Lab/tutorial sessions are compulsory.

- **Assessment task 1**

  **Title:**
  Assignment 1 - Identifying computer system components and evaluating authentication methods
Description:
Part 1 - Describe in detail the existing methods of identifying all computer components, find problems with them and make suggestions for better methods.

Part 2 - Study existing authentication methods, find problems with them and make suggestions for better methods.

Weighting:
20%

Criteria for assessment:
You need to be able to understand the theory and demonstrate your practical work to your tutor.

If you fail to understand what you have done you will get a ZERO for the assignment.

If you can demonstrate your practical work, but understand only a bit of the theory, you will get a Pass at the most.

If you can demonstrate your practical work, but understand only 25% of the theory, you will get a Credit at the most.

If you can demonstrate your practical work, but understand only 50% of the theory, you will get a Distinction at the most.

If you can demonstrate your practical work, and understand the theory well, you will get a High Distinction.

Due date:
Week 8, Monday, 4pm

Remarks:
You are required to read the assignment specification for full details. The Unit Guide only gives brief descriptions of the assignments.

• Assessment task 2

Title:
Assignment 2 - Design a digital ID system

Description:
You are required to study existing technologies for authentication and identification, and design a digital ID system using smart cards, biometrics and cryptographic methods.

Weighting:
20%

Criteria for assessment:
You need to be able to understand your work.

If you fail to explain what you have done you will get a ZERO for the assignment.

Due date:
Week 12, Friday, 4pm

Remarks:
You are required to read the assignment specification for full details. The Unit Guide only gives brief descriptions of the assignments.
• Assessment task 3

Title: Laboratory work

Description: You are required to:

1. Understand computer system components and the methods to identify those components in practice in both Unix and Windows environments.

2. Understand and practically know how crypto and biometrics are used with smart cards.

3. Understand and practically know how private and public key systems can be used for authentication and identification.

Weighting:
10%

Criteria for assessment:
You need to be able to understand the theory and demonstrate your practical work to your tutor.

If you fail to understand what you have done you will get a ZERO for the assignment.

If you can demonstrate your practical work, but understand only a bit of the theory, you will get a Pass at the most.

If you can demonstrate your practical work, but understand only 25% of the theory, you will get a Credit at the most.

If you can demonstrate your practical work, but understand only 50% of the theory, you will get a Distinction at the most.

If you can demonstrate your practical work, and understand the theory well, you will get a High Distinction.

Due date: You are expected to complete your work each lab session however it depends on the condition of the lab (e.g computers or devices may not work).

Examinations

• Examination 1

Weighting:
50%

Length: 3 hours

Type (open/closed book):
Closed book

Electronic devices allowed in the exam:
None
**Assignment submission**


You MUST submit a completed coversheet with all assignments, ensuring that the plagiarism declaration section is signed.

**Extensions and penalties**

Submission must be made by the due date otherwise penalties will be enforced.


**Returning assignments**

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.

**Policies**

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at: [http://policy.monash.edu.au/policy-bank/academic/education/index.html](http://policy.monash.edu.au/policy-bank/academic/education/index.html)

Key educational policies include:

- Plagiarism ([http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html](http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html))
- Special Consideration ([http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.html](http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.html))
- Discipline: Student Policy ([http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html](http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html))
- Academic Calendar and Semesters ([http://www.monash.edu.au/students/key-dates/](http://www.monash.edu.au/students/key-dates/));

**Student services**

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at [www.monash.edu.au/students](http://www.monash.edu.au/students). The Monash University Library provides a range of services and resources that enable you to save time and be more effective in your learning and research. Go to [http://www.lib.monash.edu.au](http://www.lib.monash.edu.au) or the library tab in my.monash portal.
for more information. Students who have a disability or medical condition are welcome to contact the Disability Liaison Unit to discuss academic support services. Disability Liaison Officers (DLOs) visit all Victorian campuses on a regular basis

- Website: [http://adm.monash.edu/sss/equity-diversity/disability-liaison/index.html](http://adm.monash.edu/sss/equity-diversity/disability-liaison/index.html);
- Telephone: 03 9905 5704 to book an appointment with a DLO;
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus.

**Other Information**

Recommended books, articles, and Internet resources will be advised.