Description: Multimedia Systems and Communications

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cat-nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
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<td>CSC</td>
<td>3410</td>
<td>34385</td>
<td>2, 2004</td>
<td>ONC</td>
<td>1.00</td>
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Academic group: FOSCI
Academic org: FOS003
Student contribution band: 2
ASCED code: 029999

STAFFING
Examiner: Khaleel Petrus
Moderator: Penny de Byl

REQUISITES
Pre-requisite: CSC1401

OTHER-REQUISITES
Recommended Pre-requisite: CSC2402

RATIONALE
Multimedia offers dynamic presentation of information by combining audio and video with text, image graphics, and animation. Distributed multimedia systems have enormous potentials in many applications such as digital library, distance education, entertainment and video-conferencing. This course is designed to cover the hardware and system software support of distributed multimedia systems. It focuses on multimedia devices and data formats, multimedia operating systems and multimedia communication systems. This course is not designed to teach how to use multimedia systems to end users, although multimedia applications are introduced to some extent. It is rather a course on the techniques of design and implementation of distributed multimedia systems. The knowledge and skills acquired in this course are essential for the development of individual components of a multimedia system.

SYNOPSIS
This course covers the hardware and system software support of distributed multimedia systems. It focuses on multimedia devices and data formats, multimedia operating systems and multimedia communication systems. The topics include basic concepts of sound and image, video and animation, data compression, optical storage media, multimedia operating
systems, real-time scheduling, multimedia communication systems, Quality of Service, etc. Students will gain the knowledge and skills in the design and development of components of distributed multimedia systems.

**OBJECTIVES**

On successful completion of this course students will be able to:

1. have a good understanding of basic multimedia concepts: sound and image, video and animation, data compression, optical storage media;
2. be familiar with multimedia operating systems, multimedia database systems and multimedia communication systems;
3. have knowledge and skills of the development of components of a multimedia system;
4. demonstrate an ability to develop multimedia applications.

**TOPICS**

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>1. Introduction</td>
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<tr>
<td>2. Internet and Java Programming</td>
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<tr>
<td>3. Data Compression and Decompression</td>
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<tr>
<td>4. Format Standards</td>
<td>5.00</td>
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<tr>
<td>5. Multimedia Input/Output Technologies</td>
<td>5.00</td>
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<tr>
<td>6. Storage and Retrieval Technologies</td>
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<td>7. Optical storage media</td>
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<td>8. Telecommunications</td>
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<td>9. Multimedia Application Design</td>
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<td>10. Multimedia Authoring and User Interface</td>
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<td>11. Hypermedia</td>
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<td>12. Distributed Multimedia Systems</td>
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<td>13. Multimedia Design Methodology</td>
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**TEXT and MATERIALS required to be PURCHASED or ACCESSED:**

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at http://bookshop.usq.edu.au click 'Semester', then enter your 'Course Code' (no spaces).
Students must have access to a Java Development Kit (JDK) version 1.4 or later. Option: The latest version of JDK is provided on the Mathematics and Computing CDROM Set 1 available from the USQ Bookshop.

Department of Mathematics and Computing CDROM SET 1, 2004 (available from the USQ Bookshop). This CD set contains course material, Windows and Linux Software relevant to this course offering only. Department of Mathematics and Computing CDROM SET 2, 2004 (available from the USQ Bookshop). This set contains a complete Redhat Linux distribution which is required for this course. For more information about the CD sets and their use, please refer to http://www.sci.usq.edu.au/cdrom and the course web site.

(ISBN: 0-470-85890-7)

Introductory Book 2004, *Course CSC3410 Multimedia Systems and Communications*, USQ Distance Education Centre, Toowoomba.

Study Book 2004, *Course CSC3410 Multimedia Systems and Communications*, USQ Distance Education Centre, Toowoomba.

**REFERENCE MATERIALS:**

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.


**STUDENT WORKLOAD REQUIREMENTS:**

<table>
<thead>
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<th>ACTIVITY</th>
<th>HOURS</th>
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<tr>
<td>Directed Study</td>
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<tr>
<td>Examinations</td>
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<tr>
<td>Laboratory</td>
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<tr>
<td>Lectures</td>
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<td>Private Study</td>
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ASSESSMENT DETAILS

<table>
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<tr>
<th>Description</th>
<th>Marks out of</th>
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<tr>
<td>ASSIGNMENT 1</td>
<td>100.00</td>
<td>0.00</td>
<td>12 Aug 2004</td>
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<td>ASSIGNMENT 2</td>
<td>100.00</td>
<td>21.00</td>
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<td>ASSESSMENT 3</td>
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<td>24.00</td>
<td>28 Oct 2004</td>
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<td>2 HOUR RESTRICTED EXAM</td>
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NOTES:
1. Examination dates will be available during the Semester. Please refer to the examination timetable when published.

IMPORTANT ASSESSMENT INFORMATION

1. Attendance requirements:
   It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.

2. Requirements for students to complete each assessment item satisfactorily:
   To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item.

3. Penalties for late submission of required work:
   If students submit assignments after the due date without prior approval then a penalty of 10% of the total marks available for the assignment will apply for each day late.

4. Requirements for student to be awarded a passing grade in the course:
   To be assured of a passing grade, students must demonstrate, via the summative assessment items, that they have achieved the required minimum standards in relation to the objectives of the course by satisfactorily completing all summative assessment items (the examination and assignments). Students who do not qualify for a Passing grade may, at the discretion of the Examiner, be awarded a Supplementary Examination and/or assigned additional work to demonstrate to the Examiner that they have achieved the required standard. It is expected that such students will have gained at least 45% of the total marks available for all summative assessment items.

5. Method used to combine assessment results to attain final grade:
   The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.

6. Examination information:
   In a Restricted Examination, candidates are allowed access to specific materials during the examination. The only materials that candidates may use in the restricted examination for this course are: writing materials (non-electronic and free from
material which could give the student an unfair advantage in the examination);
calculators which cannot hold textual information (students must indicate on their
examination paper the make and model of any calculator(s) they use during the
examination.

7 Examination period when Deferred/Supplementary examinations will be held:
   Any Deferred or Supplementary examinations for this course will be held during
   the examination period at the end of the semester of the next offering of this course.

8 University Regulations:
   Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10
   Academic Misconduct for further information and to avoid actions which might
   contravene University Regulations. These regulations can be found at the URL
   http://www.usq.edu.au/corporateservices/calendar/part5.htm or in the current USQ
   Handbook.

ASSESSMENT NOTES

9 Students must retain a copy of each item submitted for assessment. If requested,
   students will be required to provide a copy of assignments submitted for assessment
   purposes. Such copies should be despatched to USQ within 24 hours of receipt of
   a request being made.

10 Students will require access to e-mail and internet access to USQConnect for this
course.