**Document N: Course and Program Development:**

**IMPACT AND APPROVAL SIGNATURES**

See Course and Program Development Policy and Procedures (www.ubalt.edu/provost) for instructions.

**SCHOOL:**
- LAW
- MSB
- CAS
- CPA

**CONTACT NAME:** Mohammed Ketel  
**PHONE:** 410-837-5278

**DEPARTMENT/DIVISION:** Science, Information Arts and Technologies  
**DATE PREPARED:** 3/23/12

**PROPOSED SEMESTER OF IMPLEMENTATION:**
- fall
- spring

**YEAR:** 2013

**TYPE OF ACTION:**
- add (new)
- deactivate
- modify
- other

**LEVEL OF ACTION:**
- noncredit
- undergraduate
- graduate
- other

**ACTION BEING REQUESTED** (select one category, either Course Actions or Program Actions):

- **COURSE ACTIONS**
  - Original Subject Code/Course Number: COSC 305
  - Original Course Title: Networking: Theory and Application

- **PROGRAM ACTIONS**
  - Original Program Title:

**Select one or multiple actions from one of the lists below (review the list of necessary documents and signatures):**

<table>
<thead>
<tr>
<th>COURSE ACTIONS</th>
<th>PROGRAM ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Experimental Course</td>
<td>10. Program Requirements</td>
</tr>
<tr>
<td>✓ 2. Course Title</td>
<td>11a. Undergraduate Specialization (24 credits or fewer)</td>
</tr>
<tr>
<td>3. Course Credits</td>
<td>11b. Master’s Specialization (12 credits or fewer)</td>
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<tr>
<td>✓ 4. Course Number</td>
<td>11c. Doctoral Specialization (18 credits or fewer)</td>
</tr>
<tr>
<td>5. Course Level</td>
<td>12. Minor (add or delete)</td>
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<tr>
<td>6. Pre- and Co-Requisite</td>
<td>13. Closed Site Program</td>
</tr>
<tr>
<td>✓ 7. Course Description</td>
<td>14. Program Suspension</td>
</tr>
<tr>
<td>8. New Course</td>
<td>15. Program Reactivation</td>
</tr>
<tr>
<td>9. Deactivate Course</td>
<td>16a. Certificate Program (UG/G) exclusively within existing degree program</td>
</tr>
<tr>
<td>22. Other</td>
<td>16b. Certificate Program (UG/G) outside of or across degree programs (12 or more credits)</td>
</tr>
</tbody>
</table>

**ADDITIONAL DOCUMENTATION** (check all appropriate boxes of documents included; review the list of necessary documents):

- summary proposal (O)
- course definition document (P)
- full five-page MHEC proposal (Q)
- financial tables (MHEC) (R)
- other documents as may be required by MHEC/USM (S)
- other (T)
## IMPACT REVIEW (review the list of necessary signatures):

<table>
<thead>
<tr>
<th>Impacted Entity</th>
<th>Signature</th>
<th>Date</th>
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<td>b. OTS</td>
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<td>c. University Relations</td>
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<td>d. Admissions</td>
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## APPROVAL SEQUENCE (review the list of necessary signatures):

<table>
<thead>
<tr>
<th>Approval Level</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Department/Division (Chair)</td>
<td>[Signature]</td>
<td>5/24/13</td>
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<tr>
<td>B. General Education (for No. 7, 8)</td>
<td>[Signature]</td>
<td>5/19/13</td>
</tr>
<tr>
<td>C. Final Faculty Review Body Within Each School (Chair)</td>
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<td>5/16/13</td>
</tr>
<tr>
<td>D. Dean</td>
<td>[Signature]</td>
<td>5/16/13</td>
</tr>
<tr>
<td>E. University Faculty Senate (Chair)</td>
<td>[Signature]</td>
<td>5/11/13</td>
</tr>
<tr>
<td>F. University Council (Chair)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>[Signature]</td>
<td>5/11/13</td>
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<tr>
<td>G. Provost and Senior Vice President for Academic Affairs</td>
<td>[Signature]</td>
<td>5/11/13</td>
</tr>
<tr>
<td>H. President</td>
<td>[Signature]</td>
<td>5/11/13</td>
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<tr>
<td>I. Board of Regents (notification only)</td>
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<tr>
<td>J. Board of Regents (approval)</td>
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<tr>
<td>K. MHEC (notification only)</td>
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<td>5/11/13</td>
</tr>
<tr>
<td>L. MHEC (approval)</td>
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<td>5/11/13</td>
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<tr>
<td>M. Middle States Association notification</td>
<td>Required only if the University's mission is changed by the action</td>
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</tbody>
</table>

<sup>1</sup> University Council review (for recommendation to the president or back to the provost) shall be limited to curricular or academic policy issues that may potentially affect the University's mission and strategic planning, or have a significant impact on the generation or allocation of its financial resources.
Course and Program Development: SUMMARY PROPOSAL

See Course and Program Development Policy and Procedures (www.ubalt.edu/provost) for instructions.

SCHOOL: CAS

CONTACT NAME: Mohammed Ketel
PHONE: 410-837-5278

DEPARTMENT/DIVISION: Science, Information Arts and Technologies

DATE PREPARED: 3/23/12

PROPOSED SEMESTER OF IMPLEMENTATION: Fall 2013

ACTION BEING REQUESTED (select one category, either Course Actions or Program Actions):

Course Actions

Original Subject Code/Course Number: COSC 305

Original Course Title: Networking: Theory and Application

Select one or multiple actions from one of the lists below (review the list of necessary documents and signatures):

- 1. Experimental Course
- 2. Course Title
- 3. Course Credits
- 4. Course Number
- 5. Course Level
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- 7. Course Description
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- 14. Program Suspension
- 15. Program Reactivation
- 16a. Certificate Program (UG/G) exclusively within existing degree program
- 16b. Certificate Program (UG/G) outside of or across degree programs (12 or more credits)
- 17. Off-Campus Delivery of Existing Programs
- 18a. Undergraduate Concentration (exceeds 24 credits)
- 18b. Master’s Concentration (exceeds 12 credits)
- 18c. Doctoral Concentration (exceeds 18 credits)
- 19. Program Title Change
- 20. Program Termination
- 21. New Degree Program
- 22. Other

For changes to existing courses:

OLD TITLE Networking: Theory and Application

NEW TITLE Fundamentals of Computer Networks

SUBJECT CODE/COURSE NO. COSC 305 CREDITS 3

SUBJECT CODE/COURSE NO. COSC 310 CREDITS 3
The Applied Information Technology Program - Division Science, Information Arts and Technologies proposes four changes to the current COSC 305: Networking: Theory and Application.

1. Course number Change from COSC 305 to COSC 310.
2. Title change from "Networking: Theory and Application" to "Fundamentals of Computer Networks."
3. Catalog course description change:

   from

   An introduction to networks, including network operating system concepts. Topics include network components, the OSI and 802 models, protocols, network architecture, network administration and support, LANs, WANs and troubleshooting. This course requires each student to purchase an unassembled computer that he/she builds in class. These computers are then used to support networking exercises. Laboratory fee required.

   to

   An introduction to computer networks, including network operating system concepts. Topics include network components, layered network architectures, topologies, network protocols, Ethernet, wireless transmission, local area networks, wide area networks, switching and routing, network configuration and troubleshooting. Course also prepares students for CompTIA's Network+ certification exam. Lab fee required.

SET FORTH THE RATIONALE FOR THIS PROPOSAL:

This course is a core requirement for Applied Information Technology majors; a major elective for Simulation and Digital Entertainment majors; a general elective for other UB undergraduates.

We are changing the number to provide a more logical sequence for the tracks. The description is being updated to keep up with the changes in the field. The course materials also prepare students for the vendor-neutral CompTIA Network+ industry certification exam.
3/2/12

Mohammed Ketel

Division of Science, Information Arts and Technologies

COSC 310

Fundamentals of Computer Networks

3

An introduction to computer networks, including network operating system concepts. Topics include network components, layered network architectures, topologies, network protocols, Ethernet, wireless transmission, local area networks, wide area networks, switching and routing, network configuration and troubleshooting. Course also prepares students for CompTIA's Network+ certification exam. Lab fee required.

None

Requirement for Applied Information Technology majors; major elective for Simulation and Digital Entertainment majors; general elective for other UB undergraduates.

none

Lecture

M. Ketel, C. Wright Brown and adjuncts
13. CONTENT OUTLINE

- An Introduction to Networking.
- Networking Standards and the OSI Model.
- Transmission Basics and Networking Media.
- Introduction to TCP/IP Protocols.
- Topologies and Ethernet Standards.
- Network Hardware, Switching, and Routing.
- Wide Area Networks.
- Wireless Networking.
- Virtual Networking and Remote Access.
- Voice and Video Over IP.
- Troubleshooting Network Problems.
- Ensuring Integrity and Availability.

14. LEARNING GOALS

By the end of the course, students should be able to:

- Explain fundamental computer network concepts and architectures.
- Compare and contrast the roles and operation of various computer network devices.
- Understand the protocols used by computer networks.
- Classify computer network technologies with respect to the OSI 7-layer reference model.
- Describe techniques and tools used for network monitoring and analysis.

15. ASSESSMENT STRATEGIES

Completion of a series of quizzes, examinations, case studies, laboratory assignments and group and/or individual projects designed to demonstrate the student’s mastery of the knowledge and practical skills required in applied information technology.

16. SUGGESTED TEXT(S) and MATERIALS (e.g. textbooks, equipment, software, etc., that students must purchase)

Required:

Recommended:

17. SPECIAL GRADING OPTIONS (if applicable)

none

18. SUGGESTED CLASS SIZE

24

19. LAB FEES (if applicable)

$45 per course. Laboratory fees cover additional instructional costs incurred in the operation of computer laboratories necessary for teaching this course and for students’ preparation of classwork, including maintenance and routine upgrades to software and hardware, as well as the renewal of yearly software licenses.