Submitted by: Chiso Okafor

Department/Division: Information Systems Technology/ STEM Division

Name of Courses:
- IST 117 IT Essentials – PC Hardware & Software
- IST 142 Network Fundamentals
- IST 143 Routing and Protocols
- IST 144 LAN Switching and Wireless
- IST 242 Accessing the WAN
- IST 245 MS Windows Server Administration

For New Course only:

Proposed Course Number ____________________ Registrar Verification ____________

Curriculum Committee Form

Revised – F2011

IST Dept.
ROXBURY COMMUNITY COLLEGE
SIX NEW COURSE PROPOSAL

1  Course Name:
   IT Essentials – PC Hardware and Software

2  Course Number:
   IST 117

3  Course Credit:
   4Cr

4  Course/Catalog Description:
   This course covers the fundamentals of computer hardware and software. It is designed
to equip students with the hands-on activities and skills necessary to assemble computers,
troubleshoot hardware and software issues using e-learning system tools and diagnostic
software, connect to the internet and share resources in a network environment, learn
proper procedure for hardware and software installations, upgrades, and prepare them to
take the Cisco Comp TIA A+ essentials exam.

5  Prerequisites:
   ENG 091 eligible

6  This Course is a requirement for the following programs:
   Network Administration
   Can be taken as an IST elective within the IST programs

7  Narrative Rationale and Justification
   In an effort to meet student and industry demands for certified Network Engineers and
   Technicians, as well as a transferable AS degree in Network Administration, the IST
   Department proposes to introduce a revised Network Administration AS degree and
   Certificates. Where possible the new degree/certificate programs will be geared to meet
   articulation agreements, industry certification standards and guidelines. It will offer a
   smooth transition to the University of Massachusetts Boston towards a four year
   Bachelor’s degree in BSIT (BS in Information Technology) and it will be transferable to
   other public or private colleges and universities.
   
   This effort aligns with RCC’s strategic plan Goal 4: To systematically and proactively
   support students in identifying, formulating and accomplishing their learning, career and

IST Dept.
personal goals, Strategy C) To continually find new ways to integrate curricular, career and student support services, Objective 2: Connect curriculum with careers. Activity: Develop workforce certificate Computer Technician and courses, to be a stackable certificate into the Network Administration (Certificate and AS Degree). (Pages 28 and 29 of the RCC Strategic Plan, Action Plans – Year 2)

IT Essentials: PC Hardware and Software is one of the required courses for the AS and certificate degree programs.

8 Instructional Objectives

The method of instruction will consist of lectures, classroom discussions, lab and homework assignments. Students are expected to come to class prepared by reading the chapters. Hands on learning tools will be used to support hands on learning. Hands-on interactive activities and troubleshooting hardware and software simulation will supplement classroom learning. Activities are designed to allow for alignment to CompTIA A+ essentials certification objectives. There will be significant class time spent demonstrating the practical use of these tools. Review assignments and readings will be assigned to help support and supplement the material found in the text. A final project will be given to students to work in teams, and present before their peers.

1 Students will demonstrate their knowledge of hardware and software concepts by configuring and disassembling PC’s

2 Students will learn effective communication, interpersonal relations, and teamwork skills by completing class and lab assignments emphasizing these skills and then working in teams or individually to complete assigned projects.

3 Students will develop critical thinking and analytical problem solving skills by analyzing problem scenarios and developing appropriate solutions.

4 Students will learn basic customer service skills by working on team projects and simulations

9 Learning Outcomes

Upon completion students will able to:

• Define Information Technology (IT) and describe the components of a personal computer
• Describe how to protect self, equipment and the environment from accidents, damage and contamination
• Demonstrate their newly acquired working knowledge by performing step-by-step assembly of a desktop computer

IST Dept.
• Explain the purpose of preventative maintenance and identify the elements of the troubleshooting process in the configuring of PC’s
• Install and navigate an operating system
• Upgrade or replace components of a laptop and printer, based on project needs
• Describe the features and characteristics of mobile devices including but not limited to cellular phones and tablets
• Configure computers to attach to an existing network
• Implement basic physical and software security principles to all assigned tasks
• Describe what constitutes good customer service and demonstrate it through role play, classroom behavior and the execution and presentation of all assignments
• Apply professional communications skills and behavior while working in teams and completing tasks inside and outside the classroom
• Perform preventative maintenance and basic troubleshooting in the installation of hardware and software
• Assess project needs, analyze possible configurations, and provide solutions or recommendations for hardware, operating systems, networking and security

10 Instructional Methods and Materials

1. Lectures/Demonstrations: Important material from the text and outside sources will be covered in class. You should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as is student-procured, outside material relevant to topics being covered.

2. Assignments: Lab assignments and projects found in the text will be periodically assigned to help support and supplement material found in the lessons. These assignments may require the application of various software applications.

3. Quizzes: Occasional unscheduled quizzes may be given to help ensure you stay up with assigned material.

4. Exams: Two part exams will be given. The midterm exams will be project based. One will be done individually, and the other as a team. This will test assigned readings and material discussed in class. A final exam will also be given

11 Text and Other Materials:

IST Dept.
• IT Essentials: PC and Software v.5 - CISCO Text, Handouts

• Lab PC repair tool kit, (Software and Hardware provided in class)

• One 4gig Jump Drive

Project files: Instructor will provide instructions for obtaining the Project files.

Handouts: Additional handouts may be required. Instructor will provide information on obtaining this material.

Web Site
Supplementary information for the course is available at [https://www.cisco/academy/]. The Web site may contain class notes, PowerPoint slides, class announcements, the course syllabus, test dates, and other information for the course.

12 Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
<th>Lab Assignments</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intro to PC</td>
<td>1.1 - 1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Lab procedures and Tool Use</td>
<td>2.1 – 2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Computer Assembly</td>
<td>3.1 – 3.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quiz I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Overview of Preventative Maintenance/TRS</td>
<td>4.1 – 4.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Operating System</td>
<td>5.1 – 5.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Laptops</td>
<td>6.1 - 6.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Mobile Devices</td>
<td>7.1 – 7.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quiz II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Printers</td>
<td>8.1 – 8.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Networks</td>
<td>9.1 - 9.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Security</td>
<td>10.1 – 10.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quiz III</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>The IT professional</td>
<td>11.1 – 11.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Advanced Troubleshooting</td>
<td>12.1 – 12.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final</td>
<td>A+ Exam Preparation</td>
<td>HANDOUTS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13 Plan for Evaluating Student Outcomes:
Students will be evaluated based on their combined performance on homework assignments and exams. The Assignment Sheet will enable easy tracking of progress and grades.
Your ability to understand and follow the directions in the text thoroughly will be an essential component for successful completion of the projects/homework. Every lab assignment from the textbook will have at least one scenario to accompany it. These projects can be used as tools for you and your instructor to evaluate the accuracy and completeness of each assignment.

The following grading scale will be used:

<table>
<thead>
<tr>
<th>Percentage of Possible Points</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>96-100%</td>
<td>A</td>
</tr>
<tr>
<td>92-95%</td>
<td>A-</td>
</tr>
<tr>
<td>88-91%</td>
<td>B+</td>
</tr>
<tr>
<td>84-87%</td>
<td>B</td>
</tr>
<tr>
<td>80-83%</td>
<td>B-</td>
</tr>
<tr>
<td>76-79%</td>
<td>C+</td>
</tr>
<tr>
<td>72-75%</td>
<td>C</td>
</tr>
<tr>
<td>68-71%</td>
<td>C-</td>
</tr>
<tr>
<td>64-67%</td>
<td>D+</td>
</tr>
<tr>
<td>61-63%</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F</td>
</tr>
</tbody>
</table>

Letter grades will be determined using a standard percentage point evaluation as summarized below:

35% of the grade is based on a midterm and a final examination. Both examinations are cumulative and given in a varied format. An in-class review will be held prior to each examination.

10% of the grade is based on quizzes. Quizzes are announced one day in advance and may vary in format.

45% of the grade is based on hands-on lab projects and activities

10% See presentation rubrics

14 **Library, TLC, or other required institutional resources**

This course will require the support of the IT department, Library and TLC. Copies of the text will be placed in circulation department of the library. Students will use the college’s computer labs and learning center resources
ROXBURY COMMUNITY COLLEGE
NEW COURSE PROPOSAL

1  Course Name:
   Network Fundamentals

2  Course Number:
   IST 142

3  Course Credit:
   4Cr

4  Course/Catalog Description:
   This course provides foundation knowledge in networking, introducing applications and 
   application services. We will utilize Cisco’s online learner management system as well as 
   Cisco internetworking hardware to gain hands-on experience. Advanced technologies 
   (voice, video, wireless, and security) are also introduced. Topics include: network 
   protocols, topologies, Network Media, LANs, subnet masks, design and documentation, 
   routers and switches.

5  Prerequisites:
   ENG 091 eligible or permission of instructor

6  This Course is a requirement for the following programs:
   Network Administration
   Information Systems Technology
   Administrative Information Technology
   Web Technologies

   Can be taken as an IST elective within the IST programs

7  Narrative Rationale and Justification
   In an effort to meet student and industry demands for certified Network Engineers and 
   Technicians, as well as a transferable AS degree in Network Administration, the IST 
   Department proposes to introduce a revised Network Administration AS degree and 
   Certificates. Where possible the new degree/certificate programs will be geared to meet 
   articulation agreements, industry certification standards and guidelines. It will offer a 
   smooth transition to the University of Massachusetts Boston towards a four year 
   Bachelor’s degree in BSIT (BS in Information Technology) and it will be transferable to 
   other public or private colleges and universities.