I. CATALOG INFORMATION

A. Discipline: COMPUTER NETWORKING SYSTEMS ENGINEERING (CNSE)

B. Subject Code and Number: CNSE M06

C. Course Title: Fundamentals of IT Essentials

D. Credit Course units:

Units: 4

Lecture Hours per week: 3

Lab Hours per week : 3

Variable Units : No

E. Student Learning Hours:

Lecture Hours:

Classroom hours: 52.5 - 52.5

Laboratory/Activity Hours:

Laboratory/Activity Hours 52.5 - 52.5

Total Combined Hours in a 17.5 week term: 105 - 105

F. Non-Credit Course hours per week

G. May be taken a total of: [X] 1 [ ] 2 [ ] 3 [ ] 4 time(s) for credit

H. Is the course co-designated (same as) another course: No [X] Yes [ ]
If YES, designate course Subject Code & Number:

I. Course Description:

Provides an in-depth introduction to computer hardware and operating systems. Covers the functionality of hardware and software components and best practices in maintenance, security, and safety. Teaches, through hands-on activities and labs, how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. Includes concepts such as security, networking, and responsibilities of an information and communication technology professional.

J. Entrance Skills

*Prerequisite: No [X] Yes [ ] Course(s)

*Corequisite: No [X] Yes [ ] Course(s)

Limitation on Enrollment: No [X] Yes [ ]

Recommended Preparation: No [X] Yes [ ] Course(s)

Other: No [X] Yes [ ]

K. Other Catalog Information:

Prepares students for CompTIA's A+ certification, and Microsoft desktop certification.

II. COURSE OBJECTIVES

Upon successful completion of the course, a student will be able to:

		Methods of evaluation will be consistent with, but not limited by, the following types or examples.
1	describe the evolution and development of the personal computer (PC) industry, laptops, and mobile devices.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area
2	perform the boot process, which includes initializing and testing the system, loading the operating system, and the boot sequence that is required to operate the computer.	Quizzes Midterms Final Exam Classroom project work demonstrating competency in this area
3	assemble a computer, which includes the installation of the motherboard, hard drives, CD-ROM, video cards, and other peripherals based on customer requirements.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area
4	describe the functions of operating systems; match operating systems with home and business users, and make recommendations for upgrades.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area
5	install, manage, and secure Windows operating systems.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area
		Quizzes

6	add peripherals and multimedia capabilities.	Midterms Final exam Classroom project work demonstrating competency in this area
7	demonstrate knowledge of local-area network architecture, networking protocols and the Open Systems Interconnection (OSI) Model, and Transmission Control Protocol/Internet Protocol (TCP/IP) utilities.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area
8	install printer and set up print service on a device.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area
9	describe how to properly upgrade device hardware and software.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area
10	describe the procedure to troubleshoot device hardware problems.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area
11	describe the procedure to troubleshoot device software problems.	Quizzes Midterms Final exam Classroom project work demonstrating competency in this area

III. COURSE CONTENT

Estimated %	Topic	Learning Outcomes
Lecture (must total 100%)		
8.00%	Printers and Printing	8, 9, 10
8.00%	Troubleshooting Software	7, 9, 10, 11

6.00%	Information Technology Basics	1, 2
6.00%	How Computers Work	2, 3
10.00%	Assembling a Computer Using Various Hardware	3, 4, 5, 6
8.00%	Operating System Fundamentals	4, 5
8.00%	Upgrading Windows Operating System	4, 5, 9, 10, 11
8.00%	Security	2, 3, 4, 5, 6, 7, 8, 9, 10
8.00%	Windows and Linux	4, 5
8.00%	Introduction to Networking	7
8.00%	Operational Procedures and Preventive Maintenance	10, 11
8.00%	Troubleshooting Hardware	9, 10, 11
6.00%	Laptop and Mobile Device Maintenance and Repair	9, 10, 11
Lab (must total 100%)		
8.00%	Information Technology Basics: Building a Software and Hardware Tool Collection	1, 4, 9
8.00%	Comparison of Different Types of Hardware, Computers and Vendor Product Distinctions	1, 5, 6
9.00%	Assembling a Computer	3
9.00%	Operating System Maintenance	4, 5
8.00%	Adding Multimedia Capabilities	6, 9
9.00%	Utilization of Local Networks, Wireless Configurations, and Internet Protocol Version 6 Network Configuration	7
8.00%	Establishing Local and Remote Printing	8
8.00%	Preventive Maintenance	10
9.00%	Troubleshooting PC Hardware	10
8.00%	Troubleshooting Software	11
8.00%	Upgrading Windows Operating System	5, 6
8.00%	Comparision of Windows NT/2000/XP/Windows 7 and Issues Related to Compatibility	2, 5

IV. TYPICAL ASSIGNMENTS

A. Writing assignments

Writing assignments are required. Possible assignments may include, but are not limited to:	
1	short answer class assignments on topics such as the boot process, installation process, or troubleshooting process.
2	short answer class assignments describing the use of specific PC repair tools.

B. Appropriate outside assignments

Appropriate outside assignments are required. Possible assignments may include, but are not limited to:	

1	complete writing assignments on new advances in computers, laptops, and mobile devices.
2	complete assigned exercises and problems on strategies in selecting a new computer.

C. Critical thinking assignments

Critical thinking assignments are required. Possible assignments may include, but are not limited to:	
1	compare and contrast various antivirus software.
2	develop solutions to providing upgrades to software and hardware.
3	develop a PC repair safety manual.

V. METHODS OF INSTRUCTION

Methods of instruction may include, but are not limited to:

[X] Distance Education – When any portion of class contact hours is replaced by distance education delivery mode (Complete DE Addendum, Section XV)

[X] Lecture/Discussion

[X] Laboratory/Activity

[X] Other (Specify) Online materials
Assigned Internet research
Computer simulations

[ ] Optional Field Trips

[ ] Required Field Trips

VI. METHODS OF EVALUATION

Methods of evaluation may include, but are not limited to:

[ ] Essay Exam	[X] Classroom Discussion	[X] Skill Demonstration
[X] Problem Solving Exam	[X] Reports/Papers/ Journals	[ ] Participation
[X] Objective Exams	[X] Projects	[X] Other (specify)

Assess troubleshooting skills in a lab environment

VII. REPRESENTATIVE TEXTS AND OTHER COURSE MATERIALS

Meyers, Mike. CompTIA A+ Certification; All-In-One Exam Guide. 9th ed. McGraw-Hill, 2016.

Andrews, Jean. A+ Guide to Managing and Maintaining Your PC. 8th ed. Course Technology, 2014.

VIII. STUDENT MATERIALS FEES

[ ] [ ]

[X] No [ ] Yes

IX. PARALLEL COURSES

College	*Course Number*	*Course Title*	*Units*
Ventura College	BIS V13	Computer Maintenance Technology	2
Los Angeles City College	CO TECH 16	Security + Certification Preparation	4

X. MINIMUM QUALIFICATIONS

Courses in Disciplines in which Masters Degrees are not expected:
AS Degree in Electronics, Computer Networking, Engineering Technology, CIS, or CS and Microsoft Certification (MCSE or MCSA) or Cisco Certification (CCNA) or CompTia A+ Certification and 6 years industry experience in Computer -related fields.

XI. ARTICULATION INFORMATION

A. Title V Course Classification:

1. This course is designed to be taken either:

   [ ] Pass/No Pass only (no letter grade possible); or
   [X] Letter grade (P/NP possible at student option)

2. Degree status:
   Either [X] Associate Degree Applicable; or [ ] Non-associate Degree Applicable

B. Moorpark College General Education:

1. Do you recommend this course for inclusion on the Associate Degree General Education list?
   Yes: [ ] No: [X] If YES, what section(s)?

   [ ] A1 - Natural Sciences - Biological Science
   [ ] A2 - Natural Sciences - Physical Science
   [ ] B1 - Social and Behavioral Sciences - American History/Institutions
   [ ] B2 - Social and Behavioral Sciences - Other Social Behavioral Science
   [ ] C1 - Humanities - Fine or Performing Arts
   [ ] C2 - Humanities - Other Humanities
   [ ] D1 - Language and Rationality - English Composition
   [ ] D2 - Language and Rationality - Communication and Analytical Thinking
   [ ] E1 - Health/Physical Education
   [ ] E2 - PE or Dance
   [ ] F - Ethnic/Gender Studies

C. California State University(CSU) Articulation:

1. Do you recommend this course for transfer credit to CSU? Yes: [X] No: [ ]

2. If YES do you recommend this course for inclusion on the CSU General Education list?
   Yes: [ ] No: [X] If YES, which area(s)?

A1 ☐ A2 ☐ A3 ☐ B1 ☐ B2 ☐ B3 ☐ B4 ☐

C1 ☐ C2 ☐ D1 ☐ D2 ☐ D3 ☐ D4 ☐ D5 ☐

D6 ☐ D7 ☐ D8 ☐ D9 ☐ D10 ☐ E ☐

D. University of California (UC) Articulation:

1. Do you recommend this course for transfer to the UC? Yes: ☐ No: ☒
2. If YES do you recommend this course for the Intersegmental General Education Transfer Curriculum (IGETC)? Yes: ☐ No: ☒

IGETC Area 1: English Communication

- ☐ English Composition
- ☐ Critical Thinking-English Composition
- ☐ Oral Communication

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

- ☐ Mathematical Concepts

IGETC Area 3: Arts and Humanities

- ☐ Arts
- ☐ Humanities

IGETC Area 4: Social and Behavioral Sciences

- ☐ Anthropology and Archaeology
- ☐ Economics
- ☐ Ethnic Studies
- ☐ Gender Studies
- ☐ Geography
- ☐ History
- ☐ Interdisciplinary, Social & Behavioral Sciences
- ☐ Political Science, Government & Legal Institutions
- ☐ Psychology
- ☐ Sociology & Criminology

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

- ☐ Physical Science Lab or Physical Science Lab only (none-sequence)
- ☐ Physical Science Lecture only (non-sequence)
- ☐ Biological Science
- ☐ Physical Science Courses
- ☐ Physical Science Lab or Biological Science Lab Only (non-sequence)
- ☐

- ☐ Biological Science Courses
- ☐ Biological Science Lab course
- ☐ First Science course in a Special sequence
- ☐ Second Science course in a Special Sequence
- ☐ Laboratory Activity
- ☐ Physical Sciences

IGETC Area 6: Language other than English

- ☐ Languages other than English (UC Requirement Only)
- ☐ U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)
- ☐ U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)

XII. REVIEW OF LIBRARY RESOURCES

A. What planned assignment(s) will require library resources and use?

The following assignments require library resources:
Research, using the Library's print and online resources, on an appropriate topic such as computer configurations.

B. Are the currently held library resources sufficient to support the course assignment?

YES: ☒ NO: ☐

If NO, please list additional library resources needed to support this course.

XIII. PREREQUISITE AND/OR COREQUISITE JUSTIFICATION

CNSE M06: Not Applicable

XIV. WORKPLACE PREPARATION

Required for career technical courses only. A career technical course/program is one with the primary goal to prepare students for employment immediately upon course/program completion, and/or upgrading employment skills.

Detail how the course meets the Secretary of Labors Commission on the Achievement of Necessary Skills (SCANS) areas. (For a description of the competencies and skills with a listing of what students should be able to do, go to: http://www.ncrel.org/sdrs/areas/issues/methods/assment/as7scans.htm)

The course will address the SCANS competency areas:

1. Resources: the students will identify, organize, plan and allocate resources through course work and application of theory to practice.
2. Interpersonal: the students will work together as a team to build, evaluate projects, and solve technical problem scenarios.
3. Information: the students will acquire and use information through a variety of assignments, simulation tools, and computer software applications used in managing computer systems.

4. Systems: the students will employ a variety of computer system tools to complete projects or assess computer problems.

5. Technology: the students will use modern technology to acquire the skills needed to prepare for a career.

The course also addresses the SCANS skills and personal qualities:

1. Basic Skills: the students will read, perform computer mathematical operations, listen and communicate in order to complete weekly assignments, and participate in classroom discussions.

2. Thinking Skills: the students will think creatively, make decisions, solve problems, visualize solutions, and demonstrate PC problem solving skills after satisfactorily completing this course.

3. Personal Qualities: the students will be required to display responsibility, self-management, integrity, and honesty throughout course work and classroom exercises.

XV. DISTANCE LEARNING COURSE OUTLINE ADDENDUM

1. Mode of Delivery

☐ Online (course will be delivered 100% online)

☒ Online with onsite examinations (100% of the instruction will occur online, but examinations and an orientation will be scheduled onsite)

☒ Online/Hybrid (a percentage of instruction will be held online and the remaining percentage of instruction will be held onsite)

☐ Lab activities will be conducted onsite

☐ Televideo (Examinations and an orientation will be held onsite)

☐ Teleconference

☐ Other Use of curriculum such as Testout.com and canvas will facilitate a quality and thorough online learning experience through use of lecture videos, demo videos, lab simulation tools, and varied format quizzes mapping to current vendor certification A+ exam.

2. Need/Justification

Improve general student access.

3. Describe how instructors teaching this course will ensure regular, effective contact with and among students.

The instructor will be available online and will monitor the Distance Learning online course. The instructor will use the available tools in the course management system (CMS) for two way student/instructor communication. Instructor will use the CMS tools in order to provide assessments such as assignments and quizzes.

4. Describe how instructors teaching this course will involve students in active learning.

Through the course management system (CMS), materials will be made

available online for download. Assessments for measuring understanding and student performance feedback will be made available through the CMS tools. Assignments, labs, and discussions will be available online. Other tools, online and PC resident, and forums will be used so that students can practice their skills as it applies to the course material.

5. Explain how instructors teaching this course will provide multiple methods of content representation.

   Students will be provided 3rd party website info and online learning video links that support the particular concepts or chapters.
   For example, students may watch videos such as:
   1- Overclocking a computer and see how the excessive heat damages the system.
   2- Go online and order a computer by selecting various components and provide a configuration printout of your "Dream Machine" as an assignment.

   Students may also have access, through the instructor, to simulation software which allows students to virtually work on a computer system.

6. Describe how instructors teaching this course will evaluate student performance.

   Quizzes, Homework, Labs, and Exams.

XVI. GENERAL EDUCATION COURSE OUTLINE ADDENDUM

CNSE M06: Not Applicable

XVII. STUDENT MATERIALS FEE ADDENDUM

CNSE M06: Not Applicable

XVIII. REPEATABILITY JUSTIFICATION TITLE 5, SECTION 55041

CNSE M06: Not Applicable

XIX. CURRICULUM APPROVAL

Course Information:

Discipline:
COMPUTER NETWORKING SYSTEMS ENGINEERING (CNSE)

Discipline Code and Number: CNSE M06

Course Revision Category: Technical Course Revision

Course Proposed By:

Originating Faculty Edmond Garcia 08/25/2017

Faculty Peer: Edmond Garcia 08/25/2017

Curriculum Rep: _____

Department Chair: Navreet Sumal 09/02/2017

Division Dean: Howard Davis 08/28/2017

Approved By:

Curriculum Chair: Jerry Mansfield 10/13/2017

Executive Vice President: Julius Sokenu 10/13/2017

Articulation Officer: Letrisha Mai 09/21/2017

Librarian: Mary LaBarge 09/20/2017

Implementation Term and Year: Fall 2018

Approval Dates:

Approved by Moorpark College Curriculum Committee: 10/03/2017

Approved by Board of Trustees (if applicable): _____

Approved by State (if applicable): 11/04/2017