

Suan Sunandha Rajabhat University

Course Code	COZ1303	Degree Level	Under Graduate
Course Title	Computer System and Maintenance	Program	Under Graduate
Credits	3(2-2-8)	Faculty/College	Faculty of Education

Course Specification (OBE3)

Section 1: General Information

1. Course Code and Title

Thai: COZ1303 ระบบคอมพิวเตอร์และการบำรุงรักษา

English: COZ1303 Computer System and Maintenance

2. Number of Credits

3(2-2-8) credits

3. Course Category

☐ Teacher Professional Category

☒ Major Required Course

☐ Major Elective Course

☐ Free Elective Course

4. Course Coordinator and Instructor(s)

Course Coordinator: Dr. Chaiwat Jewpanich

Instructor: Dr. Chaiwat Jewpanich

Contact Location: Faculty of Education

E-mail: Chaiwat.je@ssru.ac.th

5. Semester and Year Level

Semester 2, Academic Year 2569 (2026), Year 1

6. Pre-requisite Course(s) (if any)

None

7. Co-requisite Course(s) (if any)

None

8. Class Location

Faculty of Education, 5th Floor, and Online System

9. Date of Latest Course Specification Preparation/Revision

10 April 2569 (2026)

Section 2: Aims and Objectives

Course Aims

Upon completion of this course, students will have the following characteristics:

1. After studying, students must know and understand the working principles of hardware, software, and microprocessors; the structure and components of computer operation; memory; the function of logic circuits; bus systems; command signals and control circuits; interfaces and IoT devices; computer equipment and assembly; types and usage patterns of operating systems; the roles and functions of operating systems; and task dispatching or processing unit allocation.
2. Practice installing operating systems and peripheral devices; problem analysis methods; maintenance principles; and practical computer repair and maintenance.

Section 3: Nature and Course Delivery

3.1 Course Description

Thai:

Principles of the operation of hardware, software, and microprocessors; the structure and components of computer operation; memory; the function of logic circuits; bus systems; command signals and control circuits; interfaces and IoT devices; computer equipment and assembly; types and usage patterns of operating systems; the roles and functions of operating systems; task dispatching or processing unit allocation; practical installation of operating systems and peripheral devices; problem analysis methods; maintenance principles; and practical computer repair and maintenance.

English:

Hardware, software and microprocessor working; structure and components of computer; memory; logic circuit roles; bus; signal and controlling circuit; interface and IoT; components and computer assembly; categories of operating systems and the usage; the roles and the function; work distribution and processor allocation; operating system and device installation; problem diagnosis and maintenance.

3.2 Number of Hours per Semester

Lecture (hours/semester)	Practice (hours/semester)	Self-Study (hours/semester)
32 hours	32 hours	Self-study: 8 hours/week

Course Nature	☒ Lecture ☒ Practical
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Measurement and Evaluation: ☒ A-F ☐ O/S/U ☐ P

3.3 Number of Hours per Week for Individual Academic Consultation and Advice to Students

- 3.3.1 The course coordinator announces consultation hours via communication media.
- 3.3.2 The instructor arranges individual or group consultation hours as needed, 1 hour per week (for those who require it).
- 3.3.3 Students schedule an appointment in advance and meet the instructor at the arranged time.

Section 4: Development of Students' Expected Course Learning Outcomes

4.1 Expected Learning Outcomes

- 1) PLO 1: Correctly explain the principles and theories of learning in accordance with the curriculum and quality assurance, and perform the duties of a computer teacher.
- 2) PLO 2: Use language and digital technology for learning communication, information searching, analysis and system design, database development, computer programming, creation of modern learning media, and self-directed learning; be able to effectively design and conduct classroom research.
- 3) PLO 3: Behave in accordance with moral and ethical principles and the teaching profession's code of ethics; love and have faith in the teaching profession; perform duties with a teacher's spirit; comply with computer-related laws and ethics; and volunteer in professional and digital-technology activities within educational institutions.

4) PLO 4: Work as a professional teacher with leadership qualities, collaborating effectively with others to keep pace with changes in the Thai and global social context; be a person with self-development characteristics, lifelong learning, and a volunteer spirit.

5) PLO 5: Manage learning appropriate to learners' age range by integrating and applying subject content, pedagogy, and digital technology in diverse formats according to learning standards, and act as a leader in modern technology for learning management.

4.2 Brief Summary of Knowledge or Skills the Course Aims to Develop in Students (CLOs)

By the end of the course, first-year students of the Faculty of Education will be able to:

CLO1: Explain the working principles of computer equipment.

CLO2: Repair and maintain computer equipment and programs.

6. Relationship Between Program Learning Outcomes (PLOs) and Course Learning Outcomes (CLOs)

(This section applies to courses that are specific to and support only one curriculum; courses supporting multiple curricula need not include this table.)

Course Code	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1: Explain the working principles of computer equipment	An	✓					
CLO2: Repair and maintain computer equipment and programs		✓					

Teaching Methods to Develop Knowledge or Skills in Item 1 and Assessment of Course Learning Outcomes

Course Learning Outcomes (CLOs)	Teaching Strategy/Method	Measurement and Assessment Strategy/Method
CLO1: Explain the working principles of computer equipment	1. Situational learning 2. Lecture/discussion 3. Curriculum analysis/critique activities	1. Authentic assessment from presentations and reports 2. Process assessment / score collection
CLO2: Repair and maintain computer equipment and programs	1. Learning that promotes higher-order thinking skills 2. Practical learning 3. Active Learning approach	1. Process assessment / score collection

Section 4: Lesson Plan and Assessments

1. Teaching Plan

Week	Topic/Details	CLOs	Classroom Hours	Practice Hours	Teaching Activities/Media Used	Instructor
1-5	Working principles of hardware, software, and microprocessors; structure and components of computer operation; memory; the function of logic circuits; bus systems; command signals and control circuits; interfaces and IoT devices; computer equipment and assembly; types and usage patterns of operating systems	CLO1	4		Discussion Research/report	Instructor
(cont.)	Operating systems; roles and functions of operating systems; task dispatching or processing unit allocation					

6	Presentation	CLO1	4	4		Instructor
7	Operating System	CLO1	4	4	Discussion Research/report	Instructor
8	Midterm Examination		4	4		Instructor
9	Practical installation of operating systems and peripheral devices	CLO2	4	4	Practice	Instructor
10	Quiz	CLO2	2	2		Instructor
11-14	Problem analysis methods, maintenance principles, and practical computer repair and maintenance		4	4	Analysis Method finding	Instructor
15	Quiz	CLO2	2	2		Instructor
17	Final Examination	CLO2-4	2	2		

2. Assessment Plan for Expected Course Learning Outcomes (CLOs)

2.1 Measurement and Evaluation of Learning Achievement (to be consistent with the learning-outcome distribution plan specified in TQF2)

2.1.1 Formative Assessment, comprising the following processes (specify all processes)

2.1.2 Summative Assessment

(1) Tools and Weighting for Measurement and Evaluation

Learning Outcome	Assessment Method	Weight (%)
CLO1: Explain the working principles of computer equipment	Participation (10 points) Assignments (A) Project and presentation Midterm examination (M)	60
CLO2: Repair and maintain computer equipment and programs	Quizzes (Q) Final examination (F)	40
Total		100

(2) Grading and Result Determination (specify information: use of symbols such as O, S, U or A, B, C, D, E; specify the standard criteria for assigning each symbol/letter and the criteria for passing when a given symbol is obtained)

(3) Grading Criteria

Percentage	Grade	Meaning
86 – 100	A	Excellent
82 – 85	A-	Excellent
78 – 81	B+	Very Good
74 – 77	B	Good
70 – 73	B-	Fairly Good
66 – 69	C+	Fairly Above Average
62 – 65	C	Average
58 – 61	C-	Fairly Below Average
54 – 57	D+	Below Average
50 – 53	D	Poor
46 – 49	D-	Very Poor
0 – 45	F	Fail

Students must attend classes for no less than 80% of total class time. / Re-examination (if the course specifies a re-examination).

3. Student Appeals

Specify information: Students submit a request to review their scores and notify the instructor. If the score data is incorrect, the instructor prepares a memorandum requesting correction of the examination score.

Section 6: Learning and Teaching Resources

1. Required Textbooks and Documents

Section 7: Course Evaluation and Improvement

1. Strategy for Evaluating Course Effectiveness by Students

- ☒ Course evaluation form
- ☒ Group discussion between instructor and students
- ☐ Reflection based on student behavior
- ☐ Feedback via online channels established by the instructor for communication with students
- ☐ Other (specify)

2. Strategy for Evaluating Learning Management

- ☒ Instructor evaluation form
- ☒ Examination results
- ☒ Verification of learning outcome assessment results
- ☐ Evaluation by an examination review committee
- ☐ Teaching observation by co-teaching team members
- ☐ Other (specify)

3. Mechanism for Improving Learning Management

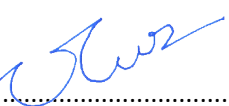
- ☒ Teaching and learning management seminar
- ☐ In-class and out-of-class research
- ☐ Other (specify)

4. Process for Verifying Course Learning Outcomes of Students

- ☒ A departmental committee is established to verify student learning-outcome assessment results by examining test papers/reports, scoring methods, and behavioral scoring.
- ☒ Verification of scoring of student work by the academic committee of the department and faculty.
- ☐ Verification of scoring based on random inspection of student work by instructors or qualified persons who are not program instructors.
- ☐ Other (specify)

5. Review and Planning for Improving Course Effectiveness

- ☒ Improve the course each year according to recommendations and verification results per item 4.
- ☐ Improve the course each year according to the results of student evaluations of the instructor.
- ☐ Other (specify)

Signed  Course Coordinator
(Dr. Chaiwat Jewpanich)
Report date: 1 June 2569 (2026)